Prospectus
for the initial public offering
in the Federal Republic of Germany and in the Grand Duchy of Luxembourg

of

35,043,479 bearer shares with no par value from the holdings of the Selling Shareholder, of

8,060,000 bearer shares with no par value from the holdings of the Selling Shareholder, with the number of shares to be actually placed with investors subject to the exercise of an Upsize Option upon decision of the Selling Shareholder, in consultation with the Joint Global Coordinators on the date of pricing, and of

up to 5,256,521 bearer shares with no par value from the holdings of the Selling Shareholder to cover potential over-allotments,

and at the same time

for the admission to trading on the regulated market segment (*regulierter Markt*) of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) with simultaneous admission to the sub-segment of the regulated market with additional post-admission obligations (Prime Standard) of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*)

of

161,200,000 bearer shares with no par value (existing share capital)

— each such share with a notional value of EUR 1.00 in the share capital
and with full dividend rights as from January 1, 2018 —

of

Knorr-Bremse Aktiengesellschaft
Munich, Germany

Price Range: EUR 72.00 — EUR 87.00

International Securities Identification Number (ISIN): DE000KBX1006

German Securities Code (*Wertpapier-Kenn-Nummer*) (WKN): KBX100

Common Code: 186559398

Trading Symbol: KBX

Joint Global Coordinators and Joint Bookrunners

Deutsche Bank **J.P. Morgan** **Morgan Stanley**

Joint Bookrunners

Berenberg **COMMERZBANK** **UBS Investment Bank** **UniCredit Bank AG**

The date of the Prospectus is September 28, 2018

(This page has been left blank intentionally)

TABLE OF CONTENTS

I. SUMMARY OF THE PROSPECTUS **1**

A. Introduction and Warnings 1
B. The Issuer 2
C. Securities 18
D. Risks 19
E. Offer 23

II. ZUSAMMENFASSUNG DES PROSPEKTS **30**

A. Einleitung und Warnhinweise 30
B. Emittent 31
C. Wertpapiere 49
D. Risiken 51
E. Angebot 55

1. RISK FACTORS **63**

1.1. Risks Related to Our Market Environment and Business 63
1.2. Legal, Regulatory and Tax Risks 84
1.3. Risks Related to the Offering, the Listing and the Shareholder Structure 92

2. GENERAL INFORMATION **96**

2.1. Responsibility for the Contents of the Prospectus 96
2.2. Subject Matter of the Prospectus 96
2.3. Forward-Looking Statements 97
2.4. Information from Third Parties 98
2.5. Documents Available for Inspection 100
2.6. Note on Currency 100
2.7. Note Regarding the Presentation of Certain Financial Information 101
2.8. Non-IFRS Measures/Alternative Performance Measures 102
2.9. Note Regarding Figures and Technical Terms 103

3. THE OFFERING **104**

3.1. Subject Matter of the Offering 104
3.2. Selling Shareholders 104
3.3. Price Range, Offer Period, Offer Price and Allotment 104
3.4. Expected Timetable for the Offering 105
3.5. Allotment Criteria 106
3.6. Preferential Allocation 106
3.7. Stock Exchange Admission and Commencement of Trading 107
3.8. Delivery and Payment 107
3.9. Stabilization Measures, Over-Allotments and Greenshoe Option 107
3.10. Lock-Up Agreements 108
3.11. Designated Sponsors 109
3.12. Information on the Offer Shares 109
3.13. ISIN, WKN, Common Code and Trading Symbol 110
3.14. Transferability of the Shares 110
3.15. Interests of Parties Participating in the Offering 110
3.16. MiFID II Product Governance Requirements 111

4. PROCEEDS AND COSTS OF THE OFFERING AND THE LISTING; REASONS FOR THE OFFERING AND THE LISTING **112**

4.1. Proceeds and Costs of the Offering and the Listing 112
4.2. Reasons for the Offering and the Listing 112

5. DIVIDEND POLICY **113**

5.1. General Rules on Allocation of Profits and Dividend Payments 113
5.2. Dividend Policy and Earnings per Share 113

6. CAPITALIZATION AND INDEBTEDNESS **115**

6.1. Capitalization 115
6.2. Net Financial Indebtedness 116
6.3. Off-Balance Sheet Commitments / Contingent Liabilities 116
6.4. Working Capital Statement 117
6.5. No Significant Change 117

7. DILUTION **118**

8. SELECTED FINANCIAL AND BUSINESS INFORMATION **119**

8.1. Selected Financial Information from the Consolidated Statement of Profit or Loss 120
8.2. Selected Financial Information from the Consolidated Statement of Financial Position 120
8.3. Selected Financial Information from the Consolidated Statement of Cash Flow 121
8.4. Selected Other Key Financial and Operating Data 121

9. MANAGEMENT'S DISCUSSION AND ANALYSIS OF NET ASSETS, FINANCIAL POSITION AND RESULTS OF OPERATIONS **124**

9.1. Overview of the Business Activities of Knorr-Bremse 124
9.2. Selected Factors Affecting Results of Operations and Financial Position 126
9.3. Presentation of Financial Information and Factors Affecting Comparability 133
9.4. Comparison of Results of Operations for the Six-Month Periods Ended June 30, 2018 and June 30, 2017 137
9.5. Comparison of Results of Operations for the Fiscal Year 2017 and the Fiscal Year 2016 142
9.6. Comparison of Results of Operations for the Fiscal Year 2016 and the Fiscal Year 2015 147
9.7. Review of Selected Items of Consolidated Statement of Financial Position 153
9.8. Liquidity and Capital Resources 157
9.9. Quantitative and Qualitative Disclosure of Market Risks 167
9.10. Critical Accounting Policies Concerning Judgments, Estimates and Assumptions 169
9.11. Additional Information Relating to the Audited Unconsolidated Financial Statements of the Company for the Fiscal Year 2017 169

10. MARKETS AND COMPETITIVE ENVIRONMENT **170**

10.1. Introduction: Market Definitions, Background and Methodology 170
10.2. Megatrends Driving Growth in Our Key Markets and End-Markets 175
10.3. The Global Rail Vehicle Market and Our Addressable Rail Vehicle Systems Market 176
10.4. Global Truck and Bus Production Output, Content per Vehicle Level and Our Addressable Commercial Vehicle Systems Market 184

11. BUSINESS **192**

11.1. Overview 192
11.2. Competitive Strengths 193
11.3. Strategy 198
11.4. Our Operating Segments 201
11.5. Main Products and Services 203
11.6. Production 216
11.7. Customers 220
11.8. Mergers and Acquisitions, Joint Ventures and Cooperations since 2014 222
11.9. Procurement 224
11.10. Supply Chain Management 227
11.11. Sales Network and Marketing 228
11.12. Research and Development 230
11.13. Information Technology 235
11.14. Intellectual Property 236
11.15. Employees 238
11.16. Properties, Plants and Equipment 240
11.17. Quality and Processes 240
11.18. Corporate Responsibility 241

11.19. Legal and Administrative Proceedings ... 243
11.20. Insurance ... 244

12. REGULATORY ENVIRONMENT ... 245

12.1. Overview ... 245
12.2. Permits and Compliance ... 245
12.3. Pollution Prevention and Control in Soil and Water ... 246
12.4. Emissions ... 247
12.5. Waste ... 248
12.6. Hazardous Substances ... 248
12.7. Regulation of Chemicals ... 249
12.8. Health and Safety ... 250
12.9. Technical Standards for Road and Rail Safety ... 251
12.10. Product Safety and Liability ... 254
12.11. Rules and Regulations Relating to Automated and Autonomous Driving ... 255
12.12. Vehicle Noise Emissions Legislation ... 256
12.13. Export Control and Sanctions Regulations ... 257
12.14. Competition and Other Laws and Regulations ... 258

13. MATERIAL CONTRACTS ... 259

13.1. Financing Agreements ... 259
13.2. Joint Venture with Robert Bosch GmbH ... 260

14. GENERAL INFORMATION ON THE COMPANY AND THE KNORR-BREMSE GROUP ... 263

14.1. Incorporation, Entry in the Commercial Register, Name ... 263
14.2. History and Development of the Business ... 263
14.3. Domicile, Legal Form, Legislation, Fiscal Year, Registered Office, Duration, Corporate Purpose ... 264
14.4. Group Structure ... 264
14.5. Auditors ... 266
14.6. Publications, Paying Agent ... 266
14.7. Ratings ... 266

15. SHAREHOLDER STRUCTURE ... 267

15.1. Current Shareholders ... 267
15.2. Pooling Agreements and Controlling Interest ... 267

16. INFORMATION ON THE SHARE CAPITAL OF THE COMPANY AND APPLICABLE REGULATIONS ... 269

16.1. Share Capital and Shares ... 269
16.2. Certification and Transferability of the Shares ... 269
16.3. Development of the Share Capital over the Last Three Years ... 269
16.4. Authorized Share Capital ... 269
16.5. Authorization to issue Convertible Bonds and/or Warrant-linked Bonds, Profit-sharing Rights and/or Income Bonds (or Combinations of These Instruments) and to Disapply Pre-emption Rights ... 270
16.6. Conditional Share Capital ... 273
16.7. Authorization to Acquire and Use Treasury Shares ... 273
16.8. General Provisions Governing a Liquidation of the Company ... 275
16.9. General Provisions Governing Share Capital Increases and Decreases ... 275
16.10. General Provisions on Subscription Rights ... 275
16.11. Exclusion of Minority Shareholders ... 276
16.12. Mandatory Takeover Bids ... 277
16.13. Disclosure Requirements for Shareholdings and Other Instruments ... 277
16.14. Disclosure of Managers' Transactions ... 278
16.15. Post-Admission Disclosure Requirements ... 279

17. GOVERNING BODIES ... 280

17.1. Overview ... 280
17.2. Executive Board ... 282

17.3. Supervisory Board 291
17.4. Honorary Chairman of the Supervisory Board 299
17.5. Certain Information on the Members of the Executive Board and the Supervisory Board 299
17.6. General Shareholders' Meeting 299
17.7. Corporate Governance 300

18. TRANSACTIONS AND RELATIONSHIPS WITH RELATED PARTIES 302

18.1. Transactions and Relationships with the Selling Shareholders and Affiliated Parties 302
18.2. Other Related Party Transactions 303

19. INFORMATION ON MAJOR HOLDINGS OF KNORR-BREMSE AG 305

20. UNDERWRITING 307

20.1. Subject of and Arrangements on Underwriting 307
20.2. Commissions 308
20.3. Greenshoe Option and Securities Loan 308
20.4. Termination/Indemnification 309
20.5. Selling Restrictions 309

21. TAXATION IN GERMANY 311

21.1. Taxation of the Company 311
21.2. Taxation of Shareholders 313

22. TAXATION IN LUXEMBOURG 322

22.1. Income Tax 322
22.2. Withholding Tax 323
22.3. Net Wealth Tax 323
22.4. Other Taxes 323

23. FINANCIAL INFORMATION F-1

23.1. Unaudited Condensed Consolidated Interim Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with IFRS on Interim Financial Reporting (IAS 34) as of and for the Six-Month Period Ended June 30, 2018 (with Comparative Figures for the Six-Month Period Ended June 30, 2017) F-2
23.2 Audited Consolidated Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with IFRS as of and for the Fiscal Years Ended December 31, 2017, 2016 and 2015 ..... F-24
23.3. Audited Unconsolidated Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with the German Commercial Code (*Handelsgesetzbuch*) as of and for the Fiscal Year Ended December 31, 2017 ..... F-117

24. RECENT DEVELOPMENTS AND OUTLOOK O-1

24.1 Recent Developments O-1
24.2 Outlook O-1

25. GLOSSARY G-1

I. SUMMARY OF THE PROSPECTUS

Summaries are made up of disclosure requirements known as 'Elements'. These Elements are numbered in Sections A — E (A.1 — E.7). This summary contains all the Elements required to be included in a summary for this type of securities and issuer. Because some Elements are not required to be addressed, there may be gaps in the numbering sequence of the Elements. Even though an Element may be required to be inserted in the summary because of the type of securities and issuer, it is possible that no relevant information can be given regarding the Element. In this case a short description of the Element is included in the summary with the mention "not applicable".

A. Introduction and Warnings

A.1	**Warnings.**	This summary should be read as an introduction to the prospectus (the "**Prospectus**"). Any decision to invest in the shares of the Company (as defined below) should be based on consideration of the Prospectus as a whole by the investor. Where a claim relating to the information contained in the Prospectus is brought before a court, the plaintiff investor might, under the national legislation of the Member States of the European Economic Area, have to bear the costs of translating the Prospectus before the legal proceedings are initiated. With regard to the contents of this summary including any translation, civil liability attaches to the persons who have assumed responsibility for the contents of this summary or who have arranged for the issuance (*von denen der Erlass ausgeht*), but only if the summary is misleading, inaccurate or inconsistent when read together with the other parts of the Prospectus or if it does not provide, when read together with the other parts of the Prospectus, all necessary key information. Knorr-Bremse Aktiengesellschaft, Munich, Federal Republic of Germany ("**Germany**") (hereinafter also "**Knorr-Bremse AG**" or the "**Company**" and, together with its consolidated subsidiaries and affiliates, "**we**", the "**Knorr-Bremse Group**", the "**Group**" or "**Knorr-Bremse**"), together with Deutsche Bank Aktiengesellschaft, Frankfurt am Main, Germany ("**Deutsche Bank**"), J.P. Morgan Securities plc, London, United Kingdom ("**J.P. Morgan**"), and Morgan Stanley & Co. International plc, London, United Kingdom ("**Morgan Stanley**") (all three acting as joint global coordinators and joint bookrunners, the "**Joint Global Coordinators**"), as well as Joh. Berenberg, Gossler & Co. KG, Hamburg, Germany ("**Berenberg**"), COMMERZBANK Aktiengesellschaft, Frankfurt am Main, Germany ("**COMMERZBANK**"), UBS Limited, London, United Kingdom ("**UBS Investment Bank**"), and UniCredit Bank AG, Munich, Germany ("**UniCredit Bank**") (acting as additional joint bookrunners (the "**Additional Joint Bookrunners**", and together with the Joint Global Coordinators, the "**Underwriters**"), assume responsibility for the contents of this summary including any translations thereof pursuant to Section 5(2b) No. 4 German Securities Prospectus Act (*Wertpapierprospektgesetz*).
A.2	**Information and notice regarding the use of the Prospectus for subsequent resale or final placement of securities by financial intermediaries.**	Not applicable. There will be no subsequent resale or final placement by financial intermediaries which requires consent. Therefore, consent regarding the use of the Prospectus for a subsequent resale or final placement of the Company's shares by financial intermediaries has not been granted.

B. The Issuer

B.1 Legal and commercial name.

As of the date of the Prospectus, the Company's legal name is Knorr-Bremse Aktiengesellschaft. The Company's and the Group's commercial name is "Knorr-Bremse". In addition to the main Knorr-Bremse brand, the Group sells its products under additional brands on the market, including, in the field of Rail Vehicle Systems, "IFE", "Merak", "Microelettrica Scientifica", "Selectron", "Zelisko", as well as the word/picture trademarks "KiepeElectric" "PowerTech", and "RailServices"; and in the field of Commercial Vehicle Systems, "Bendix" and "Hasse & Wrede", as well as the word/picture trademarks "SteeringSystems" and "TruckServices", among others.

B.2 Domicile, legal form, legislation, country of incorporation.

The Company has its registered seat in Munich, Germany, and is registered with the commercial register maintained by the local court (*Amtsgericht*) of Munich, Germany, under HRB 42031. The Company is a German stock corporation incorporated in Germany and governed by German law.

B.3 Description of, and key factors relating to, the nature of the issuer's current operations and principal activities, stating the main categories of products sold and/or services performed and identification of the principal markets in which the issuer competes.

Knorr-Bremse is the world's leading manufacturer of brake systems (by revenues for the fiscal year 2017, based on our own assessment), and a supplier of additional safety-critical sub-systems for rail and commercial vehicles. The Company was founded by Georg Knorr in 1905 in Berlin and has evolved over the years from a German-centric supplier of individual components to a global provider of integrated and connected systems for the rail and commercial vehicles industries. For more than 110 years, we have been an innovation leader, pioneering the development, production, marketing and servicing of state-of-the-art brake systems.

Our operations are managed in two divisions which also form our reporting segments under IFRS (as defined below under B.7): Rail Vehicle Systems and Commercial Vehicle Systems. The Rail Vehicle Systems segment equips mass transit vehicles such as metro cars and light rail vehicles, as well as freight cars, locomotives, mainline passenger trains and high-speed trains, with highly advanced products. In addition to brake systems, our product portfolio includes intelligent entrance systems, heating, ventilation and air conditioning systems, auxiliary power supply systems, control components and windscreen wiper systems, platform screen doors, friction material, driver assistance systems, electrical traction equipment, and control technology. Furthermore, we offer e-learning systems for optimum train crew training. In the aftermarket, under our brand RailServices, we provide maintenance, overhaul and repair services for rail vehicles.

Our Commercial Vehicle Systems segment offers products for trucks, buses, trailers and agricultural machinery. Our product portfolio includes (i) brake systems and vehicle dynamics solutions including driver assistance and automated driving, brake control, brake system, steering and electronic leveling control (i.e., driver assistance systems, anti-lock brake systems, emergency brake systems, air disc brakes, foundation drum brakes, actuators, valves/pedal units, steering systems, electronic leveling control, electronic stability programs and others), (ii) energy supply and distribution systems including air compressors and air treatment, and (iii) fuel efficiency products including engine components and transmission sub-systems (i.e., vibration dampers, engine air control, gear actuation and clutch actuation). Under our aftermarket brand TruckServices, we supply high-quality products and service solutions for commercial vehicles of all kinds and all ages.

Currently, we strive to benefit from the megatrends urbanization, eco-efficiency, digitization and automated driving by continuously evolving our products to address such trends in both of our business segments.

In this respect, our two operating segments — Rail Vehicle Systems and Commercial Vehicle Systems — are highly synergistic. Our product offerings across both segments share the same core technologies which allows for the transfer of know-how and technology. Likewise, Rail Vehicle Systems and Commercial Vehicle Systems, to a large extent, feature similar types of components and materials. We leverage IP, technologies, know-how and improvements originally developed with a focus on one of the two business segments for product solutions in the other business area.

While our headquarters are based in Munich, we are represented across the globe, with over 100 locations in more than 30 countries. Locally-based, highly qualified employees who speak the local languages and are familiar with the respective cultural conventions and national product requirements ensure that we maintain the necessary proximity to our markets and customers. Our high degree of local presence allows us to operate with maximum flexibility and speed towards our customers while providing a natural hedge against currency fluctuations and trade barriers.

We had an average number of 26,910 employees (based on headcount) in the fiscal year 2017 (including leasing staff) and approximately 28,000 employees (based on headcount, including leasing staff) as of December 31, 2017 worldwide. In the fiscal year 2017, we generated 53% of our Group revenues and 55% of our EBIT in the Rail Vehicle Systems segment and 47% of our revenues and 45% of our EBIT in our Commercial Vehicle Systems segment.

Our Key Strengths

- We are the global market leader in brake systems and a leading supplier of other safety-critical systems in the rail and commercial vehicle markets which are protected by high barriers to entry
- Synergies between our rail and commercial vehicle segments and benefits of scale help us sustain technological leadership
- We have consistently managed to outperform our underlying end-markets and are well positioned to capitalize on global megatrends and increasing content per vehicle
- Through our dedication to research and development ("**R&D**") and quality standards, we drive innovation in mobility and transportation technologies and have excellent expertise in connected systems
- We pursue a resilient business model, which is characterized by two main markets following different business cycles, broad geographical and customer diversification, strong localization and high aftermarket exposure
- We profit from a stable financial profile featuring strong growth, profitability and cash generation
- Our management team is very experienced and has a clear vision for future value creation

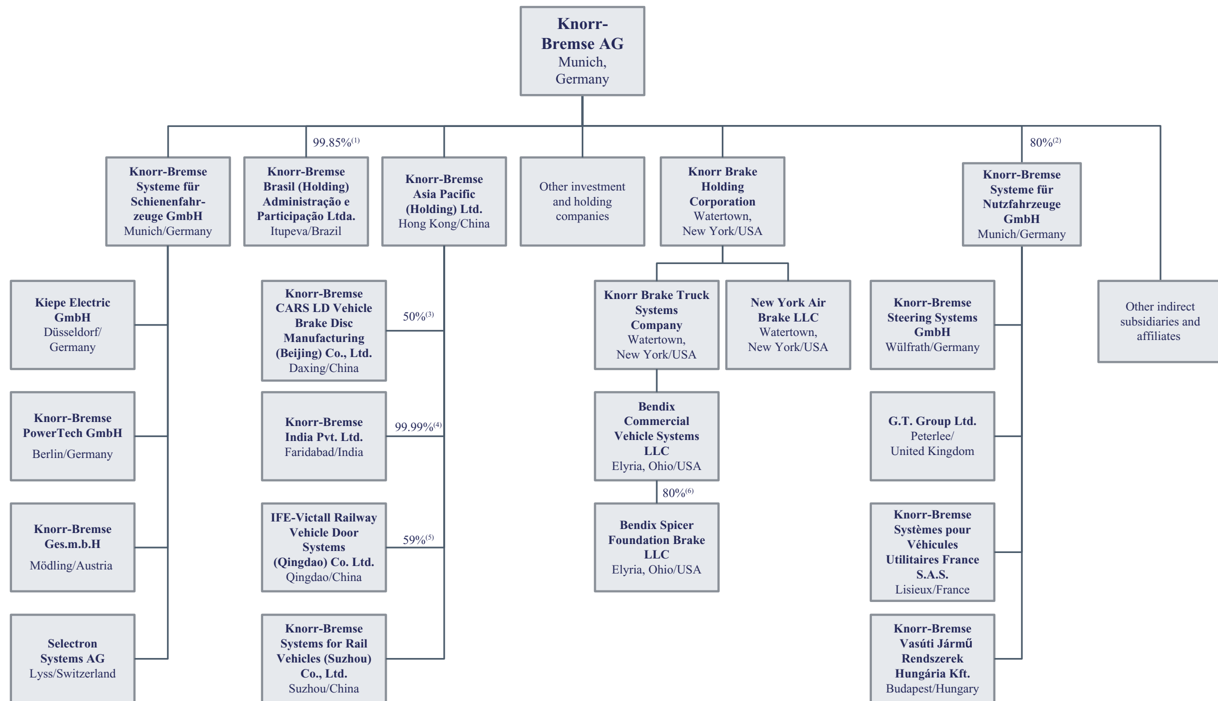
Our Strategy

- Setting industry standards by expanding our global technology leadership
- Being the system partner of choice for our customers
- Expanding our market share by continued penetration of international markets and global expansion
- Further pursuing of our dedicated aftermarket strategy
- Continuing to strive for cost and process excellence

B.4a	**Description of the most significant recent trends affecting the issuer and the industries in which it operates.**	We believe that the following megatrends are particularly relevant to our business in both our Rail Vehicle Systems and our Commercial Vehicle Systems operating segments: Growing population and urbanization provide for opportunities in both the Rail and Commercial Vehicles Systems business, as they call for increasingly fast, safe and reliable transportation modes. Electrification and other energy- and eco-friendly solutions result from growing energy demand that is coupled with growing public awareness of energy efficiency and increasing public policies on energy, such as stricter emission laws. In our view, electrified vehicles hold a high potential for emission-efficient mobility solutions in megacities, including light rail vehicle operations, city buses and green delivery trucks. Digitization promotes the connectivity of Rail Vehicle and Commercial Vehicle Systems and sub-systems which facilitates real-time data analytics and predictive maintenance solutions that aim to improve life cycle costs. Other results of digitization are automatic train operation, condition-based maintenance of rail vehicles and monitoring tools and telematics solutions for commercial vehicles. Automated driving may impact the rail and commercial vehicle industry significantly, depending on the speed of adjustment to regulatory challenges, the development of safe and reliable technical solutions, and customer acceptance of and willingness to pay for such solutions. In connection with this growing trend, new solutions such as the development of driver assistance functions are emerging with the aim of reducing accidents, transport costs and emissions. Thus, all current megatrends provide growth potential for our business, particularly due to our strong focus on R&D.
B.5	**Description of the group and the issuer's position within the group.**	Knorr-Bremse AG acts as the parent company of the Knorr-Bremse Group. As of December 31, 2017, the Group included nearly 150 consolidated (German and foreign) subsidiaries (included in the Group's consolidated financial statements (as defined below under B.7)) over which the Company can exert a direct or indirect controlling influence, and is represented with over 100 locations in more than 30 countries, of which almost 70 are production sites. Knorr-Bremse AG performs Group-wide functions as a management holding company.

The following chart provides an overview (in simplified form) of the direct and indirect shareholdings of the Company, including minority shareholdings, as of the date of the Prospectus:

Simplified Structure of the Knorr-Bremse Group(*)



(1) Remaining 0.15% held by Knorr-Bremse Investment GmbH, Munich, Germany.

(2) Remaining 20% held by Robert Bosch GmbH, Gerlingen, Germany (a third-party entity).

(3) Remaining 50% held by the Locomotive and Cars Research Institute (LCRI), a division of the Chinese Academy of Railway Sciences (CARS).

(4) Remaining 0.01% held by Knorr-Bremse Systeme für Schienenfahrzeuge GmbH.

(5) Remaining 41% held by Qingdao Victall Railway Co., Ltd. (a third-party entity).

(6) Remaining 20% held by Dana Commercial Vehicle Products, LLC., USA (a third-party entity)

(*) All shareholdings shown amount to 100% except otherwise stated in the chart.

B.6 **Persons who, directly or indirectly, have an interest in the issuer's capital or voting rights.**

Prior to completion of the public offering described in the Prospectus (the "**Offering**"), the existing shareholders, KB Holding GmbH, Grünwald, Germany ("**KB Holding**" or the "**Selling Shareholder**"), and Ursus Vermögensverwaltungs GmbH, Grünwald, Germany ("**Ursus**"), hold 94.99996% and 5.00004%, respectively, of the bearer shares with no par value (*Stückaktien*) currently issued by the Company.

KB Holding and Ursus are parties to a pooling agreement pursuant to which both parties to the pooling agreement are obligated (i) to vote uniformly as determined by the meeting of the parties to the pooling agreement by simple majority (the voting rights in such meeting corresponding to the ratio of the shares held by each party to the pooling agreement); and (ii) to only dispose of shares in the Company (x) if the transferee of such shares is a member of the family of Mr. Heinz Hermann Thiele or an entity directly or indirectly owned by a member of the family of Mr. Heinz Hermann Thiele and if the transferee is or becomes a party to the pooling agreement or (y) upon a resolution taken by 75% of the shares in the Company held by the parties to the pooling agreement. In addition, shares in the Company may be used

	without a majority vote of the parties to the pooling agreement only as conventional security for liabilities incurred or to be incurred by entities owned exclusively by members of the family of Mr. Heinz Hermann Thiele. The pooling agreement ends automatically if either of the parties no longer holds any shares in the Company. TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Germany ("**TIB**"), holds 100% of the share capital in KB Holding. In turn, Stella Vermögensverwaltungs GmbH, Grünwald, Germany ("**Stella**"), holds 80.7% of the share capital in TIB, while the remaining 19.3% is held by Mr. Heinz Hermann Thiele. Mr. Heinz Hermann Thiele and Stella are parties to a further pooling agreement pursuant to which both parties to the pooling agreement are obligated (i) to vote uniformly with yes or no as determined by the meeting of the parties to the pooling agreement, in general by simple majority; and (ii) to only dispose of shares in TIB (x) if the transferee of such shares is a member of the family of Mr. Heinz Hermann Thiele or an entity directly or indirectly owned by a member of the family of Mr. Heinz Hermann Thiele or (y) upon a resolution taken by 75% of the shares held by the parties to the pooling agreement and, in any such case, the transferee agreeing to be bound by the provisions of the pooling agreement. In addition, tied shares in TIB may only be used as security for liabilities in the event of a majority decision of the members of the pooling agreement. Mr. Heinz Hermann Thiele also holds 63.4049% of the share capital and 87.4975% of the voting rights in Stella, while Julia Thiele- Schürhoff (a member of the Supervisory Board of the Company) holds 36.5805% of the share capital and 12.4975% of the voting rights, and the foundation Stella Beteiligungs-Stiftung holds 0.0146% of the share capital and 0.005% of the voting rights in Stella. Ursus is controlled by its sole shareholder Mr. Heinz Hermann Thiele. Upon completion of the Offering (assuming full placement of the Offer Shares and a full exercise of the Upsize and the Greenshoe Option (each as defined below under E.3)), KB Holding will continue to hold approximately 64.99996% and Ursus 5.00004% of the Company's shares. KB Holding, Ursus and Mr. Heinz Hermann Thiele who controls both companies will therefore continue to have control over the Company.
Whether the issuer's major shareholders have different voting rights.	Not applicable. Each of the shares of the Company entitles the shareholder to one vote at the general shareholders' meeting of the Company. There are no restrictions on voting rights. Voting rights are the same for all of the Company's shareholders.
Whether the issuer is directly or indirectly owned or controlled and by whom and description of the nature of control.	As of the date of the Prospectus, the Company is directly controlled by KB Holding due to KB Holding's ownership of 94.99996% of the voting rights in the Company and the pooling agreement with Ursus, which holds the remaining 5.00004% voting rights and, resulting therefrom, its power to govern the financial and operating policies of the Company. KB Holding is a wholly owned subsidiary of TIB. 80.7% of the shares and voting rights in TIB are held by Stella and the remaining 19.3% of shares and voting rights are held by Mr. Heinz Hermann Thiele. Mr. Heinz Hermann Thiele also holds 63.4049% of the share capital and 87.4975% of the voting rights in Stella, while Mrs. Julia Thiele-Schürhoff (a member of the Supervisory Board of the Company) holds 36.5805% of the share capital and 12.4975% of the voting rights, and the foundation Stella Beteiligungs-Stiftung holds 0.0146% of the share capital, and 0,005% of the voting rights in Stella. Ursus is controlled by its sole shareholder Mr. Heinz Hermann Thiele. Upon completion of the Offering (assuming full placement of the Offer Shares and a full exercise of the Upsize Option and a full exercise of the Greenshoe

		Option (each as defined below under E.3), KB Holding will hold approximately 64.99996% and Ursus 5.00004% of the Company's shares. KB Holding, Ursus and Mr. Heinz Hermann Thiele who controls both companies will therefore continue to have control over the Company.
B.7	**Selected key historical financial information.**	The following selected historical financial and business information of the Group as of and for the fiscal years ended December 31, 2017, 2016 and 2015 (the "**fiscal year 2017**", "**fiscal year 2016**" and "**fiscal year 2015**", respectively) (i) if presented as "audited" is taken from the audited consolidated financial statements of the Company as of and for the fiscal years 2017, 2016 and 2015 (the "**Audited Consolidated Financial Statements**") and, (ii) if presented as "unaudited", is either taken or derived from the unaudited condensed consolidated interim financial statements of the Company as of and for the six-month period ended June 30, 2018, including comparative figures for the six-month period ended June 30, 2017 (the "**Unaudited Condensed Consolidated Interim Financial Statements**" and, together with the Audited Consolidated Financial Statements, the "**Consolidated Financial Statements**"), derived from the Audited Consolidated Financial Statements, or taken or derived from our accounting records or our management reporting. The Audited Consolidated Financial Statements were prepared by the Company in accordance with the International Financial Reporting Standards, as adopted by the European Union ("**IFRS**"), and the additional requirements of German commercial law pursuant to Section 315e German Commercial Code (*Handelsgesetzbuch*). The Unaudited Condensed Consolidated Interim Financial Statements were prepared by the Company in accordance with IFRS for interim financial reporting (IAS 34). Certain of the following financial information in this section is not taken or derived from IFRS figures, but derived from German GAAP data and may therefore deviate from, and not be comparable to data based on IFRS presented elsewhere in the Prospectus. Furthermore, in those tables, these rounded figures may not add up exactly to the totals contained in those tables. Financial data presented in parentheses denotes the negative of such number presented.

Selected Financial Information from the Consolidated Statement of Profit or Loss

The following table shows selected financial information from our consolidated statement of profit or loss for the six-month periods ended June 30, 2018 and June 30, 2017, as well as for the fiscal years 2017, 2016 and 2015:

	For the six-month period ended June 30,		For the fiscal year		
(in EUR million)	**2018**	**2017**	**2017**	**2016**	**2015**
	(unaudited)			**(audited)**	
Revenues	3,322.2	2,976.0	6,153.5	5,471.3	5,823.5
Changes in inventories of unfinished/finished products	29.3	59.1	38.8	(11.1)	(7.1)
Other own work capitalized	19.8	14.6	31.8	21.1	19.2
Total operating performance	**3,371.3**	**3,049.7**	**6,224.1**	**5,481.3**	**5,835.6**
Other operating income	47.8	40.9	81.2	83.3	89.1
Cost of materials	(1,680.4)	(1,463.6)	(3,009.6)	(2,571.4)	(2,747.3)
Personnel expenses	(746.5)	(708.4)	(1,438.9)	(1,272.1)	(1,272.2)
Other operating expenses	(410.0)	(400.6)	(741.3)	(668.9)	(636.2)
Earnings before interest, tax, depreciation and amortization (EBITDA)	**582.2**	**518.0**	**1,115.5**	**1,052.1**	**1,269.0**
Depreciation and amortization	(109.9)	(94.9)	(211.5)	(165.7)	(170.5)
Earnings before interests and taxes (EBIT)	**472.3**	**423.1**	**904.0**	**886.4**	**1,098.6**
Earnings before taxes	**430.5**	**388.7**	**852.5**	**841.3**	**1,048.0**
Net income	**307.0**	**269.6**	**587.2**	**567.2**	**710.7**

Selected Financial Information from the Consolidated Statement of Financial Position

The following table shows selected information from our consolidated statement of financial position as of June 30, 2018, and as of December 31, 2017, 2016 and 2015:

(in EUR million)	As of June 30, 2018	As of December 31, 2017	2016	2015
	(unaudited)		(audited)	
Assets				
Intangible assets and goodwill	552.6	540.5	484.5	333.7
Property, plant and equipment	1,099.8	1,116.4	1,099.4	1,014.9
Deferred tax assets	107.4	85.0	115.6	137.1
Non-current assets	**1,923.5**	**1,870.1**	**1,815.2**	**1,513.1**
Inventories	831.6	748.8	611.1	625.5
Trade accounts receivables	1,420.4	1,147.9	971.4	947.3
Cash and cash equivalents	1,551.3	1,600.0	1,720.8	1,360.5
Current assets	**4,141.3**	**3,857.3**	**3,619.9**	**3,201.6**
Total Assets	**6,064.8**	**5,727.4**	**5,435.1**	**4,714.7**
Equity				
Equity attributable to the shareholders of Knorr-Bremse AG	**1,222.6**	**1,847.8**	**1,813.4**	**1,684.0**
Equity	**1,308.5**	**1,995.7**	**1,965.9**	**1,838.1**
Liabilities				
Financial liabilities	1,496.1	738.7	756.3	261.9
Non-current liabilities	**2,220.6**	**1,427.9**	**1,472.5**	**973.8**
Trade accounts payables	1,042.7	894.1	754.5	727.0
Financial liabilities	671.0	571.0	531.3	490.7
Other liabilities	148.6	269.4	285.5	271.0
Current liabilities	**2,535.7**	**2,303.8**	**1,996.6**	**1,902.8**
Liabilities	**4,756.3**	**3,731.7**	**3,469.2**	**2,876.6**
Total Equity and Liability	**6,064.8**	**5,727.4**	**5,435.1**	**4,714.7**

Selected Financial Information from the Consolidated Statement of Cash Flow

The following table shows selected data from our consolidated statement of cash flows for the six-month periods ended June 30, 2018 and June 30, 2017, and for the fiscal years 2017, 2016 and 2015:

(in EUR million)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)			(audited)	
Cash flow from operating activities	**249.1**	**200.1**	**679.9**	**769.2**	**959.5**
Cash flow from investing activities	**(81.9)**	**(173.9)**	**(279.8)**	**(448.2)**	**(302.6)**
Cash flow from financing activities					
Proceeds from loans and borrowings	744.8	1.8	3.0	498.7	17.6
Cash flow from financing activities	**(301.1)**	**(480.1)**	**(460.1)**	**41.2**	**(406.1)**
Cash flow changes	**(133.9)**	**(453.8)**	**(60.0)**	**362.1**	**250.7**
Net change in cash funds	**(109.5)**	**(502.6)**	**(132.2)**	**371.7**	**272.1**
Cash funds at the end of the period	**1,469.4**	**1,208.4**	**1,578.8**	**1,711.0**	**1,339.3**

Selected Other Key Financial and Operating Data for the Group, by Segment and Geographical Region

The following tables show selected other financial and operating data for the Group and our operating segments for the six-month periods ended June 30, 2018 and June 30, 2017, as well as for the fiscal years 2017, 2016 and 2015, respectively. Certain of the following figures, and financial measures are not presented in accordance with IFRS or any other generally accepted accounting principles. These non-IFRS measures are defined by our management and may not be comparable to similar measures used by other companies.

	For the six-month period ended June 30,		For the fiscal year		
(in EUR million, unless otherwise indicated)	2018	2017	2017	2016	2015
	(unaudited)		(unaudited, unless otherwise indicated)		
Revenues	3,322.2	2,976.0	6,153.5(*)	5,471.3(*)	5,823.5(*)
by segment[1]					
thereof Rail Vehicle Systems	1,744.2	1,549.4	3,260.1	2,978.7	3,331.0
thereof Commercial Vehicle Systems	1,577.3	1,427.3	2,890.6	2,493.0	2,491.8
by region					
thereof Europe/Africa	1,652.6	1,505.1	3,076.4	2,677.0	2,567.9
thereof Asia-Pacific	936.6	775.7	1,690.4	1,553.7	1,788.9
thereof North America	681.2	650.6	1,294.0	1,141.0	1,366.6
thereof South America	51.8	44.6	92.8	99.5	100.1
Revenues growth (in %)	11.6	n/a	12.5	(6.0)	11.6
Aftermarket Sales Share (in % of revenues) (based on German GAAP data)[2]	33.3	35.9	35.3	36.0	33.4
thereof Rail Vehicle Systems (in % of revenues attributable to Rail Vehicle Systems)[2]	40.1	43.4	41.7	40.7	36.1
thereof Commercial Vehicle Systems (in % of revenues attributable to Commercial Vehicle Systems)[2]	25.8	27.7	27.9	30.2	29.8
EBITDA[1, 3]	582.2	518.0	1,115.5(*)	1,052.1(*)	1,269.0(*)
thereof Rail Vehicle Systems	322.2	276.1	639.3	624.0	797.3
thereof Commercial Vehicle Systems	259.6	242.8	503.7	425.7	468.1
EBITDA-margin (in % of revenues)[3]	17.5	17.4	18.1	19.2	21.8
thereof Rail Vehicle Systems	18.5	17.8	19.6	20.9	23.9
thereof Commercial Vehicle Systems	16.5	17.0	17.4	17.1	18.8
EBIT[1, 4]	472.3	423.1	904.0(*)	886.4(*)	1,098.6(*)
thereof Rail Vehicle Systems	259.7	219.9	523.3	547.6	724.0
thereof Commercial Vehicle Systems	218.8	210.6	421.5	357.8	398.0
EBIT-margin (in % of revenues)[4]	14.2	14.2	14.7	16.2	18.9
thereof Rail Vehicle Systems	14.9	14.2	16.1	18.4	21.7
thereof Commercial Vehicle Systems	13.9	14.8	14.6	14.4	16.0
Net Working Capital (as of the balance sheet date)[5]	1,014.9	n/a	782.0	719.3	709.7
Net Financial Cash[6]	(8.2)	n/a	836.1	969.4	1,093.9
Cash flow from operating activities	249.1	200.1	679.9(*)	769.2(*)	959.5(*)
Free Cash Flow[7]	150.2	114.0	450.0	522.9	723.2
Cash Conversion Ratio (in %)[8]	48.9	42.3	76.6	92.2	101.8
Capital Expenditures[9]	(98.9)	(86.2)	(229.9)	(246.3)	(236.3)
Equity Ratio (in %)[10]	21.6	n/a	34.8	36.2	39.0
Return on Capital Employed (ROCE) (in %)[11]	17.7	n/a	37.1	38.5	53.4

(*) Audited.

(1) The financial data in our segment reporting is based on data derived from German GAAP data and includes reconciliation to IFRS figures. Segment revenues are calculated as a sum of revenues of reportable segments and revenues of reconciliation to IFRS according to information on reportable segments.

(2) Aftermarket Sales (secondary market) comprise all revenues of products and services (*e.g.*, spare parts, overhaul) not related to a new original equipment market business products and are based on data derived from German GAAP data and may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus. Aftermarket Sales Share is calculated, on a group level, as the percentage of total revenues (based on German GAAP data) and, on a segment level, as the percentage of revenues of the respective segment (based on German GAAP data). The following table shows, for the periods indicated, revenues based on German GAAP data taken or derived from the respective statutory financial statements or our accounting records:

	For the six-month period ended June 30,		For the fiscal year		
(in EUR million, unless indicated otherwise)	**2018**	**2017**	**2017**	**2016**	**2015**
	(unaudited)			**(unaudited)**	
Revenues (based on German GAAP data)	3,347.1	3,045.4	6,235.7	5,494.3	5,830.6
thereof Rail Vehicle Systems	1,749.6	1,596.9	3,325.2	2,990.3	3,341.1
thereof Commercial Vehicle Systems	1,597.5	1,448.5	2,928.0	2,523.2	2,491.8
Aftermarket Sales (based on German GAAP data)	1,113.9	1,095.1	2,204.2	1,980.2	1,947.6
thereof Rail Vehicle Systems	701.0	693.7	1,387.2	1,218.4	1,204.7
thereof Commercial Vehicle Systems	412.9	401.4	817.0	761.9	742.9
Aftermarket Sales Share (in % of revenues) (based on German GAAP data)	33.3	35.9	35.3	36.0	33.4
thereof Rail Vehicle Systems (in % of revenues attributable to Rail Vehicle Systems)	40.1	43.4	41.7	40.7	36.1
thereof Commercial Vehicle Systems (in % of revenues attributable to Commercial Vehicle Systems)	25.8	27.7	27.9	30.2	29.8

(3) Earnings before interest, tax, depreciation and amortization (EBITDA) is defined as net income/loss before taxes on income, other financial result, interest expenses, interest income, as well as depreciation and amortization. EBITDA-margin is calculated, on a group level, as the percentage of revenues and, on a segment level, as the percentage of revenues of the respective segment.

The following table shows, for the periods indicated, a reconciliation of EBITDA to net income:

	For the six-month period ended June 30,		For the fiscal year		
(in EUR million)	**2018**	**2017**	**2017**	**2016**	**2015**
	(unaudited)			**(audited)**	
Earnings before interest, tax, depreciation and amortization (EBITDA)	**582.2**	**518.0**	**1,115.5**	**1,052.1**	**1,269.0**
Depreciation and amortization	(109.9)	(94.9)	(211.5)	(165.7)	(170.5)
EBIT	**472.3**	**423.1**	**904.0**	**886.4**	**1,098.6**
Interest income	11.2	11.9	24.0	19.2	21.7
Interest expenses	(18.2)	(21.3)	(38.8)	(28.7)	(29.2)
Other financial result	(34.8)	(24.9)	(36.8)	(35.7)	(43.1)
Taxes on income	(123.5)	(119.1)	(265.2)	(274.1)	(337.4)
Net income	**307.0**	**269.6**	**587.2**	**567.2**	**710.7**

(4) Earnings before interests and taxes (EBIT) is defined as net income/loss before taxes on income, other financial result, interest expenses and interest income. EBIT-margin is calculated, on a group level, as the percentage of revenues and, on a segment level, as the percentage of revenues of the respective segment.

The following table shows, for the periods indicated, a reconciliation of EBIT to net income:

	For the six-month period ended June 30,		For the fiscal year		
(in EUR million)	**2018**	**2017**	**2017**	**2016**	**2015**
	(unaudited)			**(audited)**	
Earnings before interest and taxes (EBIT)	**472.3**	**423.1**	**904.0**	**886.4**	**1,098.6**
Interest income	11.2	11.9	24.0	19.2	21.7
Interest expenses	(18.2)	(21.3)	(38.8)	(28.7)	(29.2)
Other financial result	(34.8)	(24.9)	(36.8)	(35.7)	(43.1)
Taxes on income	(123.5)	(119.1)	(265.2)	(274.1)	(337.4)
Net income	**307.0**	**269.6**	**587.2**	**567.2**	**710.7**

(5) Net Working Capital is defined as the balance of inventories, trade accounts receivables, receivables from construction contracts, trade accounts payables, liabilities from construction contracts and prepayments received.

(6) Net Financial Cash is calculated by subtracting financial liabilities, consisting of current financial liabilities and non-current financial liabilities (each consisting of liabilities to banks, bond liabilities and lease liabilities), from cash and cash equivalents.

(7) Free Cash Flow is defined as cash flow from operating activities less Capital Expenditures (as defined in footnote 9 below).

(8) Cash Conversion Ratio is defined as Free Cash Flow divided by net income/loss.

(9) Capital Expenditures are defined as payments made for the purchase of property, plant and equipment and intangible assets.

(10) Equity Ratio is calculated as equity divided by equity and liabilities (balance sheet total).

(11) Return on Capital Employed (ROCE) is defined as EBIT divided by capital employed (sum of property, plant and equipment, intangible assets and Net Working Capital).

Significant changes to the issuer's financial position and operating results.

Recent Developments

In June and July 2018, we entered into a cooperation agreement with Continental Automotive GmbH. With this cooperation, we aim to become a leading Tier-1 supplier for highly automated driving components and systems in our addressable Commercial Vehicle Systems market. Also in June 2018, we signed a know-how transfer and back licensing agreement with certain affiliates of Federal Mogul Holdings LLC for the acquisition of know-how for the development and production of products in the area of rail friction components and related technologies. Thus, we are further reinforcing our systems expertise and investing in new and improved customer-oriented products. The simulation business in the Rail Vehicles Systems segment, Sydac Pty Ltd, was sold in July 2018 to Oktal, Société par actions simplifiée. The divesture of Sydac is part of a realignment of our portfolio in the Rail Vehicle Systems segment and reflects our increased focus on connected onboard railway subsystems and related services. Furthermore, we continued the disposal of the so-called Blueprint group of companies comprising certain portions of our Rail Vehicle maintenance business in Sweden and the UK. We entered into an agreement in August 2018 to sell our U.K. Rail Vehicle business, comprising Knorr-Bremse RailServices (UK) Limited and Kiepe Electric Limited, to mutares Holding-25 AG. With this step, we are continuing our ongoing efforts to realign our strategic focus on core competencies as a key supplier for the railway industry, offering subsystems, components and all related services.

On August 30, 2018, the Supervisory Board appointed Dr. Jürgen Wilder as a member of the executive board of the Company (the "**Executive Board**"). Dr. Wilder's term is scheduled to run from September 1, 2018 until August 31, 2021. Upon commencing his term of office, Dr. Wilder assumed responsibility for the Rail Vehicle Systems segment.

With effect from August 31, 2018, Mr. Georg Härter resigned from his office as member and chairman of the supervisory board of the Company (the "**Supervisory Board**"). On August 29, 2018, and with effect from September 1, 2018, Prof. Klaus Mangold has been elected as a member of the Supervisory Board. On August 29, 2018, he was also elected as chairman of the Supervisory Board.

Six-Month Periods Ended June 30, 2018 and June 30, 2017

In the six-month period ended June 30, 2018, our revenues increased by EUR 346.2 million, or 11.6%, to EUR 3,322.2 million from EUR 2,976.0 million in the six-month period ended June 30, 2017. This increase was due to an increase in revenues in both our Rail Vehicle Systems segment, as well as our Commercial Vehicle Systems segment. The revenues growth in both segments was almost entirely organic, since the most recent acquisition in our Rail Vehicle Systems segment — Kiepe Electric — was acquired in February 2017. Revenues for the six-month period ended

June 30, 2017 would have been EUR 12.3 million higher if Kiepe Electric had been acquired in January 1, 2017.

In our Rail Vehicle Systems segment, revenues increased by EUR 194.8 million, or 12.6%, to EUR 1,744.2 million in the six-month period ended June 30, 2018, compared to EUR 1,549.4 million in the six-month period ended June 30, 2017. This increase was primarily due to the strong performance in the mass transit and rail service business in China, as well as in India. In addition, brake and on-board sales in Europe and the passenger and freight business in North America positively contributed to the Rail Vehicle Systems segment's increase in revenues.

In the six-month period ended June 30, 2018, Commercial Vehicle Systems segment revenues increased by EUR 150.0 million, or 10.5%, to EUR 1,577.3 million from EUR 1,427.3 million in the six-month period ended June 30, 2017. This increase was mainly attributable to a strong OE performance based on a further increase of the global truck production rates, in addition to stronger market penetration in North America. In Asia, an adoption of new technologies, mainly in China, further contributed to the increase in revenues in the Commercial Vehicle Systems segment.

On a regional basis, our revenues in Europe/Africa increased by EUR 147.6 million, or 9.8%, from EUR 1,505.1 million in the six-month period ended June 30, 2017, to EUR 1,652.6 million in the six-month period ended June 30, 2018, which constituted 49.7% of our total revenues (50.6% in the six-month period ended June 30, 2017). This increase was, in particular, attributable to the aforementioned higher brake and on-board sales.

In the Asia-Pacific region, revenues increased by EUR 160.9 million, or 20.7%, from EUR 775.7 million in the six-month period ended June 30, 2017, compared to EUR 936.6 million in the six-month period ended June 30, 2018, which constituted 28.2% of our total revenues (26.1% in the six-month period ended June 30, 2017). This increase was primarily due to the growth in China in both operating segments, as well as rail business in India.

Our revenues in the North America region increased by EUR 30.6 million, or 4.7%, from EUR 650.6 million in the six-month period ended June 30, 2017, to EUR 681.2 million in the six-month period ended June 30, 2018, which constituted 20.5% of our total revenues (21.9% in the six-month period ended June 30, 2017). This increase was mainly a result of the aforementioned strong development of the OE performance as a result of a further increase of the global truck production rates, in addition stronger market penetration in North America, as well as a favorable sales development in the rail passenger and freight business.

In our South America region, revenues increased by EUR 7.2 million, or 16.2%, from EUR 44.6 million in the six-month period ended June 30, 2017, to EUR 51.8 million in the six-month period ended June 30, 2018, which constituted 1.6% of our total revenues (1.5% in the six-month period ended June 30, 2017). The main reason for this increase was a further recovery of the Commercial Vehicles Systems market in this region.

In the six-month period ended June 30, 2018, our earnings before interest, tax, depreciation and amortization (EBITDA) increased by EUR 64.2 million, or 12.4%, to EUR 582.2 million from EUR 518.0 million in the six-month period ended June 30, 2017.

Our EBITDA increased at a rate higher than the 11.6% increase in revenues primarily due to increased other operating income at 16.9%, which were only partially offset, in particular, by the 14.8% higher cost of materials in the six-month period ended June 30, 2018.

In our Rail Vehicle Systems segment, EBITDA increased by EUR 46.1 million, or 16.7%, to EUR 322.2 million in the six-month period ended June 30, 2018, compared to EUR 276.1 million in the six-month period ended June 30, 2017. This increase was primarily due to the higher segment revenues, whereby, additionally, we also benefited from a positive regional mix, mainly reflecting the revenues contribution from China.

In the six-month period ended June 30, 2018, the Commercial Vehicle Systems segment reported an increase in EBITDA by EUR 16.8 million, or 6.9%, to EUR 259.6 million from EUR 242.8 million in the six-month period ended June 30, 2017. This increase was mainly attributable to the revenues growth in all regions based on the globally positive development of truck production rates and, thus, an increase in our OE business.

In the six-month period ended June 30, 2018, our net income increased by EUR 37.4 million, or 13.9%, to EUR 307.0 million from EUR 269.6 million in the six-month period ended June 30, 2017. Thereof, profit attributable to the shareholders of Knorr-Bremse AG increased by EUR 47.2 million, or 20.0%, to EUR 283.5 million in the six-month period ended June 30, 2017, from EUR 236.4 million in the six-month period ended June 30, 2017. Profit attributable to non-controlling interests decreased by EUR 9.8 million, or 29.5%, to EUR 23.5 million in the six-month period ended June 30, 2018, from EUR 33.3 million in the six-month period ended June 30, 2017. Profit attributable to non-controlling interests related to the minorities of Knorr-Brake Holding Corporation, Delaware, USA, and Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in the six-month periods ended June 30, 2017 and June 30, 2018. In April 2018, all non-voting preference shares in Knorr-Brake Holding Corporation, Delaware, USA, were repurchased and cancelled. The purchase price of EUR 130.6 million also covered the dividend rights of the previous shareholder Ursus with effect as of January 1, 2018. Therefore, the profit attributable to non-controlling interests attributable to Knorr-Brake Holding Corporation, Delaware, USA, decreased to zero in the six-month period ended June 30, 2018.

The increase in net income was mainly due to the increased earnings before taxes. As a slight counter-effect, taxes on income increased by EUR 4.4 million, or 3.7%, from EUR (119.1) million in the six-month period ended June 30, 2017, to EUR (123.5) million in the six-month period ended June 30, 2018, primarily as a result of the increase of earnings before taxes.

The nominal tax rate amounted to 32.8% in the six-month period ended June 30, 2018. In accordance with IAS 34, the calculation of the Group's income taxes for the six-month period ended June 30, 2018, was based on the expected effective tax rate for the full year of 29.0% (six-month period ended June 30, 2017: 31.1%). The difference to the nominal tax rate was mainly due to lower local tax rates in comparison to the nominal tax rate on Group level, permanent differences resulting from tax corrections, as well as the non-capitalization of deferred tax assets on current year losses and loss carry-forwards, which were deemed to be not recoverable.

Fiscal Year 2017 and Fiscal Year 2016

In the fiscal year 2017, our revenues increased by EUR 682.3 million, or 12.5%, to EUR 6,153.5 million from EUR 5,471.3 million in the fiscal year 2016. The increase was due to an increase in revenues in both the Commercial Vehicle Systems segment and the Rail Vehicle Systems segment, which was partially offset by the negative impact of a change in foreign exchange rates.

In our Rail Vehicle Systems segment, revenues increased by EUR 281.4 million, or 9.4%, to EUR 3,260.1 million in the fiscal year 2017 compared to EUR 2,978.7 million in 2016 supported by growth from all regions, except for South America. The increase resulted from a largely positive development in the worldwide Rail Vehicle Market. In the Europe/ Africa region, the market moved slightly ahead of the previous year, while in Asia-Pacific it remained stable with positive developments in the Indian passenger market. Growth was generated by investments in the North American passenger transportation sector, with for example a new high-speed project, whereas our revenues in South America — due to the state of the Brazilian economy — slightly declined. In addition, the acquisition of Kiepe Electric in February 2017 added EUR 180.5 million to our revenues in the fiscal year 2017, whereas it did not contribute to our revenues in the fiscal year 2016.

In 2017, Commercial Vehicle Systems segment revenues increased by EUR 397.6 million, or 16.0%, to EUR 2,890.6 million from EUR 2,493.0 million in 2016. This increase was primarily due to a positive development in the global commercial vehicle market as well as in the majority of the regional markets in which we operate. The increase was largely attributable to a sharp increase in truck production rates and the corresponding increase of revenues in China. Additionally, the truck and trailer business in North and South America accelerated in the year under review, while business in Europe remained buoyant. In March 2017, we acquired Bosch Japan's TRS business for on-highway vehicles, which also contributed to the increase in our revenues in 2017, whereas this business did not contribute to our revenues in the previous period. A further contribution to growth came from the acquisition of G.T. Group Ltd., Peterlee, U.K. ("**GT Group**"), which we consolidated beginning on July 5, 2016, *i.e.*, revenues attributable to this business amounted to EUR 26.2 million in the last approximately six months of 2016 compared to EUR 57.0 million that would have been recorded for the entire fiscal year 2016 if the business had been acquired on January 1, 2016. Additionally, the acquisition of tedrive Steering Systems GmbH, Wülfrath, Germany ("**tedrive Group**"), with effect as of September 1, 2016 resulted in EUR 28.9 million additional revenues through initial revenues contributions for four months. If the acquisition had taken place at the beginning of the year, the tedrive Group would have contributed EUR 83.7 million in 2016.

On a regional basis, our revenues in Europe/Africa increased by EUR 399.3 million, or 14.9%, from EUR 2,677.0 million in 2016, to EUR 3,076.4 million in 2017 which constituted 50.0% of our Group's consolidated total revenues (2016: 48.9%). This increase was, in particular, attributable to revenues growth in the Commercial Vehicle Systems segment in Europe. This was due in particular to the expansion of our new fields of activity: Engine Air, Steering Systems, and Transmission Control. In addition, a stable level of incoming orders from the European passenger and freight transportation sectors supported the revenues in the Europe/Africa region, which was also driven by revenues growth in our Rail Vehicle Systems segment. The RailServices aftermarket business also showed positive development. While original equipment manufacturer ("**OEM**") business in Germany and the UK showed clear growth, in Turkey it declined. Additionally, revenues for Kiepe Electric was for the first time included in the Europe/Africa region.

In the Asia-Pacific region, revenues also increased by EUR 136.7 million, or 8.8%, from EUR 1,553.7 million in the fiscal year 2016 compared to EUR 1,690.4 million in 2017, which constituted 27.5% of our Group's consolidated total revenues (2016: 28.4%). This was, in particular, due to a

positive development in the commercial vehicle market in China. In China, we benefited from the resurgent high-speed train and locomotive market, while in Australia we secured a share of several mass transit projects and India also contributed to the growth. India Railways commissioned vehicle manufacturer ICF Chennai with the development and production of a new multiple unit rail vehicle, for which Knorr-Bremse India is to supply brake systems as well as automated plug sliding doors with sliding steps.

Our revenues in the North America region increased by EUR 153.0 million, or 13.4%, from EUR 1,141.0 million in the fiscal year 2016 to EUR 1,294.0 million in the fiscal year 2017, which constituted 21.0% of our Group's consolidated total revenues (2016: 20.9%). This increase was primarily due to dynamic growth in the Commercial Vehicle Systems segment in North America which, in particular, benefited from two trends: (i) truck manufacturers adopted an increased content per vehicle in advanced collision mitigation systems as standard; and (ii) air disc brakes increasingly replaced drum brakes as the standard on all axles. Other reasons for the increase were the expansion of mass-transit networks and the improving freight market in North America.

In our South America region, revenues decreased by EUR 6.7 million, or 6.8%, from EUR 99.5 million in the fiscal year 2016 to EUR 92.8 million in the fiscal year 2017, which constituted 1.5% of the consolidated total revenues (2016: 1.8%). The main reasons for the decline were lower revenues in the South American rail vehicle sector due to the crisis-hit Brazilian economy.

In the fiscal year 2017, our earnings before interest, tax, depreciation and amortization (EBITDA) increased by EUR 63.4 million, or 6.0%, to EUR 1,115.5 million from EUR 1,052.1 million in the fiscal year 2016.

This was mainly due to increased EBITDA in our Commercial Vehicle Systems segment as a result of increasing revenues, mainly due to a favorable development of original equipment sales due to a globally stronger truck production rate. Our EBITDA, however, increased at a rate slower than the 12.5% increase in revenues primarily due to cost of materials increasing at 17.0%, which has only been partially offset by a slower growth in other operating expenses, despite the extraordinary expenditures in the context of the attempted Haldex AB acquisition, the conversion of the Group accounting to IFRS, the preparation for the initial public offering of the Company and the loss from the Russian lease contract. Additionally, changes in foreign exchange rates negatively affected our EBITDA in 2017 in a low double digit million euro amount.

In our Rail Vehicle Systems segment, EBITDA increased by EUR 15.4 million, or 2.5%, to EUR 639.3 million in the fiscal year 2017 compared to EUR 624.0 million in 2016. The small increase was primarily due to sales driven profit contribution, which was partially offset by the negative profit contribution caused by first-time consolidation of Kiepe Electric.

In 2017, the Commercial Vehicle Systems segment reported an increase in EBITDA by EUR 78.0 million, or 18.3%, to EUR 503.7 million from EUR 425.7 million in 2016. This was primarily due to revenues growth in all regions generating additional profit contribution.

In the fiscal year 2017, our net income increased by EUR 20.1 million, or 3.5%, to EUR 587.2 million from EUR 567.2 million in the fiscal year 2016. Thereof profit attributable to the shareholders of Knorr-Bremse AG increased by EUR 9.2 million, or 1.7%, to EUR 535.5 million in the fiscal year 2017 from EUR 526.3 million in the fiscal year 2016 and profit

attributable to non-controlling interests increased by EUR 10.9 million, or 26.7%, to EUR 51.7 million in the fiscal year 2017 from EUR 40.8 million in the fiscal year 2016. Profit attributable to non-controlling interests related to the minorities of Knorr-Brake Holding Corporation, Delaware, USA, and Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in the fiscal year 2017 and the fiscal year 2016. The increase in profit attributable to non-controlling interests was mainly related to the minorities of Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in Knorr-Bremse which benefited from the revenues growth in China.

The increase was mainly due to the increased earnings before taxes and a lower effective tax rate in the amount of 31.1% in the fiscal year 2017 compared to 32.6% in the fiscal year 2016 mainly attributable to international tax law reforms, for example in the USA and in France, and the fact that deferred tax charges increased by EUR 7.2 million to EUR 13.6 million in the fiscal year 2017 compared to EUR 6.3 million in the previous year 2016. Accordingly, taxes on income decreased by EUR 8.9 million, or 3.2%, from EUR (274.1) million in the fiscal year 2016 to EUR (265.2) million in the fiscal year 2017.

Fiscal Year 2016 and Fiscal Year 2015

In the fiscal year 2016, our revenues decreased by EUR 352.3 million, or 6.0%, to EUR 5,471.3 million from EUR 5,823.5 million in the fiscal year 2015, mainly due to a decrease of revenues in our Rail Vehicle Systems segment. Furthermore, foreign exchange rate fluctuations had a negative effect on our revenues in the fiscal year 2016.

The main reason for this decrease was a decline of revenues in our Rail Vehicle Systems segment, which decreased by EUR 352.3 million, or 10.6%, to EUR 2,978.7 million in the fiscal year 2016 compared to EUR 3,331.0 million in 2015. This decrease reflected a temporary decline in the worldwide demand for rail vehicles. The dominant factors in the year under review were a more volatile development of the global economy coupled with slow market growth, particularly in China and North America. Specifically, following extraordinarily strong growth in 2014 and 2015, demand for high-speed trains and locomotives in China normalized to more sustainable annual volumes. In addition, a cyclical slowdown in the freight car and locomotive business in North America affected revenues development. Through further expansion of our business relating to commuter rail and RailServices in these markets, we were able to partly offset the resultant decline in revenues.

In contrast, the Commercial Vehicle Systems segment remained stable with a marginal increase in revenues by EUR 1.1 million, or 0.0%, from EUR 2,491.8 million in the previous year to EUR 2,493.0 million in 2016. While the global commercial vehicle market in the year under review showed an overall modest upswing, the truck and trailer business in Europe and Asia showed progress and offset the cyclical market volatility in North America. In 2016, the disc brake and electronic brake systems product segments were the key sales drivers for the Commercial Vehicle Systems segment in Europe. Among other things, we were able to build on its leading market position in the brake control segment. In addition, in the aftermarket sector, we introduced the TruckServices brand in 2016 that brings together our services for this segment and aims to offer reliable and economical diagnostics, maintenance, and repair solutions for any commercial vehicle, irrespective of model and age. Furthermore, the increase was to some extent due to several acquisitions in 2016. In July 2016, we acquired GT Group which as of July 2016 contributed to our revenues, whereas it did not contribute to our revenues in the fiscal year 2015. As a consequence, the

acquisition positively impacted our revenues as there was a revenues contribution from the acquired business of EUR 26.2 million in 2016. Furthermore, the acquisition of tedrive Group with effect as of September 1, 2016 resulted in additional revenues through initial revenues contributions for four months amounting to EUR 28.9 million, whereas it also did not contribute to our revenues in 2015.

On a regional basis, our revenues in Europe/Africa increased by EUR 109.1 million, or 4.2%, from EUR 2,567.9 million in 2015, to EUR 2,677.0 million in 2016, which constituted 48.9% of our Group consolidated total revenues (2015: 44.1%). This increase was due primarily to rail vehicle market growth in the UK as large-scale projects were ramped up, whereas the market volume remained largely unchanged year-on-year in Germany, France, and the Scandinavian countries. Furthermore, Russia/CIS stabilized in the course of the year following a decline in 2015. The European commercial vehicle market was able to compensate for the moderate decline in output in Eastern Europe through higher production volumes for Western Europe.

These positive effects were offset by a decrease of revenues in the Asia-Pacific region by EUR 235.2 million, or 13.1%, from EUR 1,788.9 million in 2015, to EUR 1,553.7 million in 2016 which constituted 28.4% of our Group consolidated total revenues (2015: 30.7%). The main reason for this decline was the normalization in the Chinese rail vehicle market in 2016. This negative development was partly offset by growth in the metro sector in China, as well as in the Indian market, where demand for locomotives also increased.

In addition, in 2016, revenues in our North America region fell by EUR 225.6 million, or 16.5%, to EUR 1,141.0 million compared to EUR 1,366.6 million in 2015, contributing 20.9% of our Group consolidated total revenues (2015: 23.5%). This decrease was partly attributable to a marked downturn in the rail freight sector due in part to the large investments in rolling stock over the prior few years creating a surplus of vehicles as demand declined. At the same time, the North American rail vehicle systems mass-transit market continued to grow, leading to positive development in the passenger sector. We also experienced negative developments in the commercial vehicle market in North America. In general, market demand shifted away from standard tractor units and towards special-purpose vehicles.

Furthermore, in 2016, revenues in our South America region decreased by EUR 0.6 million, or 0.6%, from EUR 100.1 million in the fiscal year 2015 to EUR 99.5 million, which constituted 1.8% of our Group consolidated total revenues in 2016 (2015: 1.7%). The main reason for this slight decline was the remaining low level of the rail vehicle sector and truck production due to the continuing political and economic crisis in Brazil, which also impacted demand in neighboring countries.

In the fiscal year 2016, our earnings before interest, tax, depreciation and amortization (EBITDA) decreased by EUR 216.9 million, or 17.1%, to EUR 1,052.1 million from EUR 1,269.0 million in the fiscal year 2015.

The main reason for this decrease of our EBITDA was the normalization of high margin high speed train sales in China in the Rail Vehicle Systems segment in 2016, which had accounted for an extraordinarily high profit contribution in 2015. Furthermore, volume effects from the Chinese high-speed rail business affected our operating results. Additionally, changes in foreign exchange rates negatively affected our EBITDA in a low double digit million euro amount, in particular due to the moderate recovery of the Euro

		against important currencies for the Group, primarily the U.S. Dollar and the Chinese Yuan. In our Rail Vehicle Systems segment, EBITDA decreased by EUR 173.3 million, or 21.7%, to EUR 624.0 million in the fiscal year 2016 compared to EUR 797.3 million in 2015 mainly as a result of abovementioned normalization of high-speed train sales in China. In our Commercial Vehicle Systems segment, EBITDA decreased by EUR 42.4 million, or 9.1%, to EUR 425.7 million in the fiscal year 2016 from EUR 468.1 million in 2015. This was primarily due to higher other operating expenses, only partly offset by favorable developments in the material and personnel expense ratios in the Commercial Vehicle Systems segment. In the fiscal year 2016, our net income decreased by EUR 143.5 million, or 20.2%, to EUR 567.2 million from EUR 710.7 million in the fiscal year 2015. Thereof profit attributable to the shareholders of Knorr-Bremse AG decreased by EUR 126.4 million, or 19.4%, to EUR 526.3 million in the fiscal year 2016 from EUR 652.8 million in the fiscal year 2015 and profit attributable to non-controlling interests decreased by EUR 17.1 million, or 29.5%, to EUR 40.8 million in the fiscal year 2016 from EUR 57.9 million in the fiscal year 2015. Profit attributable to non-controlling interests related to the minorities of Knorr-Brake Holding Corporation, Delaware, USA, and Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in Knorr-Bremse in the fiscal year 2016 and the fiscal year 2015. The decrease is mainly related to the aforementioned normalization of high-speed rail sales in China in the Rail Vehicle Systems segment after the peak in 2015 which affected the minorities of Knorr-Bremse CARS LD Co. Ltd., Daxing, China. While the effective tax rate increased slightly from 32.2% in 2015 to 32.6% in 2016, the decline in net income was mainly due to the decreased earnings before taxes, with taxes on income decreasing by EUR 63.3 million, or 18.8%, from EUR (337.4) million in the fiscal year 2015 to EUR (274.1) million in the fiscal year 2016.
B.8	**Selected key pro forma financial information.**	Not applicable. No pro forma financial information has been prepared by the Company.
B.9	**Profit forecast or estimate.**	Not applicable. No profit forecast or profit estimate has been prepared by the Company.
B.10	**Qualifications in the audit report on the historical financial information.**	Not applicable. The audit reports on the historical financial information included in the Prospectus have been issued without qualifications.
B.11	**Insufficiency of the issuer’s working capital for its present requirements.**	Not applicable. The Company’s working capital is sufficient for its present requirements.
C.	**Securities**	
C.1	**A description of the type and the class of the securities being offered and/or admitted to trading, including any security identification number.**	Bearer shares with no par value (*Stückaktien*), each such share with a notional value of EUR 1.00 in the share capital and with full dividend rights as from January 1, 2018. International Securities Identification Number (ISIN): DE000KBX1006 German Securities Code (*Wertpapier-Kenn-Nummer*) (WKN): KBX100 Common Code: 186559398 Trading Symbol: KBX

C.2	**Currency of the securities issue.**	Euro.
C.3	**The number of shares issued and fully paid and issued but not fully paid.**	As of the date of the Prospectus, the share capital of the Company amounts to EUR 161,200,000 and is divided into 161,200,000 bearer shares with no par value *(Stückaktien).* The share capital of the Company is fully paid up.
	The par value per share, or that the shares have no par value.	Each of the shares of the Company represents a notional value of EUR 1.00 in the share capital.
C.4	**A description of the rights attached to the securities.**	Each of the shares of the Company entitles the shareholder to one vote at the general shareholders' meeting of the Company. There are no restrictions on voting rights. The shares of the Company carry full dividend rights for their holders for the dividends declared by the Company as from January 1, 2018, *i.e.*, for the full fiscal year 2018 and for all subsequent fiscal years.
C.5	**A description of any restrictions on the free transferability of the securities.**	Except for the lock-up agreements described below under E.5, there are no restrictions on the transferability of the Company's shares.
C.6	**An indication as to whether the securities offered are or will be the object of an application for admission to trading on a regulated market and the identity of all the regulated markets where the securities are or are to be traded.**	The Company expects to apply on or about October 1, 2018 for admission of its existing shares (which includes the Offer Shares) to trading on the regulated market segment (*regulierter Markt*) of the Frankfurt Stock Exchange *(Frankfurter Wertpapierbörse)* and, simultaneously, on the sub-segment thereof with additional post-admission obligations (Prime Standard). An admission decision regarding the existing shares of the Company is expected to be announced on October 11, 2018. Trading of the shares of the Company on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) is currently expected to commence on October 12, 2018.
C.7	**A description of dividend policy.**	The Company has paid dividends in the past and intends to continue to pay dividends as from the fiscal year 2019, *i.e.*, for the fiscal year 2018 onwards, and aims, provided that the business performance remains stable, and subject to the availability of distributable profits of the Company, to distribute an annual dividend within the range of 40% to 50% of the Group's consolidated net profit according to IFRS. However, the decision on whether and in what amount dividends are to be distributed will depend on a series of factors, including the level of distributable profits for the year, the investment policy and the financing needs of the Company at the time. As the Company partially conducts its operating business through its subsidiaries and affiliates, its ability to pay dividends depends substantially on its operating subsidiaries and affiliates making profits and distributing these to the Company or transferring them to the Company via existing profit/loss transfer agreements. Furthermore, it cannot be excluded that under any future financing agreements, the Company could be restricted by future customary covenants regarding dividend distributions.
D.	**Risks**	
D.1	**Key information on the key risks that are specific to the issuer or its industry.**	An investment in the Company's shares is subject to a number of risks. Prospective investors should carefully consider the following key risks together with all the other information contained in the Prospectus prior to making any investment decision regarding the Company's shares. The occurring of any of the following risks, individually or together with

additional risks and uncertainties not currently known to the Company, or that the Company may currently deem immaterial, could have a material adverse effect on the Group's business, results of operation, cash flows and financial position. The market price of the Company's shares could decline if one or more of these risks were to materialize, in which case investors could lose all or part of their investment. The order in which the risks are presented here or in the main body of the Prospectus is not an indication of the likelihood of these risks actually materializing, or their likely significance or degree or scope of any potential harm to the Group's business, results of operations, cash flows and financial position or prospects.

Risks Relating to Our Market Environment and Business

- Our business may be negatively affected by unfavorable developments in the global economy, market cyclicality and developments in political, social, economic or other conditions (including protectionist measures, trade wars or sanctions) in countries and major regions relevant to our business.

- The industries in which we operate are characterized by changing trends, technological developments and regulation. If we cannot continue to develop, manufacture, market and sell innovative products that meet customer preferences and their requirements for performance and reliability, our sales may suffer and we may lose market share.

- We are subject to risks, such as local business risks, associated with our foreign operations, including political and social instability as well as changing regulatory frameworks and market conditions in many different countries.

- The industries in which we operate are increasingly competitive and characterized by downward pressure on prices. This, as well as certain trends driven by our customers in the rail and commercial vehicle businesses, such as concentration, increasing in-house development capabilities or the trend towards system suppliers, may negatively affect our competitive position and market share.

- We may fail to successfully identify, enter into or integrate acquisitions, joint ventures or cooperations or to successfully execute divestments, and face risks relating to joint ventures, cooperations and partnerships, including our potential limited influence on the organization and business success of such ventures, and the risk that the interests of our partners may conflict with our own.

- We may fail to implement strategic efficiencies and other improvements and cost saving measures in a timely manner and such planned improvements and measures may fail to achieve their targets.

- We have been and may be negatively affected by quality issues or product defects, which may lead to costly replacement measures, product liability claims, fines and larger accidents, as well as interruptions of operations at our facilities and other operational disruptions. In addition, our insurance coverage may not be sufficient to cover all risks associated with the operation of our business.

- We depend upon a number of large key customers, and our customers tend to have strong bargaining power. We also face risks associated with the bidding process, in particular for larger and mid-sized OEM projects, as well as relating to contractual arrangements with our OEM customers and project risks, such as cost overruns and delays.

- Our backlog may not necessarily be indicative of the level of our future sales, and our order books are not guaranteed. Thus, we may be unable to rapidly adjust our production and sales volume to market developments.
- Our business may be negatively affected by an inability to obtain required parts and components, or to do so at reasonable prices, due to fluctuations in the costs of the underlying materials, as well as by increasing costs of other means of production, such as energy and transportation, or the loss of certain key suppliers.
- We depend on our ability to attract and retain highly qualified managerial staff and skilled personnel and face the risk that our business expertise may become available to competitors. We are also exposed to rising labor costs and the risk that non-tariff individual labor agreements may be challenged, which might negatively affect our profitability, as well as a potential deterioration of our relationships with our employees, trade unions or employee representatives as well as potential work stoppages, strikes or other collective actions.
- We are dependent on our information technology and other systems, and could be affected by the loss, theft or misuse of data and other cybersecurity risks, system stoppages, interruptions or failures.
- Our indebtedness as such or the enforcement of certain provisions in our financing arrangements and in the terms of our bonds may limit our operational flexibility. In addition, we are subject to refinancing and liquidity risks, as well as the risk of credit downgrades.
- Our sales, results of operations and financial position may be adversely affected by currency fluctuations, as well as seasonal and other quarterly fluctuations.
- Part of the information on the Group's market and competitive position in the Prospectus has not been independently verified and is based on assumptions that may prove to be inaccurate.

Legal, Regulatory and Tax Risks

- We are subject to several regulations, technical standards and governmental policies, including environmental requirements and risks, and we could be affected by the regulatory frameworks in different ways. Moreover, many of our customers and end-customers operate in highly regulated industries, and any additional regulatory requirements could affect our customers' business operations, which could in turn materially impair our business, results of operations, cash flows and financial position.
- We are subject to risks from disputes and administrative, legal and arbitration proceedings, including antitrust proceedings.
- We depend, with respect to certain activities, on permits, licenses, approvals, certifications and exemptions, and there can be no assurance that we will be able to renew all necessary licenses, certifications and similar permits required for our operations in a timely manner.
- Our risk management and internal controls may not prevent or detect violations of law, and compliance breaches could result in investigations by the relevant authorities, fines, additional tax payments, damage claims, payment claims, and the termination of relationships with customers or suppliers and reputational damage.
- Any threat to, or impairment of, our intellectual property rights and know-how could cause us to incur costs to defend these rights, and impair our ability to compete effectively. In addition, we may violate

intellectual property rights of third parties and be liable for damages and litigation costs.

- Our tax burden could increase due to changes in tax law or their application or interpretation, or as a result of current or future tax audits, as well as due to the application or interpretation of transfer pricing rules, or arm's length adjustments.
- We may have to repay investment grants and subsidies, or previously awarded investment grants may not be disbursed in full or in part.

D.2	**Key information on the key risks that are specific to the securities.**	***Risks Related to the Offering, the Listing and the Shareholder Structure***

- KB Holding and Ursus which are controlled by Mr. Heinz Hermann Thiele, will continue to exercise substantial influence over the Company following the completion of the Offering. The interests of KB Holding, Ursus and Mr. Heinz Hermann Thiele might conflict with the interests of other shareholders.
- The Company's shares have not yet been publicly traded, and there can be no assurance that a liquid trading market for the Company's shares will develop or can be maintained after the Offering. In addition, the price and trading volume of the Company's shares could fluctuate significantly, and investors could lose all or part of their investment. The share price could also decline due to future sales or market expectations of sales of a substantial number of shares in the Company by KB Holding, Ursus or other shareholders.
- Future sales or market expectations of sales of a substantial number of shares in the Company by KB Holding, Ursus or other shareholders could cause the share price to decline after the lock-up or within the lock-up period with bank waiver. Furthermore, future capital increases, future equity offerings or offerings of instruments convertible into equity or any merger with another entity may dilute investors' shareholdings in the Company. Investors in certain jurisdiction (particularly in the U.S.) could be precluded from participating in any rights offering altogether.
- The Offering might not be completed, in which case investors could lose security commissions paid and be exposed to risks from any short selling of the shares.
- The Company's ability to pay dividends depends, in part, on the distribution or transfer of profits from its subsidiaries and on its debt covenants.
- The Company will face additional administrative requirements and incur higher ongoing costs as a result of its operation as a publicly listed company.
- Shareholders from outside the Eurozone may be subject to foreign currency exchange rate risk. In addition, the proposed financial transaction tax could result in a substantial new tax burden in the secondary market for investors buying the Company's shares and trading them in an EU member state which implements such a tax.

E.	**Offer**	
E.1	**The total net proceeds and an estimate of the total expenses of the issue/offer, including estimated expenses charged to the investor by the issuer or the offeror.**	The Company will not receive any proceeds from the Offering. The overall costs for the Offering are estimated to be approximately EUR 73.7 million at the mid-point of the Price Range (as defined below) (assuming placement of the maximum number of Base Shares, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option (each as defined under element E.3 below)), which includes the Underwriters' commissions and assuming full payment of the discretionary fee. These costs will be borne by the Selling Shareholder. The Selling Shareholder will receive the proceeds resulting from the sale of the Base Shares (as defined under element E.3 below), the proceeds resulting from a potential sale of Additional Base Shares (as defined below under E.3) if and to the extent the Upsize Option (as defined below under E.3) is exercised and the Additional Base Shares are placed, and the proceeds resulting from a potential sale of Over-Allotment Shares if and to the extent the Greenshoe Option (both as defined under element E.3 below) is exercised. If the Upsize Option is exercised in full and the maximum number of Additional Base Shares is placed, the Selling Shareholder would sell additionally 8,060,000 Offer Shares and will receive the proceeds from the sale of such shares. The amount of the proceeds, as well as the costs of the Offering depend, *inter alia*, on the final offer price (the "**Offer Price**"), which also determines the Underwriters' commissions, and on the number of shares that will be placed in the Offering. The Company estimates that at the low end, mid-point and high end of the price range set for the Offering as described under element E.3 below (the "**Price Range**"), gross proceeds to the Selling Shareholder (assuming placement of the maximum number of Base Shares, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option (each as defined under element E.3 below)) would amount to approximately EUR 3,481.9 million (low end), EUR 3,844.6 million (mid-point) and EUR 4,207.3 million (high end), respectively. Assuming an Offer Price at the low end, mid-point and high end of the Price Range, that the maximum number of Base Shares is placed, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option (each as defined under element E.3 below), and assuming further payment in full of the discretionary fee of up to approximately EUR 17.4 million (low end), EUR 19.2 million (mid-point) and EUR 21.0 million (high end), respectively, the commission payable to the Underwriters will amount to approximately EUR 52.2 million, EUR 57.7 million and EUR 63.1 million, respectively. Assuming that the maximum number of Base Shares is placed, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and the full exercise of the Greenshoe Option (each as defined under element E.3 below), the Company estimates that at the low end, mid-point and high end of the Price Range, net proceeds for the Selling Shareholder would amount to EUR 3,413.7 million, EUR 3,771.0 million and EUR 4,128.2 million, respectively. Investors will not be charged with expenses by the Company, the Selling Shareholder or the Underwriters in connection with their role as

		underwriters. Investors may, however, have to bear customary transaction and handling fees charged by their account-keeping financial institution.
E.2a	**Reasons for the offer, use of proceeds, estimated net amount of the proceeds.**	The Company will not receive any proceeds from the Offering (as defined in E.3). The Company intends to secure its long-term successful development with the the planned listing of its shares on the regulated market segment of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse)* and, simultaneously, on the sub-segment thereof with additional post-admission obligations (Prime Standard). Being a listed company will increase its strategic and financial flexibility. Access to the capital markets may enable the Company to focus continuously on profitable growth and cash flow. Further, the expectations of the capital markets towards the Company fit Knorr-Bremse's performance culture.
E.3	**A description of the terms and conditions of the offer.**	The Offering consists of a total of up to 48,360,000 bearer shares with no par value (*Stückaktien*) of the Company, each such share with a notional value of EUR 1.00 in the share capital of the Company and full dividend rights as from January 1, 2018, comprising: • 35,043,479 bearer shares with no par value from the holdings of the Selling Shareholder (the "**Base Shares**"), • 8,060,000 bearer shares with no par value from the holdings of the Selling Shareholder ("**Additional Base Shares**") with the number of shares to be actually placed with investors subject to the exercise of an upsize option upon decision of the Selling Shareholder in consultation with the Joint Global Coordinators on the date of pricing (the "**Upsize Option**"), and • up to 5,256,521 bearer shares with no par value from the holdings of the Selling Shareholder to cover potential over-allotments (the "**Over-Allotment Shares**", together with the Base Shares and the Additional Base Shares, the "**Offer Shares**"). The Offering consists of an initial public offering in Germany and in the Grand Duchy of Luxembourg ("**Luxembourg**") and private placements in certain jurisdictions outside Germany and Luxembourg. In the United States of America ("**United States**"), the Offer Shares will be offered and sold only to qualified institutional buyers as defined in Rule 144A under the U.S. Securities Act of 1933, as amended (the "**Securities Act**"). Outside the United States, the shares of the Company are being offered and sold only in offshore transactions in compliance with Regulation S under the Securities Act. The Offer Shares have not been and will not be registered under the Securities Act, or the securities laws of any other jurisdiction of the United States and may not be offered, sold or otherwise transferred to or within the United States, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and in compliance with any applicable securities laws of any state or other jurisdiction in the United States. **Price Range** The Price Range within which purchase orders may be placed is from EUR 72.0 to EUR 87.0 per Offer Share. **Offer Period and Purchase Orders** The Offering will commence on October 1, 2018 and is expected to end on October 11, 2018 ("**Offer Period**"), (i) at 12:00 (Central European Summer Time) for retail investors and (ii) at 14:00 (Central European Summer Time) for institutional investors. Retail investors may submit purchase orders under

the public offering in Germany and Luxembourg during the Offer Period at the branch offices of the Underwriters.

Amendments to the Terms of the Offering

The Selling Shareholder reserves the right, after consultation with the Company and the Joint Global Coordinators, to reduce or increase the number of Offer Shares, to reduce or increase the upper/lower limits of the Price Range and/or to extend or shorten the Offer Period. The change in the number of Offer Shares or the Price Range or the extension or shortening of the Offer Period will not invalidate purchase orders already submitted. If such change requires publication of a supplement to the Prospectus, investors who submitted purchase orders before the supplement was published have the right under the German Securities Prospectus Act (*Wertpapierprospektgesetz*) to withdraw their purchase orders within two business days of publication of the supplement. Instead of withdrawing the purchase orders placed prior to publication of the supplement, investors may change their orders or submit new limited or unlimited purchase orders within two business days of publication of the supplement. To the extent that the terms of the Offering are changed, such change will be announced through electronic media on the Company's website (https://ir.knorr-bremse.com) and published if required by the Regulation (EU) No 596/2014 of the European Parliament and of the Council of April 16, 2014 on market abuse and/or the German Securities Prospectus Act, as an ad hoc announcement via an electronic information system and on the Company's website, and as a supplement to the Prospectus. Investors who have submitted purchase orders will not be notified individually. Under certain conditions, the Joint Global Coordinators acting on behalf of the Underwriters may terminate the underwriting agreement regarding the offer and sale of the Offer Shares in connection with the Offering, entered into among the Company, the Selling Shareholder, Ursus and the Underwriters on September 28, 2018 (the "**Underwriting Agreement**"), even after commencement of trading (*Aufnahme des Handels*) of the Company's shares on the regulated market (*regulierter Markt*) of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*).

KB Holding, after consultation with the Joint Global Coordinators, will decide if and to what extent the Upsize Option will be exercised depending on market demand and using the order book prepared during the bookbuilding process. KB Holding may sell up to 8,060,000 Additional Base Shares.

Number of Offer Shares and Offer Price

Once the Offer Period has expired, the final number of Offer Shares and the Offer Price will be determined jointly by the Selling Shareholder after consultation with the Company and the Joint Global Coordinators. The Offer Price will be set on the basis of the purchase orders submitted by investors during the Offer Period that have been collated in the order book during the bookbuilding process. This procedure is expected to take place on or about October 11, 2018. Consideration will be given to whether the Offer Price and the number of shares to be placed allow for the reasonable expectation that the share price will demonstrate steady performance in the secondary market given the demand for the Company's shares noted in the order book during the book-building process. Attention will be paid not only to the prices offered by investors and the number of investors wanting shares at a particular price but also to the composition of the group of shareholders in the Company that would result at a given price (so-called investor mix) and expected investor behavior. The Company and the Selling Shareholder will not charge investors any expenses or taxes incurred in connection with the Offering.

The final number of Offer Shares and the Offer Price are expected to be communicated through an announcement published on or about October 11, 2018 by means of an ad hoc announcement in various media distributed across the entire European Economic Area *(Medienbündel)* and on the Company's website (https://ir.knorr-bremse.com). Investors who have placed purchase orders with one of the Underwriters can obtain information from that Underwriter about the Offer Price and the number of Offer Shares allotted to them, at the earliest, on the first bank business day following the pricing. Particularly if the placement volume proves insufficient to satisfy all orders placed at the Offer Price, the Underwriters reserve the right to reject orders, or to accept them in part only.

Delivery and Payment

Delivery of the Offer Shares against payment of the Offer Price and customary security commissions is expected to take place on or about October 16, 2018. The Offer Shares will be made available to shareholders in book-entry form (as co-ownership interests in the global share certificate).

Preferential Allocation

As part of the Offering, KB Holding will offer Offer Shares to the members of the Executive Board on a preferential basis at the Offer Price and the members of the Executive Board have committed to acquire such number of shares. Such preferential allocation comprises Offer Shares with an aggregate value of EUR 3.15 million.

Stabilization, Over-Allotments and Greenshoe Option

In connection with the placement of the Offer Shares, Deutsche Bank or persons acting on its behalf will act as stabilization manager and may, acting in accordance with legal requirements such as EU Regulation (EU) No. 596/2014 of April 16, 2014 (Market Abuse Regulation) in conjunction with the regulatory technical standards issued, make over-allotments and take stabilization measures to support the market price of the shares of the Company and thereby counteract any selling pressure. Deutsche Bank shall act as central point responsible as set forth in Article 6(5) of the Commission Delegated Regulation (EU) 2016/1052 of March 8, 2016 and shall assume responsibility for the public disclosure requirements and for handling any request from any competent authorities referred to in such regulation.

The stabilization manager is under no obligation to take any stabilization measures. Therefore, no assurance can be provided that any stabilization measures will be taken. Where stabilization measures are taken, these may be terminated at any time without notice. Such measures may be taken from the date of the commencement of trading of the shares of the Company on the regulated market of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse)* — expected to be October 12, 2018 — and must be terminated no later than 30 calendar days after such date. The stabilization manager may undertake stabilization measures on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*). These measures may result in a market price for shares of the Company that is higher than it would otherwise have been. Moreover, the market price may, temporarily, be at an unsustainable level. Stabilization measures shall not be executed above the Offer Price.

Under the possible stabilization measures, investors may, in addition to the Base Shares, be allotted up to 5,256,521 additional shares in the Company as part of the allotment of the shares to be placed ("**Over-Allotment**"). In connection with potential Over-Allotments, Deutsche Bank will be provided for the account of the Underwriters in the form of a securities loan

		(Wertpapierdarlehen) with up to 5,256,521 shares of the Company provided by KB Holding; this number of shares will not exceed 15% of the number of Base Shares. In connection with potential Over-Allotments, KB Holding will grant the Underwriters an option to acquire the borrowed shares against payment of the Offer Price less agreed commissions ("**Greenshoe Option**"). The Greenshoe Option may be exercised at maximum to the extent that shares of the Company have been placed by way of Over-Allotments. The Greenshoe Option shall be exercisable by Deutsche Bank acting as stabilization manager from the date the shares of the Company are listed on the regulated market of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) and must be terminated no later than 30 calendar days after that date.
E.4	**A description of any interest that is material to the issue/offer including conflicting interests.**	In connection with the Offering and stock exchange listing of the Company's shares, the Underwriters have a contractual relationship with the Company and the Selling Shareholder. Deutsche Bank, J.P. Morgan and Morgan Stanley are advising the Company on the transaction as joint global coordinators and joint bookrunners and are therefore coordinating the structure and execution of the transaction. The Underwriters will receive a commission upon successful completion of the transaction, and the amount of such commission is dependent on the size of the Offering and the Offer Price among others. The Underwriters therefore have an interest that as many shares as possible are placed at the highest price possible. In addition, Deutsche Bank, J.P. Morgan and Morgan Stanley or one of their affiliates have been appointed as designated sponsors for the Company's shares and COMMERZBANK has been appointed as paying agent subject to separate agreements. Some of the Underwriters or their affiliates have, and may in the future continue to have, from time to time, business relations with us or the Selling Shareholder (including lending activities) or may perform services for us or the Selling Shareholder in the ordinary course of business for which they have received or may receive customary fees and commissions. Furthermore, in connection with the Offering, each of the Underwriters and any of their respective affiliates, acting as an investor for its own account, may take up shares and in that capacity may retain, purchase or sell for its own account such securities and any shares or related investments and may offer or sell such shares or other investments otherwise than in connection with the Offering. Accordingly, references in the Prospectus to shares being offered or placed should be read as including any offering or placement of shares to any of the Underwriters or any of their respective affiliates acting in such capacity. In addition, certain of the Underwriters or their affiliates may enter into financing arrangements (including swaps) with investors in connection with which such Underwriters (or their affiliates) may from time to time acquire, hold or dispose of shares of the Company. None of the Underwriters intends to disclose the extent of any such investment or transactions otherwise than in accordance with any legal or regulatory obligation to do so. As of the date of the Prospectus, the Selling Shareholder holds 94.99996% of the existing shares of the Company and as such has an influence on the decisions which the Company will take with respect to the Offering. The Selling Shareholder will receive the proceeds resulting from the Offering. Consequently, the Selling Shareholder has an interest in the success of the Offering on the best possible terms. Further, the members of Executive Board Mr. Deller, Mr. Heuwing and Dr. Laier will receive a one-time incentive on the condition that the envisaged IPO has taken place during their respective term of office.

E.5	**Name of the person or entity offering to sell the security.**	The Offer Shares are being offered for sale by the Underwriters (as defined under A.1 above).
	Lock-up agreements: the parties involved; and indication of the period of the lock up.	In the Underwriting Agreement, the Company has committed to an obligation vis-à-vis the Underwriters that during the period commencing on the date of the Underwriting Agreement and ending six months after the first day of trading of the shares of the Company on the Frankfurt Stock Exchange *(Frankfurter Wertpapierbörse),* without the prior written consent of the Joint Global Coordinators, which consent may not be unreasonably withheld or delayed, the Company, its Executive Board or its Supervisory Board, will not and will not agree to: (a) announce or effect an increase of the share capital of the Company out of authorized share capital; or (b) submit a proposal for a capital increase to any shareholders' meeting for resolution (other than in respect of the creation of authorized and conditional capital); or (c) announce to issue, effect or submit a proposal for the issuance of any securities convertible into shares of the Company, or with option rights for shares of the Company; or (d) enter into a transaction or perform any action economically similar to those described in (a) through (c) above. The Company may, however, (i) issue or sell shares or other securities to employees and members of executive bodies of the Company or its subsidiaries under management and employee participation plans and (ii) undertake any corporate action for purposes of entering into joint ventures, other forms of cooperations or acquisitions, provided that the respective other party assumes towards the Underwriters the obligation to comply with the restrictions on the disposal of shares to which the Selling Shareholder and Ursus are subject. In addition, the Selling Shareholder and Ursus have in the Underwriting Agreement, *inter alia,* committed to an obligation vis-à-vis the Underwriters that, without the prior written consent of the Joint Global Coordinators, which consent may not be unreasonably withheld or delayed, until six months after the first day of trading of the shares of the Company on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse),* they will not, and will not agree to: (a) offer, pledge, allot, sell, contract to sell, sell any option or contract to purchase, purchase any option to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of the Company held by the Selling Shareholder, Ursus or any of their affiliated companies (other than the Company and its subsidiaries) (such shares of the Company held by the Selling Shareholder, Ursus or their respective affiliated companies are referred herein as "**Lock-up Shares**"); (b) enter into any swap or other arrangement that transfers to another, in whole or in part, the economic risk of ownership of the Lock-up Shares, whether any such transaction described in this subsection (b) or in the subsection (a) above is to be settled by delivery of Lock-up Shares or such other securities, in cash or otherwise; (c) make any demand for, or exercise any right with respect to, the registration under U.S. securities laws of any shares of the Company or any security convertible into or exercisable or exchangeable for shares of the Company;

		(d) propose any increase in the share capital of the Company (including by requesting the Company's Executive Board to convene a general shareholders' meeting or otherwise), vote in favor of any proposed capital increase or otherwise make, support or vote in favor of any proposal for the issuance of any securities convertible into shares of the Company, with option rights for shares of the Company (it being understood that this subsection (d) shall not restrict a vote by the Selling Shareholder or Ursus in favor of any proposal to create authorized capital (*genehmigtes Kapital*) or conditional capital (*bedingtes Kapital*); or (e) enter into a transaction or perform any action economically similar to those described in (a) through (d) above. The restrictions under (a), (b) and (e) above (with respect to (e) to the extent it refers to (a) and (b) above) shall not apply to transactions involving Lock-up Shares which are entered into and settled off-exchange *(außerbörslich)* and where the relevant counterparty to the Selling Shareholder or Ursus agrees to be bound by an identical lock-up commitment to the Joint Global Coordinators from the time of the relevant transaction for the then-remaining term of the lock-up commitment. In an agreement with the Company, the members of the Executive Board committed to an obligation not to sell without the prior written consent of the Company any Offer Shares or to enter into certain other transactions regarding the Offer Shares they will acquire from KB Holding on a preferential basis for a minimum period of six months beginning at the first day of trading of the Company's shares on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*).
E.6	**The amount and percentage of immediate dilution resulting from the offer. In case of a subscription offer to the existing equity holders, the amount and percentage of immediate dilution if they do not subscribe to the new offer.**	The Company's net asset value (calculated as total assets less total liabilities) as shown in the unaudited condensed consolidated interim financial statements as of and for the six-month period ended June 30, 2018 amounted to EUR 1,308.5 million. The net asset value of the Company as of June 30, 2018 was EUR 8.12 per Company share (based on 161,200,000 shares). The Company will not receive any proceeds from the Offering, nor will it bear the expenses of the Offering. Assuming an Offer Price at the mid-point of the Price Range of EUR 79.50, such Offer Price would exceed the net asset value of EUR 8.12 per Company share by EUR 71.38. Consequently, investors acquiring Offer Shares in the Offering would experience an immediate dilution of 89.8% per Company share (based on 161,200,000 shares) assuming the net asset value of the Company remains otherwise unchanged from June 30, 2018.
E.7	**Estimated expenses charged to the investor by the issuer or the offeror.**	Not applicable. Investors will not be charged with expenses by the Company, the Selling Shareholder or the Underwriters in connection with their role as underwriters.

II. ZUSAMMENFASSUNG DES PROSPEKTS

Zusammenfassungen bestehen aus geforderten Angaben, die als „Punkte" bezeichnet sind. Diese Punkte sind in den Abschnitten A — E (A.1 — E.7) fortlaufend nummeriert. Diese Zusammenfassung enthält alle Punkte, die für die vorliegende Art von Wertpapieren und Emittenten in eine Zusammenfassung aufzunehmen sind. Da einige Punkte nicht behandelt werden müssen, können in der Nummerierungsreihenfolge Lücken auftreten. Selbst wenn ein Punkt wegen der Art der Wertpapiere und des Emittenten in die Zusammenfassung aufgenommen werden muss, ist es möglich, dass in Bezug auf diesen Punkt keine relevanten Informationen gegeben werden können. In diesem Fall enthält die Zusammenfassung eine kurze Beschreibung des Punkts mit dem Hinweis „Entfällt".

A. Einleitung und Warnhinweise

A.1 Warnhinweise.

Diese Zusammenfassung sollte als Einleitung zum Prospekt (der „**Prospekt**") verstanden werden. Bei jeder Entscheidung zur Anlage in die Aktien der Gesellschaft (wie nachfolgend definiert) sollte sich der Anleger auf die Prüfung des gesamten Prospekts stützen.

Für den Fall, dass vor einem Gericht ein Anspruch in Bezug auf die in dem Prospekt enthaltenen Informationen geltend gemacht werden, könnte der als Kläger auftretende Anleger in Anwendung der nationalen Rechtsvorschriften der Mitgliedstaaten des Europäischen Wirtschaftsraums die Kosten für die Übersetzung des Prospekts vor Prozessbeginn zu tragen haben.

Im Hinblick auf die Inhalte dieser Zusammenfassung einschließlich etwaiger Übersetzungen können die Personen zivilrechtlich haftbar gemacht werden, die die Verantwortung für die Inhalte dieser Zusammenfassung übernommen haben, oder von denen der Erlass ausgeht. Dies gilt jedoch nur für den Fall, dass die Zusammenfassung irreführend, unrichtig oder widersprüchlich ist, wenn sie zusammen mit den anderen Teilen des Prospekts gelesen wird, oder sie, wenn sie zusammen mit den anderen Teilen des Prospekts gelesen wird, nicht alle erforderlichen Schlüsselinformationen vermittelt.

Die Knorr-Bremse Aktiengesellschaft, München, Bundesrepublik Deutschland („**Deutschland**") (im Folgenden auch „**Knorr-Bremse AG**" oder die „**Gesellschaft**" und gemeinsam mit ihren konsolidierten Tochtergesellschaften und assoziierten Unternehmen, „**wir**", die „**Knorr-Bremse-Gruppe**", die „**Gruppe**" oder „**Knorr-Bremse**") sowie Deutsche Bank Aktiengesellschaft, Frankfurt am Main, Deutschland („**Deutsche Bank**"), J.P. Morgan Securities plc, London, Vereinigtes Königreich („**J.P. Morgan**"), und Morgan Stanley & Co. International plc, London, Vereinigtes Königreich („**Morgan Stanley**") (die drei genannten agierend als Joint Global Coordinators und Joint Bookrunners, die „**Joint Global Coordinators**"), sowie Joh. Berenberg, Gossler & Co. KG, Hamburg, Deutschland („**Berenberg**"), COMMERZBANK Aktiengesellschaft, Frankfurt am Main, Deutschland („**COMMERZBANK**"), UBS Limited, London, Vereinigtes Königreich („**UBS Investment Bank**"), und UniCredit Bank AG, München, Deutschland („**UniCredit Bank**") (agierend als zusätzliche Joint Bookrunners (die "**Zusätzlichen Joint Bookrunners**", und zusammen mit den Joint Global Coordinators, die „**Konsortialbanken**"), übernehmen gemäß § 5 Absatz 2b Nr. 4 Wertpapierprospektgesetz die Verantwortung für den Inhalt dieser Zusammenfassung samt etwaiger Übersetzungen.

A.2	**Angaben und Hinweise bezüglich der Verwendung des Prospekts für die spätere Weiterveräußerung oder endgültige Platzierung von Wertpapieren durch Finanzintermediäre.**	Entfällt. Es wird keine zustimmungspflichtige spätere Weiterveräußerung oder endgültige Platzierung durch Finanzintermediäre geben. Eine Zustimmung zur Verwendung des Prospekts für eine spätere Weiterveräußerung oder endgültige Platzierung der Aktien der Gesellschaft durch Finanzintermediäre wurde daher nicht erteilt.
B.	**Emittent**	
B.1	**Juristischer und kommerzieller Name des Emittenten.**	Die juristische Bezeichnung der Gesellschaft zum Datum des Prospekts lautet „Knorr-Bremse Aktiengesellschaft“. Die kommerzielle Bezeichnung der Gesellschaft und der Gruppe lautet „Knorr-Bremse“. Darüber hinaus vertreibt die Gruppe ihre Produkte auf dem Markt unter zusätzlichen Marken, darunter im Bereich Systeme für Schienenfahrzeuge „IFE”, „Merak”, „Microelettrica Scientifica”, „Selectron”, „Zelisko”, sowie die Wort-/Bildmarken „KiepeElectric”, „PowerTech” und „RailServices”; und im Bereich Systeme für Nutzfahrzeuge „Bendix”, „Hasse & Wrede” sowie die Wort-/Bildmarken „SteeringSystems” und „TruckServices”.
B.2	**Sitz, Rechtsform, geltendes Recht, Land der Gründung.**	Die Gesellschaft hat ihren Sitz in München, Deutschland, und ist im Handelsregister des Amtsgerichts München, Deutschland, unter HRB 42031 eingetragen. Die Gesellschaft ist eine deutsche Aktiengesellschaft, die in Deutschland gegründet wurde und deutschem Recht unterliegt.
B.3	**Art der derzeitigen Geschäftstätigkeit und Haupttätigkeiten des Emittenten samt der hierfür wesentlichen Faktoren, Hauptprodukt- und/oder -dienstleistungskategorien sowie Hauptmärkte, auf denen der Emittent vertreten ist.**	Knorr-Bremse ist, basierend auf unserer eigenen Einschätzung, bezogen auf Umsatzerlöse im Geschäftsjahr 2017, Weltmarktführer für Bremssysteme und ein Anbieter weiterer sicherheitskritischer Subsysteme für Schienen- und Nutzfahrzeuge. Die Gesellschaft wurde im Jahr 1905 von Georg Knorr in Berlin gegründet. Über die Jahre hat sich die Gruppe von einem hauptsächlich in Deutschland tätigen Zulieferer einzelner Komponenten zu einem weltweit agierenden Unternehmen weiterentwickelt, das integrierte und vernetzte Systeme für die Schienen- und Nutzfahrzeugindustrie anbietet. Seit über 110 Jahren treiben wir als technologischer Schrittmacher maßgeblich Entwicklung, Produktion, Vertrieb und Service hochmoderner Bremssysteme voran. Wir führen unser Geschäft in zwei Geschäftsbereichen, die auch unsere Berichtssegmente nach IFRS (wie unter B.7 definiert) bilden: Systeme für Schienenfahrzeuge und Systeme für Nutzfahrzeuge. Der Geschäftsbereich Systeme für Schienenfahrzeuge stattet Fahrzeuge im Nahverkehr, wie beispielsweise U-Bahnen und Straßenbahnen, sowie Güterzüge, Lokomotiven sowie Personennahverkehrs- und Hochgeschwindigkeitszüge mit hochentwickelten Produkten aus. Neben Bremssystemen beinhaltet unser Produktportfolio intelligente Einstiegssysteme, Klimaanlagen, Energieversorgungssysteme, Steuerungskomponenten und Scheibenwischer, Bahnsteigtüren, Reibmaterial sowie Fahrerassistenzsysteme, elektronische Antriebsausrüstungen und Leittechnik. Zudem bieten wir E-Learning-Systeme für eine optimale Ausbildung des Zugpersonals an. Im Nachmarktgeschäft bieten wir unter unserer Marke RailServices Serviceleistungen für die Wartung, Überholung und Reparatur für Schienenfahrzeuge an. Unser Geschäftsbereich Systeme für Nutzfahrzeuge bietet Produkte für Lkw, Busse, Anhänger und Landmaschinen an. Unser Produktportfolio beinhaltet (i) Bremssysteme sowie Lösungen für Fahrdynamik, einschließlich Fahrerassistenzsystemen und automatisiertem Fahren, Bremssteuerung und

-systeme, Lenksteuerung und elektronische Niveauregelung (d.h. Fahrerassistenzsysteme, Anti-Blockier-Systeme, Notbremssysteme, pneumatische Scheibenbremsen, Trommelbremsen, Bremszylinder, Ventile und Pedaleinheiten, Steuerungssysteme, elektronische Niveauregelung, elektronische Stabilitätsprogramme und weitere), (ii) Energieversorgungs- und -verteilungssysteme einschließlich Luftkompressoren und Luftaufbereitung sowie (iii) Produkte zur Steigerung der Kraftstoffeffizienz wie Motorkomponenten und Subsysteme im Bereich der Getriebesteuerung (d.h. Schwingungsdämpfer, Motorluftsteuerung sowie Getriebe- und Kupplungsbetätigung). Unter unserer Marke TruckServices bieten wir im Nachmarkt hochwertige Produkte und Serviceleistungen für Nutzfahrzeuge aller Art und jeden Alters.

Aktuell streben wir danach, von den aktuellen Megatrends Urbanisierung, Umwelteffizienz, Digitalisierung und automatisiertes Fahren zu profitieren, indem wir diese Trends durch kontinuierliche Weiterentwicklung unserer Produkte in unseren beiden Segmenten aufgreifen.

In dieser Hinsicht bergen unsere beiden Segmente — Systeme für Schienenfahrzeuge und Systeme für Nutzfahrzeuge — viele Synergien. Unsere Produktangebote in beiden Segmenten basieren auf ähnlichen Haupttechnologien, was den Transfer von Know-How und Technologie erlaubt. Darüber hinaus setzen Systeme für Schienenfahrzeuge und Systeme für Nutzfahrzeuge im hohen Maße die gleichen Arten von Komponenten und Materialien ein. Wir nutzen geistige Eigentumsrechte, Technologien, Know-How und Verbesserungen, die ursprünglich in einem der Segmente entwickelt wurden, auch für Produktlösungen in dem anderen Segment.

Der Unternehmenssitz von Knorr-Bremse befindet sich in München. Darüber hinaus sind wir auf allen Kontinenten der Erde vertreten — an über 100 Standorten in mehr als 30 Ländern. Ortsansässige, hoch qualifizierte Mitarbeiter, die die jeweiligen Landessprachen sprechen und mit den individuellen kulturellen Gepflogenheiten und länderspezifischen Produktanforderungen vertraut sind, ermöglichen uns die notwendige Nähe zu unseren Märkten und Kunden. Unser hoher Grad an lokaler Präsenz erlaubt uns, im Verhältnis zu unseren Kunden mit einem Maximum an Flexibilität und Schnelligkeit zu agieren und bietet uns einen natürlichen Schutz vor Währungsschwankungen und Handelsbarrieren.

Wir hatten im Geschäftsjahr 2017 im Durchschnitt 26.910 Mitarbeiter (Mitarbeiteranzahl, einschließlich Arbeitnehmerüberlassung) und ungefähr 28.000 Mitarbeiter zum 31. Dezember 2017 (Mitarbeiteranzahl, einschließlich Arbeitnehmerüberlassungen). Im Geschäftsjahr 2017 erzielten wir 53 % unseres Konzernumsatzes und 55 % unseres EBIT im Segment für Schienenfahrzeuge und 47 % unseres Umsatzes und 45 % unseres EBIT im Segment für Nutzfahrzeuge.

Unsere wesentlichen Stärken

- Wir sind Weltmarktführer für Bremssysteme und führender Anbieter anderer sicherheitsrelevanter Systeme in Schienen- und Nutzfahrzeugmärkten, die durch hohe Markteintrittsbarrieren geschützt sind
- Synergien zwischen unseren Schienen- und Nutzfahrzeugbereichen sowie Skaleneffekte helfen uns, unsere Technologieführerschaft zu bewahren
- Wir haben kontinuierlich eine bessere Entwicklung als unsere zugrundeliegenden Endmärkte erzielt und sind gut aufgestellt, um von globalen Megatrends und zunehmendem Wert der Fahrzeuginhalte zu profitieren

- Durch den hohen Stellenwert, den wir Forschung und Entwicklung („**F&E**“) einräumen, und unsere Qualitätsstandards treiben wir Innovationen in Mobilität und Transporttechnologien voran und verfügen über herausragende Kenntnisse in vernetzten Systemen
- Wir verfolgen ein tragfähiges Geschäftsmodell, das durch zwei Hauptmärkte mit unterschiedlichen Geschäftszyklen, breite geographische Diversifizierung und Kundendiversifizierung, eine starke lokale Ausrichtung und hohe Nachmarktpräsenz gekennzeichnet ist
- Wir profitieren von einem stabilen finanziellen Profil, das sich durch starkes Wachstum, Profitabilität und Cash-Generierung auszeichnet
- Unser Management-Team ist sehr erfahren und hat eine klare Vision für eine zukünftige Wertschöpfung

Unsere Strategie

- Industriestandards durch Ausbau unserer weltweiten Technologieführerschaft setzen
- Systempartner der Wahl für unsere Kunden sein
- Unseren Marktanteil durch weitere Durchdringung internationaler Märkte und globale Expansion ausbauen
- Unsere spezielle Nachmarkt-Strategie weiter verfolgen
- Weiterhin Exzellenz im Hinblick auf Kosten und Prozesse anstreben

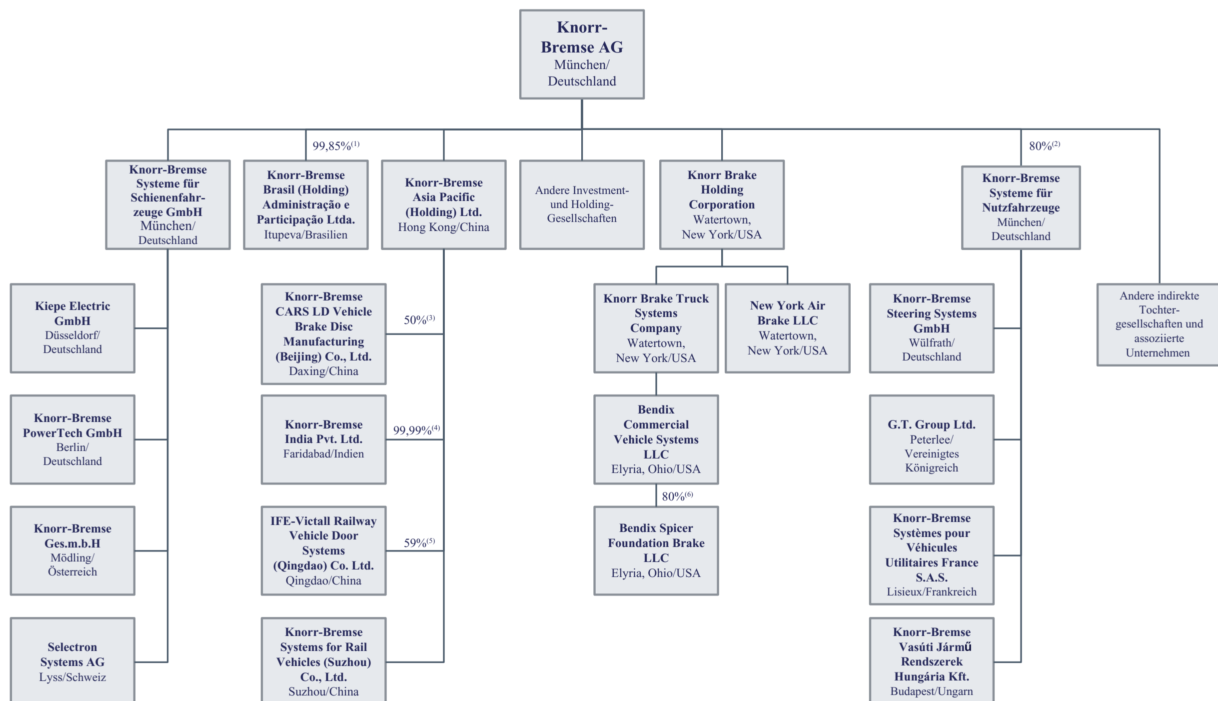
B.4a Wichtigste jüngste Trends, die sich auf den Emittenten und die Branchen, in denen er tätig ist, auswirken.

Wir glauben, dass die folgenden Megatrends für unser Geschäft sowohl im Segment Systeme für Schienenfahrzeuge als auch im Segment Systeme für Nutzfahrzeuge besonders wichtig sind:

Eine wachsende Bevölkerungszahl sowie zunehmende Urbanisierung eröffnen Möglichkeiten im Geschäft mit Systemen für Schienen- und Nutzfahrzeuge, da nach immer schnelleren, sichereren und verlässlicheren Beförderungsarten verlangt wird. Elektrifizierung und andere energie- und umweltfreundliche Lösungen ergeben sich aus einem wachsenden Energiebedarf in Verbindung mit einem steigenden öffentlichen Bewusstsein hinsichtlich Energieeffizienz sowie verstärkten staatlichen Maßnahmen im Energiebereich, wie strengeren Emissionsvorschriften. Aus unserer Sicht bergen Elektrofahrzeuge ein hohes Potential für emissionsfreundliche Mobilitätslösungen in Großstädten; dazu zählen Straßenbahnen, Stadtbusse und umweltfreundliche Lieferwagen. Die Digitalisierung bringt die Vernetzung bei Systemen und Subsystemen für Schienen- und Nutzfahrzeuge voran, wodurch eine Datenanalyse in Echtzeit und vorausschauende Instandhaltung für eine Verbesserung der Lebenszykluskosten ermöglicht werden. Weitere Folgen der Digitalisierung sind automatisierte Zugsteuerung, zustandsbezogene Instandhaltung von Schienenfahrzeugen und Überwachungswerkzeuge sowie Telematiklösungen für Nutzfahrzeuge. Automatisiertes Fahren kann die Schienen- und Nutzfahrzeugindustrie stark verändern, abhängig von der Anpassungsgeschwindigkeit an regulatorische Herausforderungen, der Entwicklung sicherer und verlässlicher technischer Lösungen sowie der Kundenakzeptanz und deren Bereitschaft, für solche Lösungen zu zahlen. Wegen dieses wachsenden Trends werden neue Lösungen, insbesondere in Form von Fahrerassistenzfunktionen mit dem Ziel, die Zahl der Unfälle, Transportkosten und Emissionen zu reduzieren, entwickelt. Folglich bieten alle aktuellen Megatrends Wachstumschancen für unser Geschäft, insbesondere da einer unserer Schwerpunkte auf F&E liegt.

B.5	**Beschreibung der Gruppe und der Stellung des Emittenten innerhalb dieser Gruppe.**	Die Knorr-Bremse AG ist die Muttergesellschaft der Knorr-Bremse-Gruppe. Zum 31. Dezember 2017 umfasste die Gruppe auf konsolidierter Basis knapp 150 (deutsche und ausländische) Tochtergesellschaften (die im Konzernabschluss (wie nachfolgend unter B.7 definiert) erfasst sind), auf die die Gesellschaft unmittelbar oder mittelbar einen beherrschenden Einfluss ausüben kann. Die Gruppe ist an über 100 Standorten in mehr als 30 Ländern vertreten, von denen ca. 70 Fertigungsstandorte sind. Die Knorr-Bremse AG fungiert konzernweit als Management-Holding. Die nachfolgende Grafik zeigt (in vereinfachter Form) eine Übersicht über die direkten und indirekten Beteiligungen der Gesellschaft, einschließlich Minderheitsbeteiligungen, zum Datum des Prospekts:

Vereinfachte Struktur der Knorr-Bremse-Gruppe[*]



(1) Die verbleibenden 0,15 % hält die Knorr-Bremse Investment GmbH, München, Deutschland.

(2) Die verbleibenden 20 % hält die Robert Bosch GmbH, Gerlingen, Deutschland (ein konzernfremdes Unternehmen).

(3) Die verbleibenden 50 % hält das Locomotive and Cars Research Institute (LCRI), ein Geschäftsbereich der Chinese Academy of Railway Sciences (CARS).

(4) Die verbleibenden 0,01 % hält die Knorr-Bremse Systeme für Schienenfahrzeuge GmbH.

(5) Die verbleibenden 41 % hält die Qingdao Victall Railway Co., Ltd. (ein konzernfremdes Unternehmen).

(6) Die verbleibenden 20 % hält die Dana Commercial Vehicle Products, LLC., USA (ein konzernfremdes Unternehmen).

(*) Bei allen dargestellten Beteiligungen handelt es sich um 100 %ige Beteiligungen, soweit nicht anders angegeben.

B.6	**Personen, die eine direkte oder indirekte Beteiligung am Eigenkapital des Emittenten oder einen Teil der Stimmrechte halten.**	Vor Durchführung des öffentlichen Angebots, welches im Prospekt beschrieben wird (das „**Angebot**“), halten die KB Holding GmbH, Grünwald, Deutschland („**KB Holding**” oder der „**Verkaufende Aktionär**“), und die Ursus Vermögensverwaltungs GmbH, Grünwald, Deutschland („**Ursus**”), 94,99996 % bzw. 5,00004 % der auf den Inhaber lautenden Stammaktien ohne Nennbetrag (Stückaktien), die derzeit von der Gesellschaft ausgegeben worden sind. Die KB Holding und die Ursus sind Parteien einer Poolingvereinbarung, derzufolge beide Parteien verpflichtet sind, (i) ihre Stimmrechte in der Gesellschafterversammlung einheitlich entsprechend den Beschlüssen, die

	mit einfacher Mehrheit in einer Poolversammlung gefasst wurden, auszuüben (wobei die Stimmrechte in einer solchen Versammlung dem Verhältnis der Anteile entsprechen, die von jeder Partei der Poolingvereinbarung gehalten werden), sowie (ii) Aktien der Gesellschaft nur zu veräußern, (x) wenn der Erwerber solcher Aktien ein Mitglied der Familie von Herrn Heinz Hermann Thiele oder eine Gesellschaft ist, die unmittelbar oder mittelbar einem Mitglied der Familie von Herrn Heinz Hermann Thiele gehört, und sofern der Erwerber Partei der Poolingvereinbarung ist oder wird, oder (y) aufgrund eines Beschlusses, der mit einer Mehrheit von 75 % der von den Poolmitgliedern gehaltenen Aktien an der Gesellschaft gefasst wird. Zusätzlich dürfen Aktien an der Gesellschaft ohne mehrheitlichen Beschluss der Poolmitglieder nur als übliche Sicherheit für Verbindlichkeiten eingesetzt werden, die von Gesellschaften eingegangen wurden oder werden, die ausschließlich den Mitgliedern der Familie des Herrn Heinz Hermann Thiele gehören. Die Poolingvereinbarung endet automatisch, wenn eine Partei keine Anteile mehr an der Gesellschaft hält. Die TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Deutschland („**TIB**"), hält 100 % des Stammkapitals an der KB Holding. Im Gegenzug hält die Stella Vermögensverwaltung GmbH, Grünwald, Deutschland, („**Stella**") 80,7 % des Stammkapitals der TIB, während die verbleibenden 19,3 % von Herrn Heinz Hermann Thiele gehalten werden. Herr Heinz Hermann Thiele und die Stella sind Parteien einer weiteren Poolingvereinbarung, wonach beide Parteien verpflichtet sind, (i) entsprechend den Beschlüssen, die in der Regel mit einfacher Mehrheit in der Poolversammlung gefasst wurden, einheitlich mit „Ja" oder „Nein" zu stimmen sowie (ii) Anteile an TIB nur zu veräußern, (x) wenn der Erwerber solcher Anteile ein Mitglied der Familie von Herrn Heinz Hermann Thiele oder eine Gesellschaft ist, die unmittelbar oder mittelbar einem Mitglied der Familie von Herrn Heinz Hermann Thiele gehört oder (y) aufgrund eines Beschlusses, der mit einer Mehrheit von 75 % der von den Poolmitgliedern gehaltenen Anteilen gefasst wird, sofern in jedem dieser Fälle der Erwerber sich den Regelungen der Poolingvereinbarung unterwirft. Zusätzlich dürfen gebundene Geschäftsanteile an der TIB nur bei mehrheitlichem Beschluss der Poolmitglieder als Sicherheit für Verbindlichkeiten eingesetzt werden. Herr Heinz Hermann Thiele hält zudem 63,4049 % des Stammkapitals und 87,4975 % der Stimmrechte an der Stella, während Julia Thiele-Schürhoff (ein Mitglied des Aufsichtsrats der Gesellschaft) 36,5805 % des Stammkapitals und 12,4975 % der Stimmrechte hält; die Stella Beteiligungs-Stiftung hält weitere 0,0146 % des Stammkapitals und 0,005 % der Stimmrechte an der Stella. Ursus wird von ihrem Alleingesellschafter Herrn Heinz Hermann Thiele beherrscht. Nach Durchführung des Angebots (unterstellt, dass die maximale Anzahl an Angebotsaktien platziert werden können und die Aufstockungsoption und die Greenshoe-Option (jeweils wie in E.3 definiert) im vollen Umfang ausgeübt werden) wird die KB Holding etwa 64,99996 % und Ursus 5,00004 % der Aktien der Gesellschaft halten. Somit werden KB Holding, Ursus und Herr Heinz Hermann Thiele, der beide Gesellschaften kontrolliert, weiterhin einen beherrschenden Einfluss auf die Gesellschaft ausüben.
Angabe, ob die Hauptanteilseigner des Emittenten unterschiedliche Stimmrechte haben.	Entfällt. Jede Aktie der Gesellschaft berechtigt zu einer Stimme in der Hauptversammlung der Gesellschaft. Es bestehen keine Beschränkungen des Stimmrechts. Alle Aktien haben identische Stimmrechte.
Ob an dem Emittenten unmittelbare oder	Zum Datum des Prospekts wird die Gesellschaft direkt durch die KB Holding beherrscht, da die KB Holding die Möglichkeit hat, die Finanz- und Geschäftspolitik der Gesellschaft zu bestimmen. Die beherrschende Stellung

	mittelbare Beteiligungen oder Beherrschungs-verhältnisse bestehen, wer diese Beteiligungen hält bzw. diese Beherrschung ausübt und welcher Art die Beherrschung ist.	der KB Holding ergibt sich daraus, dass die KB Holding 94,99996 % der Stimmrechte an der Gesellschaft hält sowie aus der Poolingvereinbarung mit Ursus, welche die übrigen 5,00004 % der Stimmrechte an der Gesellschaft hält. KB Holding ist eine hundertprozentige Tochtergesellschaft der TIB. 80,7 % der Anteile und Stimmrechte an TIB werden von Stella gehalten, während Herr Heinz Hermann Thiele die übrigen 19,3 % der Anteile und Stimmenrechte hält. Herr Heinz Hermann Thiele hält außerdem 63,4049 % des Stammkapitals und 87,4975 % der Stimmrechte an der Stella, während Frau Julia Thiele-Schürhoff (ein Mitglied des Aufsichtsrats der Gesellschaft) 36,5805 % des Stammkapitals und 12,4975 % der Stimmrechte hält; die Stella Beteiligungs-Stiftung hält weitere 0,0146 % des Stammkapitals an der Stella und 0,005 % der Stimmrechte. Ursus wird durch den alleinigen Anteilseigner Herrn Heinz Hermann Thiele kontrolliert. Nach Durchführung des Angebots (unterstellt, dass die maximale Anzahl an Angebotsaktien platziert werden können und die Aufstockungsoption und die Greenshoe-Option (jeweils wie in E.3 definiert) im vollen Umfang ausgeübt werden) wird die KB Holding etwa 64,99996 % und Ursus 5,00004% der Aktien der Gesellschaft halten. Somit werden KB Holding, Ursus und Herr Heinz Hermann Thiele, der beide Gesellschaften kontrolliert, weiterhin einen beherrschenden Einfluss auf die Gesellschaft ausüben.
B.7	**Ausgewählte wesentliche historische Finanzinformationen.**	Die nachfolgenden ausgewählten Finanz- und Geschäftsinformationen der Gruppe für die zum 31. Dezember 2017, 2016 und 2015 endenden Geschäftsjahre („**Geschäftsjahr 2017**“, „**Geschäftsjahr 2016**“ und „**Geschäftsjahr 2015**“) sind (i), sofern sie als „geprüft” dargestellt werden, aus den geprüften Konzernabschlüssen der Gesellschaft für die Geschäftsjahre 2017, 2016 und 2015 (die „**geprüften Konzernabschlüsse**“) entnommen und (ii), sofern sie als ungeprüft dargestellt werden, entweder aus dem ungeprüften verkürzten Konzernzwischenabschluss der Gesellschaft für den zum 30. Juni 2018 endenden Sechsmonatszeitraum (mit Vergleichszahlen für den zum 30. Juni 2017 endenden Sechsmonatszeitraum) („**ungeprüfter verkürzter Konzernzwischenabschluss**“ und, zusammen mit den geprüften Konzernabschlüssen, die „**Konsolidierten Abschlüsse**“) entnommen oder abgeleitet, abgeleitet aus den geprüften Konzernabschlüssen, oder aus unseren Buchführungsunterlagen oder unserer Management-Berichterstattung entnommen oder daraus abgeleitet. Die geprüften Konzernabschlüsse wurden von der Gesellschaft nach den International Financial Reporting Standards, wie sie in der EU anzuwenden sind („**IFRS**“), und den ergänzend nach § 315e Handelsgesetzbuch anzuwendenden handelsrechtlichen Rechnungslegungsvorschriften aufgestellt. Der ungeprüfte, verkürzte Konzernzwischenabschluss wurde von der Gesellschaft in Übereinstimmung mit dem IFRS-Standard für Zwischenberichterstattung (IAS 34) erstellt. Einige der in diesem Abschnitt folgenden Finanzinformationen sind nicht aus nach IFRS bestimmten Zahlen entnommen oder abgeleitet, sondern beruhen auf nach den Deutschen Grundsätzen ordnungsgemäßer Buchführung („**Deutsche GAAP**“) bestimmten Daten. Solche Finanzinformationen können daher von auf IFRS basierenden Daten, die an anderen Stellen des Prospekts dargestellt werden, abweichen und mit ihnen nicht vergleichbar sein. In diesen Tabellen ergeben zudem solche gerundeten Zahlen möglicherweise nicht exakt die in den Tabellen angegebenen Summen. In Klammern angegebene Finanzdaten sind negative Zahlen.

Ausgewählte Finanzinformationen aus der Konzern-Gewinn-und-Verlustrechnung

Die nachfolgende Tabelle zeigt ausgewählte Finanzinformationen aus unserer Konzern-Gewinn-und Verlustrechnung für die zum 30. Juni 2018 und zum 30. Juni 2017 endenden Sechsmonatszeiträume, sowie für die Geschäftsjahre 2017, 2016 und 2015:

	Für den zum 30. Juni endenden Sechsmonatszeitraum		**Für das Geschäftsjahr**		
(in Millionen EUR)	**2018**	**2017**	**2017**	**2016**	**2015**
	(ungeprüft)		**(geprüft)**		
Umsatzerlöse	3.322,2	2.976,0	6.153,5	5.471,3	5.823,5
Bestandsveränderungen un-/fertige Erzeugnisse	29,3	59,1	38,8	(11,1)	(7,1)
Andere aktivierte Eigenleistungen	19,8	14,6	31,8	21,1	19,2
Gesamtleistung	**3.371,3**	**3.049,7**	**6.224,1**	**5.481,3**	**5.835,6**
Sonstige betriebliche Erträge	47,8	40,9	81,2	83,3	89,1
Materialaufwand	(1.680,4)	(1.463,6)	(3.009,6)	(2.571,4)	(2.747,3)
Personalaufwand	(746,5)	(708,4)	(1.438,9)	(1.272,1)	(1.272,2)
Sonstige betriebliche Aufwendungen	(410,0)	(400,6)	(741,3)	(668,9)	(636,2)
Ergebnis vor Zinsen, Steuern und Abschreibungen (EBITDA)	**582,2**	**518,0**	**1.115,5**	**1.052,1**	**1.269,0**
Abschreibungen	(109,9)	(94,9)	(211,5)	(165,7)	(170,5)
Betriebsergebnis (EBIT)	472,3	423,1	904,0	886,4	1.098,6
Ergebnis vor Steuern	**430,5**	**388,7**	**852,5**	**841,3**	**1.048,0**
Jahresüberschuss	**307,0**	**269,6**	**587,2**	**567,2**	**710,7**

Ausgewählte Finanzinformationen aus der Konzernbilanz

Die nachfolgende Tabelle zeigt ausgewählte Finanzinformationen aus unserer Konzernbilanz zum 30. Juni 2018 und zum 31. Dezember 2017, 2016 und 2015:

	Zum 30. Juni	**Zum 31. Dezember**		
(in Millionen EUR)	**2018**	**2017**	**2016**	**2015**
	(ungeprüft)		**(geprüft)**	
Vermögenswerte				
Immaterielle Vermögenswerte und Geschäfts-/ Firmenwert	552,6	540,5	484,5	333,7
Sachanlagen	1.099,8	1.116,4	1.099,4	1.014,9
Latente Steueransprüche	107,4	85,0	115,6	137,1
Langfristige Vermögenswerte	**1.923,5**	**1.870,1**	**1.815,2**	**1.513,1**
Vorräte	831,6	748,8	611,1	625,5
Forderungen aus Lieferungen und Leistungen	1.420,4	1.147,9	971,4	947,3
Zahlungsmittel und Zahlungsmitteläquivalente	1.551,3	1.600,0	1.720,8	1.360,5
Kurzfristige Vermögenswerte	**4.141,3**	**3.857,3**	**3.619,9**	**3.201,6**
Vermögenswerte	**6.064,8**	**5.727,4**	**5.435,1**	**4.714,7**
Eigenkapital				
Anteil der Gesellschafter der Knorr-Bremse AG am Eigenkapital	**1.222,6**	**1.847,8**	**1.813,4**	**1.684,0**
Eigenkapital	**1.308,5**	**1.995,7**	**1.965,9**	**1.838,1**
Schulden				
Finanzverbindlichkeiten	1.496,1	738,7	756,3	261,9
Langfristige Schulden	**2.220,6**	**1.427,9**	**1.472,5**	**973,8**
Verbindlichkeiten aus Lieferungen und Leistungen	1.042,7	894,1	754,5	727,0
Finanzverbindlichkeiten	671,0	571,0	531,3	490,7
Sonstige Verbindlichkeiten	148,6	269,4	285,5	271,0
Kurzfristige Schulden	**2.535,7**	**2.303,8**	**1.996,6**	**1.902,8**
Schulden	**4.756,3**	**3.731,7**	**3.469,2**	**2.876,6**
Bilanzsumme	**6.064,8**	**5.727,4**	**5.435,1**	**4.714,7**

Ausgewählte Finanzinformationen aus der Konzern-Kapitalflussrechnung

Die nachfolgende Tabelle zeigt ausgewählte Daten aus unserer Konzern-Kapitalflussrechnung für die zum 30. Juni 2018 und 30. Juni 2017 endenden Sechsmonatszeiträume und für die Geschäftsjahre 2017, 2016 und 2015:

	Für den zum 30. Juni endenden Sechsmonatszeitraum		Für das Geschäftsjahr		
(in Millionen EUR)	**2018**	**2017**	**2017**	**2016**	**2015**
	(ungeprüft)		**(geprüft)**		
Cashflow aus laufender Geschäftstätigkeit	**249,1**	**200,1**	**679,9**	**769,2**	**959,5**
Cashflow aus der Investitionstätigkeit	**(81,9)**	**(173,9)**	**(279,8)**	**(448,2)**	**(302,6)**
Cashflow aus der Finanzierungstätigkeit					
Einzahlungen aus der Aufnahme von Finanzkrediten	744,8	1,8	3,0	498,7	17,6
Cashflow aus der Finanzierungstätigkeit	**(301,1)**	**(480,1)**	**(460,1)**	**41,2**	**(406,1)**
Zahlungswirksame Veränderung	**(133,9)**	**(453,8)**	**(60,0)**	**362,1**	**250,7**
Nettoveränderung in Finanzmittelfonds	**(109,5)**	**(502,6)**	**(132,2)**	**371,7**	**272,1**
Finanzmittelfonds am Ende der Periode	**1.469,4**	**1.208,4**	**1.578,8**	**1.711,0**	**1.339,3**

Ausgewählte andere wesentliche Finanz- und Geschäftsinformationen für die Gruppe, nach Segment und Region

Die nachfolgenden Tabellen zeigen ausgewählte andere Finanz- und Geschäftsinformationen der Gruppe und unserer operativen Segmente, für die zum 30. Juni 2018 und 30. Juni 2017 endenden Sechsmonatszeiträume und für die Geschäftsjahre 2017, 2016 und 2015. Einige der folgenden Zahlen, Finanzkennzahlen und Anpassungen stellen keine nach IFRS definierten Finanzkennzahlen dar und sind auch sonst nicht nach international akzeptierten Rechnungslegungsstandards erstellt worden. Diese nicht nach IFRS definierten Zahlen sind durch unser Management definiert und es ist möglich, dass diese Zahlen nicht mit ähnlichen Zahlen anderer Unternehmen vergleichbar sind.

	Für den zum 30. Juni endenden Sechsmonatszeitraum		Für das Geschäftsjahr		
(in Millionen EUR, falls nicht anders angegeben)	**2018**	**2017**	**2017**	**2016**	**2015**
	(ungeprüft)		**(ungeprüft, falls nicht anders angegeben)**		
Umsatzerlöse	3.322,2	2.976,0	6.153,5(*)	5.471,3(*)	5.823,5(*)
nach Segment[(1)]					
davon Systeme für Schienenfahrzeuge	1.744,2	1.549,4	3.260,1	2.978,7	3.331,0
davon Systeme für Nutzfahrzeuge	1.577,3	1.427,3	2.890,6	2.493,0	2.491,8
nach Region					
davon Europa/Afrika	1.652,6	1.505,1	3.076,4	2.677,0	2.567,9
davon Asien-Pazifik	936,6	775,7	1.690,4	1,553,7	1.788,9
davon Nordamerika	681,2	650,6	1.294,0	1.141,0	1.366,6
davon Südamerika	51,8	44,6	92,8	99,5	100,1
Umsatzerlöswachstum (in %)	11,6	n/a	12,5	(6,0)	11,6
Umsatzanteil auf dem Nachmarkt (in % der Gesamtumsatzerlöse) (basierend auf Deutschen GAAP)[(2)]	33,3	35,9	35,3	36,0	33,4
davon Systeme für Schienenfahrzeuge (in % der den Systemen für Schienenfahrzeuge zuordenbare Umsatzerlöse)[(2)]	40,1	43,4	41,7	40,7	36,1
davon Systeme für Nutzfahrzeuge (in % der den Systemen für Nutzfahrzeuge zuordenbare Umsatzerlöse)[(2)]	25,8	27,7	27,9	30,2	29,8
EBITDA[(1),(3)]	582,2	518,0	1.115,5(*)	1.052,1(*)	1.269,0(*)
davon Systeme für Schienenfahrzeuge	322,2	276,1	639,3	624,0	797,3
davon Systeme für Nutzfahrzeuge	259,6	242,8	503,7	425,7	468,1
EBITDA-Marge (in % der Umsatzerlöse)[(3)]	17,5	17,4	18,1	19,2	21,8
davon Systeme für Schienenfahrzeuge	18,5	17,8	19,6	20,9	23,9
davon Systeme für Nutzfahrzeuge	16,5	17,0	17,4	17,1	18,8
EBIT[(1),(4)]	472,3	423,1	904,0(*)	886,4(*)	1.098,6(*)
davon Systeme für Schienenfahrzeuge	259,7	219,9	523,3	547,6	724,0
davon Systeme für Nutzfahrzeuge	218,8	210,6	421,5	357,8	398,0

(in Millionen EUR, falls nicht anders angegeben)	Für den zum 30. Juni endenden Sechsmonatszeitraum 2018	2017	Für das Geschäftsjahr 2017	2016	2015
	(ungeprüft)		(ungeprüft, falls nicht anders angegeben)		
EBIT-Marge (in % der Umsatzerlöse)[4]	14,2	14,2	14,7	16,2	18,9
davon Systeme für Schienenfahrzeuge	14,9	14,2	16,1	18,4	21,7
davon Systeme für Nutzfahrzeuge	13,9	14,8	14,6	14,4	16,0
Nettoumlaufvermögen (zum Bilanzstichtag)[5]	1.014,9	n/a	782,0	719,3	709,7
Net Financial Cash[6]	(8,2)	n/a	836,1	969,4	1.093,9
Cashflow aus betrieblicher Geschäftstätigkeit	249,1	200,1	679,9[*]	769,2[*]	959,5[*]
Freier Cash Flow[7]	150,2	114,0	450,0	522,9	723,2
Cash Conversion Rate[8]	48,9	42,3	76,6	92,2	101,8
Investititonstätigkeit[9]	(98,9)	(86,2)	(229,9)	(246,3)	(236,3)
Eigenkapitalquote (in %)[10]	21,6	n/a	34,8	36,2	39,0
Rendite auf eingesetztem Kapital (in %)[11]	17,7	n/a	37,1	38,5	53,4

(*) Geprüft.

(1) Die Finanzdaten unserer Segmentberichterstattung basieren auf Daten, die von nach Deutschen GAAP bestimmten Daten abgeleitet sind und enthalten eine Überleitung auf die IFRS Kennzahlen. Umsatzerlöse nach Segmenten berechnen sich als Summe aller berichtspflichtigen Segmente und Umsatzerlöse aus der Überleitung auf IFRS, im Einklang mit der Information zu den berichts pflichtigen Segmenten.

(2) Nachmarktverkäufe (Sekundärmarkt) umfassen alle Umsatzerlöse von Produkten und Dienstleistungen (z.B. Ersatzteile, Erneuerung), die nicht mit einem neuen Erstausrüstungsprodukt in Verbindung stehen; sie stammen aus Daten, die nach den Deutschen GAAP erstellt wurden, und können daher von Daten nach den IFRS an anderen Stellen des Prospekts abweichen und mit diesen nicht vergleichbar sein. Der Umsatzanteil auf dem Nachmarkt wird auf Ebene der Gruppe als Prozentzahl der Gesamtumsatzerlöse (basierend auf den Deutschen GAAP) und auf Ebene der Segmente als Prozentzahl der Umsatzerlöse in dem jeweiligen Segment (basierend auf den Deutschen GAAP) berechnet. Die nachfolgende Tabelle zeigt die Umsatzerlöse für die abgebildeten Zeiträume entsprechend unserer gesetzlich vorgeschriebenen Jahresabschlüsse sowie unserer Buchhaltungsaufzeichnungen, die wiederum auf den Deutschen GAAP basieren.

(in Millionen EUR, falls nicht anders angegeben)	Für den zum 30. Juni endenden Sechsmonatszeitraum 2018	2017	Für das Geschäftsjahr 2017	2016	2015
	(ungeprüft)		(ungeprüft)		
Umsatzerlöse (basierend auf Deutschen GAAP)	3.347,1	3.045,4	6.235,7	5.494,3	5.830,6
davon Systeme für Schienenfahrzeuge	1.749,6	1.596,9	3.325,2	2.990,3	3.341,1
davon Systeme für Nutzfahrzeuge	1.597,5	1.448,5	2.928,0	2.523,2	2.491,8
Nachmarktverkäufe (basierend auf Deutschen GAAP)	1.113,9	1.095,1	2.204,2	1.980,2	1.947,6
davon Systeme für Schienenfahrzeuge	701,0	693,7	1.387,2	1.218,4	1.204,7
davon Systeme für Nutzfahrzeuge	412,9	401,4	817,0	761,9	742,9
Umsatzanteil auf dem Nachmarkt (basierend auf Deutschen GAAP) (in % der Gesamtumsatzerlöse)	33,3	35,9	35,3	36,0	33,4
davon Systeme für Schienenfahrzeuge (in % der den Systemen für Schienenfahrzeuge zuordenbaren Umsatzerlösen)	40,1	43,4	41,7	40,7	36,1
davon Systeme für Nutzfahrzeuge (in % der den Systemen für Nutzfahrzeugen zuordenbaren Umsatzerlösen)	25,8	27,7	27,9	30,2	29,8

(3) EBITDA wird definiert als Jahresüberschuss/-fehlbetrag vor Steuern vom Einkommen und Ertrag, sonstigen Finanzergebnissen, Zinsaufwendungen, Zinserträgen und Abschreibungen. Die EBITDA-Marge wird auf Ebene der Gruppe als Prozentzahl der Gesamtumsatzerlöse und auf Ebene der Segmente als Prozentzahl der Umsatzerlöse in dem jeweiligen Segment berechnet.

Die nachfolgende Tabelle zeigt für die abgebildeten Zeiträume eine Überleitung des EBITDA auf den Jahresüberschuss:

	Für den zum 30. Juni endenden Sechsmonatszeitraum		Für das Geschäftsjahr		
(in Millionen EUR)	**2018**	**2017**	**2017**	**2016**	**2015**
	(ungeprüft)			**(geprüft)**	
Ergebnis vor Zinsen, Steuern und Abschreibungen (EBITDA)	**582,2**	**518,0**	**1.115,5**	**1.052,1**	**1.269,0**
Abschreibungen	(109,9)	(94,9)	(211,5)	(165,7)	(170,5)
EBIT	**472,3**	**423,1**	**904,0**	**886,4**	**1.098,6**
Zinserträge	11,2	11,9	24,0	19,2	21,7
Zinsaufwendungen	(18,2)	(21,3)	(38,8)	(28,7)	(29,2)
Sonstiges Finanzergebnis	(34,8)	(24,9)	(36,8)	(35,7)	(43,1)
Steuern vom Einkommen und Ertrag	(123,5)	(119,1)	(265,2)	(274,1)	(337,4)
Jahresüberschuss	**307,0**	**269,6**	**587,2**	**567,2**	**710,7**

(4) EBIT wird definiert als Jahresüberschuss/-fehlbetrag vor Steuern vom Einkommen und Ertrag, sonstigen Finanzergebnissen, Zinsaufwendungen und Zinserträgen. Die EBIT-Marge wird auf Ebene der Gruppe als Prozentzahl der Gesamtumsatzerlöse und auf Ebene der Segmente als Prozentzahl der Umsatzerlöse in dem jeweiligen Segment berechnet.

Die nachfolgende Tabelle zeigt für die abgebildeten Zeiträume eine Überleitung des EBIT auf den Jahresüberschuss:

	Für den zum 30. Juni endenden Sechsmonatszeitraum		Für das Geschäftsjahr		
(in Millionen EUR)	**2018**	**2017**		**2018**	**2017**
	(ungeprüft)			**(geprüft)**	
Betriebsergebnis (EBIT)	**472,3**	**423,1**	**904,0**	**886,4**	**1.098,6**
Zinserträge	11,2	11,9	24,0	19,2	21,7
Zinsaufwendungen	(18,2)	(21,3)	(38,8)	(28,7)	(29,2)
Sonstiges Finanzergebnis	(34,8)	(24,9)	(36,8)	(35,7)	(43,1)
Steuern vom Einkommen und Ertrag	(123,5)	(119,1)	(265,2)	(274,1)	(337,4)
Jahresüberschuss	**307,0**	**269,6**	**587,2**	**567,2**	**710,7**

(5) Nettoumlaufvermögen wird definiert als der Saldo von Vorräten, Forderungen aus Lieferungen und Leistungen, Forderungen aus Fertigungsaufträgen, Verbindlichkeiten aus Lieferungen und Leistungen, Verbindlichkeiten aus Fertigungsaufträgen und erhaltenen Anzahlungen.

(6) Das Net Financial Cash wird berechnet, indem die Schulden — bestehend aus kurzfristigen und langfristigen Schulden (ihrerseits jeweils bestehend aus Verbindlichkeiten gegenüber Banken, Anleiheverbindlichkeiten und Leasingverbindlichkeiten) — von den Zahlungsmitteln und Zahlungsmitteläquivalenten subtrahiert werden.

(7) Freier Cashflow wird definiert als Cashflow aus betrieblicher Geschäftstätigkeit abzüglich Investitionstätigkeit (wie unter Fußnote 9 definiert).

(8) Die Cash Conversion Rate wird definiert als freier Cashflow dividiert durch den Jahresüberschuss/-fehlbetrag.

(9) Investitionstätigkeit wird definiert als Zahlungen, die zum Kauf von Sachanlagen und immateriellen Vermögenswerten gemacht werden.

(10) Die Eigenkapitalquote wird berechnet, indem das Eigenkapital durch Eigenkapital und Schulden (die Bilanzsumme) dividiert wird.

(11) Die Rendite auf das eingesetzte Kapital wird definiert als EBIT dividiert durch das eingesetzte Kapital (Summe aller Sachanlagen, immaterieller Vermögenswerte und Nettoumlaufvermögen).

Wesentliche Änderungen der Finanzlage und des operativen Ergebnisses des Emittenten.

Jüngere Entwicklungen

Im Juni und Juli 2018 schlossen wir mit Continental Automotive GmbH eine Kooperationsvereinbarung. Mit dieser Kooperation beabsichtigen wir, ein führender Tier-1 Zulieferer für hochautomatisierte Fahrzeugkomponenten und Systeme in unserem adressierbaren Markt für Nutzfahrzeugsysteme zu werden. Im Juni 2018 unterzeichneten wir zudem einen Vertrag mit einigen Tochtergesellschaft der Federal Mogul Holdings LLC zur Übertragung und Rücklizenzierung von Know-how für die Entwicklung und Produktion von Produkten im Bereich Reibmaterialien für Schienenfahrzeuge und damit zusammenhängender Technologien. Auf diese Weise bekräftigen wir weiter

unsere Systemexpertise und investieren in neue und verbesserte kundenorientierte Produkte. Das Fahrsimulatorengeschäft Sydac Pty Ltd im Bereich Systeme für Nutzfahrzeuge wurde im Juli 2018 an Oktal, Société par actions simplifiée, verkauft. Die Abgabe von Sydac ist Teil einer Neuausrichtung unseres Portfolios im Bereich der Systeme für Nutzfahrzeuge und spiegelt unsere verstärkte Fokussierung auf vernetzte Subsysteme für Schienenfahrzeuge wider. Darüber hinaus führten wir die Veräußerung der sogenannten Blueprint Unternehmensgruppe fort, die einen gewissen Anteil unseres Wartungsgeschäfts von Schienenfahrzeugen in Schweden und im Vereinigten Königreich ausmachte. Im August 2018 schlossen wir eine Vereinbarung zum Verkauf unseres Schienenfahrzeuggeschäfts im Vereinigten Königreich an die mutares Holding-25 AG. Gegenstand waren die Knorr-Bremse RailServices (UK) Limited und Kiepe Electric Limited. Mit diesem Schritt führen wir unsere andauernden Bemühungen fort, unsere strategische Fokussierung auf unsere Kernkompetenzen als Schlüsselzulieferer für die Schienenindustrie mit Angeboten von Subsystemen, Komponenten und damit zusammenhängenden Dienstleistungen neu auszurichten.

Am 30. August 2018 bestellte der Aufsichtsrat Dr. Jürgen Wilder als Mitglied des Vorstands der Gesellschaft (der „**Vorstand**"). Dr. Wilders Amtszeit läuft vom 1. September 2018 bis zum 31. August 2021. Mit seinem Amtsantritt übernahm er die Verantwortung für das Segment Systeme für Schienenfahrzeuge.

Herr Georg Härter legte mit Wirkung ab dem 31. August 2018 sein Amt als Mitglied und als Vorsitzender des Aufsichtsrats der Gesellschaft (der „**Aufsichtsrat**") nieder. Am 29. August 2018 und mit Wirkung ab dem 1. September 2018 wurde Prof. Klaus Mangold zum Mitglied des Aufsichtsrats gewählt. Am 29. August 2018 wurde er ebenfalls zum Vorsitzenden des Aufsichtsrats gewählt.

Sechsmonatszeiträume, die am 30. Juni 2017 und* am 30. Juni *2018 endeten

In dem zum 30. Juni 2018 endenden Sechsmonatszeitraum stiegen unsere Umsatzerlöse um 346,2 Millionen Euro, oder 11,6 %, von 2.976,0 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 3.322,2 Millionen Euro. Diese Steigerung ist zurückzuführen auf das Wachstum der Umsatzerlöse sowohl in unserem Segment Systeme für Schienenfahrzeuge als auch in unserem Segment Systeme für Nutzfahrzeuge. Diese Steigerung der Umsatzerlöse war beinahe vollständig organisch, da die letzte Akquisition in unser Segment Systeme für Schienenfahrzeuge — Kiepe Electric — im Februar 2017 erworben wurde. Die Umsatzerlöse in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum wären um 12,3 Millionen Euro höher gewesen, wenn Kiepe Electric am 1. Januar 2017 erworben worden wäre.

In unserem Segment Systeme für Schienenfahrzeuge wuchsen die Umsatzerlöse um 194,8 Millionen Euro, oder 12,6 %, auf 1.744,2 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum, im Vergleich zu 1.549,4 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum. Diese Steigerung lag in erster Linie an der starken Entwicklung hauptsächlich in den Bereichen Personennahverkehr und Schienen-Service in China sowie in Indien. Zudem trugen Verkäufe von Brems- und On-Board-Systemen in Europa sowie das Passagier- und Frachtgeschäft in Nordamerika positiv zur der Steigerung der Umsatzerlöse im Segment Systeme für Schienenfahrzeuge bei.

In dem zum 30. Juni 2018 endenden Sechsmonatszeitraum wuchsen die Umsatzerlöse des Segments Systeme für Nutzfahrzeuge um 150,0 Millionen

Euro, oder 10,5 %, von 1.427,3 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 1.577,3 Millionen Euro. Diese Steigerung war hauptsächlich das Resultat einer starken Entwicklung im Bereich Originalteile („**OE**") infolge eines weiteren Anstiegs der weltweiten Produktionsraten von Lastkraftwagen sowie einer stärkeren Marktdurchdringung in Nordamerika. In Asien trug der Einsatz neuer Technologien vor allem in China weiter zu einem Anstieg der Umsatzerlöse im Segment Systeme für Nutzfahrzeuge bei.

Auf regionaler Ebene wuchsen unsere Umsatzerlöse in Europa/Afrika um 147,6 Millionen Euro, oder 9,8 %, von 1.505,1 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 1.652,6 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum, was 49,7 % unserer Gesamtumsatzerlöse ausmachte (50,6 % in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum). Diese Steigerung war insbesondere den bereits erwähnten höheren Verkaufszahlen von Brems- und On-Board-Systemen zuzuschreiben.

In der Region Asien-Pazifik stiegen die Umsatzerlöse um 160,9 Millionen Euro, oder 20,7 %, von 775,7 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum, im Vergleich zu 936,6 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum, was 28,2 % unserer Gesamtumsatzerlöse ausmachte (26,1 % in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum). Diese Steigerung war in erster Linie dem Wachstum beider operativen Segmente in China sowie dem Wachstum des Schienengeschäfts in Indien zuzuschreiben.

Unsere Umsatzerlöse in der Region Nordamerika stiegen um 30,6 Millionen Euro, oder 4,7 %, von 650,6 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 681,2 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum, was 20,5 % unserer Gesamtumsatzerlöse ausmachte (21,9 % in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum). Dieses Wachstum resultierte vorrangig aus der bereits erwähnten starken Entwicklung der Leistung im OE Bereich, die auf weiteren Wachstum der weltweiten Produktionsraten für Lastkraftwagen basiert, sowie aus stärkerer Marktdurchdringung in Nordamerika und einer günstigen Entwicklung der Verkaufszahlen in dem Passagier- und Frachtgeschäft.

In unserer Region Südamerika stiegen die Umsatzerlöse um 7,2 Millionen Euro, oder 16,2 %, von 44,6 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 51,8 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum, was 1,6 % unserer Gesamtumsatzerlöse ausmachte (1,5 % in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum). Der Hauptgrund für diese Steigerung war eine weitere Erholung des Markts für Nutzfahrzeuge in dieser Region.

In dem zum 30. Juni 2018 endenden Sechsmonatszeitraum stieg unser Ergebnis vor Zinsen, Steuern und Abschreibungen (EBITDA) um 64,2 Millionen Euro, oder 12,4 %, auf 582,2 Millionen Euro im Vergleich zu 518,0 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum.

Die Wachstumsrate unseres EBITDA war höher als die 11,6 %ige Steigerung der Umsatzerlöse. Dies lag in erster Linie an um 16,9 % gestiegenen sonstigen betrieblichen Erträgen, die nur teilweise aufgewogen wurden, insbesondere durch den um 14,8 % höheren Materialaufwand in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum.

In unserem Segment Systeme für Schienenfahrzeuge stieg unser EBITDA um 46,1 Millionen Euro, oder 16,7 %, auf 322,2 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum, im Vergleich zu 276,1 Millionen Euro in dem zum 30. Juni 2017 endenden

Sechsmonatszeitraum. Dieser Anstieg war in erster Linie den höheren Segmentumsatzerlösen zuzuschreiben. Dabei profitierten wir zusätzlich von einer positiven regionalen Mischung, insbesondere im Hinblick auf den Beitrag Chinas zu den Umsatzerlösen.

In dem zum 30. Juni 2018 endenden Sechsmonatszeitraum verbuchte das Segment Systeme für Nutzfahrzeuge eine Steigerung unseres EBITDA um 16,8 Millionen Euro, oder 6,9%, von 242,8 Millionen Euro im zum 30. Juni 2017 endenden Zeitraum auf 259,6 Millionen Euro. Der Grund hierfür lag vorrangig in höheren Umsatzerlösen in allen Regionen aufgrund der weltweiten positiven Entwicklung der Produktionsrate von Lastkraftwagen und dem damit einhergehenden Wachstum OE-Geschäft.

In dem zum 30. Juni 2018 endenden Sechsmonatszeitraum wuchs unser Jahresüberschuss um 37,4 Millionen Euro, oder 13,9 %, von 269,6 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 307,0 Millionen Euro. Davon stieg der dem Gesellschafter der Knorr-Bremse AG zurechenbare Gewinn um 47,2 Millionen Euro, oder 20,0 %, von 236,4 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 283,5 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum. Der den nicht beherrschenden Gesellschaftern zuzuordnende Gewinn verminderte sich um 9,8 Millionen Euro, oder 29,5 %, von 33,3 Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf 23,5 Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum. Der den nicht kontrollierenden Beteiligungen zuzurechnende Gewinn bezog sich in dem am 30. Juni 2017 und am 30. Juni 2018 endenden Sechsmonatsperioden auf die Minderheitsbeteiligungen der Knorr-Brake Holding Corporation, Delaware, USA, und der Knorr-Bremse CARS LD Co. Ltd., Daxing, China. Im April 2018 wurden alle stimmrechtslosen Vorzugsaktien an Knorr-Brake Holding Corporation, Delaware, USA, zurückerworben und eingezogen. Der Erwerbspreis von 130,6 Millionen Euro umfasste zudem die Dividendenansprüche des vorherigen Anteilshabers Ursus, zum 1. Januar 2018. Daher reduzierte sich der auf den nicht beherrschenden Gesellschafter zuzuordnende Gewinn in Bezug auf Knorr-Brake Holding Corporation, Delaware, USA, auf Null in der am 30 Juni 2018 endenden Sechsmonatsperiode.

Die Erhöhung des Jahresüberschusses hat ihren Grund hauptsächlich im gesteigerten Ergebnis vor Steuern. Ein schwacher Gegeneffekt ergibt sich aus der Erhöhung von Steuern vom Einkommen und vom Ertrag um 4,4 Millionen Euro, oder 3,7 %, von (119,1) Millionen Euro in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum auf (123,5) Millionen Euro in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum, hauptsächlich wegen dem gestiegenen Ergebnis vor Steuern.

Der nominale Steuersatz betrug in dem zum 30. Juni 2018 endenden Sechsmonatszeitraum 32,8 %. In Übereinstimmung mit IAS 34 wurde die Berechnung der Steuern für den Konzern auf dem erwarteten effektiven Steuersatz für das Gesamtjahr von 29,0 % basiert (in dem zum 30. Juni 2017 endenden Sechsmonatszeitraum: 31,1 %). Die Differenz zwischen dem nominalen Steuersatz lag insbesondere an den niedrigeren lokalen Steuersätzen im Vergleich zum nominalen Steuersatz auf Konzernebene, dauerhaften Unterschieden, die sich aus Steuerkorrekturen ergaben, sowie der fehlenden Bildung aktiver latenter Steuern auf laufende Verluste des laufenden Geschäftsjahrs und Verlustvorträgen, die wir als nicht erstattungsfähig bewertet haben.

Geschäftsjahr 2017 und Geschäftsjahr 2016

Im Geschäftsjahr 2017 wuchsen unsere Umsatzerlöse um 682,3 Millionen Euro, oder 12,5 %, von 5.471,3 Millionen Euro im Geschäftsjahr 2016 auf 6.153,5 Millionen Euro. Diese Steigerung ist zurückzuführen auf das Wachstum der Umsatzerlöse sowohl im Segment Systeme für Schienenfahrzeuge als auch im Segment Systeme für Nutzfahrzeuge. Teilweise wurde dieses Wachstum jedoch durch die negativen Auswirkungen von Wechselkursveränderungen aufgewogen.

In unserem Segment Systeme für Schienenfahrzeuge stiegen die Umsatzerlöse im Geschäftsjahr 2017 aufgrund von Wachstum in allen Regionen bis auf Südamerika um 281,4 Millionen Euro, oder 9,4 %, auf 3.260,1 Millionen Euro, verglichen mit 2.978,7 Millionen Euro im Jahr 2016. Diese Steigerung resultiert aus einer überwiegend positiven Entwicklung im weltweiten Markt für Schienenfahrzeuge. In der Region Europa/Afrika übertraf der Markt leicht das vorherige Jahr, während er in der Region Asien-Pazifik bei positiven Entwicklungen im indischen Fahrgastmarkt stabil blieb. Wachstum wurde durch Investitionen im nordamerikanischen Passagierverkehrmarkt, z.B. in ein neues Hochgeschwindigkeitsprojekt, erzielt, wohingegen unsere Umsatzerlöse in Südamerika aufgrund der Lage der brasilianischen Wirtschaft leicht zurückgingen. Ferner trug der Kauf von Kiepe Electric im Februar 2017 180,5 Millionen Euro zu unseren Umsatzerlösen im Geschäftsjahr 2017 bei, während dies im Jahr 2016 noch nicht der Fall war.

In unserem Segment Systeme für Nutzfahrzeuge stiegen die Umsatzerlöse im Geschäftsjahr 2017 um 397,6 Millionen Euro, oder 16,0 %, von 2.493,0 Millionen Euro im Jahr 2016 auf 2.890,6 Millionen Euro. Dieses Wachstum beruhte vorrangig auf einer positiven Entwicklung im weltweiten Markt für Nutzfahrzeuge sowie in einer Mehrzahl der regionalen Märkte, in denen wir tätig sind. Dabei ist die Steigerung vor allem auf ein starkes Wachstum der Produktionsrate von Lastkraftwagen und dem damit einhergehenden Umsatzerlöswachstum in China zurückzuführen. Zudem nahm das Geschäft mit Lastkraftwagen und Anhängern in Nord- und Südamerika in dem hier betrachteten Jahr Fahrt auf, während das Europageschäft lebhaft blieb. Im März 2017 erwarben wir Bosch Japans Transmission Systems Geschäftsbereich für Straßenfahrzeuge (TRS), was ebenfalls zur Steigerung unserer Umsatzerlöse in 2017 beitrug, während dies im vorangegangenen Jahr noch nicht der Fall war. Ein weiterer Beitrag zum Wachstum folgte aus der Übernahme der G.T. Group Ltd., Peterlee, Vereinigtes Königreich („**GT Gruppe**“), welche wir ab dem 5. Juli 2016 konsolidierten; das bedeutet, dass die Umsatzerlöse, die diesem Geschäft zurechenbar sind, in den letzten knapp sechs Monaten des Jahres 2016 26,2 Millionen Euro betrugen, verglichen mit 57,0 Millionen Euro, die verzeichnet worden wären, wenn die Geschäftsübernahme am 1. Januar 2016 erfolgt wäre. Ferner führte die Übernahme der tedrive Steering Systems GmbH, Wülfrath, Deutschland („**tedrive Gruppe**“) zum 1. September 2016 wegen der anfängliche Umsatzbeiträge für vier Monate zu 28,9 Millionen Euro zusätzlichen Umsatzerlösen. Wäre die Übernahme zu Jahresbeginn erfolgt, hätte die tedrive Gruppe im Jahr 2016 83,7 Millionen Euro beigetragen.

Auf regionaler Ebene wuchsen die Umsatzerlöse in Europa/Afrika um 399,3 Millionen Euro, oder 14,9 %, von 2.677,0 Millionen Euro in 2016 auf 3.076,4 Millionen Euro im Jahr 2017, was 50,0 % der konsolidierten Gesamtumsatzerlöse unserer Gruppe ausmachte (2016: 48,9 %). Diese Steigerung resultierte insbesondere aus steigenden Umsatzerlösen im Segment Systeme für Nutzfahrzeuge in Europa. Grund dafür war insbesondere die Erweiterung unser neuen Geschäftstätigkeiten: Motorbelüftung, Lenksysteme und Getriebesteuerung. Darüber hinaus

unterstütze ein stabiles Niveau an Auftragseingängen aus dem Bereich des europäischen Passagier- und Frachtverkehrs die Umsatzerlöse in der Region Europa/Afrika, der auch vom Wachstum unserer Umsatzerlöse in unserem Segment Systeme für Schienenfahrzeuge getragen wurde. Auch das Nachmarktgeschäft RailServices verbuchte eine positive Entwicklung. Während das Geschäft mit der Herstellung von Originalteilen („**OEM**") in Deutschland und im Vereinigten Königreich deutlich gewachsen ist, war es in der Türkei rückläufig. Zudem wurden erstmals die Umsatzerlöse für Kiepe Electric in der Region Europa/Afrika erfasst.

In der Region Asien-Pazifik stiegen die Umsatzerlöse um 136,7 Millionen Euro, oder 8,8 %, von 1.553,7 Millionen Euro im Geschäftsjahr 2016 auf 1.690,4 Millionen Euro 2017, was 27,5 % der konsolidierten Gesamtumsatzerlöse unserer Gruppe ausmachte (2016: 28,4 %). Dies resultierte insbesondere aus einer positiven Entwicklung des Nutzfahrzeugmarktes in China. In China profitierten wir vom wiederauflebenden Markt für Hochgeschwindigkeitszüge und Lokomotiven, während wir uns in Australien einen Anteil bei verschiedenen Projekten im Bereich des Personennahverkehrs sichern konnten. Auch Indien trug zum Wachstum bei. So beauftragte die staatliche indische Eisenbahngesellschaft (India Railways) den Fahrzeughersteller ICF Chennai mit der Entwicklung und Produktion von einem neuen mehrgliedrigen Schienenfahrzeug, für das Knorr-Bremse Indien Bremssysteme sowie automatische Schwenkschiebetüren mit Schiebetritten liefern soll.

Unsere Umsatzerlöse in der Region Nordamerika stiegen um 153,0 Millionen Euro, oder 13,4 %, von 1.141,0 Millionen Euro im Geschäftsjahr 2016 auf 1.294,0 Millionen Euro im Geschäftsjahr 2017, was 21,0 % der konsolidierten Gesamtumsatzerlöse unserer Gruppe ausmachte (2016: 20,9 %). Dieses Wachstum resultierte vorrangig aus dem dynamischen Wachstum im Segment Systeme für Nutzfahrzeuge in Nordamerika, der insbesondere von zwei Trends profitierte: (i) Lastkraftwagenhersteller führten eine umfassendere Ausstattung pro Fahrzeug mit Systemen zur Kollisionsvermeidung als Standard ein; und (ii) Druckluftscheibenbremsen ersetzten zunehmend Trommelbremsen als Standard an allen Achsen. Andere Gründe für das Wachstum waren die Erweiterung der Personennahverkehrsnetze sowie der verbesserte Frachtmarkt in Nordamerika.

In unserer Region Südamerika verringerten sich unsere Umsatzerlöse um 6,7 Millionen Euro, oder 6,8 %, von 99,5 Millionen Euro im Geschäftsjahr 2016 auf 92,8 Millionen Euro im Geschäftsjahr 2017, was 1,5 % unserer konsolidierten Gesamtumsatzerlöse ausmachte (2016: 1,8 %). Der Hauptgrund für diesen Rückgang waren geringere Umsatzerlöse im südamerikanischen Bereich der Schienenfahrzeuge aufgrund der krisengetroffenen brasilianischen Wirtschaft.

Im Geschäftsjahr 2017 stieg unser Ergebnis vor Zinsen, Steuern und Abschreibungen (EBITDA) um 63,4 Millionen Euro, oder 6,0 %, von 1.052,1 Millionen Euro im Geschäftsjahr 2016 auf 1.115,5 Millionen Euro im Geschäftsjahr 2017.

Dies ist maßgeblich auf einen gesteigerten EBITDA in unserem Segment Systeme für Nutzfahrzeuge infolge höherer Umsatzerlöse zurückzuführen. Diese resultieren aus einer vorteilhaften Entwicklung der Verkaufszahlen von Originalteilen, die ihren Grund wiederum in einer weltweit gesteigerten Produktionsrate von Lastkraftwagen hat. Unser EBITDA wuchs allerdings schwächer als die 12,5 %ige Steigerung der Umsatzerlöse im Wesentlichen wegen des Anstiegs des Materialaufwandes um 17,0 %, der nur teilweise durch das geringere Wachstum der sonstigen betrieblichen Aufwendungen

ausgeglichen wurde. Dies gilt trotz der außergewöhnlichen Aufwendungen im Zusammenhang mit der versuchten Übernahme von Haldex AB, der Umstellung der Rechnungslegung der Gruppe auf IFRS, der Vorbereitung des Börsengangs des Unternehmens und des Verlustes aufgrund des russichen Mietvertrags. Ferner hatten im Jahr 2017 Wechselkursschwankungen in einem niedrigen zweistelligen Millioneneurobetrag negativen Einfluss auf unser EBITDA.

In unserem Segment Systeme für Schienenfahrzeuge wuchs der EBITDA im Geschäftsjahr 2017 um 15,4 Millionen Euro, oder 2,5 %, auf 639,3 Millionen Euro, verglichen mit 624,0 Millionen Euro im Geschäftsjahr 2016. Der geringe Anstieg lässt sich hauptsächlich auf den infolge von Verkäufen entstandenen Gewinnbeitrag zurückführen, der teilweise durch den negativen Ergebnisbeitrag aufgrund unserer erstmaligen Konsolidierung von Kiepe Electric aufgewogen wurde.

Im Jahr 2017 verbuchte das Segment Systeme für Nutzfahrzeuge eine Steigerung unseres EBITDA um 78,0 Millionen Euro, oder 18,3 %, von 425,7 Millionen Euro im Jahr 2016 auf 503,7 Millionen Euro. Der Grund hierfür lag vorrangig in höheren Umsatzerlösen in allen Regionen, die einen zusätzlichen Gewinnbeitrag zur Folge hatten.

Im Geschäftsjahr 2017 wuchs unser Jahresüberschuss für diesen Zeitraum um 20,1 Millionen Euro, oder 3,5 %, von 567,2 Millionen Euro im Geschäftsjahr 2016 auf 587,2 Millionen Euro. Davon stieg der den Gesellschaftern der Knorr-Bremse AG zurechenbare Gewinn um 9,2 Millionen Euro, oder 1,7 %, von 526,3 Millionen Euro im Geschäftsjahr 2016 auf 535,5 Millionen Euro, und der dem nicht beherrschenden Gesellschafter zuzuordnende Gewinn stieg um 10,9 Millionen Euro, oder 26,7 %, von 40,8 Millionen Euro im Geschäftsjahr 2016 auf 51,7 Millionen Euro im Geschäftsjahr 2017. Der den nicht kontrollierenden Beteiligungen zuzurechnende Gewinn bezog sich im Geschäftsjahr 2017 und im Geschäftsjahr 2016 auf die Minderheitsbeteiligungen der Knorr-Brake Holding Corporation, Delaware, USA, und der Knorr-Bremse CARS LD Co. Ltd., Daxing, China. Der Anstieg des auf den nicht beherrschenden Gesellschafter zuzuordnenden Gewinn bezog sich hauptsächlich auf die Minderheitsbeteiligung der Knorr-Bremse CARS LD Co. Ltd., Daxing, China, an Knorr-Bremse, die vom Umsatzerlöswachstum in China profitierte.

Dieser Anstieg hat seinen Grund hauptsächlich im gesteigerten Ergebnis vor Steuern sowie einem geringeren effektiven Steuersatz von 31,1 % im Geschäftsjahr 2017, verglichen mit 32,6 % im Geschäftsjahr 2016, der vor allem auf internationale Steuerrechtsreformen, z.B. in den USA und Frankreich, und auf einen um 7,2 Millionen Euro auf 13,6 Millionen Euro gesteigerten latenten Steueraufwand, verglichen mit 6,3 Millionen Euro im Jahr 2016, zurückzuführen ist. Entsprechend sanken die Steuern vom Einkommen und vom Ertrag um 8,9 Millionen Euro, oder 3,2 % von (274,1) Millionen Euro im Geschäftsjahr 2016 auf (265,2) Millionen Euro im Jahr 2017.

Geschäftsjahr 2016 und Geschäftsjahr 2015

Im Geschäftsjahr 2016 verringerten sich unsere Umsatzerlöse um 352,3 Millionen Euro, oder 6,0 %, von 5.823,5 Millionen Euro im Jahr 2015 auf 5.471,3 Millionen Euro. Dies geschah hauptsächlich aufgrund von geringeren Verkaufszahlen im Segment Systeme für Schienenfahrzeuge. Ferner hatten Wechselkursschwankungen negative Auswirkungen auf unsere Umsatzerlöse im Geschäftsjahr 2016.

Der Hauptgrund für diesen Rückgang waren verminderte Umsatzerlöse in unserem Segment Systeme für Schienenfahrzeuge, die um 352,3 Millionen Euro, oder 10,6 %, von 3.331,0 Millionen Euro im Geschäftsjahr 2015 auf 2.978,7 Millionen Euro im Jahr 2016 sanken. Dieser Rückgang spiegelte eine zeitweilige Verringerung der weltweiten Nachfrage für Schienenfahrzeuge wider. Wesentliche Gründe dafür waren in dem hier betrachteten Jahr eine volatile Entwicklung der Weltwirtschaft zusammen mit einem langsamen Marktwachstum, insbesondere in China und Nordamerika. Nach außergewöhnlichem Wachstum in 2014 und 2015 normalisierte sich insbesondere in China die Nachfrage für Hochgeschwindigkeitszüge und Lokomotiven auf ein nachhaltigeres jährliches Volumen. Ferner beeinflusste eine zyklische Verlangsamung des Geschäfts mit Güterwagen und Lokomotiven in Nordamerika die Entwicklung der Umsatzerlöse. Durch weitere Expansion unseres Personennahverkehrsgeschäfts sowie des RailServices in diesen Märkten gelang es uns, den Rückgang der Umsatzerlöse teilweise aufzufangen.

Im Gegensatz dazu blieb das Segment Systeme für Nutzfahrzeuge mit einer geringfügigen Steigerung der Umsatzerlöse um 1,1 Millionen Euro, oder 0,0 %, von 2.491,8 Millionen Euro im vorangegangenen Jahr auf 2.493,0 Millionen Euro im Jahr 2016 stabil. Während der Weltmarkt für Nutzfahrzeuge in dem hier betrachteten Jahr insgesamt einen bescheidenen Aufschwung erlebte, zeigte das Geschäft mit Lastwagen und Anhängern in Europa und Asien Fortschritt und egalisierte die zyklische Marktvolatilität in Nordamerika. Im Jahr 2016 waren Bremsscheibensysteme und elektrische Bremssysteme als Produktgruppen die Haupttreiber der Verkaufszahlen im Segment Systeme für Nutzfahrzeuge in Europa. Es gelang uns unter anderem, die Position als Marktführer im Bereich der Bremssteuerung auszubauen. Darüber hinaus führten wir im Geschäftsbereich Nachmarkt im Jahr 2016 die Marke TruckServices ein, die unsere Dienstleistungen in diesem Geschäftsbereich vereint und das Ziel hat, verlässliche sowie ökonomische Lösungen im Bereich Fehlerdiagnosen, Wartung und Reparatur unabhängig vom Modell und Alter anzubieten.

Ein weiterer Grund für das Wachstum waren ferner zu einem gewissen Maße mehrere Unternehmenskäufe im Jahr 2016. Im Juli 2016 erwarben wir die GT Gruppe, die ab Juli 2016 zu unseren Umsatzerlösen beitrug, wohingegen sie dies im Geschäftsjahr 2015 noch nicht tat. In der Folge beeinflusste der Unternehmenszukauf unsere Umsatzerlöse positiv, indem das zugekaufte Geschäft 26,2 Millionen Euro zu den Umsatzerlösen im Jahr 2016 beitrug. Desweiteren führte der Kauf der tedrive Gruppe zum 1. September 2016 aufgrund der anfänglichen Umsatzbeiträge im Zeitraum von vier Monaten zu zusätzlichen Umsatzerlösen von 28,9 Millionen Euro, während 2015 noch kein Beitrag zu unseren Umsatzerlösen erfolgte.

Auf regionaler Ebene wuchsen unsere Umsatzerlöse in Europa/Afrika um 109,1 Millionen Euro, oder 4,2 %, von 2.567,9 Millionen Euro im Jahr 2015 auf 2.677,0 Millionen Euro 2016, was 48,9 % unserer konsolidierten Gesamtumsatzerlöse ausmachte (2015: 44,1 %). Diese Steigerung ist in erster Linie auf das Wachstum des Marktes für Schienenfahrzeuge im Vereinigten Königreich zurückzuführen, wo Großprojekte anliefen, wohingegen das Marktvolumen in Deutschland, Frankreich und den skandinavischen Ländern im Jahresvergleich größtenteils unverändert blieb. Zudem stabilisierte sich Russland/GUS im Jahresverlauf nach einem Rückgang im Jahr 2015. Durch höhere Produktionszahlen für Westeuropa konnte der europäische Nutzfahrzeugmarkt den moderaten Produktionsrückgang in Osteuropa kompensieren.

Diese positiven Effekte wurden durch einen Rückgang der Umsatzerlöse in der Region Asien-Pazifik um 235,2 Millionen Euro, oder 13,1 %, von 1.788,9 Millionen Euro im Jahr 2015 auf 1.553,7 Millionen Euro im Jahr 2016, was 28,4 % unserer konsolidierten Gesamtumsatzerlöse ausmachte (2015: 30,7 %), aufgewogen. Die Hauptursache für diesen Rückgang war die Normalisierung im Schienenfahrzeugmarkt in China 2016. Diese negative Entwicklung wurde durch Wachstum im Bereich der U-Bahnen in China sowie durch den indischen Markt, wo die Nachfrage für Lokomotiven stieg, teilweise aufgewogen.

Darüber hinaus gingen die Umsatzerlöse im Jahr 2016 in der Region Nordamerika um 225,6 Millionen Euro, oder 16,5 %, von 1.366,6 Millionen Euro im Jahr 2015 auf 1.141,0 Millionen Euro zurück, was 20,9 % unserer konsolidierten Gesamtumsatzerlöse ausmachte (2015: 23,5 %). Dieser Rückgang lässt sich teilweise auf den Abschwung im Bereich der Güterwagen zurückführen, der teilweise die Folge hoher Investitionen in vorangegangenen Jahren in den Schienenfahrzeugbestand war, aus dem bei sinkender Nachfrage ein Überschuss an Fahrzeugen resultierte. Gleichzeitig wuchs der nordamerikanische Markt für Systeme des Schienenpersonennahverkehrs weiter, was zu einer positiven Entwicklung im Bereich des Personenverkehrs führte. Wir waren jedoch auch negativen Entwicklungen im Nutzfahrzeugmarkt in Nordamerika ausgesetzt. So verlagerte sich generell die Nachfrage im Markt weg von standardmäßigen Zugmaschinen hin zu Sonderfahrzeugen.

Desweiteren verringerten sich unsere Umsatzerlöse im Jahr 2016 in der Region Südamerika um 0,6 Millionen Euro, oder 0,6 %, von 100,1 Millionen Euro im Geschäftsjahr 2015 auf 99,5 Millionen Euro, was 1,8 % unserer konsolidierten Gesamtumsatzerlöse ausmachte (2015: 1,7 %). Den Hauptgrund für diesen geringfügigen Rückgang stellte das weiterhin geringe Niveau des Geschäfts mit Schienenfahrzeugen sowie der Produktion von Lastkraftwagen in Folge der andauernden politischen und ökonomischen Krise in Brasilien dar, die auch die Nachfrage in den Nachbarländern beeinflusste.

Im Geschäftsjahr 2016 verringerte sich unser Ergebnis vor Zinsen, Steuern und Abschreibungen (EBITDA) um 216,9 Millionen Euro, oder 17,1 %, von 1.269,0 Millionen Euro im Geschäftsjahr 2015 auf 1.052,1 Millionen Euro.

Die Hauptursache für den Rückgang unseres EBITDA war die oben genannte Normalisierung der margenstarken Verkäufe von Hochgeschwindigkeitszügen in China im Segment Systeme für Schienenfahrzeuge im Jahr 2016, die im Jahr 2015 einen außerordentlich großen Gewinnbeitrag beigesteuert hatten. Desweiteren beeinflussten Volumeneffekte aus dem Chinageschäft mit Hochgeschwindigkeitszügen unser operatives Ergebnis. Ferner hatten Wechselkursschwankungen in einem niedrigen zweistelligen Millioneneurobetrag, insbesondere die moderate Erholung des Euro gegenüber anderen wichtigen Währungen für die Gruppe, allen voran dem U.S. Dollar und dem chinesischen Yuan, negative Auswirkungen auf unseren EBITDA.

In unserem Segment Systeme für Schienenfahrzeuge verringerte sich das EBITDA um 173,3 Millionen Euro, oder 21,7 %, auf 624,0 Millionen Euro im Geschäftsjahr 2016, verglichen mit 797,3 Millionen Euro im Jahr 2015, vor allem aufgrund der oben genannten Normalisierung der Verkäufe von Hochgeschwindigkeitszügen in China.

In unserem Segment Systeme für Nutzfahrzeuge verringerte sich das EBITDA um 42,4 Millionen Euro, oder 9,1 %, von 468,1 Millionen Euro im Jahr 2015 auf 425,7 Millionen Euro im Geschäftsjahr 2016. Grund dafür

		waren hauptsächlich höhere Betriebsausgaben, die nur teilweise von vorteilhaften Entwicklungen bei der Material- und Personalaufwandsquote im Segment Systeme für Nutzfahrzeuge aufgewogen wurden. Im Geschäftsjahr 2016 verringerte sich unser Jahresüberschuss um 143,5 Millionen Euro, oder 20,2 %, von 710,7 Millionen Euro im Geschäftsjahr 2015 auf 567,2 Millionen Euro. Davon verminderte sich der den Gesellschaftern der Knorr-Bremse AG zurechenbare Gewinn um 126,4 Millionen Euro, oder 19,4 %, von 652,8 Millionen Euro im Geschäftsjahr 2015 auf 526,3 Millionen Euro, und der dem nicht-beherrschenden Gesellschafter zuzuordnende Gewinn verminderte sich um 17,1 Millionen Euro, oder 29,5 %, von 57,9 Millionen Euro im Geschäftsjahr 2015 auf 40,8 Millionen Euro im Geschäftsjahr 2016. Der dem nicht beherrschenden Gesellschafter zuzuordnende Gewinn bezog sich im Geschäftsjahr 2016 und im Geschäftjahr 2015 auf die Minderheitsbeteiligungen der Knorr-Brake Holding Corporation, Delaware, USA, und der Knorr-Bremse CARS LD Co. Ltd., Daxing, China, an Knorr-Bremse. Der Rückgang bezog sich hauptsächlich auf die oben beschriebene Normalisierung im Bereich Hochgeschwindigkeitszüge in China nach der Spitze im Geschäftsjahr 2015, die die Minderheitsbeteiligung der Knorr-Bremse CARS LD Co. Ltd., Daxing, China, an Knorr-Bremse beinflusste. Während der effektive Steuersatz leicht von 32,2 % im Jahr 2015 auf 32,6 % im Jahr 2016 anstieg, resultierte der Rückgang des Jahresüberschusses in diesem Zeitraum hauptsächlich aus dem geringeren Ergebnis vor Steuern, wobei sich die Steuern vom Einkommen und vom Ertrag um 63,3 Millionen Euro, oder 18,8 %, von (337,4) Millionen Euro im Geschäftsjahr 2015 auf (274,1) Millionen Euro im Geschäftsjahr 2016 verringerten.
B.8	**Ausgewählte wesentliche Pro-forma-Finanz-informationen.**	Entfällt. Die Gesellschaft hat keine Pro-forma-Finanzinformationen erstellt.
B.9	**Gewinnprognosen oder -schätzungen.**	Entfällt. Die Gesellschaft hat keine Gewinnprognose oder -schätzung erstellt.
B.10	**Beschränkungen im Bestätigungsvermerk zu den historischen Finanzinformationen.**	Entfällt. Die Bestätigungsvermerke zu den in dem Prospekt enthaltenen historischen Finanzinformationen wurden ohne Einschränkung erteilt.
B.11	**Nicht Ausreichen des Geschäftskapitals des Emittenten zur Erfüllung bestehender Anforderungen.**	Entfällt. Das Geschäftskapital der Gesellschaft reicht aus, um die bestehenden Anforderungen zu erfüllen.
C.	**Wertpapiere**	
C.1	**Beschreibung von Art und Gattung der angebotenen und/oder zum Handel zuzulassenden Wertpapiere, einschließlich Wertpapierkennung.**	Auf den Inhaber lautende Stammaktien der Gesellschaft ohne Nennbetrag (Stückaktien), jeweils mit einem anteiligen Betrag am Grundkapital von EUR 1,00 und voller Gewinnanteilberechtigung ab dem 1. Januar 2018. International Securities Identification Number (ISIN): DE000KBX1006 Wertpapier-Kenn-Nummer (WKN): KBX100 Common Code: 186559398 Börsenkürzel: KBX
C.2	**Währung der Wertpapieremission.**	Euro.

C.3	**Zahl der ausgegebenen und voll eingezahlten und der ausgegebenen und nicht voll eingezahlten Aktien.**	Zum Datum des Prospekts beträgt das Grundkapital der Gesellschaft EUR 161.200.000 und ist in 161.200.000 auf den Inhaber lautende Stammaktien ohne Nennbetrag (Stückaktien) eingeteilt. Das Grundkapital der Gesellschaft ist vollständig eingezahlt.
	Nennwert pro Aktie, bzw. Angabe, dass Aktien keinen Nennwert haben.	Jede Aktie der Gesellschaft repräsentiert einen anteiligen Betrag am Grundkapital von EUR 1,00.
C.4	**Mit den Wertpapieren verbundenen Rechte.**	Jede Aktie der Gesellschaft berechtigt zu einer Stimme in der Hauptversammlung der Gesellschaft. Es bestehen keine Beschränkungen des Stimmrechts. Die Aktien der Gesellschaft sind ab dem 1. Januar 2018, d. h. für das gesamte Geschäftsjahr 2018 und für sämtliche folgende Geschäftsjahre, in voller Höhe gewinnanteilberechtigt.
C.5	**Beschreibung aller etwaigen Beschränkungen für die freie Übertragbarkeit der Wertpapiere.**	Mit Ausnahme der unten unter E.5 beschriebenen Lock-Up-Vereinbarungen bestehen keine Beschränkungen für die Übertragbarkeit der Aktien der Gesellschaft.
C.6	**Angabe, ob für die angebotenen Wertpapiere die Zulassung zum Handel in einem geregelten Markt beantragt wurde bzw. werden soll, Nennung aller geregelten Märkte, in denen die Wertpapiere gehandelt werden oder werden sollen.**	Die Gesellschaft wird voraussichtlich am oder um den 1. Oktober 2018 die Zulassung ihrer bestehenden Aktien (darunter die Angebotsaktien) zum Handel im regulierten Markt der Frankfurter Wertpapierbörse sowie gleichzeitig zum Teilbereich des regulierten Markts mit weiteren Zulassungsfolgepflichten (Prime Standard) beantragen. Eine Entscheidung über die Zulassung in Bezug auf die bestehenden Aktien der Gesellschaft wird voraussichtlich am 11. Oktober 2018 verkündet werden. Der Handel mit den Aktien der Gesellschaft an der Frankfurter Wertpapierbörse wird nach derzeitiger Erwartung am 12. Oktober 2018 aufgenommen werden.
C.7	**Beschreibung der Dividendenpolitik.**	Die Gesellschaft hat in der Vergangenheit Dividenden ausgeschüttet und beabsichtigt, beginnend mit dem Geschäftsjahr 2019, auch künftig eine Dividende auszuschütten, d. h., für das Geschäftsjahr 2018 und die diesem folgenden Geschäftsjahre, und beabsichtigt, vorausgesetzt die Geschäftsentwicklung bleibt stabil und unter dem Vorbehalt eines ausschüttungsfähigen Bilanzgewinns der Gesellschaft, eine Dividende zwischen 40% und 50% des Konzernjahresüberschusses nach IFRS auszuschütten. Die Entscheidung darüber, ob und in welcher Höhe Dividenden ausgeschüttet werden, wird jedoch von einer Reihe von Faktoren abhängen, zu denen der Umfang des ausschüttungsfähigen Bilanzgewinns des jeweiligen Jahres, die Anlagepolitik und der Finanzierungsbedarf der Gesellschaft zum jeweiligen Zeitpunkt gehören. Da die Gesellschaft zum Teil ihr operatives Geschäft über ihre Tochtergesellschaften und verbundenen Unternehmen betreibt, hängt ihre Fähigkeit zur Dividendenausschüttung maßgeblich davon ab, dass ihre operativen Tochtergesellschaften und verbundenen Unternehmen Gewinne erzielen und diese an die Gesellschaft ausschütten oder aufgrund bestehender Gewinnabführungsverträge an die Gesellschaft abführen. Zudem kann nicht ausgeschlossen werden, dass die Gesellschaft in zukünftigen Finanzierungsverträgen Beschränkungen durch zukünftige übliche Zusicherungen im Hinblick auf die Dividendenausschüttung unterliegen könnte.

D. Risiken

D.1	**Zentrale Angaben zu den zentralen Risiken, die dem Emittenten oder seiner Branche eigen sind.**	Eine Anlage in Aktien der Gesellschaft geht mit verschiedenen Risiken einher. Anlageinteressenten sollten vor ihrer Anlageentscheidung die folgenden zentralen Risiken zusammen mit allen anderen im Prospekt enthaltenen Informationen sorgfältig abwägen. Der Eintritt jedes der nachfolgenden Risiken — jeweils einzeln oder zusammen mit weiteren, der Gesellschaft bislang unbekannten oder durch die Gesellschaft aktuell als unwesentlich eingestuften Risiken und ungewissen Umständen — könnte erhebliche nachteilige Auswirkungen auf das Geschäft, die Ertragslage, die Cashflows und die Finanzlage der Gruppe haben. Sollte eines oder mehrere dieser Risiken eintreten, könnte der Marktpreis der Aktien der Gesellschaft fallen, wodurch Investoren ihren investierten Betrag vollständig oder teilweise verlieren könnten. Die Reihenfolge, in der die Risiken hier oder im Hauptteil des Prospekts aufgezählt werden, beinhaltet weder eine Aussage über die Eintrittswahrscheinlichkeit dieser Risiken noch über die Bedeutung, Höhe oder Tragweite eines potentiellen Schadens für das Geschäft, die Ertragslage, die Cashflows, die Finanzlage der Gruppe und ihre Erfolgsaussichten. ***Risiken im Zusammenhang mit unserem Marktumfeld und unserer Geschäftstätigkeit*** • Unser Geschäft könnte durch nachteilige Entwicklungen der Weltwirtschaft, die zyklische Entwicklung der Märkte und politische, soziale, ökonomische oder andere Bedingungen (protektionistische Maßnahmen, Handelskriege oder Sanktionen eingeschlossen) in Ländern oder Hauptregionen, in denen wir tätig sind, negativ beeinflusst werden. • Die Branchen, in denen wir tätig sind, zeichnen sich durch sich verändernde Trends, technologische Entwicklungen und Regulierung aus. Sollte es uns nicht gelingen, weiterhin innovative Produkte zu entwickeln, zu fertigen, zu vermarkten und zu vertreiben, die die Wünsche und Anforderungen unserer Kunden hinsichtlich Leistung und Zuverlässigkeit erfüllen, könnten wir Absatzeinbußen verzeichnen und Marktanteile verlieren. • Wir sind verschiedenen Risiken ausgesetzt (wie z.B. Risiken aus unserer Geschäftstätigkeit vor Ort), die sich aus unserer Geschäftstätigkeit im Ausland ergeben und zu denen neben politischer und sozialer Instabilität auch sich verändernde gesetzliche Rahmenbedingungen sowie Marktgegebenheiten in vielen verschiedenen Ländern gehören. • In den Branchen, in denen wir tätig sind, herrscht zunehmend ein hoher Konkurrenzkampf, der zu Preissenkungsdruck führt. Diese Entwicklung sowie weitere kundengetriebene Trends im Schienen- und Nutzfahrzeuggeschäft, z.B. Marktkonzentration, zunehmende interne Produktentwicklungskapazitäten sowie der Trend zu Systemlieferanten, können unsere Wettbewerbsposition und unseren Marktanteil negativ beeinflussen. • Möglicherweise gelingt es uns nicht, erfolgreich Akquisitionen, Joint Ventures oder Kooperationen zu identifizieren, durchzuführen oder zu integrieren oder erfolgreich Desinvestitionen vorzunehmen. Darüber hinaus sind wir Risiken in Bezug auf Joint Ventures, Kooperationen und Partnerschaften ausgesetzt, unter anderem dem Risiko, dass wir möglicherweise nur begrenzten Einfluss auf die Organisation und den geschäftlichen Erfolg dieser Unternehmen haben, und dem Risiko von Konflikten zwischen unseren Interessen und den Interessen unserer Partner.

- Möglicherweise gelingt es uns nicht, strategische Effizienzgewinne und andere Verbesserungen und Maßnahmen zur Kostensenkung zeitnah umzusetzen; außerdem ist es möglich, dass diese geplanten Verbesserungen und Maßnahmen erfolglos bleiben.
- Wir waren in der Vergangenheit von Qualitätsproblemen oder Produktmängeln betroffen und dies könnte auch in Zukunft der Fall sein. Diese können kostspielige Nachlieferungen, Produkthaftungsansprüche, Strafzahlungen und schwerwiegende Unfälle sowie Störungen des Betriebs in unseren Produktionsanlagen und sonstige Betriebsstörungen zur Folge haben. Darüber hinaus könnte unser Versicherungsschutz nicht ausreichen, um alle mit unserer Geschäftstätigkeit verbundenen Risiken abzudecken.
- Wir sind auf eine Reihe größerer Hauptkunden angewiesen und unsere Kunden verfügen in der Regel über eine starke Verhandlungmacht. Wir sind ferner Risiken im Zusammenhang mit Bieterverfahren, insbesondere für größere und mittelgroße OEM-Projekte sowie im Zusammenhang mit vertraglichen Vereinbarungen mit unseren OEM-Kunden und Projektrisiken wie Kostenüberschreitungen und Verzögerungen ausgesetzt.
- Unser Auftragsbestand ist nicht notwendigerweise ein Indikator für unsere zukünftige Absatzentwicklung und ein Auftragseingang ist nicht garantiert. Daher sind wir möglicherweise nicht in der Lage, unsere Produktion und unser Absatzvolumen kurzfristig an Marktentwicklungen anzupassen.
- Unser Geschäft kann dadurch negativ beeinflusst werden, dass benötigte Teile und Komponenten nicht oder nicht zu einem angemessenen Preis beschafft werden können, entweder weil die Kosten für zugrunde liegende Materialien schwanken oder weil die Kosten für andere Produktionsmittel wie Energie und Transport steigen oder zentrale Zulieferer verlorengehen.
- Wir sind darauf angewiesen, hochqualifizierte Führungskräfte und gut ausgebildete Arbeitskräfte anzuwerben und zu halten, und sind dem Risiko ausgesetzt, dass unsere Geschäftsexpertise unseren Konkurrenten zugänglich wird. Wir sind steigenden Arbeitskosten und dem Risiko ausgesetzt, dass außertarifliche individuelle Betriebsvereinbarungen angegriffen werden, was sich negativ auf unsere Profitabilität auswirken könnte. Zudem unterliegen wir dem Risiko einer potentiellen Verschlechterung der Beziehungen zu unseren Angestellten, den Gewerkschaften oder Arbeitnehmervertretern sowie dem Risiko von möglichen Arbeitsniederlegungen, Streiks oder anderen Kollektivmaßnahmen.
- Wir sind auf unsere IT und andere Systeme angewiesen, so dass wir im Falle eines Verlusts, Diebstahls oder Missbrauchs von Daten sowie durch andere Risiken bezüglich der Netzsicherheit, Systemausfällen, -unterbrechungen oder -störungen beeinträchtigt werden könnten.
- Unsere Verschuldung oder die Durchsetzung einzelner Klauseln unserer Finanzierungsvereinbarungen und der Bedingungen unserer Anleihen könnten unsere operationelle Flexibilität begrenzen. Ferner sind wir Refinanzierungs- und Liquiditätsrisiken sowie dem Risiko einer Herabstufung unserer Ratings ausgesetzt.
- Unsere Absatz-, Ertrags- und Finanzlage könnte durch Währungsschwankungen sowie saisonale und andere quartalsweise auftretende Schwankungen beeinträchtigt werden.

- Teile der Informationen in diesem Prospekt hinsichtlich der Markt- und Wettbewerbsposition der Gruppe wurden nicht von unabhängigen Dritten verifiziert und beruhen auf Annahmen, die sich als falsch herausstellen können.

Rechtliche, regulatorische und steuerliche Risiken

- Wir unterliegen verschiedenen Vorschriften, technischen Normen und staatlichen Maßnahmen, unter anderem Umweltvorschriften und Umweltrisiken, wobei uns diese regulatorischen Rahmenbedingungen auf unterschiedliche Weise betreffen können. Darüber hinaus sind viele unserer (End-) Kunden in stark regulierten Industriezweigen tätig, in denen jegliche zusätzliche regulative Anforderung deren Geschäftsbetrieb beeinflussen kann; dies wiederum kann zu einer erheblichen Verschlechterung unseres eigenen Geschäfts, der Ertragslage, des Cashflows und unserer Finanzlage führen.
- Wir sind Risiken aufgrund von Streitigkeiten, Verwaltungs-, Gerichts- und Schiedsgerichtsverfahren ausgesetzt, zu denen auch Kartellverfahren zählen.
- Für bestimmte Aktivitäten sind wir auf Erlaubnisse, Lizenzen, Genehmigungen, Zertifizierungen und Ausnahmeregelungen angewiesen, wobei keine Gewissheit besteht, dass es uns gelingt, alle für unsere Geschäfte notwendigen Lizenzen, Zertifizierungen und ähnlichen Erlaubnisse rechtzeitig zu erneuern.
- Unserem Risikomanagement sowie unseren internen Kontrollen könnte es nicht gelingen, Gesetzesverstöße zu verhindern oder aufzudecken. Compliance-Verstöße könnten Ermittlungen durch die zuständigen Behörden, Strafzahlungen, Steuernachzahlungen, Schadensersatzansprüche, Zahlungsansprüche und die Beendigung von Geschäftsbeziehungen mit Kunden und Zulieferern sowie einen Reputationsschaden zur Folge haben.
- Jede Gefährdung oder Beeinträchtigung unserer geistigen Eigentumsrechte sowie unseres Know-hows könnte zur Folge haben, dass uns Kosten für die Verteidigung dieser Rechte entstehen und unsere Fähigkeit zu einem effektiven Wettbewerb beeinträchtigt wird. Darüber hinaus kann uns eine Haftung für den Ersatz von Schäden und Prozesskosten treffen, sofern wir geistige Eigentumsrechte Dritter verletzen.
- Unsere Steuerlast könnte infolge von Änderungen der Steuerrechtsvorschriften oder ihrer Anwendung oder Auslegung oder infolge laufender oder zukünftiger Betriebsprüfungen sowie infolge der Anwendung oder Auslegung von Verrechnungspreisregelungen oder Berichtigungen aufgrund der Drittvergleichbarkeit steigen.
- Möglicherweise kann uns in der Zukunft die Verpflichtung treffen, Investitionszuschüsse oder Subventionen zurückzuzahlen; es ist ferner möglich, dass bereits erteilte Investitionszuschüsse nicht oder nicht vollständig ausgezahlt werden.

D.2	**Zentrale Angaben zu den zentralen Risiken, die den Wertpapieren eigen sind.**	***Risiken im Zusammenhang mit dem Angebot, der Börsenzulassung und der Aktionärsstruktur*** • KB Holding und Ursus, die von Herrn Heinz Hermann Thiele kontrolliert werden, werden auch nach der Durchführung des Angebots weiterhin einen erheblichen Einfluss auf die Gesellschaft ausüben, wobei Konflikte zwischen den Interessen der KB Holding, Ursus und von Herrn Heinz Hermann Thiele und den Interessen anderer Aktionäre entstehen könnten. • Die Aktien der Gesellschaft wurden bislang nicht öffentlich gehandelt und es gibt keine Gewissheit, dass sich nach dem Angebot ein liquider Markt für den Handel der Aktien der Gesellschaft entwickeln wird oder aufrecht erhalten werden kann. Darüber hinaus können der Kurs sowie das Handelsvolumen der Aktien der Gesellschaft erheblich schwanken, und Anleger könnten einen vollständigen oder teilweisen Verlust ihrer Investition erleiden. Der Aktienkurs könnte darüber hinaus aufgrund künftiger Verkäufe oder Markterwartungen hinsichtlich des Verkaufs einer wesentlichen Anzahl von Aktien der Gesellschaft durch die KB Holding, Ursus oder andere bestehende oder künftige Aktionäre fallen. • Zukünftige Verkäufe oder Markterwartungen im Hinblick auf den Verkauf einer erheblichen Zahl von Aktien der Gesellschaft durch KB Holding, Ursus oder andere Aktionäre können zu einem Kursverlust während (bei Verkäufen mit Zustimmung der Banken) oder nach Ende der Lock-up-Frist führen. Darüber hinaus könnten künftige Kapitalerhöhungen, Aktienangebote oder Angebote von Instrumenten, die in Aktien wandelbar sind, sowie eine Verschmelzung mit einem anderen Unternehmen die Beteiligungen der Anleger an der Gesellschaft verwässern. In bestimmten Jurisdiktionen (insbesondere in den Vereinigten Staaten) könnten Anleger vollständig davon ausgeschlossen werden, an Bezugsrechtsangeboten teilzunehmen. • Das Angebot könnte nicht durchgeführt werden, wodurch Anleger ihre bereits gezahlten Wertpapierprovisionen verlieren und dem Risiko von Leerverkäufen der Aktien ausgesetzt sein könnten. • Die Fähigkeit der Gesellschaft zur Ausschüttzung von Dividenden hängt teilweise von der Gewinnausschüttung oder -abführung ihrer Tochtergesellschaften sowie von im Rahmen von Finanzierungsverträgen abgegebenen Verpflichtungen zur Einhaltung von Finanzkennzahlen ab. • Als börsennotiertes Unternehmen wird die Gesellschaft zusätzlichen administrativen Anforderungen und höheren laufenden Kosten ausgesetzt sein. • Aktionäre, die nicht in der Eurozone ansässig sind, könnten Fremdwährungsrisiken unterliegen. Ferner könnte die vorgeschlagene Finanztransaktionssteuer zu einer erheblichen neuen Steuerlast für Anleger im Sekundärmarkt führen, welche die Aktien der Gesellschaft kaufen und damit in einem Mitgliedstaat der Europäischen Union, der eine solche Steuer einführt, handeln.

E. Angebot

E.1	**Gesamtnettoerlöse und geschätzte Gesamtkosten der Emission/ des Angebots, einschließlich der geschätzten Kosten, die dem Anleger vom Emittenten oder Anbieter in Rechnung gestellt werden.**	Die Gesellschaft wird durch das Angebot keinen Erlös erzielen und rechnet mit Kosten für das Angebot in Höhe von insgesamt rund EUR 73,7 Millionen in der Mitte der Preisspanne (wie unten definiert), (unterstellt, dass die maximale Anzahl an Basisaktien platziert wird, die Aufstockungsoption voll ausgeübt wird und die maximale Anzahl an zusätzlichen Basisaktien und Mehrzuteilungsaktien platziert und die Greenshoe-Option (wie jeweils unter Punkt E.3 definiert) im vollen Umfang ausgeübt wird), wobei in diesem Betrag die Provisionen der Konsortialbanken unter der Annahme, dass die ermessensabhängige Provision voll gezahlt wird schon inbegriffen sind. Diese Kosten werden durch den Verkaufenden Aktionär getragen. Der Verkaufende Aktionär erhält den Erlös aus dem Verkauf der Basisaktien (wie unter Punkt E.3 definiert). Der Erlös aus einem etwaigen Verkauf von Zusätzlichen Basisaktien (wie in E.3 definiert), wenn und soweit die Aufstockungsoption (wie in E.3 definiert) ausgeübt wird und die Zusätzlichen Basisaktien platziert werden, und der Erlös aus einem möglichen Verkauf der Mehrzuteilungsaktien fließt — wenn und soweit die Greenshoe-Option (wie jeweils unter Punkt E.3 definiert) ausgeübt wird — dem Verkaufenden Aktionär zu. Sollte die Aufstockungsoption im vollen Umfang ausgeübt werden und die maximale Anzahl an Zusätzlichen Basisaktien platziert werden, wird der Verkaufende Aktionär zusätzlich 8.060.000 Angebotsaktien verkaufen und den Erlös aus einem solchen Verkauf erhalten. Sowohl die Höhe des Erlöses als auch die Kosten des Angebots sind unter anderem von dem endgültigen Angebotspreis (der „**Angebotspreis**“), der auch die Provisionen der Konsortialbanken bestimmt, und von der Zahl der im Rahmen des Angebots platzierten Aktien abhängig. Die Gesellschaft schätzt, dass der Bruttoemissionserlös des Verkaufenden Aktionärs (unterstellt, dass die maximale Anzahl an Basisaktien platziert wird) die Aufstockungsoption voll ausgeübt wird und die maximale Anzahl an Zusätzlichen Basisaktien und Mehrzuteilungsaktien platziert und die Greenshoe-Option (wie jeweils unter Punkt E.3 definiert) im vollen Umfang ausgeübt wird) bei einem Angebotspreis am unteren Ende, in der Mitte und am oberen Ende der für das Angebot festgelegten Preisspanne, wie unter Punkt E.3 definiert (die „**Preisspanne**“), etwa EUR 3.481,9 Millionen (unteres Ende), EUR 3.844,6 Millionen (in der Mitte) bzw. EUR 4.207,3 Millionen (oberes Ende) betragen würde. Bei einem Angebotspreis am unteren Ende, in der Mitte und am oberen Ende der Preisspanne und unter der Annahme, dass die maximale Anzahl an Basisaktien platziert wird, die Aufstockungsoption voll ausgeübt wird und die maximale Anzahl an Zusätzlichen Basisaktien und Mehrzuteilungsaktien platziert und die Greenshoe-Option (wie jeweils unter Punkt E.3 definiert) im vollen Umfang ausgeübt wird sowie der weiteren Annahme, dass die ermessensabhängige Provision von circa EUR 17,4 (unteres Ende), EUR 19,2 (in der Mitte) bzw. EUR 21,0 (oberes Ende) in voller Höhe gezahlt wird, würde die an die Konsortialbanken zu bezahlende Provision in etwa EUR 52,2 (unteres Ende), EUR 57,7 (in der Mitte) bzw. EUR 63,1 (oberes Ende) betragen. Bei einem Angebotspreis am unteren Ende, in der Mitte und am oberen Ende der Preisspanne und unter der Annahme, dass die maximale Anzahl an Basisaktien platziert wird, die Aufstockungsoption voll ausgeübt wird und die maximale Anzahl an Zusätzlichen Basisaktien und Mehrzuteilungsaktien platziert und die Greenshoe-Option (wie jeweils unter Punkt E.3 definiert) im vollen Umfang ausgeübt wird, schätzt die Gesellschaft, dass der

		Nettoemissionserlös des Verkaufenden Aktionärs in Summe EUR 3.413,7 Millionen (unteres Ende), EUR 3.771,0 Millionen (in der Mitte) bzw. EUR 4.128,2 Millionen (oberes Ende) betragen würde. Den Anlegern werden von der Gesellschaft, dem Verkaufenden Aktionär oder den Konsortialbanken im Zusammenhang mit ihrer Funktion als Konsortialbanken keine Kosten in Rechnung gestellt. Die Anleger müssen jedoch möglicherweise die üblichen Transaktions- und Bearbeitungsgebühren tragen, die von ihren depotführenden Finanzinstituten erhoben werden.
E.2a	**Gründe für das Angebot, Zweck-bestimmung der Erlöse, geschätzte Nettoerlöse.**	Die Gesellschaft erhält keinen Erlös aus dem Angebot (wie in E.3 definiert). Die Gesellschaft beabsichtigt, mit der geplante Zulassung ihrer Aktien zum regulierten Markt der Frankfurter Wertpapierbörse mit gleichzeitiger Zulassung zum Teilbereich des regulierten Marktes mit weiteren Zulassungsfolgepflichten (Prime Standard) ihre langfristige erfolgreiche Entwicklung zu sichern. An der Börse notiert zu sein, wird ihre strategische und finanzielle Flexibilität steigern. Zugang zu den Kapitalmärkten kann es der Gesellschaft ermöglichen, sich fortlaufend auf profitables Wachstum und den Cashflow zu konzentrieren. Ferner passen die Erwartungen des Kapitalmarkts hinsichtlich der Gesellschaft gut zur Leistungskultur von Knorr-Bremse.
E.3	**Beschreibung der Angebotskonditionen.**	Das Angebot bezieht sich auf insgesamt bis zu 48.360.000 auf den Inhaber lautende Stammaktien der Gesellschaft ohne Nennbetrag (Stückaktien), jeweils mit einem anteiligen Betrag am Grundkapital der Gesellschaft von EUR 1,00 und voller Gewinnberechtigung ab dem 1. Januar 2018, und setzt sich zusammen aus: • 35.043.479 auf den Inhaber lautenden Stammaktien ohne Nennbetrag aus dem Eigentum des Verkaufenden Aktionärs (die „**Basisaktien**“); • 8.060.000 auf den Inhaber lautenden Stammaktien ohne Nennbetrag aus dem Bestand des Verkaufenden Aktionärs („**Zusätzliche Basisaktien**“), für die die Anzahl an Aktien, die tatsächlich bei Investoren platziert wird, Gegenstand einer Aufstockungsoption ist, über die von dem Verkaufenden Aktionär in Abstimmung mit den Joint Global Coordinators am Tag der Preisfestlegung entschieden wird (die „**Aufstockungsoption**”); und • bis zu 5.256.521 auf den Inhaber lautenden Stammaktien ohne Nennbetrag aus dem Eigentum des Verkaufenden Aktionärs zur Deckung eventueller Mehrzuteilungen (die „**Mehrzuteilungsaktien**“ und, zusammen mit den Basisaktien und den Zusätzlichen Basisaktien, die „**Angebotsaktien**“). Das Angebot besteht aus einem erstmaligen öffentlichen Angebot in Deutschland und im Großherzogtum Luxemburg („**Luxemburg**“) sowie Privatplatzierungen in bestimmten anderen Jurisdiktionen außerhalb von Deutschland und Luxemburg. In den Vereinigten Staaten von Amerika („**Vereinigte Staaten**“) werden die Angebotsaktien nur qualifizierten institutionellen Anlegern (*Qualified Institutional Buyers*) gemäß der Definition in Rule 144A des U.S. Securities Act von 1933 in der jeweils gültigen Fassung („**Securities Act**“) angeboten und verkauft. Außerhalb der Vereinigten Staaten werden die Aktien der Gesellschaft nur im Rahmen von Offshore- Geschäften gemäß Regulation S des Securities Act angeboten und verkauft. Die Angebotsaktien sind nicht und werden nicht nach den Vorschriften des Securities Act oder den Wertpapiergesetzen einer anderen Gebietskörperschaft der Vereinigten Staaten registriert und dürfen in die

beziehungsweise innerhalb der Vereinigten Staaten nicht angeboten, verkauft oder anderweitig übertragen werden. Ein Angebot, Verkauf oder eine Übertragung kommen in Betracht, wenn eine Ausnahme von dem Registrierungserfordernis des Securities Act gegeben ist oder es sich um Transaktionen handelt, die nicht dem Registrierungserfordernis des Securities Act unterliegen. Zudem müssen das Angebot, der Verkauf oder die anderweitige Übertragung im Einklang mit allen anwendbaren Wertpapiergesetzen von Bundesstaaten oder anderen Gebietskörperschaften der Vereinigten Staaten stehen.

Preisspanne

Die Preisspanne, innerhalb derer Kaufangebote abgegeben werden können, beträgt EUR 72,0 bis EUR 87,0 je Angebotsaktie.

Angebotszeitraum und Kaufangebote

Das Angebot wird am 1. Oktober 2018 beginnen und voraussichtlich am 11. Oktober 2018 („**Angebotszeitraum**") enden, und zwar (i) um 12:00 Uhr (mitteleuropäische Sommerzeit) für Privatanleger und (ii) um 14:00 Uhr (mitteleuropäische Sommerzeit) für institutionelle Anleger.

Privatanleger können während des Angebotszeitraums Kaufangebote im Rahmen des öffentlichen Angebots in Deutschland und in Luxemburg in den Niederlassungen der Konsortialbanken abgeben.

Änderung der Angebotsbedingungen

Der Verkaufende Aktionär behält sich das Recht vor, nach Beratung mit der Gesellschaft und den Joint Global Coordinators, die Anzahl der Angebotsaktien zu verringern oder zu erhöhen, die obere/untere Begrenzung der Preisspanne zu senken oder zu erhöhen und/oder den Angebotszeitraum zu verlängern oder zu verkürzen. Durch die Änderung der Anzahl der Angebotsaktien oder der Preisspanne oder durch die Verlängerung bzw. Verkürzung des Angebotszeitraums werden bereits abgegebene Kaufangebote nicht unwirksam. Sollte eine solche Änderung die Veröffentlichung eines Nachtrags zu dem Prospekt erfordern, steht den Anlegern, die ihre Kaufangebote vor der Veröffentlichung des Nachtrags abgegeben haben, gemäß dem Wertpapierprospektgesetz das Recht zu, diese Kaufangebote innerhalb von zwei Werktagen nach Veröffentlichung des Nachtrags zu widerrufen. Anstelle des Widerrufs der vor der Veröffentlichung des Nachtrags abgegebenen Kaufangebote haben die Anleger auch die Möglichkeit, innerhalb von zwei Werktagen nach Veröffentlichung des Nachtrags ihre Kaufangebote zu ändern oder neue begrenzte oder unbegrenzte Kaufangebote zu platzieren. Bei einer Änderung der Angebotsbedingungen wird diese Änderung durch elektronische Medien, auf der Homepage der Gesellschaft (https://ir.knorr-bremse.com) bekannt gegeben und, sofern nach der Verordnung (EU) Nr. 596/2014 des Europäischen Parlaments und des Rates vom 16. April 2014 über Marktmissbrauch und/oder dem deutschen Wertpapierprospektgesetz erforderlich, als Ad-hoc-Mitteilung über ein elektronisches Informationssystem, auf der Website der Gesellschaft und als Nachtrag zu dem Prospekt veröffentlicht. Anleger, die Kaufangebote abgegeben haben, werden nicht einzeln benachrichtigt. Unter bestimmten Umständen können die für die Konsortialbanken handelnden Joint Global Coordinators den Übernahmevertrag in Bezug auf das Angebot und den Verkauf der Angebotsaktien, den die Gesellschaft, der Verkaufende Aktionär, Ursus und die Konsortialbanken im Zusammenhang mit dem Angebot am 28. September 2018 abgeschlossen haben (der „**Übernahmevertrag**"), auch nach Aufnahme des Handels der Aktien der Gesellschaft am regulierten Markt der Frankfurter Wertpapierbörse kündigen.

KB Holding wird in Abstimmung mit den Joint Global Coordinators entscheiden, ob und in welchem Umfang die Aufstockungsoption ausgeübt wird, abhängig von der Nachfrage und auf Basis des Orderbuchs, das während des Bookbuilding-Verfahrens erstellt wurde. KB Holding kann bis zu 8.060.000 Zusätzliche Basisaktien verkaufen.

Anzahl der Angebotsaktien und Angebotspreis

Nachdem der Angebotszeitraum abgelaufen ist, werden die endgültige Anzahl der Angebotsaktien und der Angebotspreis gemeinsam durch den Verkaufenden Aktionär nach Beratung mit der Gesellschaft und den Joint Global Coordinators bestimmt. Der Angebotspreis wird auf Grundlage der von Anlegern während des Angebotszeitraums abgegebenen Kaufangebote, die während des Bookbuilding-Verfahrens im Orderbuch verzeichnet worden sind, festgelegt. Es wird erwartet, dass dies am oder um den 11. Oktober 2018 erfolgt. Es wird darauf geachtet, ob der Angebotspreis und die Anzahl der zu platzierenden Aktien vernünftigerweise erwarten lassen, dass der Aktienkurs bei der im Orderbuch verzeichneten Nachfrage nach Aktien der Gesellschaft eine stabile Entwicklung im Sekundärmarkt zeigen wird. Dabei wird nicht nur auf die von den Anlegern gebotenen Preise und auf die Anzahl der Anleger, die Aktien zu einem bestimmten Preis erwerben wollen, sondern auch auf die Zusammensetzung des Aktionärskreises der Gesellschaft, die sich bei einem bestimmten Preis ergeben würde (sogenannter Investorenmix), und das zu erwartende Investorenverhalten geachtet. Die Gesellschaft und der Verkaufende Aktionär werden den Anlegern keine im Zusammenhang mit dem Angebot entstandenen Kosten oder Steuern in Rechnung stellen.

Die endgültige Anzahl an Angebotsaktien und der Angebotspreis werden voraussichtlich durch eine Bekanntmachung am oder um den 11. Oktober 2018 im Wege einer Ad-hoc-Mitteilung in verschiedenen Medien mit Verbreitung im gesamten Europäischen Wirtschaftsraum („**Medienbündel**") und auf der Internetseite der Gesellschaft (https://ir.knorr-bremse.com) veröffentlicht. Anleger, die ihre Kaufangebote über eine Konsortialbank platziert haben, können den Angebotspreis sowie die Anzahl der ihnen jeweils zugeteilten Aktien frühestens ab dem ersten Bankarbeitstag nach der Preisfestsetzung bei dieser Konsortialbank erfragen. Insbesondere für den Fall, dass das Platzierungsvolumen sich als unzureichend herausstellt, um alle platzierten Aufträge zum Angebotspreis zu befriedigen, behalten sich die Konsortialbanken das Recht vor, Kaufangebote zurückzuweisen oder nur teilweise anzunehmen.

Lieferung und Zahlung

Die Lieferung der Angebotsaktien gegen Zahlung des Angebotspreises und der üblichen Wertpapierprovisionen wird voraussichtlich am oder um den 16. Oktober 2018 erfolgen. Die Angebotsaktien werden den Aktionären in buchmäßiger Form (als Miteigentumsanteil an der Globalurkunde) zur Verfügung gestellt.

Bevorrechtigte Zuteilung

Im Rahmen des Angebots wird KB Holding den Mitgliedern des Vorstands Angebotsaktien zum Angebotspreis im Rahmen einer bevorrechtigten Zuteilung anbieten und die Mitglieder des Vorstands haben sich verpflichtet diese Aktienanzahl zu erwerben. Diese bevorrechtigte Zuteilung umfasst Angebotsaktien im Gesamtwert von EUR 3,15 Millionen.

Stabilisierung, Mehrzuteilung und Greenshoe-Option

Im Zusammenhang mit der Platzierung der Angebotsaktien handelt Deutsche Bank oder Personen in dessen Namen als Stabilisierungsmanager und kann als solcher in Übereinstimmung mit den rechtlichen Bestimmungen wie der Verordnung (EU) Nr. 596/2014 vom 16. April 2014 (Marktmissbrauchsverordnung) in Verbindung mit den veröffentlichten technischen Regulierungsstandards Mehrzuteilungen vornehmen und Stabilisierungsmaßnahmen ergreifen, um den Marktpreis der Aktien der

		Gesellschaft zu stützen und dadurch einem etwaigen Verkaufsdruck entgegenzuwirken. Deutsche Bank soll als zentrale verantwortliche Stelle fungieren, wie es in Art. 6 Abs. 5 der Delegieten Verordnung (EU) 2016/1052 der Kommission vom 8. März 2016 vorausgesetzt ist und dabei die Verantwortung für die Bekanntgabepflichten sowie die Bearbeitung von Ersuchen der zuständigen Behörden nach dieser Verordnung übernehmen. Der Stabilisierungsmanager ist nicht zu Stabilisierungsmaßnahmen verpflichtet. Es kann daher nicht zugesichert werden, dass Stabilisierungsmaßnahmen ergriffen werden. Sollten Stabilisierungsmaßnahmen ergriffen werden, können diese jederzeit ohne Vorankündigung beendet werden. Solche Maßnahmen können ab dem Zeitpunkt der Aufnahme des Börsenhandels der Aktien der Gesellschaft am Regulierten Markt der Frankfurter Wertpapierbörse — voraussichtlich am 12. Oktober 2018 — vorgenommen werden und müssen spätestens 30 Kalendertage nach diesem Datum beendet werden. Der Stabilisierungsmanager kann Stabilisierungsmaßnahmen an der Frankfurter Wertpapierbörse ergreifen. Diese Maßnahmen können dazu führen, dass der Kurs der Aktien der Gesellschaft höher ist, als er normalerweise wäre. Darüber hinaus kann der Aktienkurs sich vorübergehend auf einem untragbaren Level befinden. Stabilisierungsmaßnahmen sollen nicht oberhalb des Angebotspreises durchgeführt werden. Im Rahmen möglicher Stabilisierungsmaßnahmen können Anlegern zusätzlich zu den Basisaktien bis zu 5.256.521 weitere Aktien der Gesellschaft als Teil der Zuteilung der zu platzierenden Aktien zugeteilt werden („**Mehrzuteilung**“). Im Zusammenhang mit möglichen Mehrzuteilungen werden der Deutschen Bank für Rechnung der Konsortialbanken im Wege eines Wertpapierdarlehens bis zu 5.256.521 Aktien der Gesellschaft durch die KB Holding zur Verfügung gestellt, wobei diese Anzahl an Aktien 15 % der Basisaktien, nicht übersteigen wird. Im Zusammenhang mit möglichen Mehrzuteilungen wird KB Holding den Konsortialbanken eine Option einräumen, die darlehensweise zur Verfügung gestellten Aktien gegen Zahlung des Angebotspreises abzüglich vereinbarter Provisionen zu erwerben („**Greenshoe- Option**“). Die Greenshoe-Option kann maximal in dem Umfang ausgeübt werden, in dem Aktien der Gesellschaft im Wege der Mehrzuteilung platziert worden sind. Die Greenshoe-Option kann von der Deutschen Bank in der Funktion als Stabilisierungsmanager von dem Tage an ausgeübt werden, an dem die Aktien der Gesellschaft im regulierten Markt der Frankfurter Wertpapierbörse notiert werden und muss spätestens 30 Kalendertage danach beendet werden.
E.4	**Beschreibung aller für die Emission/das Angebot wesentlichen Interessen, einschließlich Interessenkonflikten.**	Im Zusammenhang mit dem Angebot und der Börsenzulassung der Aktien der Gesellschaft haben die Konsortialbanken eine vertragliche Beziehung mit der Gesellschaft und dem Verkaufenden Aktionär. Deutsche Bank, J.P. Morgan und Morgan Stanley beraten die Gesellschaft bei der Transaktion als Joint Global Coordinators und Joint Bookrunners und koordinieren daher die Struktur und Durchführung der Transaktion. Die Konsortialbanken erhalten nach erfolgreichem Abschluss der Transaktion eine Provision, deren Höhe unter anderem von dem Volumen des Angebots und dem Angebotspreis abhängt. Die Konsortialbanken haben daher ein Interesse daran, dass möglichst viele Aktien zu einem höchstmöglichen Preis platziert werden. Darüber hinaus wurden Deutsche Bank, J.P. Morgan und Morgan Stanley oder eine mit diesen verbundene Gesellschaft als Designated Sponsors für die Aktien der Gesellschaft bestellt und COMMERZBANK übernimmt die Zahlstellenfunktion, für die ein separater Vertrag geschlossen wird. Einige der Konsortialbanken oder mit ihnen verbundene Unternehmen haben und können auch zukünftig von Zeit zu Zeit Geschäftsbeziehungen mit uns oder

		dem Verkaufenden Aktionär (einschließlich Kreditbeziehungen) unterhalten oder Dienstleistungen für uns oder den Verkaufenden Aktionär im Rahmen des gewöhnlichen Geschäftsbetriebs erbringen, für die sie Gebühren oder Provisionen in üblichem Umfang erhalten haben oder erhalten können. Ferner darf jede der Konsortialbanken und jedes mit ihr verbundene Unternehmen im Zusammenhang mit dem Angebot, als Anleger auf eigene Rechnung handelnd, Aktien aus dem Angebot zeichnen und in dieser Eigenschaft solche Wertpapiere und jegliche Form von Aktien oder damit verbundene Anlagen halten, kaufen oder verkaufen und solche Aktien oder damit verbundene Anlagen außerhalb des Angebots anbieten oder verkaufen. Dementsprechend schließen Bezugnahmen auf angebotene oder platzierte Aktien im Prospekt das Angebot oder die Platzierung von Aktien gegenüber einer der Konsortialbanken oder einem mit ihr verbundenen Unternehmen, das in dieser Eigenschaft handelt, mit ein. Des Weiteren können bestimmte Konsortialbanken oder mit ihnen verbundenen Unternehmen Finanzierungsvereinbarungen (einschließlich Swaps) mit Anlegern eingehen, in deren Zusammenhang diese Konsortialbanken (oder mit ihnen verbundene Unternehmen) — von Zeit zu Zeit — Aktien der Gesellschaft erwerben, halten oder veräußern können. Keine der Konsortialbanken beabsichtigt, über den Umfang solcher Investitionen oder Transaktionen mehr Informationen offenzulegen, als dies nach Maßgabe rechtlicher oder regulatorischer Verpflichtungen erforderlich ist. Zum Datum des Prospekts hält der Verkaufende Aktionär 94,99996% der bestehenden Aktien der Gesellschaft und hat somit Einfluss auf Entscheidungen der Gesellschaft bezüglich des Angebots. Der Verkaufende Aktionär wird den Erlös aus dem Angebot erhalten und hat folglich ein Interesse an dem Erfolg des Angebots zu den bestmöglichen Bedingungen. Darüber hinaus erhalten Herr Deller, Herr Heuwing und Herr Dr. Laier als Vorstandsmitglieder eine Einmalzahlung unter der Bedingung, dass der geplante Börsengang während ihrer jeweiligen Amtszeit stattfindet.
E.5	**Name der Person/des Unternehmens, die/das das Wertpapier zum Verkauf anbietet.**	Die Angebotsaktien werden von den Konsortialbanken (wie oben unter A.1 definiert) zum Verkauf angeboten.
	Lock-up-Vereinbarungen; die beteiligten Parteien und Lock-up-Frist.	In dem Übernahmevertrag hat sich die Gesellschaft gegenüber den Konsortialbanken dazu verpflichtet, dass die Gesellschaft, ihr Vorstand oder ihr Aufsichtsrat innerhalb des Zeitraums beginnend mit dem Datum des Übernahmevertrages und endend sechs Monate nach dem ersten Handelstag der Aktien der Gesellschaft an der Frankfurter Wertpapierbörse, die folgenden Handlungen nicht ohne die vorherige schriftliche Zustimmung der Joint Global Coordinators, deren Zustimmung nicht unangemessen verweigert oder verzögert werden darf, vornehmen oder ihnen zustimmen wird: (a) eine Erhöhung des Grundkapitals der Gesellschaft aus genehmigtem Kapital anzukündigen oder durchzuführen; oder (b) der Hauptversammlung einen Vorschlag über eine Erhöhung des Grundkapitals der Gesellschaft zur Beschlussfassung vorzulegen (ausgenommen die Schaffung eines genehmigten und bedingten Kapitals); oder (c) die Ausgabe von Wertpapieren mit Wandlungsrechten in oder Optionsrechten auf Aktien der Gesellschaft anzukündigen, zu bewirken oder vorzuschlagen; oder (d) Transaktionen abzuschließen oder Handlungen durchzuführen, die den vorstehend in (a) bis (c) genannten wirtschaftlich ähnlich sind.

Der Gesellschaft ist es aber gestattet, (i) Aktien oder andere Wertpapiere an Mitarbeiter und Mitglieder der Leitungsorgane der Gesellschaft oder ihrer Tochtergesellschaften nach Maßgabe von Mitarbeiter- und Managementbeteiligungsplänen auszugeben oder zu verkaufen und (ii) jedwede gesellschaftsrechtliche Maßnahme für den Zweck des Eingehens eines Joint Ventures, anderer Formen der Kooperation oder von Akquisitionen vorzunehmen, unter der Bedingung, dass die jeweils andere Partei gegenüber den Konsortialbanken die Verpflichtung übernimmt, die Einschränkungen einzuhalten, denen der Verkaufende Aktionär und Ursus für die Veräußerung von Aktien unterliegen.

Für den Zeitraum bis sechs Monate nach dem ersten Handelstag der Aktien der Gesellschaft an der Frankfurter Wertpapierbörse haben sich zudem der Verkaufende Aktionär und Ursus im Übernahmevertrag gegenüber den Konsortialbanken unter anderem dazu verpflichtet, die folgenden Handlungen nicht ohne die vorherige Zustimmung der Joint Global Coordinators, deren Zustimmung nicht unangemessen verweigert oder verzögert werden darf, vorzunehmen oder ihnen zuzustimmen:

(a) Aktien der Gesellschaft, die von dem Verkaufenden Aktionär, Ursus oder einem ihrer verbundenen Unternehmen gehalten werden (außer der Gesellschaft und ihrer jeweiligen Tochtergesellschaften) (solche Aktien der Gesellschaft, die von dem Verkaufenden Aktionär, Ursus oder einem mit ihnen verbundenen Unternehmen gehalten werden, nachfolgend die „**Lock-up Aktien**“) direkt oder indirekt anzubieten, zu verpfänden, zuzuteilen, zu verkaufen, sich zum Verkauf von Aktien der Gesellschaft zu verpflichten, eine Option oder einen Vertrag zu deren Kauf zu verkaufen, eine Option zum Verkauf von Aktien zu erwerben, eine Option oder ein Recht bzw. Bezugsrecht zu deren Erwerb zu gewähren, oder diese Aktien in sonstiger Weise zu übertragen oder zu veräußern;

(b) Swap- oder sonstige Vereinbarungen abzuschließen, mit denen das wirtschaftliche Risiko des Eigentums an den Lock-up Aktien teilweise oder vollständig auf einen Dritten übertragen wird, unabhängig davon, ob eine in diesem Absatz (b) oder in vorstehendem Absatz (a) beschriebene Transaktion durch die Lieferung von Lock-up Aktien oder anderen Wertpapieren, Barzahlung oder anderweitig zu erfüllen ist;

(c) einen Antrag oder ein Recht auf Registrierung von Aktien der Gesellschaft nach U.S. Wertpapiergesetzen oder von Wertpapieren, die in Aktien der Gesellschaft wandelbar oder gegen Aktien der Gesellschaft ausübbar oder umtauschbar sind, zu stellen oder auszuüben;

(d) eine Erhöhung des Grundkapitals der Gesellschaft vorzuschlagen (einschließlich durch Aufforderung des Vorstands der Gesellschaft, eine Hauptversammlung einzuberufen, oder auf andere Weise), für eine vorgeschlagene Kapitalerhöhung zu stimmen oder anderweitig einen Vorschlag zur Ausgabe von Wertpapieren mit Wandlungsrechten in oder Optionsrechten auf Aktien der Gesellschaft zu machen, zu unterstützen oder dafür zu stimmen (dieser Absatz (d) beschränkt nicht das Recht des Verkaufenden Aktionärs oder von Ursus, für einen Vorschlag zur Schaffung genehmigten oder bedingten Kapitals zu stimmen); oder

(e) Transaktionen abzuschließen oder Handlungen durchzuführen, die den vorstehend in (a) bis (d) genannten wirtschaftlich ähnlich sind.

Die Beschränkungen in den vorstehenden Absätzen (a), (b) und (e) (im Hinblick auf Absatz (e) soweit er sich auf die vorstehenden Absätze (a) und

		(b) bezieht) sollen keine Anwendung auf Transaktionen finden, die Lock-up Aktien beinhalten und außerbörslich abgeschlossen und erfüllt werden und bei denen die jeweilige Gegenpartei des Verkaufenden Aktionärs oder von Ursus sich für den Zeitraum ab der jeweiligen Transaktion für die jeweils verbleibende Laufzeit der oben genannten Beschränkungen einverstanden erklärt, an eine identische Lock-up Vereinbarung gegenüber den Joint Global Coordinators gebunden zu sein. Die Mitglieder des Vorstands haben sich gegenüber der Gesellschaft für einen Mindestzeitraum von sechs Monaten ab dem ersten Tag des Handels der Aktien der Gesellschaft an der Frankfurter Wertpapierbörse vertraglich verpflichtet, Angebotsaktien nicht ohne vorherige schriftliche Zustimmung der Gesellschaft zu verkaufen oder von bestimmten Transaktionen im Hinblick auf die Angebotsaktien, die sie von KB Holding im Wege der bevorrechtigten Zuteilung erwerben, abzusehen.
E.6	**Betrag und Prozentsatz der aus dem Angebot resultierenden unmittelbaren Verwässerung. Im Fall eines Zeichnungsangebots an die existierenden Anteilseigner Betrag und Prozentsatz der unmittelbaren Verwässerung für den Fall, dass sie das Angebot nicht zeichnen.**	Der Nettobuchwert der Gesellschaft (berechnet als Summe der Aktiva abzüglich Schulden), wie er in dem ungeprüften verkürzten Konzernzwischenabschluss für den zum 30. Juni 2018 endenden Sechsmonatszeitraum ausgewiesen wird, beträgt EUR 1.308,5 Millionen. Der Nettobuchwert der Gesellschaft betrug zum 30. Juni 2018 EUR 8,12 je Aktie der Gesellschaft (auf der Grundlage von 161.200.000 Aktien). Die Gesellschaft wird keine Erlöse aus dem Angebot erhalten und wird auch nicht die Kosten des Angebots tragen. Bei einem unterstellten Angebotspreis in der Mitte der Preisspanne von EUR 79,50 würde der Angebotspreis den Nettobuchwert je Aktie der Gesellschaft von EUR 8,12 um EUR 71,38 übersteigen. Infolgedessen würden Anleger, die im Rahmen des Angebots Angebotsaktien erwerben, eine unmittelbare Verwässerung von 89,8 % je Aktie der Gesellschaft (auf der Grundlage von 161.200.000 Aktien) erfahren, sofern der Nettobuchwert der Gesellschaft ansonsten vom 30. Juni 2018 an unverändert bleibt.
E.7	**Schätzung der Ausgaben, die dem Anleger vom Emittenten oder Anbieter in Rechnung gestellt werden.**	Entfällt. Anlegern werden von der Gesellschaft, dem Verkaufenden Aktionär oder den Konsortialbanken in ihrer Rolle als solche keine Kosten in Rechnung gestellt.

1. RISK FACTORS

Any investment in the Offer Shares is subject to a number of risks. Prospective investors should carefully consider the risk factors set out below, together with the other information contained in the Prospectus, before making an investment decision with respect to the Offer Shares of Knorr-Bremse Aktiengesellschaft, Munich, Federal Republic of Germany ("Germany") (hereinafter, also the "Company" or "Knorr-Bremse AG" and, together with its consolidated subsidiaries and affiliates, "we", the "Knorr-Bremse Group", the "Group" or "Knorr-Bremse"). The occurrence of any of these risks, individually or together with other circumstances, could have a material adverse effect on our business, results of operations, cash flows and financial position. The order in which the risks are presented is not an indication of the likelihood of the risks actually materializing, or the significance or degree of the risks or the scope of any potential harm to our business, financial position and results of operations or prospects. The risks mentioned herein may materialize individually or cumulatively.

The risk factors are based on assumptions that could turn out to be incorrect. Furthermore, other risks, facts or circumstances not presently known to us, or that we currently deem to be immaterial, could, individually or cumulatively, prove to be important and could have a material adverse effect on our business, results of operations, cash flows and financial position. The market price of the shares of the Company could decline as a result of the occurrence of any of these risks, and investors could lose all or part of their investment. Investors should carefully consider whether an investment in the Offer Shares is suitable for them in light of the information in the Prospectus and their personal circumstances.

1.1. Risks Related to Our Market Environment and Business

1.1.1. Unfavorable developments in the global economy could adversely affect our business.

Our business is dependent in many ways on general global economic and political conditions, as the demand for rail and commercial vehicles is driven to a large extent by transportation volumes of goods and people. Knorr-Bremse is a global provider of safety relevant (*e.g.*, brake systems) and other systems, components and technologies as well as related services for rail vehicles (including mass transit vehicles such as metro cars and light rail vehicles, freight cars, locomotives, mainline passenger trains and high-speed trains) and commercial vehicles (such as trucks, buses, trailers and agricultural machinery). Therefore, the Group's operations are exposed to developments in the global economy.

A macroeconomic environment marked by uncertainty or a significant deterioration of global economic conditions could trigger a decline, including decreasing production and reduction of capacity, in industries and markets in which Knorr-Bremse operates and may therefore have a material adverse effect on the Group. Negative macroeconomic conditions may include a temporary or continued economic slowdown, a recession, prolonged ultra-low inflation or deflations, or sustained loss of consumer confidence and consumer demand (which could, for example, indirectly affect the purchasing patterns for rail and commercial vehicles, and thus lead to a lower demand for Knorr-Bremse products).

In general terms, the commercial vehicles market tends to be more dependent on economic cycles and conditions than the market for rail vehicles. For instance, order volumes for trucks are strongly affected at times of slower economic growth or economic contraction as well as by the average age of commercial truck fleets.

The railway industry is mainly dependent on the levels of government and private operator spending on railway projects. However, it has historically also been subject to fluctuations related to overall economic conditions, typically with a certain time delay. In times of an economic downturn, rail companies have in the past deferred, and may defer in the future, certain expenditures. In addition, the use of alternative transportation methods may vary depending on the general economic framework and also negatively impact the railway industry (*e.g.*, passengers shifting from trains to long-distance buses offering lower fares).

For example, during the 2008-2009 global economic crisis, the credit markets experienced a prolonged disruption marked by significantly reduced availability of credit and higher borrowing costs. This resulted in a negative impact on consumer spending patterns and caused several Original Equipment Manufacturers ("**OEMs**") to reduce their production of commercial vehicles and to react relatively quickly with order stops and cancellations. Regarding the products in the Rail Vehicle Systems segment, given the significant volume of government-financed projects, the negative impact of the global economic crisis was felt with a time delay and to a lesser extent compared to the commercial vehicle business. Also, during 2012, the commercial vehicle industry experienced a temporary slowdown compared to the considerable recovery observed in 2010 and 2011 in the more developed markets.

Although the global economy has substantially improved since the global economic crisis of 2008-2009, it remains uncertain how the global economic and geopolitical framework will develop in the future. A global

downturn, depending upon the extent, duration and severity of any future recession, could cause our customers again to reduce commercial and rail vehicle production, which could have a negative impact on our business, results of operation, cash flows and financial position. Furthermore, it may be difficult for us to adjust our cost base to the extent necessary or on a timely basis in case of an economic downturn affecting our customers, and continued volume declines in the rail and commercial vehicle markets may result in non-cash impairment charges as the value of certain non-current assets is reduced. In addition, a potential increase in borrowing costs and reduced availability of credit could reduce commercial and rail vehicle production orders and stop infrastructure investment programs.

Any global economic downturn and its potential impact on our customers for both commercial and rail vehicles, or our failure to effectively manage risks relating to fluctuations in global economic conditions, as well as any macroeconomic changes to the cost and availability of credit could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.2. Our business may be negatively affected by market cyclicality.

Both the rail vehicle and commercial vehicle businesses have an intrinsic cyclical component, which means that generally periods of investments in rail and commercial vehicles are followed by slower periods in which demand declines. In different regions and countries, the rail vehicles and commercial vehicles markets and their respective segments have been subject to different levels of fluctuation in the past, and may continue to fluctuate in the future. The length, timing and intensity of individual cycles, which may affect individual market segments, customer groups, individual suppliers and regions in which we operate, is subject to uncertainty. For example, in China, there was a decline in demand for high-speed trains and locomotives in 2012-2013, with a pick-up in 2014 and in particular in 2015, followed by a normalization of demand in 2016. Also in 2016, a cyclical slowdown occurred in the freight car and locomotive business in the United States of America (the "**United States**" and "**U.S.**") and Canada, which resulted in freight forwarders canceling orders and a fall in freight prices and volumes which negatively affected our business in that region. A further recent example of a regional cyclical market softening is the commercial vehicles segment in Brazil.

Demand for trucks can be affected by new regulatory requirements, such as changes in emissions standards, and follow a fluctuation pattern, with demand increasing prior to the effective date of the new requirements (referred to as "pre-buy"), followed by a corresponding decrease after such standards are implemented. The market for buses is also cyclical. New bus orders vary from year to year and are influenced, among other factors, by major replacement programs and by the construction and expansion of transit systems and other networks by transit authorities, which in turn depend on public and private funding for such purposes. Such projects can be curtailed or withdrawn as a result of changes in the political, economic, fiscal or other conditions beyond our control, resulting in a potential loss of business for us.

Cyclical demand patterns could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.3. Political, social or economic conditions and changes in countries and major regions in which we, our customers and our suppliers operate could have a material adverse impact on our business, results of operations, cash flows and financial position.

As a globally operating Group with activities and a presence in numerous countries, we may be adversely affected by political, geopolitical, economic and social developments in the countries and regions in which we operate, in particular within Asia, the U.S. and Europe.

China plays a prominent role in shaping the global economic landscape, and its economy is currently transitioning from growth driven by investments and exports to an increased focus on growth from consumption and services. This transition creates political and economic risks for companies operating in China, and it should be noted that the Group generates a considerable portion of its consolidated net sales in this region, in particular in the Rail Vehicle Systems segment. The Chinese government focuses on investment to stimulate growth in, among others, the Chinese automotive industry (including commercial vehicles) and on infrastructure projects (including railway and road improvement projects). For example, at the end of 2016, China announced plans to spend 3.5 trillion Yuan (representing roughly EUR 478 billion as of December 31, 2016) to expand its railway system by 2020 as part of major infrastructure investments to improve connectivity across the country and facilitate growth. It is unclear, however, whether such programs will be continued and/or coupled with increasingly stricter regulation and a preference for domestic suppliers (see "*1.1.4. — Protectionist measures, trade wars or sanctions in countries and major regions in which we, our customers and our suppliers operate could have a material adverse impact on our business, results of operations, cash flows and financial position.*"). An expanding U.S. economy, led by consumption and job creation, is currently facing a variety of significant

political and economic challenges and significant differences between the leading political parties within the U.S. as well as changes in legislation and regulation in areas such as economic sanctions, protectionism and government intervention in business (see "*1.1.4. — Protectionist measures, trade wars or sanctions in countries and major regions in which we, our customers and our suppliers operate could have a material adverse impact on our business, results of operations, cash flows and financial position.*"). Since the global financial crisis, Europe has been facing significant challenges in economic costs, security vulnerability and political instability. Recent examples are Brexit, the political instability in Italy, the fluctuation of the Euro, populist movements and the challenges in dealing with refugees. These issues can negatively affect us, as a substantial share of our business is conducted in Europe.

Brexit, the legal process leading to the withdrawal of the United Kingdom (the "**U.K.**") from the European Union ("**EU**"), is underway, although the timing, process and consequences are still unclear. Brexit may have significant, albeit unpredictable consequences for the political stability of the EU, as well as the economies and financial markets in both the U.K. and the EU and, thus, on our business. For example, Brexit may have negative effects on our supply chain and result in higher costs. The bus original equipment ("**OE**") business and the aftermarket business for trucks and buses may be negatively affected by Brexit, for example by demand decreases in connection with U.K. customers. Currently, we have several U.K.-based bus manufacturers as customers of our Commercial Vehicle Systems segment. Demand decreases are also a potential negative effect of Brexit on our Rail Vehicle Systems segment. Moreover, we may need to initially adjust our supply chain for our plant in Melksham, U.K., for example due to different import and export regulations, and higher or special tariffs cannot be excluded.

The economic stagnation in certain countries in the Eurozone (*i.e.*, those countries using the Euro as their common currency), including Greece, Italy, Portugal and Spain, in part due to the effects of the sovereign debt crisis and austerity measures implemented to address the crisis in these markets, has — together with the risk of contagion to other, more stable, countries, particularly Germany — also raised a number of uncertainties regarding the stability and overall standing of the Eurozone. Concerns that the Eurozone sovereign debt crisis could resurface, as recently discussed in the context of political instability in Italy, may lead to the reintroduction of national currencies in one or more Eurozone countries or the abandonment of the Euro. The departure or risk of departure from the Euro by one or more Eurozone countries and/or the abandonment of the Euro as a currency could have major negative effects on both existing contractual relations and the fulfillment of obligations by us and/or our customers, which would have a material adverse effect on our business, results of operations, cash flows and financial position.

In addition, the market in some of our important emerging markets such as Brazil are, to varying degrees, influenced by political, economic and market conditions in more industrialized countries, particularly the U.S. and Europe. The uncertain political and economic situation in Brazil and other emerging markets has had, and may continue to have, a material negative impact on the economic climate in their respective regions and may have spill-over effects in neighboring countries and regions. Other political and economic uncertainties and challenges, such as the continuing conflicts in Syria and the Middle East or other "trouble spots" such as North Korea, Ukraine, Russia and Iran, potential terrorist attacks or the closure of national borders may also have a negative effect on the overall global economic climate and on our business.

For other local business risks in connection with our international operations, see "*1.1.7. — We are subject to risks, such as local business risks, associated with our foreign operations, including political and social instability as well as changing regulatory frameworks and market conditions in many different countries.*"

In addition, changes in economic or geopolitical conditions may indirectly impact our business, for example, if our suppliers are negatively affected, resulting in shortages of raw materials or component parts that could affect our supply chain. Moreover, a negative economic or geopolitical environment could lead to longer sales cycles, deferral or delay of customer orders, lower customer creditworthiness or insolvency of customers or suppliers, lower or lost receivables outstanding, payment delays, an inability to market our products effectively or to trade across borders as well as other factors directly or indirectly affecting our business and the markets in which we operate.

The materialization of geopolitical and economic risks globally or in particular countries and political, social and economic uncertainties could negatively impact the Group, our customers or our suppliers and thereby have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.4. Protectionist measures, trade wars or sanctions in countries and major regions in which we, our customers and our suppliers operate could have a material adverse impact on our business, results of operations, cash flows and financial position.

Protectionist measures, trade wars or sanctions in the countries and regions in which we operate, in particular within the U.S. and Asia, could adversely affect our business operations.

Investment programs envisaged by the Chinese government to stimulate growth in, among others, the Chinese automotive industry and on infrastructure projects might be coupled with a preference for domestic suppliers (so-called "national champions"), which could have a material adverse effect on our business in China. With respect to the rail business, the Chinese government sometimes intervenes in the market to favor such "national champions". It cannot be excluded that we may experience negative effects resulting from such interventions in the future.

Further, there is uncertainty with respect to the future of the relations between the U.S. and other nations. Most significantly, in March 2018, the U.S. administration proposed significant tariffs on goods (including steel and aluminum) imported into the U.S., including from China and the EU, which became effective in late March and May 2018, respectively. In April, China retaliated with proposals of its own tariffs on a range of goods. In June 2018, the U.S. announced further tariffs on Chinese goods, and China subsequently stated, also in June 2018, that it would impose tariffs on the same scale on imports from the U.S. In early July 2018, both countries implemented tariffs of USD 34 billion on each other's goods. Following these measures, the U.S., in mid-September 2018, imposed tariffs on USD 200 billion worth of Chinese goods. Immediately thereafter, China also increased tariffs on USD 60 billion worth of US goods. The tariffs imposed by both countries are to take effect September 24, 2018. These developments have increased the prospect of a continued trade war between the world's two largest economies, which may have a significant negative impact on the global economic environment, and may thereby have a material adverse effect on our business, results of operations, cash flows and financial position. In addition, while in late July 2018, the EU and the U.S. agreed to work together to lower trade barriers, it remains uncertain how the trade relationship between the EU and the U.S. will evolve. In addition, in August 2018, the U.S. administration announced additional sanctions on Russia and subsequently announced that it would reimpose economic sanctions on Iran. In the same month, tensions between the U.S. and Turkey worsened after the U.S. doubled tariffs on imports of Turkish steel and aluminum.

Sourcing components from countries such as Mexico may also become more expensive due to special tariffs. In this context, potential relocations along our supply chain to best-cost countries (*i.e.* Central and Eastern Europe, Africa, APAC, Latin America and Mexico) may become economically less attractive and may need to be reconsidered. For example, imports of rail parts and components that we require for the manufacturing of our products in the U.S. may become more expensive and thus a further localization strategy (*i.e.*, manufacturing products and using suppliers and research and development ("**R&D**") capabilities in the region in which our products are intended to be sold) may need to be pursued for certain products. This would involve certain risks relating to new suppliers, for example in terms of supply chain sustainability and quality of sub-components.

The rise of populist parties and trends and/or increasingly protectionist measures by governments in several countries within and outside the EU may negatively affect the global economy and restrict international trade flows, all of which could adversely affect our operations and sales. For example, growing anti-EU sentiment within several EU countries may lead to increasingly protectionist behavior. Furthermore, an anti-globalization mindset, which can be observed in an increasing number of countries worldwide, could potentially lead to national trade barriers and subsidies for local products. Moreover, the imposition of any export or import restrictions, quotas, duties and sanctions (especially with respect to Russia and Iran), among others, may also negatively affect the political and economic framework in which we operate.

In addition, protectionist measures, trade wars or sanctions may indirectly impact our business, for example by shortages in our supply chain, if our suppliers are negatively affected. Moreover, protectionist measures, trade wars or sanctions could have a negative impact on our customers, leading to lesser orders or payment difficulties, among others. Further, such measures may impose obstacles to the marketing or trade of our products across borders, thus directly or indirectly affecting our business and the markets in which we operate.

The materialization of risks resulting from protectionist measures, trade wars or sanctions could negatively impact the Group, our suppliers or our customers and thereby have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.5. The industries in which we operate are characterized by changing trends, technological developments and regulation. If we cannot continue to manufacture, market and sell innovative products that meet customer requirements for performance and reliability, our sales may suffer and we may lose market share.

The industries in which we operate are characterized by developments that structurally transform such industries and the relevant markets. These trends are fundamental in nature and include, among others, globalization, the growing importance of emerging markets, demographic change (*e.g.*, urbanization), the growing relevance of environmentally-friendly and energy-efficient applications due to climate change and dwindling resources, a rise in customers' expectations as well as digitization, connectivity and mobility (such as the so-called "Internet of Things"), automated driving and e-mobility solutions. For us, the four megatrends urbanization, eco-efficiency, digitization and automated driving are of particular importance. If we fail to correctly assess such trends, other trends and future market developments, this could have a material negative impact on our business, results of operations, cash flows and financial position.

For example, if a commercial vehicle will be electrified and/or an installed pneumatic system is replaced by an electric or electro-mechanical system, several new sub-systems need to be developed or modified, including the air disc brake, transmission control unit, valves, compressors or engine air components to avoid premature substitution. As such substitution is expected to materialize over time, we are required to watch such market developments closely and be prepared to react adequately to such trends and to drive innovations actively. If we are unable to do so, our products may be replaced by competitor products and/or products of new entrants. Similar considerations apply to the Rail Vehicle Systems segment, where technological developments may render certain of our rail products obsolete and require a considerable adjustment of our current product portfolio.

New competitors with more know-how or experience or newly-developed components may enter the market for key projects regarding innovative products in the areas of, among others, e-mobility, steering solutions (including torque overlay functionality) or automated driving systems (such as our existing projects regarding highly automated driving). In addition, incumbent competitors may develop innovative technologies or acquire capabilities in these fields faster than us, making it more difficult for us to obtain a meaningful market share at reasonable prices or attract qualified personnel in these areas. Competitors have in the past developed and may in the future develop products or solutions (*e.g.*, spare parts for commercial vehicles) that are particularly cost-effective, making it harder for us to compete effectively in those areas. Furthermore, new technology trends, such as digitization, allow new entrants to gain market shares in, for example, the railway industry with new business models (such as condition-based monitoring) which compete with our products, due to such entrants' specific know-how in areas such as handling of big data. We may also lose a competitive advantage if competitors are able to develop or acquire capacities relating to innovative technologies, including IT technologies that we do not possess.

Moreover, in the high-tech environment in which our solutions are used, there is a risk that products will reach their physical limits. For example, in the commercial vehicle business, more stringent regulatory requirements regarding noise levels or emissions of particulates would require us to introduce changes to our existing products.

In addition, we face the risk that our products may be replaced by substitute or alternative products which we do not produce or distribute due to factors such as technological developments (such as e-mobility in connection with commercial vehicles, as mentioned above), cost reductions on existing alternative products or new substitute products that have not yet been identified or launched into the market. For example, our non-safety related products (such as heating, ventilation and air conditioning systems ("**HVAC**")) may be substituted by competitors or even non-certified suppliers (*e.g.*, through reverse engineering of our products), given less stringent regulations in these areas.

Furthermore, given the dynamic development of the markets and regions of the world, we are constantly confronted with the challenge of relocating development and production capacities from one site to another, in order to respond flexibly to changing market and customer requirements and/or cost developments. In the event of unexpected shifts in capacity, we may be unable to quickly and effectively adapt to such changes.

If we are unable to keep pace with changing technologies, technological developments and regulation, this could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.6. If our innovation and research and development (R&D) of new manufacturing technologies and new products are not successful or does not meet customer preferences, our sales may suffer and we may lose market share.

The process of developing new products for our markets is complex, and any failure to keep pace with our competitors' technological development, develop new technologies or obtain appropriate intellectual property

protection for our technologies, or anticipate customers' changing needs and emerging technological trends accurately could significantly harm our business, results of operations, cash flows and financial position.

Our operating results significantly depend on the development of commercially viable production technologies. This requires us not only to develop new product types and classes, but also to constantly revise and optimize the materials and components used in manufacturing our products and to improve existing products. We devote significant resources towards R&D of new products and new manufacturing technologies. Our future success, therefore, depends on our ability to maintain our technological leadership, in particular by anticipating technological trends, responding to customer needs by developing innovative solutions in a timely and cost-effective manner and by adapting our products and manufacturing technologies to regulatory or industrial requirements. In the past, we have in individual cases developed products that have only found limited customer acceptance and which we have then discontinued. If we devote resources to the pursuit of developments in production technologies and products that turn out to be unsuccessful, or in projects that are discontinued for technical, economic, commercial, regulatory or any other reasons, this can lead to impairments and harm our competitive position, results of operations, cash flows and financial position.

There can also be no assurance that any of the new products that we are currently developing, or may begin to develop in the future, will become market-ready, gain widespread acceptance in the marketplace or that such products will be able to compete successfully with other new products and services that may be introduced by competitors. Decisions to develop and market new products are typically made without a commitment on the part of our customers or a firm indication of our customers' likely acceptance. For example, our development efforts associated with the development of automated driving solutions for commercial vehicles are very resource and time intensive, as these require a longer development period than other development activities and need to be launched before a customer is ready to place a firm order. In addition, by their very nature, new products may require alteration of existing business methods or threaten to displace existing equipment in which our customers may have invested substantial resources. If other companies develop alternative technologies and solutions that meet customer preferences better than our products, or if we fail to anticipate and react to any significant changes in customer preferences, this could result in declining demand and have a material negative impact on our competitive and financial position.

Moreover, we may incur additional warranties or higher costs than expected in the phase during which new products are tested and validated by customers.

In addition, new business models which we develop to meet the increasingly diverse requirements of an ever more digitalized and mobile world may not be as successful as expected or at all, or may turn out to be more costly or take more time than originally envisaged, all of which could have a material adverse effect on our business, results of operations, cash flows and financial position.

If we devote resources to innovation and R&D that is unsuccessful, or results in new products that do not satisfy customer needs and preferences, this could lead to a loss of market share, as well as having a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.7. We are subject to risks, such as local business risks, associated with our foreign operations, including political and social instability as well as changing regulatory frameworks and market conditions in many different countries.

A significant portion of our current operations is conducted and located outside of Germany. Due to the global nature of our business, revenues generated outside of Germany in particular and, more generally, outside of the EU, will continue to account for a considerable share of our total revenues in the foreseeable future. Accordingly, in addition to the currency exchange risks inherent in operating in many different foreign countries (see "*1.1.26. — Our sales, results of operations and financial position may be adversely affected by currency fluctuations.*"), we also face risks relating to local political, social or economic conditions, including the risk of political unrest, war, terrorist or similar attacks (see also "*1.1.3. — Political, social or economic conditions and changes in countries and major regions in which we, our customers and our suppliers operate could have a material adverse impact on our business, results of operations, cash flows and financial position.*"). Moreover, we face risks from crimes and corruption, risks for our local and expat employees resulting from unstable security situations, money laundering and other fraudulent practices, trade protection measures, investment, trade and currency restrictions or any restrictions on the repatriation of earnings and capital, logistical risks (for example, in countries that lack certain infrastructure), risks related to international deliveries, risks of order processing and fulfillment and risks arising from different legal and tax systems, changes in distribution and supply chains, including restrictions or sanctions on the import or export of finished goods and supplies, unexpected changes in the regulatory environment and in the interpretation and enforcement of laws by national governments and other official bodies, inability to collect payments or seek recourse under or comply with ambiguous or vague

commercial or other laws, insufficient protection against product piracy and other violations of our intellectual property rights, expropriation and similar measures, and, in general, differing economic cycles and adverse economic conditions. In addition, we face the risk of unsustainably overpriced assets, such as commodities and housing, in a certain country or region.

Our expansion into markets outside of our core markets requires us to respond to rapid changes in market conditions in these countries. Our overall success as a global business depends to a considerable extent on our ability to anticipate and effectively manage differing legal, political, social and regulatory requirements and economic conditions and unforeseeable developments. We may not continue to succeed in developing and implementing policies and strategies which will be effective in each location where we do business or may do business in the future.

Effectively managing these risks could prove difficult and may limit our operations and make the manufacture and distribution of our products internationally more difficult. The materialization of local business risks or our inability to adapt to changing conditions in markets outside our core markets could have significant adverse effects on our business, results of operations, cash flows and financial position.

1.1.8. The industries in which we operate are increasingly competitive and characterized by downward pressure on prices, which could result in a decline in our revenues and margins and could have a material adverse effect on our business, results of operations, cash flows and financial position.

Although we operate in markets with generally high barriers to entry, the competitive environment is becoming increasingly intense. We face competition from several established, international companies and potentially also the entry of new competitors, as well as local and regional companies in the countries and sectors in which we operate. Some of our competitors may have greater financial resources than we do. Increased competition may have a negative impact on our ability to sustain our premium price position. For example, in the U.S. rail vehicle business, broadly applied product bundling by competitors may lead to price pressure. Price competition, coupled with increased cost-consciousness among our customers, challenges our ability to maintain and/or increase prices. In addition to price, competition is based on product performance, technological leadership, quality, reliability of delivery and customer service and support. There can be no assurance that we will be able to successfully compete based on these or other factors in our regional and product-related market segments, which would lead to a decrease in revenues and margins.

In particular, Robert Bosch GmbH, Germany ("**Bosch**") might in the future emerge as a new competitor. Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Germany ("**KB SfN GmbH**") and Knorr-Bremse Commercial Vehicle Systems Japan Ltd., Japan ("**KB CVS Japan**") are joint venture companies in which Bosch holds a minority interest. With reference to KB SfN GmbH's engagement in steering systems activities and certain discussions on potential strategic cooperations by us in China, Bosch has exercised a put option relating to Bosch's shareholding in KB SfN GmbH and KB CVS Japan, which was granted to Bosch in the joint venture documentation. We contest the right of Bosch to exercise the put option. Bosch initiated arbitral proceedings to enforce fulfillment of the put option. If Bosch is successful in the arbitral proceedings, it will cease to be a shareholder in KB SfN GmbH and KB CVS Japan and emerge as a competitor in areas of business comprising (in whole or in part) business activities currently covered by non-compete undertakings in the joint venture documentation, in particular with respect to driver assistance systems. This might be the case prior to the lapse of the post-contractual non-compete period of three years set out in the joint venture documentation if the post-contractual non-compete undertakings should turn out to be unenforceable for any reason.

If we are not able to compete in an increasingly competitive environment, this may lead to a reduction of our revenues and margins and have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.9. Certain trends driven by our customers in the rail and commercial vehicle businesses, such as concentration, increasing in-house development capabilities or the trend towards system suppliers, may negatively affect our competitive position and market share.

We are observing an increasing degree of concentration of OEMs, which tends to increase the size, and thus the relevance and bargaining power of these customers. This trend puts component and system suppliers such as ourselves under more pressure. For example, we experienced downward price adjustments for certain commercial vehicle products following the merger and integration of MAN and Scania. Concentration at the OEM level tends to also lead to strong OEMs competing in the components supplier market for commercial vehicles, resulting in increased price pressure on other suppliers such as ourselves. Increased competition, triggered, for example, by a concentration of competitors (such as Westinghouse Air Brake Technologies Corporation's (Wabtec) acquisition of a 51% interest in Faiveley, which closed in December 2016, or Wabtec's merger with GE Transportation announced in May 2018, which is, subject to several conditions, expected to

close in early 2019), customers or suppliers, and unanticipated actions by these as well as temporary overcapacity in certain cyclical regional markets could lead to disadvantageous price changes and/or a decline in our market share, which could adversely affect our competitive position as well as our results, cash flows and financial position. In the rail vehicle business, customers typically have a strong bargaining position, which may be further strengthened by competitor concentration. Additionally, the R&D capabilities of a combined customer entity may also be in a better position to undertake in-house development of rail vehicle and commercial vehicle products we currently offer, leading to a potential loss of market share for ourselves. A similar situation may arise, for example, when Siemens and Alstom complete the combination of their rail businesses, for which the parties entered into an agreement in March 2018, subject to regulatory approval.

Current customers or potential customers increasingly decide to develop and produce certain components in-house. OEMs in the rail business often try to develop their own components and sub-systems in order to reduce dependency on their main suppliers, including ourselves. For example, major Chinese car builders in the rail industry tend to have a clear strategic focus on development in order to reduce their dependence on suppliers. Moreover, when they do source components and systems from external suppliers, they tend to prefer Chinese suppliers. Siemens is also active in developing braking products for use in their own rail vehicles.

Large OEMs increasingly try to source and integrate the components for certain vehicle systems themselves, rather than sourcing an integrated system from large suppliers like ourselves. As an example, major OEMs in Europe increasingly try to develop their own automated driving functions rather than sourcing these from Tier-1 suppliers such as ourselves. For this purpose, OEMs often leverage know-how from their passenger car division and transfer technology to their commercial vehicle division. In addition, we observe that major OEM customers of our Commercial Vehicle Systems segment are pursuing a dual-source or multi-source strategy. This may result in additional pressure on our price structure and may require us to develop and offer even more additional technical advantages to customers in order to maintain our competitive edge. It is also possible that larger OEM customers endeavor to strengthen one of our smaller competitors in order to reduce dependency from incumbent larger systems suppliers, such as ourselves. If we are unable to successfully compete in this environment, our business, results of operations, cash flows and financial position could be materially adversely affected.

Moreover, the increasing trend towards system suppliers (as opposed to the supply of individual components by different suppliers) in the rail business underlines the importance of us to be or become a "Tier-1" supplier for major customers. If a competitor is chosen to supply complete systems for a rail vehicle-related order, we may be prevented from delivering any individual component for the relevant vehicle series. In addition, competitors may be better positioned to offer comprehensive systems integrating components to customers. Some suppliers have strong bundling offerings that are a key driver in certain market segments (*e.g.*, the freight car market in the U.S.), in which we cannot effectively compete due to a lack of applicable products in our current product portfolio. Moreover, competitors may leverage solutions from other industries, such as the automotive and the IT industries, which could put us at a competitive disadvantage.

Any of these developments, or if our competitors are able to take advantage of developments (such as the trend towards systems suppliers in the rail industry) to our disadvantage, could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.10. We may fail to successfully identify, enter into or integrate acquisitions, joint ventures or cooperations or to successfully execute divestments, which could have a material adverse effect on our business, results of operations, cash flows and financial position.

Acquisitions and investments in our core businesses and establishing new businesses are an integral component of our business strategy. For example, we have recently acquired tedrive, a company that develops, manufactures and markets vehicle steering systems, and Kiepe Electric, an electrical systems business from Vossloh ("**Kiepe Electric**"), among others. We have also entered into joint ventures and other cooperations. In the future, we intend to continue to pursue selected acquisition opportunities and joint ventures in order to further grow and expand in a targeted manner. This strategy depends in part on our ability to successfully identify and acquire assets and/or shareholdings in companies that complement our business, find adequate joint venture partners or enter into joint ventures or investments, on favorable terms or at all. However, there is no assurance that we would have sufficient resources to participate in acquisitions that we consider necessary, for example, to maintain our market share in significant regional or product markets. If we are unable to make necessary acquisitions and investments, this could have a material negative impact on our growth and operations.

In addition, we may not be able to achieve the targets for growth, synergies, economies of scale, cost savings, development, production, distribution, or other strategic goals being sought from the acquisition of companies and interests in companies, or it may only be possible to achieve them to an insufficient extent given time and budget constraints. Potential acquisition targets may have lower profit margins, so that in the event of an

acquisition our overall profit margin could thereby be reduced, as has happened in some cases in the past. Furthermore, highly innovative companies in sectors in which future growth is expected, such as automated driving, connectivity and electrification, currently command (and may continue to command in the future) acquisition prices in the market that may not be justified in light of the significant uncertainty with regard to the anticipated business plan. The scarce availability of attractive and suitable targets coupled with the high demand for such assets may require us to pay elevated prices to acquire companies, or else abstain from entering potentially promising technology fields.

In addition, future acquisitions may be capital intensive and could require us to incur debt or issue debt or equity securities to finance such acquisitions, which may increase our interest expenses significantly and dilute the interest of our existing shareholders. Moreover, if an acquisition or similar transaction is not completed, as was the case with the planned Haldex takeover, in particular if the transaction is abandoned after a longer preparation period, the incurred costs and resources involved, which can be significant, will not be recovered.

Corporate acquisitions are typically associated with significant investments and risks. We may be unable to recognize all risks related to such a transaction in advance during our due diligence or to protect ourselves against such risks, as has happened in individual cases in the past. For example, there can be no assurance that such risks will be (sufficiently or at all) taken into account in the respective agreements (including warranties). Future acquisitions may also give rise to financial and tax restructuring measures which, even if designed with the aim to achieve a tax-efficient structure, may expose us to risks, for example, if such measures cannot be implemented and/or the tax authorities were to challenge any of the implemented measures. Further, we may face claims, out-of-court disputes, arbitration or litigation in connection with acquisitions, joint ventures and similar transactions, as has happened in connection with a claim for additional earn-out payments brought by the seller in the aftermath of one of our past acquisitions. Future acquisitions could result in the incurrence of debt, contingent liabilities or amortization expenses, or impairments of goodwill, if the goodwill recorded in our balance sheet at the time of the acquisition proves to be too high. Incurring such additional costs or other disadvantages in connection with an acquisition could have a material adverse effect on our reputation, as well as on our business, results of operations, cash flows and financial position.

Risks may also result from past or future divestments, in particular, in regard to potential pre- or post-closing reductions of purchase prices, the recognition of losses in connection with the deconsolidation of the divested business, or due to possible liabilities arising from representations, warranties or covenants, for example, regarding taxes, pensions or real estate valuations.

Furthermore, past and future acquisitions, joint ventures and other investments in businesses entail risks relating to the integration of businesses, including, among other things, integration of employees, processes, IT, logistics and other systems, and product offerings, customer and supplier relationships as well as overcoming cultural barriers. Such acquired businesses may not, or not within the anticipated timeframe, achieve the targeted operative development. In particular, integration may be a more complex, time and resource consuming process than anticipated and involve a number of uncertainties. These include, for example, costs and expenses associated with unexpected difficulties, the diversion of management's attention from daily operations and/or strategic business decisions, the potential loss of key employees, suppliers and customers, difficulties in competing with existing business or diverting revenues from existing business, difficulties in complying with foreign regulatory requirements and the additional demands on management related to the increasing size and scope of our operations, especially in the case of larger acquisitions. In addition, it cannot be excluded that, following an acquisition, we may face difficulties in the context of negotiations with employee representatives. Such negotiations may relate to measures such as social plans or combining entities with different union tariff systems. A prolonged negotiation process could delay the transaction and the result of such negotiations may turn out to be more costly than expected.

Failure to successfully implement acquisitions, joint ventures and cooperations, to successfully integrate businesses that have been acquired or to successfully execute divestments could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.11. We face risks relating to joint ventures, cooperations and partnerships, including our potential limited influence on the organization and business success of such ventures, and the interests of our partners may conflict with our own.

In joint ventures, cooperations and partnerships, we might have only limited influence on the organization and business success of the companies concerned. Thus, our ability to fully exploit the strategic potential in markets in which we operate or which we enter could be impaired if we are unable to agree with our partners or joint shareholders on a common strategy and its implementation. The interests of our partners or joint shareholders could also conflict with our interests. Minority shareholders in certain joint ventures, cooperations and

partnerships may also have approval or other rights under applicable corporate laws, joint venture or shareholder agreements or other organizational documents.

In addition, we could be subject to fiduciary or contractual obligations to our partners which may prevent or impede our ability to unilaterally expand in the business area in which such a joint venture or associated company operates. This might include that we will be limited to enter into new markets or unable to maintain our current competitive position if we are hindered to do so by contractual non-compete undertakings. For example, Bosch initiated arbitral proceedings based on non-compete undertakings and minority participation rights in the current joint venture documentation to prevent KB SfN GmbH to directly or indirectly conduct or commence activities in the area of steering systems. If successful, we would be forced to ensure that KB SfN GmbH's subsidiary Knorr-Bremse Steering Systems GmbH is, in our discretion, either acquired by us in connection with a group-internal reorganization, divested by KB SfN GmbH to a third party, or liquidated. Further, we cannot exclude that Bosch might claim damages due to the acquisition of Knorr-Bremse Steering Systems GmbH by KB SfN GmbH. Expansion in certain business areas in breach of contractual non-compete undertakings may also trigger exit rights of joint venture partners in existing joint ventures.

When a joint venture or other form of cooperation is dissolved or terminated, we may be required to make payments to our partners. In particular as regards our joint ventures KB SfN GmbH and KB CVS Japan, the partner for each of these joint ventures, Bosch, tries to enforce fulfillment of a put option relating to its 20% shareholding in each of KB SfN GmbH and (indirectly) of KB CVS Japan in arbitral proceedings initiated in September 2018. Such put option was exercised — in our view unjustified — by Bosch. The liability from the put option on minority interests was recognized as financial liability based on the agreed price of the option in an amount of EUR 379.6 million.

In addition, the risk of leakage of our know-how to our joint venture partners cannot be excluded.The realization of any of these factors could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.12. We may fail to implement strategic efficiencies and other improvements and cost saving measures in a timely manner and such planned improvements and measures may fail to achieve their targets, which could have a material adverse effect on our business, results of operations, cash flows and financial position.

We operate in an industry where efficiency improvements and cost savings are crucial in order to maintain competitiveness and profitability. In the fourth quarter of 2015, we launched our "KB2020 Bottom Line" program. With this program, we seek to achieve, by 2020, a low three digit million euro amount on aggregate in savings (before a deduction of cost). Saving initiatives under the program include, among others, structural measures, product optimizations, engineering and production footprint projects as well as entity performance improvement plans for individual Group companies and global processes. We have in the past few years expanded our Rail Vehicle Systems segment's operations in Berlin and Budapest by shifting production capacities from Munich to these two Rail Vehicle Systems segment locations. It cannot be assured that we will be able to complete all contemplated efficiency and cost-saving measures within the anticipated timeline, or that these measures will deliver the expected cost-saving results within the expected timeframe or at all. It is also possible that the assumptions on which we have based our assessment of potential savings may prove to be inaccurate or not materialize to the anticipated extent, which could result in reduced savings or a longer timeline than expected. A failure to achieve efficiency improvements and cost savings could lead to a reduction in profitability and competitiveness, which may have a material adverse effect on our results of operations, cash flows and financial position.

In the past years, we incurred certain restructuring costs in connection with our Rail Vehicle Segment. There is no assurance that the costs associated with any current and future efficiency improvement will not exceed our estimates, or that we will be able to achieve the intended benefits of these efficiency improvements.

In the future, we may also need to re-evaluate our geographic and production footprint and may be required to close further manufacturing facilities, to shift development or production capacities to other Group locations to respond flexibly to changing market and customer requirements, or to undertake other restructuring measures in countries with high labor and production costs or with decreasing customer demand. Such measures could result in substantial costs, including, among other things, severance payments to employees as well as a temporary loss in productivity and an increase in costs or insufficient quality. Moreover, the potential closure of plants, the relocation of production capacities to best-cost regions or other measures reducing personnel costs may result in adverse publicity and loss of reputation, and may put strains on our relationship with labor unions and our workforce.

Any failure to timely implement efficiency and other operational improvements and cost savings measures, both currently underway and in the future, or the realization of any of the aforementioned risks during or after such implementation, could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.13. Quality issues or product defects may lead to costly replacement measures, product liability claims, fines and larger accidents, which could have a material adverse effect on our business, results of operations, cash flows and financial position as well as our reputation.

Our future profitability depends on our ability to offer competitive prices while maintaining a high level of quality. Many of our products and solutions (in particular brakes, but also other systems, such as doors) play a critical role in the safety of rail and commercial vehicles that transport both passengers and a variety of goods. Although — on account of the safety-critical nature of the applications concerned — we monitor and test the quality of our products and our processes, there can be no assurance that we will not face quality issues or product defects due to procedural, technical or human errors, among other factors. Defects leading to failure of products and systems (in particular those that are safety-critical) could have severe consequences, including injury or loss of life. In the event of a derailment of a rail vehicle or other accident involving rail or commercial vehicles for which we have supplied systems and components, we could be subject to various legal claims, including claims for negligence, personal injury, physical damage and product liability, as well as other potential claims. In particular, in the case of severe accidents, which may not only include damage to the vehicle but in the worst case even casualties, the damage to our reputation could be very significant.

We are often under the legal and contractual obligation to compensate customers for damage or losses resulting from defective products. For instance, we may face product liability claims or claims under guarantees (warranty and good performance) for products already supplied if we are unable to anticipate all of the possible performance or reliability problems that could affect our products. We have, in the past, been subject to customer claims in connection with defective products and have had to replace the products at our own cost as part of our warranty obligations (as explained further below). We have also faced related damage claims. We cannot exclude the possibility that we will face warranty or similar claims in the future. In addition, in some cases the bargaining power of certain customers as well as reputational concerns may prevent us from invoking contractually agreed limitations on liability.

Any such claims and replacement measures could result in increased costs for us, for example in relation to product or component replacements, additional performance tests, correction of defects and re-development, legal and other expenses. Furthermore, defective products or customer claims related to damages, delayed deliveries, or our failure to comply with quality requirements could result in loss of revenues and/or customers. Our liability may extend beyond such defective products to other systems, equipment or areas of the vehicles and include vehicle downtime and other items, which could increase our potential exposure substantially. The realization of any of these risks could have a material adverse effect on our reputation, market perception, market acceptance of us as a manufacturer and ultimately the market share for our products, including other market segments and products than the ones immediately affected by the defects or claims. This, in turn, could have a significant adverse effect on our revenues and results of operations as well as on our cash flows and financial position.

More specifically, faulty component parts, design defects or assembly defects could require us or our customers to undertake service actions (including preventive and repair measures) and recall campaigns. This has happened in the past and might happen in the future, for example with regard to the following quality issues: (i) The recall, completed in 2018, of approximately 215,000 "Bendix" spring brake control valves for trucks in the U.S. produced during the 2014-2016 period, (ii) an ongoing replacement of a large number of truck clutch compressors delivered by us in Europe, (iii) warranty claims against some of our Chinese subsidiaries in connection with defective components for train brake systems, (iv) warranty claims against some of our subsidiaries in connection with corroded door leaves, (v) warranty claims against our subsidiary Kiepe Electric in connection with the construction of cars for the Wuppertal suspension railway, (vi) ongoing adjustment of brake equipment (*e.g.*, replacement of brake pads) due to a decreasing friction coefficient over time and (vii) warranty claims against some of our Australian subsidiaries in connection with allegedly defective components for train brake and HVAC systems. After we changed our supplier for the guide-pin in air disc brakes at the end of 2014, we detected a defect after customer complaints about noisy brake calipers and uneven wear of brake pads at the end of 2015. Such defect was reported to the U.S. National Highway Traffic Safety Administration ("**NHTSA**") as safety relevant by some customers and reports relating thereto were published by NHTSA. We currently estimate that the financial exposure to solve this problem could be significant and is likely only to be partially covered by insurance.

The preventative and repair measures associated with such faults and defects are expensive (in particular with respect to the related labor costs) and redirect R&D and other resources, for example to find the root cause of a

malfunction and potentially redesign a component. Such events could also damage our reputation and strain our relationships with the customers involved. Furthermore, we may be held liable for damage that is caused not only directly but also indirectly by our products.

Furthermore, we may have faulty design or defective product claims brought against us or be held indirectly responsible for damage in an incident actually caused by the faulty installation of a fit product, by a customer vehicle design or application of our product that has a negative impact on the product's performance, or by defective components supplied by third parties. We may also become indirectly liable by having been involved in the training of an end-customer's employees with respect to the installation or the servicing of the installation. There may also be cases in which it is difficult to establish the exact direct and indirect causes of an accident or similar incident, for which we are held responsible. In all of the above cases, there is a risk that although we are not directly at fault, claims may nevertheless be brought against us and cause harm to our reputation and financial position.

Furthermore, the insurance we maintain to protect ourselves against claims associated with the use of our products may not cover claims asserted against us adequately or at all.

Any of these factors and developments could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.14. Interruptions of operations at our facilities and other operational disruptions could have a material adverse effect on our business, results of operations, cash flows and financial position.

We operate almost 70 production sites (for our Rail Vehicle System segment and our Commercial Vehicle System segment) in more than 20 countries and our results of operations are dependent on the continued operation of our production and other facilities as well as the availability of our services.

Even if technical and safety standards for the construction, operation and maintenance of our facilities and major equipment are observed (including the observance of the existing contingency plans for each facility), operational disruptions and delays cannot be ruled out and can occur for reasons outside our control, such as accidents, fires, explosions, extreme adverse weather conditions, natural catastrophes, mechanical or human failures or other incidents. These incidents may result in physical property damage requiring comprehensive cleaning and repair measures, as well as in temporary production interruption or shutdowns, temporary operation at a reduced capacity or, in severe cases, in injuries or loss of life. Interruptions in our operations, regardless of the cause, could also lead to liability risks and reputational damage, in particular by preventing us from providing the requisite quantities of our products to customers on time, especially in cases where we cannot compensate lost production capacity through surplus capacity at other production sites.

In addition, business interruptions may negatively affect our other business operations and reduce the productivity and profitability of a particular production or other facility, for example, where production processes are interdependent. An example is the manufacturing of brake control products, for which different production steps (manufacturing of a drilling/glue-board, manufacturing of valves and components and the end-assembly) are carried out in different Group locations. A business interruption to one of these steps would affect the entire production process of the product.

We may also face higher than expected costs to repair, refurbish or exchange malfunctioning equipment or to repair, refurbish or relocate our facilities, when required. In the past, we have incurred and we expect to continue to incur expenses and dedicate significant time to such measures, which may reduce our earnings. For instance, in case a site proves unsuitable for the intended business purpose and we need to relocate, this could result in additional costs, not only relating to the relocation itself, but also, for example, in connection with the remaining lease payments until the lease expiration of the original site.

In addition, our supply chain may be affected, particularly if we experience delays and other difficulties in the supply of materials and components required for our production operations. In case of prolonged supply bottlenecks which cannot be otherwise adjusted for, we may be exposed to production delays and thus may be unable to meet our customers' demand.

Furthermore, some of the materials we use, particularly in relation to our rail vehicle products have a reduced shelf life, so that in case of operational disruptions leading to delays in the production processes, we face the risk of such materials expiring before we are able to process or sell them. This could force us to scrap the expired materials, resulting in wasted resources.

Moreover, our insurance coverage, including insurance against fire and business interruptions, may turn out to be inadequate in certain cases, for example by not covering consequential losses suffered as a result of a business interruption.

In all such cases, interruptions in operations at our facilities or the repair and replacement of our equipment, as well as problems with our supply chain and production materials could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.15. We depend upon a number of large key customers, and our customers tend to have strong bargaining power.

We generate a considerable proportion of both our rail vehicle and commercial vehicle related revenues from large customers (OEMs and large rail or fleet operators). In 2017, we generated approximately 52% of our revenues in the Rail Vehicle Systems segment from our ten largest customers in such segment. In the Commercial Vehicle Systems segment, our ten largest customers contributed approximately 61% to the revenues of such segment in 2017. As a consequence, we would be particularly affected if we lost one or more of these customers (for any reason, including a potential insolvency of such customer), or if the volume/order level from any of these customers were to fall significantly. For example, for product-specific customer groups such as the air disc brake and slack adjuster segments within Commercial Vehicle Systems, there is only a limited number of large trailer and axle manufacturers. Similarly, with respect to Rail Vehicle Systems, there are only a few major car builders worldwide. Hence it is important for us to maintain good relationships with these customers. These customers possess significant bargaining power due to the high number of units they procure of the relevant products (Commercial Vehicle Systems) or due to the project-specific sub-system procurement by the car builders (Rail Vehicle Systems). In some cases, individual customers make up a large portion of a particular market segment in a given country *(e.g.,* for high-speed trains in China). The termination or deterioration of such relationships would have a material adverse effect on our business, results of operations, cash flows and financial position.

In addition, the larger OEMs in the truck, bus and trailer markets as well as large rail companies and fleet operators have strong bargaining power and can put considerable pricing pressure on their suppliers (including ourselves) by threatening to shift significant supply volumes in their next project to another supplier or to switch suppliers entirely, as is sometimes the case. Virtually all OEMs and other large customers have aggressive price reduction initiatives and objectives each year with their suppliers, and we expect that such initiatives will continue in the future. The strong bargaining power of large OEMs and other major customers in the commercial vehicles sector is also reflected in the fact that they typically maintain an option to switch suppliers during the term of contracts through exit clauses, common in most truck and bus long-term supply contracts, and which we try to limit in scope but cannot mitigate to a full extent (for more details, see "*1.1.16. — We face risks associated with the bidding process, in particular for larger and mid-sized OEM projects.*"*)*. If alternative suppliers lower their prices, and we as the current supplier fail to lower our own prices accordingly, OEMs could switch volumes prior to the expiry of the agreement. Thus, we may not actually realize all of the future revenues represented by our awarded business. If we are forced to reduce our prices vis-à-vis individual or several OEMs, our margins will be negatively impacted if we are unable to reduce our operating costs accordingly. We may also be negatively affected by customer sourcing policies, for example if customers that formerly sourced one or more components or systems exclusively from us adopt a dual sourcing strategy, which could negatively impact our market share for such components or systems.

In addition, the level of our revenues generated with large OEM customers is inherently subject to several risks and uncertainties, including the number of vehicles that these OEM customers themselves actually produce and sell. Any business interruptions, strikes or other situations that affect our customers' production would also affect our sales. To the extent that the financial position or market share of any of our largest customers deteriorates or if they experience a decline in their sales, this would indirectly affect our own revenues and results of operations. Moreover, any payment delays or payment default by one or more large customers could adversely affect our financial position. In addition, our level of overdue payments may increase in the future which could also adversely affect our financial position.

If our relationship deteriorates or is lost with one or more of our most important customers, for example if such a customer switches to an alternative supplier during the term of a supply contract, does not renew a larger contract at the end of its term or changes the procurement strategy for its subsequent projects, or if one of our customer's financial position deteriorates, this may have a material adverse effect on our business, results of operation, cash flows and financial position.

1.1.16. We face risks associated with the bidding process, in particular for larger and mid-sized OEM projects.

In the truck and bus OEM market (and to some extent, also in the trailer OEM market), sales are typically based on a bidding process with several fixed steps that are closely followed. We also undergo bidding processes for projects in our rail business (*e.g.*, tenders governed by transit authorities). The OEMs follow a formalistic and

open bidding process. These bidding processes are complex and include several different phases. In particular in the case of larger and more complex projects, participation in a bid and the development efforts in connection with the different phases involve significant costs and are time consuming. If the specific customer is not selected as car builder by the operator, and we are consequently not selected as the bid winner for the sub-systems, these expenses and efforts will be redundant. In particular, in the rail vehicles business there is an increasing internationalization of tender processes and the participation of multiple OEMs globally can be observed, which increases the complexity and the competitive pressure of such bidding processes.

Moreover, OEMs are increasing standardization through vehicle platforms. This makes platform projects for these OEMs more important for us. If a competitor wins such a platform, it will strengthen such competitor's position, and can have a material negative effect on our business. In addition, large OEMs sometimes bundle tendered volumes across multiple product ranges.

OEMs usually initiate a new supply process when they start a new platform, perform facelifts on existing platforms (commercial vehicles) or start a new generation within an existing platform (rail vehicles), or when they make other technical adaptations; thus, a new procurement process for a given product or sub-system takes place every three to five years (commercial vehicles) or five to ten years (rail vehicles), on average. This is the main juncture when new suppliers can enter. Therefore, if we fail to win a bid, the customer might be locked in by another supplier for several years before we have the opportunity to compete again for the supply of a given product or sub-system to the relevant customer, and will have to incur potentially high costs to incentivize a change over from the incumbent competitor to our systems (*e.g.*, to recover qualification costs at OE).

We may not be able to win bids in an increasingly competitive market, which would have a negative effect on our business, results of operation, cash flows and financial position, especially if the tender is large or will not be put forth again for a number of years.

1.1.17. We face risks relating to contractual arrangements with our OEM customers and our project business, such as project cost overruns and delays.

To a large extent, we do not have exclusive supply agreements or other contracts that would require customers to purchase our products or services for a particular period or volume (in some cases, *e.g.*, in the rail vehicle business, exclusivity is not possible due to legal restrictions), which could make it more difficult for us to maintain our customer base in light of the competitive pressures affecting us. Many of our commercial vehicle customers place orders for products on an "as needed" basis and operate in cyclical industries (see also "*1.1.1. — Unfavorable developments in the global economy could adversely affect our business.*"). As a result, their order levels have varied and will likely continue to vary from period to period in the future. For instance, in the North American truck market, it is normal practice for customers to inform their suppliers about the required lead times at short notice. In the independent aftermarket for commercial vehicle components, we mainly sell to distributors with whom we have typically one-year framework agreements or sometimes multiyear agreements. However, these agreements are not exclusive and do not set minimum purchasing volumes, i.e., the distributors can procure from us as much or as little as they choose, and can (and sometimes do) also procure and sell products manufactured by our competitors.

Similarly, our commercial vehicle customers may in fact move business to other suppliers or request price reductions during the contract term and the life cycle of a product. Exit clauses enable OEMs to terminate the contract in case the market price drops under the agreed contract prices during the duration of the contract and the incumbent supplier is not able or willing to agree to lower its prices to a competitive level. In order to determine what the competitive level is, OEMs regularly send out requests for indications on prices from other suppliers. If any of our OEM customers, in particular one of our larger customers, were to switch to another supplier during the life of a contract, this would have a negative impact on our business and sales.

In addition, projects in both the Rail Vehicle Systems and the Commercial Vehicle Systems segments can be subject to potential unforeseen delays, cancelations and cost-overruns as well as inaccurate assessments of costs and logistical difficulties, among other risks and uncertainties. We have in the past faced additional costs for projects due to delays, for example regarding locomotive and commuter train projects in South Africa or the suspension railway in Wuppertal, Germany. Furthermore, the long development and sales cycle of our new products, combined with the specialized nature of many of our facilities and the resulting difficulty in shifting work from one facility to another, could result in negative variances in capacity utilization. In order to meet our contractual obligations to our customers, we may be required to carry on business regardless of the actual cost to us and consequently we may suffer a material adverse impact on our operating profit margins and results of operations.

In addition, in connection with our project business, we typically grant different types of commitments, for example in connection with prepayments received or performance guarantees (parent company performance

guarantee bonds) granted to customers to cover potential warranty claims until the end of the warranty period (in lieu of a portion of the price owed to us being retained by the customer), which in the aggregate made up a significant volume amount. We face the risk that any such guarantees may be enforced against us, and in case there is a delay in the release of guarantees, or of payments of amounts withheld by our clients, it may have a material adverse effect on our cash flows and eventually our profitability.

1.1.18. Our backlog may not necessarily be indicative of the level of our future sales, and our order books are not guaranteed. Thus, we may be unable to rapidly adjust our production and sales volume to market developments.

Our backlog represents future production and estimated potential revenues attributable to firm contracts with, or written orders from, our customers for delivery in various periods. Instability in the global economy, negative conditions in the global credit markets, volatility in the industries that our products serve, changes in legislative policy, adverse changes in the financial condition of our customers, adverse changes in the availability of raw materials and supplies, or unremedied contract breaches could lead to contract amendments, termination or cancellations of orders in our backlog or request for deferred deliveries of our backlog orders, each of which could have a material adverse effect on our business, results of operations, cash flows and financial position.

For instance, production and revenues in the commercial vehicle and rail vehicle markets have been volatile in recent years (see "*1.1.1. — Unfavorable developments in the global economy could adversely affect our business.*" and "*1.1.2 — Our business may be negatively affected by market cyclicality.*"). Our business may therefore experience difficulty in adapting to rapidly changing production and sales volumes. In an upturn of the cycle, when demand increases for production, we may have difficulty in meeting such extreme or rapidly increasing demand. For example, we may not have sufficient manpower, production capacity or material to meet the needs of our customers. We may also have to rely on other suppliers that may not be able to respond quickly to a changed environment when demand increases rapidly. In contrast, in the downturn of the cycle, we may be left with excess capacity, with a resulting adverse effect on profitability.

In addition, order books relating to our series production business within our Commercial Vehicle Systems segment are not guaranteed. Customers typically provide us with a delivery forecast for a period that can comprise the next six to twelve months, depending on the individual case. On such basis, customers then submit call-of notices for varying periods which become binding for us unless we object to them in a timely manner. However, customers retain the ability, as a rule, to change the order volumes upon short notice, which may consist of only a few days, with or without a limitation of the percentage of the volume that can be increased or reduced, as the case may be. As we typically manufacture the required products as set forth in the binding call-of notices in order to be able to deliver such products in-time, if the order volumes are reduced upon short notice, we may be unable to sell these products, which are generally vehicle-specific, and will thus not be able to recover the resulting production costs. In turn, if the order volumes are increased upon short notice, we may be unable to produce the additional volumes sufficiently fast, which may result in late deliveries.

If we are unable to adjust to market developments or to changes by our customers to the order book, particularly if orders in our backlog are varied or cancelled, this could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.19. Our business may be negatively affected by an inability to obtain required parts and components, or to do so at reasonable prices, due to fluctuations in the costs of the underlying materials, as well as by increasing costs of other means of production, such as energy and transportation.

We purchase a broad range of materials, components and parts in connection with our manufacturing activities. Major items include electronic components and parts containing aluminum, steel, copper, zinc, rubber and plastics. The costs of components and parts, which reflect the cost of the materials used therein, represent a significant portion of our total costs. We also require raw materials for our operations such as iron/foundry coke and aluminum, as well as steel. If raw materials (especially metals) required in our production process can only be procured at higher costs due to fluctuating market prices, without a full price adjustment in sales transactions, our operations may be affected.

The prices of certain underlying commodities tend to be cyclical and/or volatile and are influenced by factors that we cannot control, such as global or regional supply and demand dynamics, production capacity and constraints on the part of suppliers, infrastructure failures, regulations, and other factors. In the past, the price for certain materials that we source has fluctuated, in some cases sharply and within a few months. Such price increases, along with increasing transportation costs, have created pressure on profit margins and, if they recur in the future, could unfavorably impact our financial results going forward. For example, if we are unable to pass price increases on to our customers or our suppliers or otherwise mitigate the costs, our profitability could be adversely

affected. Moreover, if we increase our sales prices as a result of increases in the parts and components we source, this may negatively impact demand for our products and, thus, our sales, business and results of operation.

Although certain of our agreements with main suppliers and customers have price adjustment mechanisms in place to address the effects of material price fluctuations, it cannot be excluded that such fluctuations may nevertheless negatively affect our costs and operations. In addition, although we generally tend to enter into longer-term framework contracts with our suppliers for periods typically ranging from approximately twelve to thirty-six months (with the largest part of our purchasing volume being covered through master supply or long-term agreements), there can be no assurance that we will be able to secure our long-term requirements for our materials and components, or do so on acceptable commercial terms. We may also purchase necessary materials or components with a volatile underlying raw material at the wrong time, *i.e.,* when prices are relatively high. In our Rail Vehicle Systems segment, we have agreed on fixed material surcharges with our suppliers for a limited number of purchased parts. Whereas for most of the parts we purchase we have a strong cost-avoidance policy in place, such policies cannot fully prevent the negative effects from material cost increases from suppliers. Moreover, in individual cases, suppliers have tried to impose price increases even if the supply agreement did not allow for such increase, which has led and may continue to lead to disputes with such suppliers.

Furthermore, in the past, prices for utilities such as electricity and gas have been volatile. Prices may increase, in particular as a result of political instability, regulatory decisions or the availability of particular sources of energy and other reasons. In addition, regulatory decisions, such as restrictions on nuclear power production and other conventional sources of energy such as coal in Germany and elsewhere, as well as governmental support measures for renewable energy, have led and may continue to lead to increases in electricity prices. Any significant increase in energy prices, transportation costs or other costs in a country or region in which we operate, including due to the effect of higher import duties, sanctions and other restrictions, would increase our operating costs and, thus, to the extent such increases cannot be counteracted with appropriate measures, may result in a loss of competitiveness of any of our production facilities in such regions or negatively affect our results of operations.

Although we maintain alternative sources for components and parts, our supply chain is subject to the risk of delays in the delivery of certain materials from our suppliers. For example, from time to time we have been affected by shortages and delays in the delivery of components that we require for our own delivery of certain components and systems, leading to delays in our own deliveries. The sudden inability of a supplier to deliver components or parts, or to do so at reasonable prices could have an adverse effect on our production of certain products or on the cost at which we are able to manufacture such products, in particular if we are unable to find an appropriate alternative at a reasonable cost and in a timely manner.

Fluctuations in the prices of energy costs and materials we require, as well as delays in the delivery of such material could result in a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.20. We depend on our ability to attract and retain highly qualified managerial staff and skilled personnel and face the risk that our business expertise may become available to competitors.

The knowledge and expertise of our employees constitute one of our most important success factors. Our performance is substantially dependent on the continued services and performance of our senior management and engineers, many of whom have many years of experience and specialized expertise in our business. In order to be successful, we must attract, retain and motivate executives and other key employees, including those in managerial, technical, marketing and information technology support positions.

In particular, the Group's R&D efforts depend on hiring and retaining qualified engineers. In addition, with respect to our key new innovation projects, we require talented staff in the area of software and hardware design. There is no guarantee that in the future we will succeed in hiring and retaining the required number of such qualified technical and management personnel on terms acceptable to us or at all. We are also exposed to the risk of losing staff to competitors, which could also result in a transfer of know-how to such competitors. A shortage of skilled personnel could also lead to difficulties in fulfilling current orders and the pursuit of future planned projects.

If we are unable to attract and retain staff, particularly in key areas such as R&D, we may lose vital knowledge and expertise and this could have a material adverse effect on our business, results of operation, cash flows and financial position.

1.1.21. We are exposed to the risks of rising labor costs and of non-tariff individual labor agreements being challenged, which might negatively affect our profitability.

Personnel expenses represent a significant portion of our cost structure. Future increases of statutory minimum wages, collective bargaining agreements and general wage levels, both in Germany and abroad, may impact our costs both directly and indirectly (if, for example, higher wage levels impact the overall cost structure of our suppliers and such suppliers pass on the increased costs or a portion thereof to us).

Wages and salaries in certain countries in which we operate with a significant number of employees, such as China and India or countries in Eastern Europe, have historically been significantly lower than wages and salaries in more economically developed countries for similarly skilled employees, but have increased significantly in recent years. If wages and salaries in these regions continue to increase (for example, as a result of economic growth in general and the continuing expansion of industrial sites of other companies in the vicinity of our sites in certain emerging markets, for example Hungary and the Czech Republic), this will result in an increase of costs. Our margins could be reduced by such increased costs, if we are not able to continue to increase the efficiency and productivity of our employees in line with, or at a faster rate than, the rate of the wage and salary increase.

In other markets in which we conduct business, including in mature markets, such as Western Europe and the U.S., we may also face significant wage and salary increases in the future, for example in connection with renegotiations of existing collective bargaining agreements in Germany and other countries by which we are bound. In addition, from time to time, we have entered into individual negotiations with employees not covered by a collective agreement which in the past has resulted in wage and salary increases and we expect that we will face similar negotiations from time to time in the future. For example, in March 2018, we negotiated an agreement with employee representatives for the approximately 4,500 employees at almost all our Group companies in Germany that are not covered by a collective bargaining agreement, which agreement included a wage increase of 10% staggered over the next three years, a one-off payment in April 2018, and flexible working time arrangements. Such individual agreements may be challenged by the respective unions.

In addition, the continued expansion of our service business has led and may continue to lead to an increase in the number of service employees and thus of our personnel costs.

If we are not successful in limiting increases in personnel costs or if cost increases cannot be passed on to our customers, or only with a delay, this could have material adverse effects on our business, results of operations, cash flows and financial position.

1.1.22. Any deterioration of our relationships with our employees, trade unions or employee representatives may result in a material adverse effect on our business, and work stoppages, strikes or other collective actions could have a material adverse effect on our profitability.

As we are dependent on good relationships with our employees, works councils, trade unions and other stakeholders, a deterioration of these relationships could adversely impact our business. We could face strikes or other types of conflicts with trade unions or our employees in the future as we have experienced in individual cases in the past, in particular, in Germany, but also in other countries. There can be no assurance that we will not experience a material work stoppage, strike or other collective action in the future, including regarding certain restructuring measures and the harmonization of working conditions throughout our Group companies in Germany affecting employees from certain acquired businesses. Moreover, we may also be indirectly affected by strikes affecting our suppliers (which, in particular in case of prolonged strikes, may result in disruptions of our supply chain).

Any such actions may disrupt our sales activities and adversely affect our customer relations and operational results and could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.23. The loss of certain key suppliers on which we depend could have an adverse effect on our business, results of operations, cash flows and financial position.

We rely on the in-time delivery of high-quality products from our suppliers. We source materials and components we require for our manufacturing processes from several key third-party suppliers. Due to their expertise, some of our suppliers are the main or single source of supply for particular items. We are, therefore, dependent on some of our suppliers for certain supplies. Delayed deliveries from suppliers, quality defects in the parts supplied, or suppliers' inability to meet their delivery obligations due to insolvency or for other reasons could lead to lost production, which could have a material negative impact on our profitability, and materially impair our ability to deliver products to our customers within the agreed timeframe or at all. We have in the past

been affected, and may continue to be affected in the future, by the discontinuation or disruption in the production of materials and components supplied to the Group (such as certain electronic components as well as components with long tooling development lead times, *e.g.*, iron casting components), and our risk management and adjustment measures to address delivery bottlenecks may not be fully effective.

In addition, suppliers may restructure their own product portfolio and discontinue the production or sale of individual materials and components. In such a case, or if one of our suppliers fails to meet its delivery obligations, delivers sub-standard products or goes out of business, we would need to find alternatives, which may be more costly or less appropriate than the original material or component, take longer than the notice period provided to us by the supplier, and/or require costly adjustments and a redesign or re-engineering of our products, including in some cases customer validations. This is particularly the case for components (*e.g.*, in the area of electronics and electronic components) that are not widely available and cannot be easily replaced by other suppliers in a timely manner or at all. Furthermore, suppliers delivering components or materials which we cannot source effortlessly from alternative providers have a strong negotiating position to enforce higher prices or more favorable contractual terms. Protection against such risks through long-term delivery contracts is not always possible. If we are unable to switch to other suppliers in time, we may have to temporarily suspend our own production and face liability risks and loss of reputation vis-à-vis our customers. For example — with regard to a current pricing revision request — Bosch might decide to discontinue the supply of certain items delivered to KB SfN GmbH which might additionally result in costly replacements.

In addition, should a supplier become insolvent, this could result in a loss of pre-payments and recourse claims with respect to, for example, warranty breaches.

If deliveries to us from our suppliers are delayed, or if they discontinue the supply of certain materials we rely on or do so only at higher prices, this could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.24. We are dependent on our information technology and other systems, and could be affected by the loss, theft or misuse of data and other cybersecurity risks, system stoppages, interruptions or failures.

As other companies, we depend heavily on complex information technology systems and networks to support business processes as well as internal and external communications. This dependence also entails potential risks. As a result of the increasing complexity and connectivity of electronic information and communication technology, we are exposed to various risks ranging from the loss, manipulation, theft or misuse of data, to stoppages and interruptions to the business resulting from events such as system failures, fires, natural hazards or other disturbances. Our IT systems and networks are potentially vulnerable to damage or interruption from a variety of sources. For example, an extended power outage in a data center and/or telecommunication network used by our systems or a similar event could lead to an extended unanticipated interruption of our systems or networks. As an additional example, in 2017, we had to cope with IT malware attacks affecting our subsidiary Kiepe Electric in Düsseldorf, Germany, which affected the operations of the local IT infrastructure for a few days until effective corrective measures were successfully implemented. A significant system failure could have a material adverse effect on the Group.

Our information technology and other systems are subject to cybersecurity risk, including the misappropriation of customer information or personal data and other breaches of information security. Security breaches and other disruptions could compromise our information, expose us to liability and harm our reputation and business. In the ordinary course of our business, we collect and store sensitive data on our networks, including intellectual property, our proprietary business information and that of our customers, suppliers and business partners and personally identifiable information and other personal information of our customers, suppliers and employees. While we continually work to safeguard our systems and to mitigate potential security risks, our information and processes are exposed to increasing global information security threats and more sophisticated and targeted computer crime, which may result in our data being subject to a security breach, a system failure, a computer virus, malicious software or unauthorized or fraudulent use by our employees or other third parties. Any compromise of our data security and access to or public disclosure or loss of personal or confidential business information could result in legal claims or proceedings with third parties, liability or regulatory penalties under the laws that protect the privacy of personal information (such as the European General Data Protection Regulation; for more information, see "*1.2.1. — We are subject to several regulations, technical standards and governmental policies, and our business, results of operations, cash flows and financial position could be affected by the regulatory frameworks in different ways.*"), disruption of our operations, damage to our reputation, loss of business or remediation costs, any of which could have a material adverse effect on our prospects, business, results of operations, cash flows and financial position.

It cannot be excluded that we may experience delays or other difficulties during the course of system updates or any future upgrades or roll-out of new software or other IT systems. For example, our global enterprise resource planning (ERP) system, which is based on SAP software, will be updated within the next years. We will also require further major IT investments and incur ongoing costs, for example for licenses. Moreover, we are exposed to the risk that certain older IT automated systems (*e.g.*, automated manufacturing systems) in certain facilities may fail and thus prevent effective management of processes, in particular where a replacement of the outdated system may no longer be available. Furthermore, the use of cloud applications entails risks, such as risks associated with centralization and the requirement to assess where certain sensitive information resides and to mitigate any privacy risks.

If our information technology systems were to be interrupted, attacked or fail, this may have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.25. Our indebtedness as such or the enforcement of certain provisions in our financing arrangements and in the terms of our bonds may limit our operational flexibility. In addition, we are subject to refinancing and liquidity risks, as well as the risk of credit downgrades.

The financing of the Group's operations is based on our cash at hand as well as a number of credit facility agreements, loans (*e.g.*, a loan from the European Investment Bank ("**EIB**")) and two senior unsecured bonds issued under the Company's debt issuance program. Such credit and loan agreements as well as the bonds provide that the lenders may terminate the agreements if we fail to pay interest or principal when due (subject to a number of qualifications and exceptions) or upon any other event of default (including breach of obligations). The loan agreements and the terms of the bonds contemplate certain events of mandatory early repayment. For example, in the case of the loan from the EIB, the occurrence of a change of control may lead to a repayment under certain circumstances. A change of control is defined therein to include events where one or more third parties, together, exert control over the Company by (i) directly or indirectly (by holding an interest of otherwise) being able to exercise more than 50% of the voting rights in the Company, (ii) having the right to appoint more than 50% of the members of the supervisory board of the Company or the ability to exert a controlling influence over such members, or (iii) the consolidation of the Company in the consolidated financial statements of the third party. The notes under the Company's debt issuance program also include termination rights following a change of control which requires the direct or indirect acquisition of more than 50% of the voting rights and a downgrade of the Company in respect of that change of control. Further, the program includes several potential events of default, including cross-default, *e.g.*, if a capital market indebtedness of the Company (such as a bond, note or other securities) becomes prematurely repayable as a result of a default, or the Company fails to fulfill any payment obligation in excess of EUR 50 million or the equivalent thereof under any capital market indebtedness or under certain guarantees or suretyships within 30 days from its due date or after the guarantee or suretyship has been invoked, as the case may be, subject to certain exceptions. In such cases, the creditors or note holders may rely on any such provisions to accelerate repayments of any debt owed by the Group, which could have a material adverse effect on the Company and the Group's cash flows and financial position.

Our financing agreements and our bonds also contain customary covenants which may restrict our operational flexibility. For example, the loan agreement with the EIB contains a commitment of the Company regarding the maintenance of a certain rating by an internationally recognized rating agency. In case of downgrading of the Company's credit rating to BBB- or lower (Standard & Poor's or Fitch) or Baa3 or lower (Moody's), the EIB may require that we provide acceptable sureties and, if these are not provided within a certain deadline, the agreement may be terminated by the EIB. In addition, our indebtedness could, among other things, potentially limit our ability to obtain additional financing; limit our flexibility in planning for, or reacting to, changes in the markets in which we operate; place us at a competitive disadvantage relative to our competitors with less indebtedness; render us more vulnerable to general adverse economic and market conditions; or require us to dedicate a significant portion of our cash flow to service our debt.

Our ability to make payments on our debt depends upon our ability to maintain our operating performance at a certain level, which is subject to general economic and market conditions and financial, business and other factors, many of which we cannot control. If our cash flow from operating activities is insufficient to service our debt, we could be forced to take certain actions, including delaying or reducing capital or other expenditures; selling assets or operations; reducing or eliminating dividend payments; or seeking additional equity capital. We might be unable to take any of these actions on favorable terms, in a timely manner or at all.

We make use of long-term and short-term credit lines as well as bank financing in various currencies for our operating business. A negative development of the capital markets, including rising interest rates, or a deterioration — or the perception of a deterioration — of our creditworthiness could increase our financing costs. Interest rate risks arise as a result of market-related fluctuations in interest rates. They affect the level of our

interest expenses, as we have variable-interest financial debt in place. More expensive refinancing would also have a negative effect on our results of operations, cash flows and financial position.

The Company has been assigned long-term investment grade credit ratings by internationally recognized rating agencies. Such ratings may be downgraded at any time. A more aggressive financial policy than currently practiced or a sharp and/or long deterioration of demand for our products, leading to weaker credit ratios, could trigger a negative rating action. Downgrades by rating agencies may increase the Company's cost of capital. In the event of a downgrade of our credit rating, we could be required to collateralize certain obligations, including through providing bank guarantees or cash collateral in cases where we are currently not required to provide collateral or have issued, for example, parent guarantees or similar instruments.

If we become unable to service our debt or our debt is accelerated, if our creditworthiness deteriorates, or the Company's credit rating is downgraded, this could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.26. Our sales, results of operations and financial position may be adversely affected by currency fluctuations.

We are exposed to fluctuations in currency exchange rates. Our functional and reporting currency is the Euro. In addition, we conduct a significant portion of our operations outside the Eurozone and in currencies other than the Euro. Fluctuations in the currencies of countries outside the Eurozone can materially affect our revenues and operating results as well as our cash flows and financial position.

In general, we distinguish between two types of currency risk: transactional currency risks and translation currency risks. Transactional currency risks consist of value fluctuations in foreign currency payments or payments of amounts which depend indirectly on a foreign currency. The devaluation of the relevant foreign currency reduces the equivalent value in the domestic currency of incoming foreign cash flows, while an appreciation increases the domestic equivalent of outgoing cash flows. Transactional risks relate to planned or contracted foreign currency payments, investments (dividends and capital changes involving an unsecured translation risk) and contracted financing transactions. For example, changes in currency exchange rates may affect the relative prices at which we sell products in the market and the cost of products and services we require for our operations. Such fluctuations can harm our results of operations and financial position. The second type, translation currency risks, arise from value fluctuations of consolidated net assets, *i.e.*, from the conversion of the net assets of consolidated subsidiaries and other financial metrics which are held or reported in foreign currency.

In the last three fiscal years, we generated a significant part of our revenues and costs in a number of non-Euro currencies, mainly the U.S. Dollar and the Chinese Yuan. Other currencies such as the British Pound, the Hungarian Forint and the Czech Koruna are also of importance, since we sell products out of these countries in Euro but incur costs in the respective local currency. Furthermore, we sell imported products as well as purchase various imported components and merchandise. Given that a substantial portion of our products are purchased by customers who operate globally or in several jurisdictions, and that a significant and growing portion of our products are manufactured in best-cost countries and sold in other countries, cross-border transactions, both with external parties and in intra-Group relationships, result in a certain exposure to transactional currency exchange effects. In the event of depreciation or appreciation of the respective currencies of the countries in which we operate, the cost of imported products, components and equipment or local expenses may increase. In such cases, we may be unable to pass all or some of our product cost increases to our customers without negatively affecting our revenues and profitability.

Exchange rate fluctuations also affect the translated value of balance sheet and income statement positions of our Group companies outside the Eurozone, which are denominated in the relevant national currency, predominantly in U.S. Dollar and Chinese Yuan. These positions must be converted into Euro in connection with the preparation of our consolidated financial statements. As a result, exchange rate losses may arise due to this conversion. A potential future depreciation of foreign currencies against the Euro, as seen, for example, since the beginning of 2017 with respect to the U.S. Dollar, may have a negative impact on our sales.

Certain currency risks are mitigated by natural hedges due to our geographic diversification which allows us to have a high proportion of local manufacturing and local suppliers within the respective currency zones in which the corresponding sales occur. In addition, the risk of certain fluctuations, such as the risk of fluctuations in currency exchange rates as well as in the price of commodities, is hedged to a certain extent by means of derivatives, under a Group-wide hedging policy. We also require our subsidiaries to follow standardized group procedures, limits and guidelines designed to reduce the risk of currency effects. However, currency risks cannot be fully eliminated. In addition, where we hedge our currency exchange exposure through forward contracts, for example, we face the risk that the transactions must be fulfilled even in case of an exchange rate development

that would otherwise be favorable for us. Moreover, we have in the past been negatively affected and may in the future also be impacted by adverse foreign exchange rate developments; for example, if we hold cash reserves in a currency other than the Euro. In 2017, for example, we had to recognize losses relating to unhedged cash reserves we held in U.S. Dollars.

Our exposure to foreign currency exchange volatility and any failure to adequately hedge the related risks or if no hedges are in place could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.27. Our quarterly revenues and results of operations may be subject to seasonal and other quarterly fluctuations.

While our business is not typically seasonal, certain activities, *e.g.*, those in the truck and trailer industry, are generally lower in the winter months than in the spring and fall. While not necessarily affecting our results of operations with immediate effect, these seasonal trends can result in variations of revenues and resulting profit, although generally with a limited effect on the Group. The business of our Rail Vehicle Systems segment is mostly project-driven, whereas the business of our Commercial Vehicle Systems segment is mainly based on series production. This results in different patterns for both segments regarding our results of operations. The Commercial Vehicle Systems segment typically shows a more steady revenues and profit development within a given year than the Rail Vehicle Systems segment, which may show peaks in revenues and profit depending on project status. In the past, we have generally had slightly higher revenues and operating profit in the first half-year due to the fact that major OEM customers in both segments, especially in Europe and North America, close their manufacturing plants for a summer break at the start of the second half-year. This effect has typically been almost offset by adverse weather conditions during the winter months which can cause problems in logistics. Our net working capital balance is generally not affected by seasonality because any decrease in cash flow from operating activities, including cash flow from revenues, is normally offset by cash inflow resulting from the collection of receivables. The opposite is the case in periods of higher cash flow from revenues and lower cash inflow resulting from the collection of receivables. However, in general terms, our working capital tends to be higher towards the end of the year compared with the beginning of such year (in absolute terms). In addition, fourth quarter results may be affected by the timing of spare parts and service orders placed by transit agencies worldwide. Quarterly results can also be affected by the timing of projects in backlog and by project delays.

Seasonal and other quarterly fluctuations could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.28. Our insurance coverage may not be sufficient to cover all risks associated with the operation of our business.

We have taken out insurance policies in relation to a number of risks associated with our business activities. Our main insurance policies are mostly placed as global coverage and include, *inter alia*, property damage, certain business interruptions, product liability, environmental liability and certain transportation risks. Our insurance policies are subject to customary exclusions, limits and deductibles. At the same time, we have identified several risks that cannot be insured on economically feasible terms and for which, therefore, no insurance cover has been purchased. These risks include, among other risks, acts of war, terrorism and nuclear catastrophes.

Our insurance coverage may turn out to be inadequate in certain situations or we may be involved in disputes with an insurer over whether a certain incident is covered. We may therefore also incur losses or be subject to claims that exceed the type, scope or amount of our existing insurance coverage. For example, we are currently involved in a product recall claim which is generally covered by our existing insurance program, but which could, in the worst case, exceed the maximum insured amount. Furthermore, our insurance coverage may not continue to be available on commercially reasonable terms or at all and our insurance carriers may not have sufficient funds to cover all potential claims. Moreover, for example, following a number of claims or after one major claim, insurers may increase the insurance premiums or the terms and conditions of the insurance coverage may become less favorable than at present. This may also occur following a general change in the insurance markets.

If an incident occurs for which we have no insurance cover or for which our existing insurance cover is inadequate, this may result in a material adverse effect on our business, results of operations, cash flows and financial position.

1.1.29. Part of the information on our market and competitive position in the Prospectus has not been independently verified and is based on assumptions that may prove to be inaccurate.

A portion of the information on our market and competitive position presented in the Prospectus is based on market assessments and market research databases compiled by ourselves. Apart from certain information included by Roland Berger GmbH in two commissioned reports (entitled "Analysis of rail vehicle market" and "Analysis of CV systems market", both July 2018) and in a further report by Roland Berger GmbH published in August 2018 and entitled "Trends in the truck & trailer market", as further described in the Prospectus, our market data and observations included herein have not been independently verified by third parties. Such information is partly based on the Company's own market observations, the evaluation of industry information (from conferences, sector events, etc.) or internal assessments, which in turn are based on assumptions and estimates, including assumptions and estimates with respect to future developments. Although we believe that our own market observations are reasonable and the methodologies we use to compile market data are reliable, the assumptions and estimates on which such data and observations are based may prove inaccurate. In such case, the internal market data presented may incorrectly reflect our markets and our market position. Such data may also differ from estimates made by our competitors or from (future) studies conducted by market research institutes or other independent sources (which may also use a different market definition, product-based split and/or methodology), which may limit the comparability of the market data presented in the Prospectus with data from other market participants.

1.2. Legal, Regulatory and Tax Risks

1.2.1. We are subject to several regulations, technical standards and governmental policies, and our business, results of operations, cash flows and financial position could be affected by the regulatory frameworks in different ways.

The industries in which we operate are subject to extensive governmental regulations worldwide. The cost of compliance with these regulations is significant and new or more comprehensive or stringent legislation could result in significant additional expenses for us in the future, which could have a material adverse effect on our business, results of operations, cash flows and financial position.

Regulations concerning vehicle emissions, fuel consumption, environmental requirements (see "*1.2.2. — We are subject to environmental requirements and risks, as a result of which we may have to incur significant costs, liabilities and obligations.*") and safety play a particularly important role in our business. For instance, our products relating to automated driving functions must fulfill certain legal requirements, such as ensuring that the driver can promptly take control over the vehicle if necessary. Complying with these varied and often diverging regulations throughout the world requires extensive efforts by all participants in the transport industry. We expect to expend an even larger proportion of our R&D budget in the future to ensure fulfillment of these regulations. In addition, inadequate compliance with health and safety regulations and standards can lead to serious accidents or work-related illnesses and, thus, substantial damages claims as well as a loss in reputation, in particular as certain customers have a high corporate awareness for health and safety concerns and competent authorities become more stringent in adopting administrative measures to ensure compliance.

Further, road and rail safety and other regulatory standards in individual countries may become more stringent, which could require us to alter our products. For example, we expect noise level regulations for freight cars and passenger trains (*e.g.*, noise regulations for air compressors while a train stops at a station or passes residential areas) to become stricter in the future, which may require us to modify our products. We are currently investing heavily in new technologies, such as automated driving within our Commercial Vehicle Systems segment, but the required legislation to allow these systems to be implemented is lagging behind and may take longer than expected to be implemented in different jurisdictions. If the relevant regulations are not passed or turn out to be significantly different than anticipated, we may be unable to sell these automated driving systems in the mid-term, and the investments on developing them may not be as rapidly recovered as we expect, or at all.

We are also subject to applicable competition and antitrust laws, rules and regulations, and may be exposed to investigations and proceedings by national and supranational competition and antitrust authorities for alleged infringements of competition or antitrust laws. For further information, see "*1.2.3 — We are subject to risks from disputes and administrative, legal and arbitration proceedings, including antitrust proceedings.*" In addition, depending on the particular facts and circumstances, we could become subject to certain limitations on future acquisitions and certain business practices if we were found to have obtained a dominant position in certain markets.

In addition, the new EU General Data Protection Regulation ("**GDPR**") entered into force on May 25, 2018, together with corresponding amendments to national regulations. This new regime represents a significant

increase in the stringency of data protection rules (including potential high penalties in case of lack of compliance). The GDPR (including any potential future amendments) will result in considerable additional expenses and efforts in order to achieve and ensure compliance (including appropriate training of data protection officers, adjustments of processes, and monitoring by our legal and compliance team, among other required measures). Similarly, we expect to incur additional costs and efforts relating to the implementation of a new act relating to cyber-security in China, which came into force in June 2017, and the supportive rules and guidelines that have been issued and are still expected to be issued in connection therewith, making the environmental landscape in this area quite complex and difficult to ascertain.

Moreover, expectations vis-à-vis companies such as ours with respect to their corporate responsibility continue to grow, not only with respect to expectations from internal and external stakeholders, but also with respect to certain regulations which increasingly require companies to act responsibly in a variety of areas, such as the German Act for the Strengthening of Non-Financial Reporting of Companies in their Financial Reports, and issues such as respect for human rights (based on the United Nations guiding principles and related national legislation) are gaining importance globally. In addition, we observe increasing expectations of our customers requiring disclosure of the origin of minerals we use in our production processes, in order to ensure that so-called "conflict goods" are avoided and thus that no indirect support of human rights violations occurs. Although we have designed processes to observe relevant human rights and other similar regulations and standards, any potential violation thereof, or the perception of such non-observance, could have a particularly negative effect on our reputation and result, potentially, in sanctions and fines.

The increasing burden of complying with health and safety, competition, data protection and other laws and regulations, as well as a failure to adhere to any such regulations, could have a material adverse effect on our reputation, as well as our business, results of operations, cash flows and financial position.

1.2.2. We are subject to environmental requirements and risks, as a result of which we may have to incur significant costs, liabilities and obligations.

We are required to comply with various environmental regulations, for example domestic and foreign environmental laws and other regulatory requirements regarding, among others, protection of the environment and natural resources, air emissions, noise protection, waste and water discharges and disposal, transportation, remediation of contamination as well as the use, handling, disposal and remediation of hazardous substances.

Under certain environmental laws, we could be held solely or jointly and severally responsible, regardless of fault, for the remediation of any hazardous substance contamination at our past and present facilities and could also be held liable for damages to natural resources and any consequences arising out of human exposure to such substances or other environmental damage. As a result, we may be required to pay for clean-up costs (and in specific circumstances, for aftercare costs) for any contaminated property we currently own or use as operator or have owned or used in the past. For example, in Brazil, we are facing claims as a co-defendant for the remediation of a site we sold to a third party. The potential remediation was contemplated in the purchase and sale agreement for the property. However, it cannot be excluded that we will face clean-up costs and that the buyer may rescind the contract and claim damages if it is unable to fully use the site. In addition, in connection with the refurbishment of buildings at our Munich headquarters, a contamination of the soil, which originated prior to our acquisition of the property, was identified and remediated in coordination with the local competent authorities. Moreover, there are certain other known or suspected contaminations on sites that we currently use. Some of them, for example, related to the presence of asbestos as a building material. We are subject to different legal requirements in regard to these contaminations, which include monitoring, containment and/or remediation. Costs in relation to these contaminations could be significant.

The cost of environmental claims and related measures relating to our sites, products and operations, including our handling or disposal of waste and environmental remediation, if required, is difficult to accurately predict. We could incur significant costs as a result of the discovery of additional contaminations or the imposition of additional remediation obligations at our sites, including related governmental fines or other sanctions and third-party claims for decontamination, property damages or personal injury. There can be no assurance that we will not face any further liability for clean-up or other costs in the future. In addition, with respect to plants and sites that we have acquired in the past, we may have failed to properly identify and assess potential risks in this regard. In such a case, we might not succeed in claiming damages or indemnification against the relevant seller. Furthermore, there is only limited insurance coverage for financial liabilities arising from soil, water and other forms of contamination. Such requirements relating to compliance with environmental regulations and measures could have a material adverse effect on our business, results of operations, cash flows and financial position.

Furthermore, we must comply with safety and other regulations relating to chemical substances, and certain substances used in our manufacturing processes and products are and may be classified under the EU

Registration, Evaluation, Authorization and Restriction of Chemicals directive (EU REACH Regulation 1907/2006/EC). As a result, we face administrative burdens and costs, including costs relating to the research into and use of alternative substances and related changes to production processes; for example, we may have to replace substances used in our production sites or our products, which become subject to a restriction or authorization under such regulation. We may also be required to apply for an authorization to continue to use certain substances, which would result in additional costs. It cannot be excluded that in the future regulations or other standards or public concerns may lead to the banning of certain other substances which may be difficult to replace, such as specific additives that are used in plastics. This may pose technological challenges for our industry, including ourselves, may involve large investments and may require us to adapt our plants and workshops, our production processes and handling of any such substances and our warehouses, which may take time and result in additional expenses.

Moreover, a variety of laws and regulations are in place or being considered that restrict or, if enacted, would further restrict the emission of carbon dioxide and other greenhouse gases. These and other legislative and regulatory developments may cause us to incur material additional costs if we are required to reduce or offset greenhouse gas emissions and may result in a material increase in energy costs.

Any lack of compliance with the abovementioned or other environmental, health and safety regulations could lead to investigations, fines and other sanctions, and costs to ensure compliance, including compliance with any stricter regulations in the future, and to a temporary interruption of our operations.

1.2.3. We are subject to risks from disputes and administrative, legal and arbitral proceedings, including antitrust proceedings.

Individual companies of the Group are involved in out-of-court disputes, litigation and arbitral proceedings as well as administrative proceedings in the ordinary course of business, for example claims from or against trading partners regarding delivery delays, or regarding the acquisition or divestiture of companies. Group companies could also become involved in additional legal, administrative and arbitral proceedings in the future, which may involve substantial claims for damages or other payments, including labor disputes, product liability, warranty claims and civil damage claims by customers and end-users and claims by distributors and other partners, or in connection with past or future alleged or actual violations of antitrust laws. We are involved in a civil antitrust lawsuit in the U.S. District Court for the District of Columbia filed in April 2018 by the U.S. Department of Justice Antitrust Division ("**DOJ**") against Knorr-Bremse AG, certain of its U.S. subsidiaries and Wabtec, alleging that the companies had entered into agreements to restrain cold calling, recruiting, hiring, or otherwise competing for employees (so-called "no-poach agreements"). Simultaneously with the filing of the complaint, the DOJ filed, by consent of the parties, a proposed final judgment to implement a settlement with the DOJ to resolve the DOJ's litigation. Such final judgment was issued by the court on July 11, 2018. Under the terms of the final judgment, we and Wabtec are prohibited from entering, maintaining, or enforcing no-poach agreements with any other companies, subject to limited exceptions. The settlement also requires us and Wabtec to implement certain notification and compliance measures. After the announcement of the proposed no-poach settlement with the DOJ in April 2018, several private litigants filed class actions for damages based on factual allegations similar to those alleged in the DOJ complaint. Even if it is not yet possible to estimate potential damages, these could be material. In addition to the investigations named above and elsewhere in the Prospectus, we are aware of on-going investigations of different authorities, including the DOJ, relating to certain Group companies' alleged violations of antitrust laws. Although we currently consider such proceedings to be unfounded and immaterial, we cannot rule out that any of these proceedings, whether by a change of policy of the respective authority or finding of additional facts that we are currently unaware of, could in the future result in fines or other administrative measures that could damage our reputation and have a material adverse effect on our business, results of operations, cash flows and financial position.

With reference to KB SfN GmbH's engagement in steering systems activities and certain discussions on potential strategic cooperations by us in China, Bosch initiated arbitral proceedings against us on September 17, 2018, requesting a declaratory judgement that Bosch is entitled to exercise a put option relating to Bosch's shareholding in KB SfN GmbH and KB CVS Japan due to such activities. Further, Bosch claims payment of a consideration of EUR 379.6 million against transfer of such stake in KB SfN GmbH and KB CVS Japan. Bosch also requests the arbitral tribunal to prohibit KB SfN GmbH to directly or indirectly conduct or commence activities in the area of steering systems as long as Bosch is a shareholder in KB SfN GmbH, as well as for three years thereafter. As a consequence, Bosch requests that KB SteeringSystems is either acquired by us in connection with a group-internal reorganization, divested by KB SfN GmbH to a third party, or liquidated. We cannot rule out that the arbitral tribunal renders an award in favor of Bosch's claims, which might result in us being obliged to acquire Bosch's stake in KB SfN GmbH and KB CVS Japan against payment of the requested compensation as well as to ensure that KB SfN GmbH ceases any activities in the area of steering systems for the

indicated time period. This could have a material adverse effect on our business, results of operations, cash flows and financial position.

In the event of a negative outcome of any material legal, administrative or arbitral proceeding, whether based on a judgment, award or settlement, we could be obliged to make substantial payments. In addition, such proceedings can require management attention in the case of high-profile claims, result in significant litigation and arbitration costs as well as negative publicity, and harm our reputation (in some cases, regardless of the merits of the claim and the outcome of the proceedings). We have accrued provisions for potential losses resulting from pending proceedings before ordinary courts and arbitral tribunals based on our internal assessment of the likelihood and amount of loss. However, the amount of losses arising from such proceedings may exceed the provisions we have accrued by a material amount.

If disputes or legal, administrative and arbitral proceedings are brought against a Group company, this could damage our reputation as well as have a significant adverse effect on our business, results of operations, cash flows and financial position.

1.2.4. Many of our customers and end-customers operate in highly regulated industries and any additional regulatory requirements could affect our customers' business operations, which could in turn materially impair our business, results of operations, cash flows and financial position.

Most of our rail customers and end-customers and many of our commercial vehicle customers and end-customers operate in highly regulated industries, *i.e.*, the rail industry and bus and truck transportation industries. These are subject to extensive laws and regulations governing passenger safety, occupational health and safety, employment standards, protection of the environment, emissions and other matters. Any failure on the part of our customers to comply with applicable laws and regulations or permits, even if inadvertent, could result in interruption of such customers' operations, permit and license withdrawals and/or material fines, penalties or other liabilities for our customers and end-customers.

Environmental and safety legislation concerning the industries in which our customers operate may change in a manner that requires stricter or additional standards than those now in effect, a heightened degree of responsibility for companies and their directors and employees and more stringent enforcement of existing laws and regulations. This could impose significant costs and burdens on our customers (the extent of which cannot be predicted) both in terms of compliance and potential penalties, liabilities and remediation.

The burden on our customers to comply with applicable regulations as well as any breach of such regulations and requirements could have a material adverse effect on our customers' business operations which could in turn materially impair our business, results of operations, cash flows and financial position.

1.2.5. We depend, with respect to certain activities, on permits, licenses, approvals, certifications and exemptions, and there can be no assurance that we will be able to renew all necessary licenses, certifications and similar permits required for our operations in a timely manner.

Certain of our activities depend on permits, licenses, approvals, certifications and/or exemptions in different jurisdictions in order to operate our business. For example, we are exposed to risks associated with approvals when building and operating production facilities and require certain certifications (*e.g.*, ISO (International Organization for Standardization) certifications) for our plants, which must be regularly renewed. Furthermore, our customers increasingly require that we obtain additional certifications in order to consider engaging us as a supplier. The necessary validation and certification processes are often complex, time-consuming, lengthy and costly, and may be influenced by factors that are beyond our control. Also, accidents at work may cause certain certifications to be suspended or revoked. In addition, relevant regulatory authorities may not grant licenses, approvals, certifications, exemptions and dispensations as quickly as anticipated, which may result in project delays or unused capacities. This may be the case, for example, with respect to the usually lengthy "GOST certification" process in Russia (which relates to technical standards maintained by the Euro-Asian Council for Standardization, Metrology and Certification).

In addition, there can be no assurance that we will be able to renew our permits, licenses, approvals, certifications, exemptions and dispensations upon their expiration within the required timeframe or at all. Moreover, there can be no assurance that any exemption we currently rely on for our business operations will continue to exist in the future. If an exemption is not renewed, we will need to complete a re-certification process. In addition, licenses, approvals, certifications, exemptions and dispensations currently held by entities of the Group may be challenged in court by third parties, which may lead to their revocation or operating restrictions. Granted permits, licenses, approvals, exemptions and/or dispensations may also be subject to amendments and/or additional conditions being imposed on us, which could affect our sales, business, results of operations, cash flows and financial position. Moreover, the eligibility criteria for such permits, licenses,

approvals, certifications, exemptions and dispensations may change from time to time and may become more stringent in the future.

The introduction of any new and/or more stringent laws, regulations, licenses, approvals, certifications, exemptions and dispensations requirements relevant to our business operations may incur significant additional investments and maintenance costs to fulfill new regulatory requirements or may preclude us from continuing with our existing operations or some areas of our business activities or may limit or preclude us from expanding our business.

Our inability to renew all necessary or obtain newly required permits, licenses, approvals, certifications, exemptions and dispensations required for our operations in a timely manner could materially adversely affect our business, results of operations, cash flows and financial position.

1.2.6. Our risk management and internal controls may not prevent or detect violations of law, and compliance breaches could result in investigations by the relevant authorities, fines, additional tax payments, damage claims, payment claims, and the termination of relationships with customers or suppliers and reputational damage.

We operate in numerous countries with nearly 150 consolidated subsidiaries (as of December 31, 2017), including in certain countries with less stable political, legal and regulatory regimes as well as inconsistent enforcement of laws and regulations. In addition, some of our customers and suppliers operate in countries which have business environments, legal systems as well as political and cultural influences different from those which prevail in Western Europe. We also outsource some of our support functions, such as legal advisory, certain IT support functions, management and consulting functions, among others, to third-parties, and use sales agents in certain jurisdictions. We have no or only limited influence over the day-to-day operations of our customers, suppliers and other partners. In particular, we have limited or no insight on how our customers use the products we supply. All these circumstances inherently create a risk that applicable legislation and regulations may be breached.

Although we have implemented a compliance system and organization and established a Code of Conduct, including guidelines, and are providing regular training in order to ensure compliance with all applicable anti-corruption, anti-trust, anti-bribery and other legislation, our existing compliance processes and controls may not be sufficient in order to prevent violations of legal provisions (including fraud) and internal guidelines as well as other inadequate practices by employees, customers, suppliers and other partners. In addition, in our Rail Vehicle Systems segment, we operate a sales structure with trade partners worldwide who act as agents for our products. Employees, agents, customers, suppliers and other partners may not act in compliance with applicable statutory provisions and internal guidelines or process descriptions, for example, procurement, production and sales. We thus face the risk that penalties or liabilities may be imposed on us or that our business may be adversely affected. In addition, our compliance system and monitoring capabilities may not be sufficient to promptly detect current compliance issues, identify past violations or prevent damage from fraud or similar crimes in the Group, as has happened in the past in individual cases. For example, in connection with criminal investigations at one of our subsidiaries for alleged violations of labor law, we agreed with the authorities to an analysis of conditions in the respective sites and the payment of certain fines, social security, tax and interest costs.

The Group currently conducts business related to Russia and Iran and may be exposed to sanctions risk due to such business, in particular due to sanctions imposed by the U.S. on Russia and on Iran in 2018, should any such business be found by the U.S. authorities to be in breach of such sanctions.

Furthermore, while we have taken steps to ensure that any activities of our Group comply with applicable sanction laws, we cannot preclude the risk that, through inadvertence or otherwise, a member of our Group might become subject to penalties under international sanction programs.

Inappropriate behavior or any compliance breaches could lead to legal proceedings against us, criminal, regulatory and/or other fines, sanctions, court orders affecting future conduct, forfeiture of profits, rescission of existing contracts, exclusion from certain businesses — especially with public authorities (so-called "blacklisting"), loss of licenses and certifications or other restrictions, which, in turn, might limit our ability to pursue strategic projects and transactions that may be important for our business. In addition, in certain projects in which we act as contractors, we have undertaken to abide by the safety, health, environmental and other policies and manuals of the third-party awarding the project, which in aggregate include many different individual rules. Any lack of compliance may expose us to regulatory sanctions as well as termination of the contract and potential damages.

Furthermore, involvement in potential non-compliance proceedings and investigations could harm our reputation and that of our management, lead to the loss of customers and have a negative impact on our brands and on our

efforts to compete for new customers and new orders. Customers and/or third parties could also initiate legal proceedings against us for substantial financial sums.

If our compliance systems fail to detect breaches of applicable rules and regulations on our part or the part of our third party suppliers and contractors, this may lead to investigations, proceedings and fines against us which could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.2.7. Any threat to, or impairment of, our intellectual property rights and know-how could cause us to incur costs to defend these rights, and impair our ability to compete effectively.

As a Group that develops intellectual property and manufactures and markets branded products, we rely on trademark protection to protect our brands, as well as our technological expertise. We have also applied for and obtained patents for certain of our technologies as well as, to a lesser degree design rights. These protections may not adequately safeguard our intellectual property, which may have a material adverse effect on our results of operations. There is a risk that third parties, including our competitors, will infringe on our intellectual property rights, in which case we would have to defend these rights. This may result in significant costs. In addition, we may be unable to effectively combat the proliferation of imitations and counterfeits of our products, a persisting trend, in particular in Asia. On several occasions in the past we have identified imitation and counterfeit products, some of which can barely be distinguished from our branded products. This is particularly the case for some of our less sophisticated products such as brake linings. In Asia, in particular, this is a threat to both of our segments. Besides the financial losses associated with such products, counterfeit products of low quality could negatively affect our reputation if sold under our brands or suggesting that these products are "Knorr-Bremse", original parts or that they have identical characteristics to original "Knorr-Bremse" products. Moreover, in certain jurisdictions we pursue our business activities through joint ventures. In such joint ventures, our partners have access to certain portions of our know-how. There can be no assurance that we will be able to take sufficient measures to effectively protect our trademarks, patents and technological developments and know-how, or effectively prevent others from developing and designing products or technologies which are similar to those held by us. If our trademarks, patents or technological developments cannot be adequately protected, this could impair the further development of our business and thus significantly impair our competitiveness.

There is also a risk that third parties, including our competitors, will seek a revocation of our intellectual property rights, take legal action to have our intellectual property rights declared null and void, or demand an assignment of such rights. These third parties may bring infringement claims against us or our customers. For instance, competitors may challenge, invalidate or circumvent any existing or future trademarks issued to, or licensed by, us. Accordingly, we could be involved in lengthy and costly litigation to protect our intellectual property, as has occurred in individual cases in the past, the outcome of which can be uncertain.

We may also decide to file further trademark applications seeking to protect selected newly-developed brands, products or concepts, or apply for registration of existing brands or products in other relevant jurisdictions as part of an international expansion, but cannot be sure that trademark registrations will be issued. There is also a risk that we could lose protection of trademarks if we fail to renew a trademark on a timely basis. In addition, even though a trademark has been duly registered, under local regulation the fact that a trademark is not used for a certain period of time (such as five years in the EU) may render the trademark registration voidable.

Moreover, should registered intellectual property rights expire or be subject to geographical restrictions, this could allow competitors to use our intellectual property in order to facilitate entry into the market or strengthen their position. In addition, the extent of patent or trademark protection varies from country to country. In some of the countries in which we operate, patent or trademark protection may be significantly weaker than in the EU or the U.S. In addition, in cases in which we rely on licenses, our right to use intellectual property rights may terminate upon expiry or termination of the underlying license agreement, and the scope and terms and conditions of the license may become subject to interpretation and dispute. For example, in light of current attempts by Bosch to exit our joint venture KB SfN GmbH and in parallel to exercising an alleged put option, Bosch also declared the termination of a framework license agreement with KB SfN GmbH and any individual license agreements thereunder.

Moreover, we rely on trade secret protection and confidentiality agreements with our employees for the protection of certain products, technologies and other material know-how. Some of our intellectual property and know-how is not protected by registered intellectual property rights, as we consider the disclosure of trade secrets connected with a registration to be more harmful for us than the risk of secrecy violations. A failure to maintain sufficient secrecy, as well as the inability to effectively protect our trademarks and other intellectual property rights, could have a material adverse effect on our business, results of operations, cash flows, financial position, our customer relationships and our reputation.

If protections for our intellectual property and brands prove inadequate, or if we are not able to successfully defend and enforce our intellectual property rights and confidentiality agreements, this may have a material adverse effect on our business, our results of operations, cash flows and financial position.

1.2.8. We may violate intellectual property rights of third parties and be liable for damages and litigation costs.

Our products may unintentionally violate intellectual property rights, in particular patents, trademarks and design rights, of third parties. If we violate a third party's rights, we may be liable for damages as well as litigation costs and may have to withdraw goods already produced from the market or purchase a license to use such rights. For example, in light of current attempts by Bosch to exit KB SfN GmbH, Bosch declared the termination of a framework license agreement with KB SfN GmbH and any individual license agreements thereunder. To the extent any business operations of KB SfN GmbH rely on any intellectual property rights (including know-how) of Bosch or its affiliates, Bosch might thus allege infringements of its intellectual property rights which could result in Bosch being awarded potential damage claims or could even result in disruption of business operations relying on such intellectual property rights.

The potential damages for any violations of intellectual property rights depends on the amount of sales, which means that the more often one product is sold the higher the damages would be. This may reduce our sales, erode margins or damage our reputation, any of which could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.2.9. Our tax burden could increase due to changes in tax law or their application or interpretation, or as a result of current or future tax audits.

Tax laws might be subject to change, possibly with retroactive or retrospective effect. Changes in tax laws or their interpretation or application (including by any form of administrative guidance or through the interpretation by courts) or in the amount of taxes imposed on companies could increase our future tax burden and thus influence our business, results of operations, cash flows and financial position. For instance, in the U.S., where the Group conducts a significant portion of its business, a reform of the tax system is currently underway. On December 22, 2017, the U.S. Tax Cuts and Jobs Act was signed into law which not only provides for a reduction of the federal corporate income tax rate from 35% to 21%, but also institutes certain rules concerning the taxation of the U.S. business of foreign groups. The implications of the U.S. Tax Cuts and Jobs Act on our Group are part of an assessment process of the Company that has not yet been finalized as of this date. Even though the preliminary results of the assessment indicate otherwise, it cannot be excluded that the U.S. tax reform will have a major adverse effect on our Group.

The original treatment of a tax-relevant matter in a tax return, tax assessment or otherwise could later be found incorrect and additional taxes, interest, penalty payments and/or social security payments could be assessed on any of our companies. Such (re)assessment may be due to an interpretation or view of laws and/or facts by tax authorities in a manner deviating from our view and may in particular emerge as a result of tax audits or other review actions by the relevant financial or tax authorities. The Company as well as the German and other foreign subsidiaries belonging to the Knorr-Bremse Group are subject to tax audits by the respective tax authorities on a regular basis. For example, the Company and several of its German subsidiaries are currently subject to tax audits by the German tax authorities covering inter alia corporate income tax, trade tax and value added tax ("**VAT**") for the fiscal years 2013 to 2016. In addition, some of our foreign subsidiaries are currently being audited by their respective national tax authorities. As a result of current or future tax audits or other reviews by the tax authorities, additional taxes could be imposed on our Group companies exceeding the provisions reflected in our financial statements. This could lead to an increase in our tax obligations, either as a result of the relevant tax payment being assessed directly against us or as the result of us becoming liable for the relevant tax as a secondary obligor due to the primary obligor's (such as, for example, an employee) failure to pay.

Some companies of our Group have been and are still significantly benefitting from a preferential tax treatment, such as the preferential tax status of certain of our Chinese subsidiaries which, under Chinese tax law, are classified as "high and new technology enterprise" (HNTE) and thus are eligible for a lower income tax rate. If a preferential tax treatment was denied with retroactive effect or no longer granted in the future, this would have an adverse impact on our financial position and results of operations.

Several of our subsidiaries have considerable tax loss carry-forwards, some of which have been capitalized as deferred tax assets in the consolidated financial statements for the fiscal year ending on December 31, 2017. The utilization of tax loss carry-forwards, however, may be restricted under applicable tax laws, for instance, if they cannot be carried forward indefinitely or if they forfeit upon occurrence of a certain events (*e.g.*, a direct or indirect transfer of shares or a change of control). If tax loss carry-forwards can no longer be set-off against

future taxable profits, this would generally increase our future tax burden. In addition, any such restriction may require a write-down of the deferred tax assets in our consolidated financial statements. This would negatively affect our financial position and results of operations.

1.2.10. Our tax burden could increase due to the application or interpretation of transfer pricing rules, or arm's length adjustments.

Because we operate in numerous jurisdictions, we are exposed to tax risks, in particular with regard to the so-called "transfer pricing" rules that apply in several jurisdictions and in relation to cross-border business relationships. Pursuant to such rules, related enterprises are obligated to conduct any inter-company transactions on conditions which would also apply among unrelated third parties concluding comparable agreements (so called "at arm's length principle") and to provide sufficient documentation thereof, subject to the rules applicable to them in the relevant jurisdiction. Even though we have established a transfer pricing model aimed at being compliant with domestic and international transfer pricing regulations, it cannot be excluded that one or more foreign tax authorities might not agree with, and thus challenge, our implemented transfer pricing rules. The consequence might be double taxation in two countries, which could only be avoided by means of a mutual agreement procedure between the relevant tax authorities. Furthermore, transfer pricing risks may increase in the future as intra-Group cross-border business grows and as the tax authorities' interpretation of the arm's length principle evolves over time. For example, some of our subsidiaries sell goods and/or provide services to foreign subsidiaries. These companies must fulfill special requirements regarding the documentation of transfer prices according to special tax laws, such as the German Foreign Tax Act (*Außensteuergesetz*) or similar applicable national laws and regulations regarding OECD requirements. Our documentation may be considered to be insufficient by the relevant tax authorities or transfer prices may be considered to be inadequate or inadequately justified. This may result in penalties and additional tax payments.

Companies of our Group have been involved in transactions with the existing shareholders of the Company and/or parties related to the existing shareholders. Such transactions, in order to be recognized for income tax purposes, also need to comply with the arm's length principle. In case of any such transactions being found not to be at arm's length, this could lead to the assessment of additional taxes payable by companies of our Group and thus negatively affect our results of operations, cash flows and financial position.

1.2.11. We may have to repay investment grants and subsidies, or previously awarded investment grants may not be disbursed in full or in part.

In certain countries, a part of our investment requirements for developing and expanding our capacity and our product portfolio, in particular with respect to innovative concepts, is sometimes covered by public aid, such as subsidies, loans at favorable conditions or tax reductions or exemptions. For example, in Germany, subsidies up to an amount of approximately EUR 1.4 million were approved to be granted in connection with the development and optimization of the "In Motion Charging" (IMC) concept for e-buses under which trolley buses cover sections of route without overhead lines in battery-powered mode, with the batteries then being recharged when the vehicle is back under overhead lines. In addition, EU funding for the Group up to an amount of EUR 1.7 million relating to several projects in connection with the EU's rail program has been approved for the 2016-2019 period. Furthermore, we received a sizeable loan from the European Investment Bank (EIB) tied to certain development projects. We also received different subsidies for the Hungarian Group company Knorr-Bremse Fékrendszerek Kft. totaling approximately EUR 12 million during the 2013-2017 period, including, among others, tax allowances and direct subsidies for the construction of a new plant.

The decisions on granting public aid to the Group and the project-related loan of the EIB contain various conditions, for example regarding the creation of jobs or specific research and development activities, submission of proof and confirmations regarding the fulfillment of conditions within a certain deadline, including supporting documentation, and compliance with other requirements. For example, we have received an investment promotion regarding our Berlin site for the 2017-2020 period, tied to the condition that we invest at least EUR 18 million during such period in certain types of innovative investments and subject to the employment of a certain minimum number of employees at such site until 2025 (in which case, we would receive 10% of the invested amount at the end of the period). In addition, decisions regarding public aid may be subject to other conditions in the future. In addition, some authorities granting the subsidies have, in the past, requested proof of the fulfillment of the conditions to which such grants are tied, and may do so in the future. For example, in July 2015 the local authorities requested documentation in connection with the fulfillment of the measures taken to support and increase employment at our Aldersbach facility, for which we had received related EU subsidies in the amount of EUR 3.6 million in 2005. While we were able to produce the required proof, it cannot be excluded that we will be faced with similar request for other investment grants and subsidies received in the future. If the conditions attached to public aid are not fulfilled during the commitment period, which generally exceeds the

specified investment period, or if we are unable to provide any proof requested, this could result in a repayment claim for the public aid received by us.

During the commitment period, such conditions attached to investment grants and subsidies may no longer be satisfied and we could be subsequently exposed to considerable repayment claims, which could have a material adverse effect on our business, results of operations, cash flows and financial position.

1.3. Risks Related to the Offering, the Listing and the Shareholder Structure

1.3.1. KB Holding GmbH and Ursus Vermögensverwaltung GmbH, which are controlled by Mr. Heinz Hermann Thiele, will continue to exercise substantial influence over the Company following the completion of the Offering and the interests of KB Holding GmbH, Ursus Vermögensverwaltung GmbH and Mr. Heinz Hermann Thiele might conflict with the interests of other shareholders.

In the context of the offering (the "**Offering**"), KB Holding GmbH, Grünwald, Germany ("**KB Holding**" or, the "**Selling Shareholder**") will offer a portion of its shareholding in the Company. Upon completion of the Offering and the listing of the Company's shares on the regulated market of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse),* KB Holding will continue to hold at least approximately 64.99996% of the Company's share capital (assuming a full placement of all shares being offered by the Selling Shareholder, and assuming that the Selling Shareholder decides that the full amount of additional base shares that are being offered will be actually placed with investors in consultation with the underwriters acting as joint global coordinators for the Offering (the "**Upsize Option**") and of the greenshoe option granted in connection with the Offering) and Ursus Vermögensverwaltungs GmbH, Grünwald, Germany ("**Ursus**", and, together with KB Holding, as parties to a pooling agreement, the "**Controlling Entities**") which is controlled by its sole shareholder Mr. Heinz Hermann Thiele will continue to hold 5.00004% of the Company's shares. Due to its significant remaining shareholding after the completion of the Offering, the Controlling Entities and their controlling shareholder Mr. Heinz Hermann Thiele will remain in a position to exercise control relating to the Company's general shareholders' meeting and will be able, solely through the exercise of the Controlling Entities' votes, to adopt shareholders' resolutions at the Company that require only a simple majority of the votes cast. Among other things, this means that the Controlling Entities will be able to determine the use of balance sheet profits, resolve certain material capital measures, and set the dividend policy of the Company. The Controlling Entities can also control the composition of the supervisory board (*Aufsichtsrat*) of the Company (the "**Supervisory Board**") and, indirectly, the composition of the executive board (*Vorstand*) of the Company (the "**Executive Board**"). Even if their shareholding falls below 75% in or after the Offering and depending on the actual shareholders attendance levels at the Company's general shareholders' meeting, the Controlling Entities will remain in a position solely through the exercise of their own votes to adopt and effectively implement resolutions that require the consent of at least three quarters of the share capital represented at the time the resolution is adopted (for example, the creation of authorized or contingent capital, the exclusion of subscription rights for new shares and convertible instruments, amendments to the corporate purpose and the approval of mergers, profit and loss absorption agreements, divestures and changes in corporate structure). Furthermore, the Controlling Entities could prevent a general shareholders' meeting from adopting any resolutions if they attend the meeting and vote against the proposal. Mr. Heinz Hermann Thiele exercises indirect control over the Controlling Entities.

Conflicts of interest and differences of opinion could arise between the Controlling Entities and Mr. Heinz Hermann Thiele on the one hand and other shareholders on the other hand with regard to the exercise of voting rights in the general shareholders' meetings of the Company. If this were to happen, the Controlling Entities and Mr. Heinz Hermann Thiele would be able to assert their interests against the will of other shareholders because the Controlling Entities have the actual or factual majority of voting rights in the general shareholders' meeting. A conflict of interest could, for example, arise if the Company wants to carry out a capital increase and the Controlling Entities are unwilling or unable to fully participate, due to a lack of liquidity, in the capital increase but at the same time want to prevent their shareholding from being diluted. A situation in which the Controlling Entities would not participate in a future capital increase of the Company could also make it more difficult for the Company to raise any new capital. Even if the Controlling Entities do not in fact use their controlling stake to influence the Knorr-Bremse Group, the possibility of exercising such influence could have material adverse effects on the Company's share price and make it more difficult for the Company to raise capital.

The Controlling Entities and Mr. Heinz Hermann Thiele may have or develop in the future economic or business interests or goals that turn out to be inconsistent with the Group's interests or goals. For example, the Controlling Entities and/or Mr. Heinz Hermann Thiele may engage, participate or hold a right or interest in, or render services to, businesses that compete with the Group. To the extent that the Controlling Entities and/or Mr. Heinz Hermann Thiele engage in the same or similar business activities or lines of business as the Group, or engage in business with any of the Group's suppliers, distributors or customers, the Group's ability to successfully operate

and expand its business may be hampered. These activities of the Controlling Entities and/or Mr. Heinz Hermann Thiele may have a material adverse effect on the Group's business, results of operations and financial position.

1.3.2. The Company's shares have not yet been publicly traded, and there can be no assurance that a liquid trading market for the Company's shares will develop or can be maintained after the Offering.

Prior to the Offering and the listing of the Company's shares, there was no public trading in the shares of the Company. There is no guarantee that the final offer price will correspond to the price at which the shares are subsequently traded after the Offering or that a liquid trading market for the Company's shares will develop and become established after the Offering. The fact that Ursus will continue to hold 5.00004% and KB Holding will continue to hold at least 64.99996% of the Company's share capital even after a full placement of the Offer Shares limits the number of free float shares in the Company and could, therefore, adversely affect the development and maintenance of a liquid trading market for the shares. Low liquidity of the Company's shares may also entail high volatility regarding the share price. Furthermore, shares available for stabilization measures during the stabilization period are limited, as they may not exceed 15% of the shares KB Holding commited to offer in the Offering without discretion. Investors may not be able to sell the shares at the final offer price, at a higher price or at all under certain circumstances.

1.3.3. Future sales or market expectations of sales of a substantial number of shares in the Company by KB Holding or other shareholders could cause the share price to decline after the lock-up or within the lock-up period with bank waiver.

Upon completion of the Offering, KB Holding will continue to hold at least approximately 64.99996% of the Company's share capital (assuming a full placement of the Offer Shares, and including full exercise of the Upsize Option and the greenshoe option granted in connection with the Offering) and Ursus will continue to hold 5.00004% of the Company's shares. The Company's share price could fall substantially if KB Holding sells its shares, either (i) after the selling restrictions in the lock-up agreement have expired, *i.e.*, six months after the first day of trading of the Company's shares on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) or (ii) earlier, either with the consent of the underwriters acting as joint global coordinators for the Offering or, without such consent pursuant to relevant exceptions set forth in the lock-up agreement regarding certain off-exchange transactions entered into by KB Holding. A similar effect could occur if such sales are anticipated by investors. The Company's share price could also fall substantially if other significant shareholders such as Ursus, which will continue to hold 5.00004% of the Company's share capital, or investors acquiring shares in the Offering, sell their shares in the market or if such sales are expected.

In addition, the sale or market expectation of a sale of a large number of shares on the part of KB Holding or other significant shareholders could make it difficult for the Company to issue new shares in the future on favorable terms.

1.3.4. The price and trading volume of the Company's shares could fluctuate significantly, and investors could lose all or part of their investment.

Following completion of the Offering and any future offerings, the price of the shares in the Company may be subject to substantial fluctuations, especially as a result of changes in our actual or forecast operating results or those of our competitors, changes in the profit forecasts or failure to meet profit expectations of investors and securities analysts, assessments by investors with regard to the success and the effects of the Offering and the strategy described in the Prospectus as well as the assessment of the related risks, changes in the general economic conditions, changes in the shareholder structure and other factors, many of which are beyond the Group's control. Furthermore, external factors such as changing demand in the markets for Rail and Commercial Vehicle Systems or other markets and market segments relevant to the Group's operations, monetary or interest rate policy measures by central banks, regulatory changes or other external factors or unique events can impact the Group's revenues and earnings and lead to fluctuations in the price of the Company's shares. General fluctuations in share prices, especially for shares of other companies in the markets in which the Group operates, or a general deterioration in capital markets, can lead to pressure on the price of the Company's shares, and such fluctuations or general deterioration may not necessarily be based on the Group's business operations or earnings prospects.

1.3.5. Future capital increases, future equity offerings or offerings of instruments convertible into equity or any merger with another entity may dilute investors' shareholdings in the Company. Investors in certain jurisdiction (particularly in the U.S.) could be precluded from participating in any rights offering altogether.

With respect to any future capital increase of the Company, even if it involves a capital increase by way of a rights issue, there is a risk that shareholders who have not exercised their subscription rights will subsequently no

longer hold the same percentage of voting and dividend rights in the Company. Investors in certain jurisdictions (particularly in the U.S.) could be precluded from participating in any rights offering altogether. If a shareholder fails to exercise its subscription rights, its share in the Company would be diluted in proportion to the percentage the capital increase represents in relation to the Company's existing registered share capital.

Pursuant to the German Stock Corporation Act (*Aktiengesetz*), moreover, the general shareholders' meeting of the Company may in certain cases adopt a resolution on a capital increase to the exclusion of the shareholders' subscription rights. Such resolution requires a qualified majority. In such case, shareholders who are not offered any of the shares to be issued could not prevent the dilution of their shares in the Company unless they purchased additional shares in the secondary market, for example on the stock exchange, even at a higher price if necessary. Furthermore, a proposal to the general shareholders' meeting to take any of the above-mentioned measures, with dilutive effects on the existing shareholders, or any other announcement thereof, could adversely affect the market price of the Company's shares.

In addition, we may seek to raise capital through public or private debt or equity financings by issuing additional debt or equity securities convertible into shares or rights to acquire these securities, or may potentially seek to merge with another entity and exclude pre-emptive rights pertaining to the then-outstanding shares in the future. Any additional capital raised through the issue of additional shares may dilute an investor's shareholding interest in the Company if the investor does not exercise, or is excluded from exercising, its subscription rights. Furthermore, any additional financing that we may need may not be available on terms favorable to us or at all, which could adversely affect our future operations and strategy.

Any additional offering of shares by the Company, or the public perception that an offering may occur, could also have a negative impact on, or increase the volatility of, the trading price of the shares.

1.3.6. The Offering might not be completed, in which case investors could lose security commissions paid and be exposed to risks from any short selling of the shares.

The underwriting agreement relating to the Offering entered into between the Company, the Selling Shareholder, Ursus and the syndicate banks acting as underwriters in connection with the Offering (the "**Underwriting Agreement**") provides that the underwriters can terminate the Offering under certain circumstances. If the underwriters withdraw from the Underwriting Agreement, the Offering will not take place. Any allocations to investors that have already occurred will be invalid. In this case investors will not have a claim for delivery of the shares of the Company. Claims with regard to any subscription fees that have already been paid and costs incurred in connection with the subscription by an investor are governed solely by the legal relationship between the investor and the institution with which the investor has submitted its offer to purchase. If an investor has engaged in short selling, the investor bears the risk of not being able to fulfill its delivery obligations.

1.3.7. The Company's ability to pay dividends depends, in part, on the distribution or transfer of profits from its subsidiaries and on its debt covenants.

In accordance with the German Stock Corporation Act, the general shareholders' meeting of the Company decides on the payment of dividends on the recommendation of the Executive Board and the Supervisory Board. The Company's ability to distribute dividends in the future will, among other things, depend on the Company's ability to generate profits, its results of operations and financing and investment needs, as well as the availability of a distributable profits or distributable reserves. The decision on the payment of dividends is based on the balance sheet profit, as determined for the Company on a standalone basis in accordance with the German Commercial Code (*Handelsgesetzbuch*) and the German Stock Corporation Act (*Aktiengesetz*). In order to determine the balance sheet profit available for distribution, the annual financial profit or loss must be adjusted with the profit/loss carry forward from the previous year as well as any withdrawals or contributions made to the reserves. Because the Company conducts significant parts of its operational business through its subsidiaries and affiliates, its ability to pay dividends depends substantially on the ability of its operating subsidiaries to generate income and transfer profits. The transfer of profits may be limited where minority interests of third parties exist in subsidiaries and affiliates and where such minorities must approve the approval of annual accounts and the distribution of profits to shareholders. In addition, the Group's existing financing agreements include and the future financing agreements are likely to include debt covenants that may restrict the amount of cash available for the payment of dividends (see also "*1.1.25. — Our indebtedness as such or the enforcement of certain provisions in our financing arrangements and in the terms of our bonds may limit our operational flexibility. In addition, we are subject to refinancing and liquidity risks, as well as the risk of credit downgrades").* We can make no predictions as to the size of future profits available for distribution, or whether distributable profits will be achieved at all, and hence we cannot guarantee that dividends will be paid in the future.

1.3.8. ***The Company will face additional administrative requirements and incur higher ongoing costs as a result of its operation as a publicly listed company.***

As a publicly listed company, the Company will incur significant legal, accounting and other expenses that it did not incur as a private company. After the Offering, the Company will for the first time be subject to the legal requirements for German stock corporations listed on the regulated market of a public exchange and the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*) as well as the German Securities Trading Act (*Wertpapierhandelsgesetz*) and the Market Abuse Regulation. These requirements include periodic financial reporting and other public disclosures of information (including those required by the stock exchange listing authorities), regular calls and meetings with securities and industry analysts, and other required disclosures.

There is no guarantee that our accounting, controlling and legal or other corporate administrative functions will be capable of responding to these additional requirements without difficulties and inefficiencies that cause us to incur significant additional expenditures and/or expose us to legal, regulatory or civil costs or penalties. Furthermore, the preparation, convening and conduct of general shareholders' meetings and the Company's regular communications with shareholders and potential investors will entail substantially greater expenses.

Our management may also need to devote time and other resources to these additional requirements that it could have otherwise devoted to other aspects of managing our operations, and these additional requirements could also entail substantially increased time commitments and costs for the accounting, controlling, legal and investor relations departments and other Group administrative functions. In addition, we may be required to hire additional employees or engage outside consultants to comply with such requirements, which could increase our costs and expenses.

Any inability of our administrative functions to handle the additional demands placed on us by becoming a company with listed shares, as well as any costs resulting therefrom, may have a material adverse effect on our business, results of operations and financial position.

1.3.9. ***Shareholders from outside the Eurozone may be subject to foreign currency exchange rate risk.***

The shares are, and any dividends to be paid in respect of them will be, denominated in Euros. An investment in the shares by an investor whose primary currency is not Euros exposes the investor to foreign currency exchange rate risk. Any depreciation of the Euro in relation to such foreign currency will reduce the value of the investment in the shares or any dividends in foreign currency terms.

1.3.10. ***The proposed financial transaction tax could result in a substantial new tax burden in the secondary market for investors buying the Group's shares and trading them in an EU member state which implements such a tax.***

On February 14, 2013, the European Commission published a proposal for a directive for a common financial transaction tax in Belgium, Germany, Estonia, Greece, Spain, France, Italy, Austria, Portugal, Slovenia and Slovakia (each a "**Participating Member State**"). The proposed tax has a broad, potentially extraterritorial scope. It would apply to financial transactions where at least one party is a financial institution, and (i) one party is established in a Participating Member State or (ii) the financial instrument which is subject to the transaction is issued in a Participating Member State. A financial institution may be, or be deemed to be, "established" in a Participating Member State in a broad range of circumstances.

In relation to many secondary market transactions in bonds and shares, the new tax would be charged at a minimum rate of 0.1% of the aggregate amount of the trade on each financial institution which is party to the financial transaction. The proposed tax provides for the Participating Member States to apply the tax individually at a higher rate than 0.1%. The issuance and subscription and underwriting of the shares that are the subject of the Offering should, however, be exempt. There are no broad exemptions for financial intermediaries or market makers. Therefore, the effective cumulative rate applicable to some dealings in bonds or shares (for instance, cleared transactions) could be greatly in excess of 0.1% of the aggregate amount of the trade. In addition, such a tax could negatively affect our financing costs, since we expect that financial institutions will pass on costs relating to the proposed tax to customers such as the Group which require credit, and the tax would also apply to us to the extent that we trade with financial instruments and derivatives (in such case, the tax would be charged at a minimum rate of 0.01%) on a platform subject to the tax and if we were to be categorized as a non-financial entity subject to the proposed regulation.

The proposal remains subject to negotiation between the Participating Member States and may therefore be altered. Additional member states of the EU may decide to participate. Prospective investors in the offered shares are strongly advised to seek their own professional advice in relation to the financial transaction tax.

2. GENERAL INFORMATION

2.1. Responsibility for the Contents of the Prospectus

Knorr-Bremse Aktiengesellschaft, with its registered office at Moosacher Str. 80, 80809 Munich, and registered seat in Munich, Federal Republic of Germany ("**Germany**"), and registered with the commercial register maintained by the local first-instance court (*Amtsgericht*) of Munich, Germany (hereinafter also the "**Company**" or "**Knorr-Bremse AG**" and, together with its consolidated subsidiaries and affiliated companies, "**we**", the "**Knorr-Bremse Group**", the "**Group**" or "**Knorr-Bremse**"), Deutsche Bank Aktiengesellschaft, Frankfurt am Main, Germany ("**Deutsche Bank**"), J.P. Morgan Securities plc, London, United Kingdom (the "**U.K.**") ("**J.P. Morgan**"), and Morgan Stanley & Co. International plc, London, U.K. ("**Morgan Stanley**") (all three acting as joint global coordinators and joint bookrunners (the "**Joint Global Coordinators**")), as well as Joh. Berenberg, Gossler & Co. KG, Hamburg, Germany ("**Berenberg**"), COMMERZBANK Aktiengesellschaft, Frankfurt am Main, Germany ("**COMMERZBANK**"), UBS Limited, London, U.K. ("**UBS Investment Bank**"), and UniCredit Bank AG, Munich, Germany ("**UniCredit Bank**") (acting as additional joint bookrunners (the "**Additional Joint Bookrunners**", and together with the Joint Global Coordinators, the "**Underwriters**") assume responsibility for the contents of this prospectus (the "**Prospectus**") pursuant to Section 5(4) German Securities Prospectus Act (*Wertpapierprospektgesetz*) and hereby declare that, to the best of their knowledge, the information contained in the Prospectus is in accordance with the facts and that no material facts have been omitted. Neither the Company nor the Underwriters are required by law to update the Prospectus subsequent to the date hereof, except in accordance with Section 16 (1) sentence 1 German Securities Prospectus Act, which stipulates that every significant new factor or material mistake relating to the information included in the prospectus which is capable of affecting the assessment of the securities and which arises or is noted after the time the prospectus is approved and before the final closing of the offer to the public or the time when the quotation of the securities commences or trading on an organized market begins shall be mentioned in a supplement to the prospectus.

Where a claim relating to the information contained in the Prospectus is brought before a court, the plaintiff investor might, pursuant to the respective national legislation of the relevant member state of the European Economic Area, have to bear the costs of translating the Prospectus before the legal proceedings are initiated.

2.2. Subject Matter of the Prospectus

For purposes of the public offering, the Prospectus relates to a total of up to 48,360,000 bearer shares with no par value (*Stückaktien*), each such share with a notional value of EUR 1.00 in the share capital and full dividend rights as from January 1, 2018 (the "**Offering**"), comprising:

- 35,043,479 bearer shares with no par value (*Stückaktien*) from the holdings of KB Holding GmbH, Grünwald, Germany ("**KB Holding**" or the "**Selling Shareholder**") (the "**Base Shares**");
- 8,060,000 bearer shares with no par value (*Stückaktien*) from the holdings of the Selling Shareholder ("**Additional Base Shares**"), with the number of shares to be actually placed with investors subject to the exercise of an upsize option upon decision of the Selling Shareholder in consultation with the Joint Global Coordinators on the date of pricing based on market demand (the "**Upsize Option**"), and
- up to 5,256,521 bearer shares with no par value (*Stückaktien*) from the holdings of the Selling Shareholder to cover potential over-allotments (the "**Over-Allotment Shares**" and, together with the Base Shares and the Additional Base Shares, the "**Offer Shares**").

For purposes of admission to trading on the regulated market segment (*regulierter Markt*) of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) with simultaneous admission to the sub-segment of the regulated market with additional post-admission obligations (Prime Standard) of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*), the Prospectus relates to a total of 161,200,000 bearer shares with no par value *(Stückaktien)* of the Company (existing share capital of the Company) (the "**Shares**") each with a notional value of EUR 1.00 in the share capital and full dividend rights as from January 1, 2018.

The Offering consists of an initial public offering in Germany and the Grand Duchy of Luxembourg ("**Luxembourg**") and private placements in certain jurisdictions outside Germany and Luxembourg. In the United States, the Offer Shares will be offered and sold only to qualified institutional buyers ("**Qualified Institutional Buyers**") as defined in Rule 144A under the U.S. Securities Act of 1933, as amended (the "**Securities Act**"). Outside the United States, the shares of the Company are being offered and sold only in offshore transactions pursuant to the exemption from registration under Regulation S under the Securities Act.

The Offer Shares have not been and will not be registered under the Securities Act, or the securities laws of any other jurisdiction of the United States and may not be offered, sold or otherwise transferred to or within the

United States, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and in compliance with any applicable securities laws of any state or other jurisdiction in the United States.

2.3. Forward-Looking Statements

The Prospectus contains certain forward-looking statements. A forward-looking statement is any statement that does not relate to historical facts or events or to facts or events as of the date of the Prospectus. This applies, in particular, to statements in the Prospectus containing information on future earnings capacity, plans and expectations regarding our business, growth and profitability, as well as the general economic and legal conditions and other factors to which we are exposed. Statements made using wording such as "expects", "assumes", "estimates", "plans", "intends", "predicts" or "forecasts" may be an indication of forward-looking statements. They can be found in several sections in the Prospectus, for example in the sections "*1. — Risk Factors*", "*9.2 — Management's Discussion and Analysis of Net Assets, Financial Position and Result of Operations — Selected Factors Affecting Results of Operations and Financial Position*", "*10. — Markets and Competitive Environment*", "*11. — Business*" and "*24. — Recent Developments and Outlook*".

The forward-looking statements contained in the Prospectus are based on the Company's current estimates and assessments. These forward-looking statements are based on assumptions and are subject to risks, uncertainties and other factors, the occurrence or non-occurrence of which could cause actual circumstances — including with regard to our assets, financial position and results of operations as well as our profitability — to differ materially from or fail to meet the expectations expressed or implied in the forward-looking statements. Even if our future results meet the expectations expressed herein, they may not be indicative of the results of any succeeding periods.

Our business is subject to risks and uncertainties which may render a forward-looking statement, assessment or forecast incorrect. Actual results, performance or events may differ materially from those in such statement due to, among other reasons:

- macroeconomic or regional trends and developments in the markets in which we produce or sell our products, or in which we offer our services, such as general economic growth, demographic developments, developments affecting our customers' businesses, interest rates and inflation;
- the success of our principal product and service offerings;
- volatility in energy prices and the cost of materials, and increase in costs for logistics, in particular transportation costs;
- loss of key suppliers or changes in the availability of raw materials, inputs or components used in our products;
- currency effects;
- our ability to successfully manage future growth, or to expand our business, complete acquisitions and successfully integrate acquired businesses;
- changes to, or enforcement of governmental and environmental laws and regulations, for example, regulations regarding product safety, as well as product liability, actions taken by legislators and regulatory authorities with respect to requirements in terms of energy efficiency or carbon dioxide emissions;
- inadequate protection of our intellectual property rights;
- changes in the scope or interpretation of competition and antitrust laws;
- material warranty or product liability claims against us;

and other factors described in the Prospectus.

Investors should therefore ensure that they have read the sections "*1. — Risk Factors*", "*8. — Selected Financials and Business Information*", "*9. — Management's Discussion and Analysis of Net Assets, Financial Position and Result of Operations*", "*10. — Markets and Competitive Environment*", "*11. — Business*" and "*24. — Recent Developments and Outlook*"., which include more detailed descriptions of factors that might influence our business performance and the markets in which we operate.

In light of the uncertainties and assumptions, it is also possible that the future events mentioned in the Prospectus may not occur or may differ materially from actual events. In addition, the forward-looking estimates and forecasts reproduced in the Prospectus from third-party sources (see "*2.4. — Information from Third Parties*") could prove to be inaccurate. The foregoing may prevent the Company from achieving its financial and strategic objectives.

The forward-looking statements contained in the Prospectus are only true and accurate as of the date on which they were made. Investors are advised that neither the Company nor the Underwriters assume any obligation and do not intend, except as required by law, to publicly release any updates or revisions to these forward-looking statements to reflect any change in the Company's expectations with regard to such statements or any change in events, conditions or circumstances on which any such statement is based or to adjust them in line with future events or developments.

2.4. Information from Third Parties

Unless otherwise indicated, statements in the Prospectus regarding the market environment, market developments, growth rates, market trends and the competitive environment in the markets and segments in which we operate are based on the Company's assessments and estimates. These assessments, in turn, are — unless otherwise indicated — based in part on internal market observations and/or various studies by third parties.

In drafting the Prospectus, the following sources were used:

- A report commissioned by the Company and prepared by the strategy consulting company Roland Berger GmbH, Sederanger 1, 80538 Munich, Germany ("**Roland Berger**"), bearing the title "Analysis of rail vehicle market" and dated July 25, 2018 (the "**RB RV Report**"), as well as a further study prepared and published by Roland Berger in August 2018 entitled "Trends in the truck & trailer market" (the "**RB T&T Report**"). The RB T&T Report includes, besides data independently developed by Roland Berger, certain data provided by Knorr-Bremse and other industry players, as well as data from a further report commissioned by the Company and prepared by Roland Berger, bearing the title "Analysis of CV systems market", dated July 27, 2018 (the "**RB CV Report**"). The RB CV Report, the RB RV Report and the RB T&T Report are together referred to as the "**Roland Berger Reports**"). The RB RV Report and the RB CV Report were prepared in the context of the Company's initial public offering in accordance with the instructions of the Company. The statements taken from the Roland Berger Reports are included in the Prospectus, in the form and context in which they are included, with the consent of Roland Berger. The Company has delivered, upon Roland Berger's request, certain factual information and its own market data and analyses to Roland Berger and has discussed the underlying assumptions with Roland Berger;
- China Daily, "China issues five-year plan to expand transport network", February 28, 2017;
- China Daily, "Rails expand high-speed network", December 28, 2017;
- Chinese National Bureau of Statistics ("**NBS**"), Statistical Communiqué of the People's Republic of China on the 2017 National Economic and Social Development dated February 28, 2018;
- Daimler Communications, press release titled "Daimler investiert rund 600 Millionen Euro in brasilianisches Nutzfahrzeuggeschäft", October 10, 2017;
- Frost & Sullivan, San Antonio/Texas, U.S. ("**Frost & Sullivan**"), "Frost & Sullivan's Perspective on The Global Commercial Vehicle Market", presentation to Knorr-Bremse dated June 5, 2018 (the "**Frost & Sullivan CV Presentation**"), as well as "Commercial Vehicle Electrification Trends — Global Overview", August 2018 (the "**Frost & Sullivan CV Electrification Overview**");
- IHS Englewood/Colorado, U.S. ("**IHS**"), "Medium and Heavy-Duty Commercial Vehicle Industry Forecast: Production Q1/2018" (as source for truck and bus production output);
- International Energy Agency, World Energy Outlook 2017 — Executive Summary, November 2017;
- People's Daily Online, "China's high-speed rail network expands alongside speed and passion", July 12, 2017, available under http://en.people.cn/n3/2017/0712/c90000- 9240832.html;
- SCI Verkehr GmbH, Hamburg, Germany, "Worldwide Rolling Stock Manufacturers 2016", October 2016 (the "**SCI 2016 Report**");
- UNIFE (the European Rail Industry)/Roland Berger GmbH, Munich, Germany, "World Rail Market Study — Forecast 2016 to 2021, "World Rail Market Study — Forecast 2014 to 2019" and "World Rail Market Study — Forecast 2012 to 2017" and UNIFE/Boston Consulting Group, "World Rail Market Study: Status quo and outlook 2020" (2010) (together, the "**UNIFE Reports**");
- United Nations, "World Population Prospects: The 2017 Revision;
- United Nations, "World Urbanization Prospects: The 2018 Revision (Key Facts)";
- Wabtec Corporation, Wilmerding/Pennsylvania, U.S., "Wabtec and GE Transportation to Merge", presentation dated May 21, 2018 and available under https://www.wabtec.com/uploads/Wabtec-and-GE-Transportation-to-Merge-presentation.pdf;

- World Economic Outlook of the International Monetary Fund as of April 17, 2018; and
- World Economic Outlook of the International Monetary Fund as of October 11, 2017.

To the extent that information has been sourced from third parties, this information has been accurately reproduced by the Company in the Prospectus and, as far as the Company is aware and is able to ascertain, regarding information published by these third parties, no facts have been omitted which would render the reproduced information inaccurate or misleading. However, market studies and analyses are frequently based on information and assumptions that may not be accurate or technically correct themselves, and their methodology is, by nature, forward-looking and speculative.

The scope of the Roland Berger Reports follows, to a large extent, the underlying end-markets addressed by Knorr-Bremse. In the preparation of the RB RVS Report, Roland Berger conducted 16 interviews with market experts from rail operators and other companies active in the rail industry across multiple countries. In addition, Roland Berger conducted approximately 50 interviews with market experts from commercial vehicle Original Equipment Manufacturers ("**OEMs**", Original Equipment Services ("**OES**") and fleet operators based in different regions in preparation of the RB CV Report. Interview responses are by their very nature subjective.

Irrespective of the assumption of responsibility for the contents of the Prospectus by the Company and the Underwriters (see "*2.1. — Responsibility for the Contents of the Prospectus*"), neither the Company nor the Underwriters have verified the figures, market data and other information used by third parties in their studies, publications and financial information, or the external sources on which the Company's estimates are based, whereby the Company has delivered certain factual information and its own market data and analyses to Roland Berger and has discussed the underlying assumptions with Roland Berger in connection with the preparation of the Roland Berger Reports.

The Company and the Underwriters make no representation or warranty as to the accuracy of any information from third parties included in the Prospectus. Prospective investors should note that the Company's own estimates and statements of opinion or belief are not always based on studies from third parties. They may differ from estimates made by our competitors or from future studies conducted by market research institutes or other independent sources.

The Prospectus also contains estimates of market and other data and information derived from such data, which was not and cannot be obtained from publications by market research institutes or from other independent sources. Such information is partly based on the Company's own market observations, the evaluation of industry information (from conferences, sector events, etc.) or internal assessments. The Company's management believes that its estimates of market and other data and the information it has derived from such data assists potential investors in gaining a better understanding of the industry in which companies of the Group operate and the Group's position therein.

The Company's internal market observations and estimates are derived from various sources, including, among others, requests for projects from customers and potential customers, industry publications, studies conducted by third parties as well as available information on the Group's competitors and customers. The Company has compiled its estimates for the relevant markets and competitive data in part on the basis of available historical data, and in part on the basis of internal assessments and forecasts, using assumptions and methodologies which the Company believes to be reasonable, as well as various sources that the Company believes to be reliable. In light of the absence, to a large extent, of publicly available market data for the specific market segments that Knorr-Bremse addresses, information on certain areas of the Group's addressable markets for specific components for rail and commercial vehicles (including the respective market definitions as well as the data on market sizes, projected growth rates and competitive position) is largely based on the businesses the Group operates and the main products it offers for which the Company believes a market can be reasonably assessed. The Company's own estimates and internal market assessments used in the Prospectus have not been checked or verified externally. The Company nevertheless assumes that its own market observations are reasonable. However, they should be viewed with caution and may differ from estimates made by competitors of Knorr-Bremse or from (future) studies conducted by market research institutes or other independent sources (which may also use a different market definition, product-based split and/or methodology); see also "*1.1.29. — Risk Factors — Part of the information on our market and competitive position in the Prospectus has not been independently verified and is based on assumptions that may prove to be inaccurate.*" The Company and the Underwriters give no warranty that estimates mentioned in the Prospectus are accurate and do not differ materially from actual events.

Information contained on any website mentioned in the Prospectus, including the Group's website or the websites of any Group entity, is not incorporated by reference in the Prospectus and is not part of the Prospectus.

2.5. Documents Available for Inspection

For as long as the Prospectus is valid, copies of the following documents are available for inspection during regular business hours at the Company's offices at Moosacher Str. 80, 80809 Munich, Germany:

(i) the Company's articles of association (the "**Articles of Association**");

(ii) the audited consolidated financial statements of Knorr-Bremse Aktiengesellschaft prepared in accordance with the International Financial Reporting Standards, as adopted by the European Union ("**IFRS**") and the additional disclosure requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (*Handelsgesetzbuch*, "**HGB**") as of and for the fiscal years ended December 31, 2017, December 31, 2016 and December 31, 2015 (the "**Audited Consolidated Financial Statements**");

(iii) the unaudited condensed consolidated interim financial statements of the Company as of and for the six-month period ended June 30, 2018, including comparative figures for the six-month period ended June 30, 2017 (the "**Unaudited Condensed Consolidated Interim Financial Statements**" and, together with the Audited Consolidated Financial Statements, the "**Consolidated Financial Statements**");

(iv) the audited unconsolidated financial statements of Knorr-Bremse Aktiengesellschaft prepared in accordance with German generally accepted accounting principles (German GAAP) as of and for the fiscal year ended December 31, 2017 (the "**Audited Unconsolidated Financial Statements**"); and

(v) the RB RV Report and the RB CV Report.

The Company's future consolidated annual and interim financial statements will be available on the website of the Company (https://ir.knorr-bremse.com), from the German Company Register (*Unternehmensregister*) (www.unternehmensregister.de) and at the Company's offices, Moosacher Str. 80, 80809 Munich, Germany. Annual financial reports will also be published in the German Federal Gazette (*Bundesanzeiger*).

2.6. Note on Currency

The following table explains the denotation of currencies used in the Prospectus and in the Audited Consolidated Financial Statements, the Unaudited Condensed Consolidated Interim Financial Statements and the Audited Unconsolidated Financial Statements:

Symbol used	Legal currency of
"EUR", "€" or "Euro"	the Eurozone, including Germany and Luxembourg
"USD" or "U.S. dollar"	the United States of America ("**United States**" or "**U.S.**")
"CHF" or "Swiss francs"	Switzerland
"CNY" or "Chinese Renminbi" or "Chinese Yuan"	China
"HUF" or "Hungarian Forint"	Hungary
"CZK" or "Czech Koruna"	Czech Republic
"GBP" or "British Pound"	the U.K.
"INR" or "Indian Rupee"	India
"JPY" or "Japanese Yen"	Japan
"HKD" or "Hong Kong Dollar"	Hong Kong
"ZAR" or "South African Rand"	South Africa
"BRL" or "Brazilian Real"	Brazil

The abbreviation "t" preceding currency data stands for "thousand", the abbreviation "m" stands for "million" and the abbreviation "bn" stands for billion.

The table below shows the annual average exchange rates as well as the closing rates of the foreign currencies listed against the Euro for the periods listed and as used in the Prospectus and in the Audited Consolidated Financial Statements. Since all subsidiaries of the Company conduct their financial, commercial and organizational activities independently, their respective local currency is the functional currency. In accordance with IAS 21, all items in the Consolidated Balance Sheet, except equity, are translated at the closing rate, while expense and income items are generally translated at the rates applicable at the transaction date. Based on materiality average rates are used. Equity is translated at historical rates. Any resulting translation differences are recognized in a separate component of equity. Foreign exchange rate differences in comparison to the prior year are also recognized in a separate component of equity, the foreign currency translation reserve.

Local currency amounts to EUR	Annual average exchange rate for the twelve-month period ended December 31,			Closing rate as of December 31,		
	2017	2016	2015	2017	2016	2015
USD	0.88097	0.90667	0.90606	0.83382	0.94868	0.91525
CNY	0.13058	0.13661	0.14396	0.12813	0.13661	0.14102
HUF	0.00323	0.00321	0.00323	0.00322	0.00322	0.00319
CZK	0.03805	0.03698	0.03665	0.03916	0.03701	0.03700
GBP	1.14075	1.21976	1.38229	1.12710	1.16798	1.35503
INR	0.01356	0.01346	0.01410	0.01305	0.01397	0.01379
JPY	0.00786	0.00832	0,00749	0.00741	0.00810	0.00760
HKD	0.11303	0.11682	0.11688	0.10670	0.12232	0.11808
ZAR	0.06679	0.06221	0.07080	0.06754	0.06917	0.05923
BRL	0.27549	0.26327	0.27401	0.25171	0.29150	0.23480

Source: Indicated exchange rates based on data by Thomson Reuters according to country-specific specifications based on the reference rates of the respective national banks

2.7. Note Regarding the Presentation of Certain Financial Information

The fiscal years ended December 31, 2017, December 31, 2016 and December 31, 2015 are also referred to in the Prospectus as "**fiscal year 2017**" or "**2017**", "**fiscal year 2016**" or "**2016**" and "**fiscal year 2015**" or "**2015**", respectively. The current fiscal year, which will end on December 31, 2018, is also referred to as "**fiscal year 2018**" or "**2018**".

The Audited Consolidated Financial Statements were prepared by the Company in accordance with IFRS, as adopted by the European Union and were audited in accordance with Section 317 HGB and German generally accepted standards for the audit of financial statements (which are promulgated by the Institute of Public Auditors in Germany (*Institut der Wirtschaftsprüfer*)) by KPMG AG Wirtschaftsprüfungsgesellschaft ("**KPMG**"), Berlin, through its Munich branch, who issued an unqualified auditor's report (*uneingeschränkter Bestätigungsvermerk*) thereon. The Unaudited Condensed Consolidated Interim Financial Statements were prepared by the Company in accordance with IFRS, as adopted by the European Union, for interim financial reporting (IAS 34). The Audited Unconsolidated Financial Statements of the Company were prepared in accordance with German generally accepted accounting principles (German GAAP). KPMG issued an unqualified auditor's report (*uneingeschränkter Bestätigungsvermerk*) thereon. The aforementioned financial statements are included in the "23. — Financial Information" section of the Prospectus beginning on page F-1.

Financial data in the Prospectus as of and for the fiscal years 2017, 2016 and 2015, (i) if presented as "audited", is taken from our Audited Consolidated Financial Statements and, (ii) if presented as "unaudited", is either derived from our Audited Consolidated Financial Statements, or taken or derived from our accounting records or our management reporting. The selected financial and business information of the Group as of June 30, 2018, and for the six-month periods ended June 30, 2018 and June 30, 2017 is taken or derived from our Unaudited Condensed Consolidated Interim Financial Statements, or taken or derived from our accounting records or our management reporting.

For information regarding the presentation of financial information contained in the Prospectus also see the respective introductions to the sections headed "*8. — Selected Financial and Business Information*" and "*9. — Management's Discussion and Analysis of Net Assets, Financial Position and Results of Operations*".

2.8. Non-IFRS Measures/Alternative Performance Measures

Throughout the Prospectus, we present financial measures and adjustments that are not presented in accordance with IFRS or German GAAP, or any other internationally accepted accounting principles, (collectively, the "**Non-IFRS Measures**"). We have defined each of the following Non-IFRS Measures as follows:

- "**Aftermarket Sales**" (secondary market) comprise all revenues of products and services (*e.g.*, spare parts, overhaul) not related to a new original equipment market business products and are based on data derived from German GAAP data and may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus.
- "**Aftermarket Sales Share**" is calculated, on a group level, as the percentage of total revenues (based on German GAAP data) and, on a segment level, as the percentage of revenues of the respective segment (based on German GAAP data).
- "**Capital Expenditures**" are defined as payments made for the purchase of property, plant and equipment and intangible assets.
- "**Cash Conversion Ratio**" is defined as Free Cash Flow (as defined below) divided by net income/loss.
- "**EBIT**" is defined as net income/loss before taxes on income, other financial result, interest expenses, and interest income.
- "**EBIT-margin**" is calculated, on a group level, as the percentage of revenues and, on a segment level, as the percentage of revenues of the respective segment.
- "**EBITDA**" is defined as net income/loss before taxes on income, other financial result, interest expenses, interest income, as well as depreciation and amortization.
- "**EBITDA-margin**" is calculated, on a group level, as the percentage of revenues and, on a segment level, as the percentage of revenues of the respective segment.
- "**Equity Ratio**" is calculated as equity divided by equity and liabilities (balance sheet total).
- "**Free Cash Flow**" is defined as cash flow from operating activities less Capital Expenditures.
- "**Net Working Capital**" is defined as the balance of inventories, trade accounts receivables, receivables from construction contracts, trade accounts payables, liabilities from construction contracts and prepayments received.
- "**Net Financial Cash**" is calculated by subtracting financial liabilities, consisting of current financial liabilities and non-current financial liabilities (each consisting of liabilities to banks, bond liabilities and lease liabilities), from cash and cash equivalents.
- "**Order Intake**" is defined as total of received sales orders for a defined period. These sales orders are recorded as Order Intake when legally binding documents/contracts which oblige the Group to deliver a certain quantity in a defined time range to a defined price are in place.
- "**Order Book**" is defined as all sales orders as recorded in Order Intake, which have not been delivered, rejected or cancelled yet.
- "**Return on Capital Employed**" (ROCE) is defined as EBIT divided by capital employed (sum of property, plant and equipment, intangible assets and Net Working Capital).

We present these Non-IFRS Measures as (i) they are used by our management to measure operating performance and liquidity, including in presentations to the members of our executive board (*Vorstand*) ("**Executive Board**") and our supervisory board ("**Supervisory Board**"), and as a basis for strategic planning and forecasting, and (ii) they represent similar measures that we believe are widely used by certain investors, securities analysts and other parties as supplemental measures of operating and financial performance. These Non-IFRS Measures may enhance management's and investors' understanding of our financial performance and liquidity by excluding items that are outside of our ongoing operations, such as taxes on income, costs of capital and non-cash expenses. For example, we believe that EBITDA is widely used by investors to measure our operating performance before depreciation and amortization in particular because depreciation and amortization under IFRS can vary substantially from company to company depending on the accounting methods, carrying amount of assets, and capital structure or method by which assets were acquired and are therefore less comparable as a result.

However, these Non-IFRS Measures are not measures based on IFRS or any other internationally accepted accounting principles, and should not be considered as an alternative to the historical financial results or other

indicators of our performance based on IFRS measures. They should not be considered as alternatives to net income or operating income as indicators of our performance, profitability or as alternatives to cash flows from operating income as an indicator of our liquidity. The Non-IFRS Measures, as defined by us, may not be comparable to similarly titled measures as presented by other companies due to differences in the way our Non-IFRS Measures are calculated. Even though the Non-IFRS Measures are used by management to assess ongoing operating performance and liquidity and these types of measures are commonly used by investors, they have important limitations as analytical tools, and they should not be considered in isolation or as substitutes for analysis of our results or cash flows as reported under IFRS.

2.9. Note Regarding Figures and Technical Terms

Some figures (including percentages) in the Prospectus have been rounded in accordance with commercial rounding. In some instances, such rounded figures and percentages may not add up to 100% or to the totals or subtotals contained in tables or stated elsewhere in the Prospectus. Furthermore, totals and subtotals in tables may differ slightly from unrounded figures stated elsewhere in the Prospectus due to rounding off in accordance with commercial rounding. Financial information presented in parentheses denotes the negative of such number presented. A dash ("—") indicates that no data was reported for a specific line item in the relevant fiscal year or period, while a zero ("0") is used when the pertinent figure, after rounding, amounts to nil. Negative figures are presented either marked with a minus ("-") or in brackets.

A glossary of certain technical and financial terms and abbreviations used in the Prospectus is provided at the end of the Prospectus under the heading "*25. — Glossary*".

3. THE OFFERING

3.1. Subject Matter of the Offering

The Offering consists of a total of up to 48,360,000 bearer shares with no par value (*Stückaktien*) of the Company, each such share with a notional value of EUR 1.00 in the share capital and full dividend rights as from January 1, 2018, comprising:

- 35,043,479 Base Shares,
- 8,060,000 Additional Base Shares, with the number of shares to be actually placed with investors subject to the exercise of the Upsize Option upon decision of the Selling Shareholder in consultation with the Joint Global Coordinators on the date of pricing and
- up to 5,256,521 Over-Allotment Shares.

The Offering consists of an initial public offering in Germany and Luxembourg and private placements in certain jurisdictions outside Germany and Luxembourg. In the United States, the Offer Shares will be offered and sold only to Qualified Institutional Buyers as defined in Rule 144A under the Securities Act. Outside the United States, the shares of the Company are being offered and sold only in offshore transactions pursuant to the exemption from registration under Regulation S under the Securities Act.

The Offer Shares have not been and will not be registered under the Securities Act, or the securities laws of any other jurisdiction of the United States and may not be offered, sold or otherwise transferred to or within the United States, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and in compliance with any applicable securities laws of any state or other jurisdiction in the United States.

The Company will not receive any proceeds from the Offering. The Selling Shareholder will receive the proceeds resulting from the sale of the Base Shares, a potential sale of Additional Base Shares, if and to the extent the Upsize Option is exercised, and from a potential sale of Over-Allotment Shares to the extent the Greenshoe Option is exercised, but must pay a commission in connection thereto.

3.2. Selling Shareholder

Prior to completion of the Offering, the share capital of the Company is held by KB Holding GmbH, Schlehdornstr. 3, 82031 Grünwald, Germany (94.99996%), and Ursus Vermögensverwaltungs GmbH ("**Ursus**"), Schlehdornstr. 3, 82031 Grünwald, Germany (5.00004%). For an explanation on the shareholder structure of KB Holding and Ursus see the section headed "*15. — Shareholder Structure*". The Underwriters are offering 35,043,479 Base Shares and 8,060,000 Additional Base Shares subject to an Upsize Option from the holding of the Selling Shareholder under the Offering. In addition, the Selling Shareholder has granted an option to the Underwriters to borrow and acquire up to 5,256,521 further shares from KB Holding in connection with potential sale of Over-Allotment Shares and the exercise of the Greenshoe Option, see "*3.9. — Stabilization Measures, Over-Allotments and Greenshoe Option*". Upon completion of the Offering, and assuming full placement of the Base Shares, the full exercise of the Upsize Option and placement of the Additional Base Shares and full exercise of the Greenshoe Option and placement of the Over-Allotment Shares, the Selling Shareholder will continue to hold approximately 64.99996% of the Company's share capital (while Ursus will continue to hold approximately 5.00004% of the Company's share capital).

3.3. Price Range, Offer Period, Offer Price and Allotment

The price range within which purchase orders may be placed is from EUR 72.0 to EUR 87.0 per Offer Share (the "**Price Range**").

The Offering allows investors to submit purchase orders for the shares during the offer period which will commence on October 1, 2018 and is expected to end on October 11, 2018 (the "**Offer Period**"). Retail investors may submit purchase orders under the public offering in Germany and Luxembourg during the Offer Period at the branch offices of the Underwriters. On the last day of the Offer Period, purchase orders may be submitted (i) until 12:00 (Central European Summer Time) by retail investors and (ii) until 14:00 (Central European Summer Time) by institutional investors. Purchase orders must be expressed in full euro amounts or increments of 25, 50 or 75 Eurocents. Retail investors may place orders with more than one bank.

The Selling Shareholder reserves the right,— after consultation with the Company and the Joint Global Coordinators, to reduce or increase the number of Offer Shares, to reduce or increase the upper/lower limits of the Price Range and/or to extend or shorten the Offer Period. To the extent that the terms of the Offering are changed, such change will be announced through electronic media, on the Company's website

(https://ir.knorr-bremse.com) and published, if required by the Regulation (EU) No 596/2014 of the European Parliament and of the Council of April 16, 2014 on market abuse and/or the German Securities Prospectus Act (*Wertpapierprospektgesetz*), as an ad hoc announcement via an electronic information system and on the Company's website, and/or as a supplement to the Prospectus. Investors who have submitted purchase orders will not, however, be informed individually. Changes to the number of Offer Shares or the Price Range or extension or shortening of the Offer Period will not invalidate purchase orders already submitted. Pursuant to the German Securities Prospectus Act, investors who have submitted a purchase order before a supplement is published are granted a period of two business days from publication of the supplement to withdraw their orders, provided that the new circumstance or material mistake that makes a supplement necessary occurred prior to the final expiration of the Offering and prior to the delivery of the shares. Instead of withdrawing the purchase orders placed prior to the publication of the supplement, within two days of publication of the supplement, the investor may change such orders or submit new limited or unlimited orders. Under certain conditions, the Joint Global Coordinators acting on behalf of the Underwriters may terminate the underwriting agreement regarding the offer and sale of the Offer Shares in connection with the Offering, entered into among the Company, the Selling Shareholder, Ursus and the Underwriters on September 28, 2018 (the "**Underwriting Agreement**"), even after commencement of trading (*Aufnahme des Handels*) of the Company's shares on the regulated market (*regulierter Markt*) of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) (see "*20.4. — Underwriting — Termination/Indemnification*"*).*

KB Holding, after consultation with the Joint Global Coordinators, will decide if and to what extent the Upsize Option is exercised depending on market demand and using the order book prepared during the bookbuilding process. KB Holding may sell up to 8,060,000 Additional Base Shares.

Once the Offer Period has expired, the final number of Offer Shares and the final offer price (the "**Offer Price**") will be determined by the Selling Shareholder after consultation with the Company and the Joint Global Coordinators. The Offer Price will be set on the basis of the purchase orders submitted by investors during the Offer Period that have been collated in the order book during the bookbuilding process. This procedure is expected to take place on or about October 11, 2018. Consideration will be given to whether the Offer Price and the number of shares to be placed allow for the reasonable expectation that the share price will demonstrate steady performance in the secondary market given the demand for the Company's shares noted in the order book during the book building process. Attention will be paid not only to the prices offered by investors and the number of investors wanting shares at a particular price but also to the composition of the group of shareholders in the Company that would result at a given price (so-called investor mix) and expected investor behavior. For further information regarding allotment criteria see "*3.5. — Allotment Criteria*". The Company and the Selling Shareholder will not charge investors any expenses or taxes incurred in connection with the Offering. Particularly if the placement volume proves insufficient to satisfy all orders placed at the Offer Price, the Underwriters reserve the right to reject orders, or to accept them in part only.

The final number of Offer Shares and the Offer Price are expected to be published on or about October 11, 2018 by means of an ad hoc announcement in various media distributed across the entire European Economic Area (*Medienbündel*) and on the Company's website (https://ir.knorr-bremse.com). Investors who have placed purchase orders with one of the Underwriters can obtain information from that Underwriter about the Offer Price and the number of Offer Shares allotted to them, at the earliest, on the first bank business day following the pricing. Trading in the Company's shares may commence before investors have received notice of the number of Offer Shares allotted to them. Book-entry delivery of the allotted Offer Shares against payment of the Offer Price is expected to occur on October 16, 2018. Investors are free to withdraw their offers to purchase until the end of the Offer Period. After the Offer Price has been set, the Offer Shares will be allotted to investors on the basis of the offers to purchase then available. Until (and including) October 16, 2018, the Underwriting Agreement may be terminated by the Underwriters. In the case of a termination of the Underwriting Agreement, the Offering will not take place, allocations of Offer Shares to investors will become ineffective, and investors have no claim regarding the delivery of the Offer Shares.

3.4. Expected Timetable for the Offering

The anticipated timetable for the Offering, which is subject to extension or shortening, is as follows:

September 28, 2018	Approval of the Prospectus by the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*) ("BaFin") Publication of the approved Prospectus on the Company's website (https://ir.knorr-bremse.com)

	Notification of the approved prospectus to the Luxembourg Comission for the Supervision of the Financing Sector (*Comission de Surveillance du Secteur Financier*)
October 1, 2018	Commencement of the Offer Period
	Application for listing filed with the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) and simultaneously, to the sub-segment thereof with additional post-admission obligations (Prime Standard)
October 11, 2018	Close of the Offer Period for retail investors at 12:00 (Central European Summer Time) and for institutional investors at 14:00 (Central European Summer Time)
	Determination of the Offer Price and allotment of the final number of Offer Shares; publication of Offer Price and number of Offer Shares placed as an ad hoc announcement in various media distributed across the entire European Economic Area (*Medienbündel*) and on the Company's website (https://ir.knorr-bremse.com)
	Publication of the results of the Offering in the form of an ad hoc announcement on an electronic information dissemination system and on the Company's website (https://ir.knorr-bremse.com)
October 11, 2018	Listing approval issued by the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*)
	Publication of the listing approval issued by the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*)
October 12, 2018	First day of trading of the Company's shares on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*)
October 16, 2018	Book-entry delivery of the Offer Shares against payment of the Offer Price

The Prospectus will be published on the Company's website at https://ir.knorr-bremse.com after approval by the BaFin on September 28, 2018. In addition, upon publication a copy of the printed Prospectus and any supplement(s) thereto will be available free of charge during regular business hours at the offices of the Company, Moosacher Str. 80, 80809 Munich, Germany.

3.5. Allotment Criteria

The allotment of shares to retail investors and institutional investors will be decided by the Selling Shareholder after consultation with the Company and the Joint Global Coordinators. The ultimate decision rests with the Company and the Selling Shareholder. Allotments will be made on the basis of the quality of the individual orders and — in the case of institutional investors — the quality of the individual investors, as well as other important allotment criteria, for example the timing of the order, to be determined after consultation with the Joint Global Coordinators. The Company, the Selling Shareholder and the Underwriters will adhere to the "Principles for the Allotment of Share Issues to Private Investors" (*Grundsätze für die Zuteilung von Aktienemissionen an Privatanleger*) issued on June 7, 2000 by the German Commission of Stock Exchange Experts (*Börsensachverständigenkommission*) of the German Federal Ministry of Finance (*Bundesministerium der Finanzen*). "**Qualified Investors**" (*qualifizierte Anleger*) pursuant to the German Securities Prospectus Act (*Wertpapierprospektgesetz*) are not viewed as "private investors" within the meaning of the allotment rules. The details of the allotment procedure will be stipulated after expiration of the Offer Period and published in accordance with the allotment principles.

3.6. Preferential Allocation

As part of the Offering, KB Holding will offer Offer Shares to the members of the Executive Board on a preferential basis at the Offer Price and the members of the Executive Board have committed to acquire such number of shares. (see also "*17.2.3.6 — Governing Bodies —Share Ownership*"). Such preferential allocation comprises Offer Shares with an aggregate value of EUR 3.15 million. The members of the Executive Board have committed not to sell without the prior written consent of the Company any Offer Shares or to enter into certain other transactions regarding the Offer Shares acquired as part of the Offering for a minimum period of six months beginning at the first day of trading of the Company's shares on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*).

3.7. Stock Exchange Admission and Commencement of Trading

The Company expects to apply on or about October 1, 2018 for admission of its existing shares (which includes the Offer Shares) to trading on the regulated market segment (*regulierter Markt*) of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) and, simultaneously, on the sub-segment thereof with additional post-admission obligations (Prime Standard).

The decision on the admission of the existing shares of the Company is expected to be announced on October 11, 2018. The decision on the admission of the Company's shares to trading will be made solely by the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) at its discretion. Trading of the shares of the Company on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) is expected to commence on October 12, 2018.

3.8. Delivery and Payment

The delivery of the Offer Shares against payment of the Offer Price and customary security commissions (*Effektenprovision*) is expected to take place two banking days (*i.e.*, days on which commercial banks are open in Frankfurt/Main for regular banking business) after listing commences, *i.e.*, on or about October 16, 2018. The Offer Shares will be made available to shareholders in book-entry form (as co-ownership interests in the global share certificate.

At their discretion, investors may choose to have shares they acquire in the Offering credited to the securities account of a German bank held for their account at Clearstream Banking Aktiengesellschaft, Mergenthalerallee 61, 65760 Eschborn, Germany ("**Clearstream Banking AG**"), or to the securities account of a participant in Euroclear Bank S.A./N.V., 1, Boulevard Roi Albert II, 1120 Brussels, Belgium, as the operator of the Euroclear system, or to Clearstream Banking S.A., 42 Avenue JF Kennedy, 1855 Luxembourg, Luxembourg.

Deutsche Bank AG, Mainzer Landstrasse 11-17, 60329 Frankfurt am Main, Germany will act as settlement agent.

3.9. Stabilization Measures, Over-Allotments and Greenshoe Option

In connection with the placement of the Offer Shares, Deutsche Bank or persons acting on its behalf will act as stabilization manager and may, acting in accordance with legal requirements such as EU Regulation (EU) No. 596/2014 of April 16, 2014 (Market Abuse Regulation) in conjunction with the regulatory technical standards issued, make over-allotments and take stabilization measures to support the market price of the shares of the Company and thereby counteract any selling pressure. Deutsche Bank shall act as central point responsible as set forth in Article 6(5) of the Commission Delegated Regulation (EU) 2016/1052 of March 8, 2016 and shall assume responsibility for the public disclosure requirements and for handling any request from any competent authorities referred to in such regulation.

The stabilization manager is under no obligation to take any stabilization measures. Therefore, no assurance can be provided that any stabilization measures will be taken. Where stabilization measures are taken, these may be terminated at any time without notice. Such measures may be taken from the date of the commencement of trading of the shares of the Company on the regulated market of the Frankfurt Stock Exchange *(Frankfurter Wertpapierbörse)* — expected to be October 12, 2018 — and must be terminated no later than 30 calendar days after such date (the "**Stabilization Period**"). The stabilization manager may undertake stabilization measures on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*).

These measures may result in a market price for shares of the Company that is higher than it would otherwise have been. Moreover, the market price may, temporarily, be at an unsustainable level. Stabilization measures shall not be executed above the Offer Price.

Under the possible stabilization measures, investors may, in addition to the Base Shares, be allotted up to 5,256,521 additional shares in the Company as part of the allotment of the shares to be placed ("**Over-Allotment**"). In connection with potential Over-Allotments, Deutsche Bank will be provided for the account of the Underwriters in the form of a securities loan (*Wertpapierdarlehen*) with up to 5,256,521 shares in the Company from the holdings of KB Holding; this number of shares will not exceed 15% of the number of Base Shares. In connection with potential Over-Allotments, KB Holding will grant the Underwriters an option to acquire the borrowed shares against payment of the Offer Price less agreed commissions ("**Greenshoe Option**", and any such Over-Allotment Shares purchased upon exercise of the Greenshoe Option, the "**Greenshoe Shares**"). The Greenshoe Option may be exercised at maximum to the extent that shares of the Company have been placed by way of Over-Allotments. The Greenshoe Option shall be exercisable by Deutsche Bank acting as stabilization manager and will terminate 30 calendar days after commencement of the stock exchange trading of the shares.

Within one week following the end of the Stabilization Period, an announcement will be published by Deutsche Bank via various media outlets distributed across the entire European Economic Area (*Medienbündel*) as to

(i) whether stabilization measures were undertaken, (ii) the date on which stabilization started and when it last occurred, (iii) the price range within which stabilization transactions were carried out; the latter will be made known for each date on which a price stabilization transaction was carried out, and (iv) the trading venues on which stabilization transactions were carried out, where applicable. Exercise of the Greenshoe Option, the timing of its exercise and the number and type of shares concerned will also be announced promptly in the manner previously stated.

The stabilization manager must record each stabilization order and transaction pursuant to applicable regulations. In addition, details of all stabilization transactions must be reported to the competent authorities of each trading venue on which the securities are admitted to trading or traded, as well as the competent authority of each trading venue where transactions in associated instruments for the stabilization of securities are carried out, if any.

3.10. Lock-Up Agreements

3.10.1. Lock-Up of the Company

In the Underwriting Agreement, the Company has committed to an obligation *vis-à-vis* the Underwriters that during the period commencing on the date of the Underwriting Agreement and ending six months after the first day of trading of the shares of the Company on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*), without the prior written consent of the Joint Global Coordinators, which consent may not be unreasonably withheld or delayed, the Company, its Executive Board or its Supervisory Board, will not and will not agree to:

(a) announce or effect an increase of the share capital of the Company out of authorized share capital; or

(b) submit a proposal for a capital increase to any shareholders' meeting for resolution (other than in respect of the creation of authorized and conditional capital); or

(c) announce to issue, effect or submit a proposal for the issuance of any securities convertible into shares of the Company or with option rights for shares of the Company; or

(d) enter into a transaction or perform any action economically similar to those described in (a) through (c) above.

The Company may, however, (i) issue or sell shares or other securities to employees and members of executive bodies of the Company or its subsidiaries under management and employee participation plans and (ii) undertake any corporate action for purposes of entering into joint ventures, other forms of cooperations or acquisitions, provided that the respective other party assumes towards the Underwriters the obligation to comply with the restrictions on the disposal of shares to which the Selling Shareholder and Ursus are subject (see "*3.10.2. — Lock-Up of the Selling Shareholders and Ursus*").

3.10.2. Lock-Up of the Selling Shareholder and Ursus

In the Underwriting Agreement, the Selling Shareholder and Ursus have *inter alia*, committed to an obligation *vis-à-vis* the Underwriters, without the prior written consent of the Joint Global Coordinators, which consent may not be unreasonably withheld or delayed until six months after the first day of trading of the shares of the Company on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) that they will not, and will not agree to:

(a) offer, pledge, allot, sell, contract to sell, sell any option or contract to purchase, purchase any option to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of the Company held by the Selling Shareholder, Ursus or any of their affiliated companies (other than the Company and its subsidiaries) (such shares of the Company held by the Selling Shareholder, Ursus or their respective affiliated companies are referred herein as "**Lock-up Shares**");

(b) enter into any swap or other arrangement that transfers to another, in whole or in part, the economic risk of ownership of Lock-up Shares, whether any such transaction described in this subsection (b) or in the subsection (a) above is to be settled by delivery of Lock-up Shares or such other securities, in cash or otherwise;

(c) make any demand for, or exercise any right with respect to, the registration under U.S. securities laws of any shares of the Company or any security convertible into or exercisable or exchangeable for shares of the Company;

(d) propose any increase in the share capital of the Company (including by requesting the Company's Executive Board to convene a general shareholders' meeting or otherwise), vote in favor of any proposed capital increase or otherwise make, support or vote in favor of any proposal for the issuance of any securities convertible into shares of the Company, with option rights for shares of the Company (it being understood

that this subsection (d) shall not restrict a vote by the Selling Shareholder or Ursus in favor of any proposal to create authorized capital (*genehmigtes Kapital*) or conditional capital (*bedingtes Kapital*); or

(e) enter into a transaction or perform any action economically similar to those described in (a) through (d) above.

The restrictions under (a), (b) and (e) above (with respect to (e) to the extent referring to (a) and (b) above) shall not apply to transactions involving Lock-up Shares which are entered into and settled off-exchange (*außerbörslich*) and where the relevant counterparty to the Selling Shareholder or Ursus agrees to be bound by an identical lock-up commitment to the Joint Global Coordinators from the time of the relevant transaction for the then-remaining term of the lock-up commitment.

3.10.3. Lock-up of the members of the Executive Board

The members of the Executive Board have commited towards the Company not to sell without the prior written consent of the Company any Offer Shares or to enter into certain other transactions regarding the Offer Shares they will acquire from KB Holding on the basis of a preferred allocation for a minimum period of six months beginning at the first day of trading of the Company's shares on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) (for more information, see "*3.6 — Preferential Allocation*" and "*17.2.3.6. — Governing Bodies — Share Ownership*").

3.11. Designated Sponsors

Deutsche Bank, Mainzer Landstraße 11-17, 60329 Frankfurt am Main, Germany, J.P. Morgan, 25 Bank Street, Canary Wharf, London, E14 5JP, U.K. and Morgan Stanley, 25 Cabot Square, Canary Wharf, London, E14 4QA, U.K. have agreed to assume the function of a designated sponsor (either itself or through one of its affiliates) of the Company's shares traded on the Frankfurt Stock Exchange *(Frankfurter Wertpapierbörse)* for a period of two years. Pursuant to the designated sponsors' agreement entered into by the Company, on the one hand, and Deutsche Bank, J.P. Morgan and Morgan Stanley, on the other hand, the designated sponsors will, among other things, place limited buy and sell orders for shares of the Company in the electronic trading system of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) during regular trading hours. This is intended to achieve greater liquidity in the market for the shares. In accordance with Sections 76 and 77 Exchange Rules (*Börsenordnung*) for the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*), the designated sponsors' agreement stipulates the duties and responsibilities of the designated sponsors. Among other things, the designated sponsors shall be available during trading hours and, upon receipt of a request for a quote, shall promptly supply quotes and enter into transactions on such basis. In addition, the designated sponsors shall provide quotes throughout the auction.

3.12. Information on the Offer Shares

The Offer Shares carry the same rights as all other shares of the Company and confer no additional rights or benefits. All shares of the Company, including the Offer Shares, are subject to and governed by German corporate law.

3.12.1. Participation in Registered Capital

All shares of the Company, including the Offer Shares, are bearer shares with no par value (*Stückaktien*), each representing a notional value of EUR 1.00 in the Company's share capital.

3.12.2. Voting Rights

Each of the Offer Shares entitles the shareholder to one vote at the general shareholders' meeting of the Company. There are no restrictions on voting rights. Voting rights are the same for all of the Company's shareholders, including the shares held by the Selling Shareholder and Ursus.

3.12.3. Dividend Rights and Share in Liquidation Proceeds

The Offer Shares carry the same dividend rights as the other existing shares of the Company, as from January 1, 2018, *i.e.*, for the full fiscal year 2018 and for all subsequent fiscal years. In the event of the Company's liquidation, the Company's assets remaining after satisfaction of all liabilities of the Company will be distributed to the shareholders in proportion to their interest in the Company's share capital.

3.12.4. Form and Representation of the Shares

The current Articles of Association of the Company provide for all shares in the Company to be issued as bearer shares with no par value *(Stückaktien).* All the shares of the Company are or will be represented by one or several global share certificates which will be deposited with Clearstream Banking AG following the approval of the

Prospectus. Section 5(3) of the Company's current Articles of Association stipulates that the shareholders' right to receive definitive share certificates for their respective shares shall be excluded to the extent legally permissible and unless the issuance of share certificates is required under the rules applying to a stock exchange to which the shares are admitted to trading. The form of the share certificates, dividend coupons and renewal coupons is determined by the Company's Executive Board.

3.12.5. *Preferential Rights in Capital Increases*

In the event of a capital increase against contribution in cash, the existing shareholders have a preferential right to subscribe for the new shares, pro rata to the portion of the share capital represented by the shares they held prior to the offering of new shares. The Company's general shareholders' meeting may, however, subject to certain conditions, exclude subscription rights in whole or in part when resolving upon a capital increase or an authorized capital. With respect to the company's authorized share capital of EUR 161,200,000, the Executive Board is authorized to exclude subscription rights pursuant to Section 6 (3). For further details see "*16.9. Information on the Share Capital of the Company and Applicable Regulations — General Provisions Governing Share Capital Increases and Decreases*".

3.13. ISIN, WKN, Common Code and Trading Symbol

International Securities Identification Number (ISIN)	DE000KBX1006
German Securities Code (Wertpapier-Kenn-Nummer) (WKN)	KBX100
Common Code	186559398
Trading Symbol	KBX

3.14. Transferability of the Shares

The Company's shares are freely transferable in accordance with the legal requirements applicable to bearer shares. Except for the restrictions set forth in "*3.6. — Preferential Allocation*", "*3.10. — Lock-Up Agreements*" and "*20.5. — Underwriting — Selling Restrictions*", there are no prohibitions on disposals or restrictions with respect to the transferability of the Company's shares. See also "*16.2. — Information on the Share Capital of the Company and Applicable Regulations — Certification and Transferability of the Shares*".

3.15. Interests of Parties Participating in the Offering

In connection with the Offering and stock exchange listing of the Company's shares, the Underwriters have a contractual relationship with the Company, the Selling Shareholder and Ursus. Deutsche Bank, J.P. Morgan and Morgan Stanley are advising the Company on the transaction as joint global coordinators and joint bookrunners and are therefore coordinating the structure and execution of the transaction. The Underwriters will receive a commission upon successful completion of the transaction, and the amount of such commission is dependent on the size of the Offering and the Offer Price. The Underwriters therefore have an interest that as many shares as possible are placed at the highest price possible. In addition, Deutsche Bank, J.P. Morgan and Morgan Stanley or one of their affiliates have been appointed as designated sponsors for the Company's shares and COMMERZBANK has been appointed as paying agent subject to separate agreements.

Some of the Underwriters or their affiliates have, and may in the future continue to have, from time to time, business relations with us or the Selling Shareholder (including lending activities) or may perform services for us or any of the Selling Shareholder in the ordinary course of business for which they have received or may receive customary fees and commissions. Furthermore, in connection with the Offering, each of the Underwriters and any of their respective affiliates, acting as an investor for its own account, may take up shares and in that capacity may retain, purchase or sell for its own account such securities and any shares or related investments and may offer or sell such shares or other investments otherwise than in connection with the Offering. Accordingly, references in the Prospectus to shares being offered or placed should be read as including any offering or placement of shares to any of the Underwriters or any of their respective affiliates acting in such capacity. In addition, certain of the Underwriters or their affiliates may enter into financing arrangements (including swaps) with investors in connection with which such Underwriters (or their affiliates) may from time to time acquire, hold or dispose of shares of the Company. None of the Underwriters intends to disclose the extent of any such investment or transactions otherwise than in accordance with any legal or regulatory obligation to do so.

The Selling Shareholder will receive the proceeds resulting from the Offering. Consequently, the Selling Shareholder has an interest in the success of the Offering on the best possible terms.

As of the date of the Prospectus, the Selling Shareholder holds 94.99996% of the existing shares of the Company and as such has an influence on the decisions which the Company will take with respect to the Offering. The

Selling Shareholder will receive the proceeds resulting from the Offering. Consequently, the Selling Shareholder has an interest in the success of the Offering on the best possible terms. With respect to direct and indirect shareholdings in the Company (also relating to future shareholdings) see "*15. — Shareholder Structure*". Further, the members of the Executive Board, Mr. Deller, Mr. Heuwing and Dr. Laier will receive a one-time incentive on the condition that the envisaged IPO has taken place during their respective term of office. For more information, see "*17.2.3.2.3. — Governing Bodies — IPO Bonus*".

3.16. MiFID II Product Governance Requirements

Solely for the purposes of the product governance requirements contained within: (a) EU Directive 2014/65/EU on markets in financial instruments, as amended ("**MiFID II**"); (b) Articles 9 and 10 of Commission Delegated Directive (EU) 2017/593 supplementing MiFID II; and (c) local implementing measures (together, the "**MiFID II Product Governance Requirements**"), and without assuming any responsibility or liability, whether arising in tort, contract or otherwise, which any "manufacturer" (for the purposes of the MiFID II Product Governance Requirements) may otherwise have with respect thereto, the Offer Shares have been subject to a product approval process, which has determined that such Offer Shares are: (i) compatible with an end target market of retail investors and investors who meet the criteria of professional clients and eligible counterparties, each as defined in MiFID II; and (ii) eligible for distribution through all distribution channels as are permitted by MiFID II (the "**Target Market Assessment**"). Notwithstanding the Target Market Assessment, distributors (within the meaning of the MiFID II Product Governance Requirements) should note that: the price of the Offer Shares may decline and investors could lose all or part of their investment; the Offer Shares offer no guaranteed income and no capital protection; and an investment in the Offer Shares is compatible only with investors who do not need a guaranteed income or capital protection, and who have at least informed knowledge and experience with financial instruments and (either alone or in conjunction with an appropriate financial or other adviser) are capable of evaluating the merits and risks of such an investment and who have sufficient resources to be able to bear any losses that may result therefrom. Investors are those seeking for either growth, income of and/or hedging with their investment and in doubt should have a long term investment horizon. The Target Market Assessment is without prejudice to the requirements of any contractual, legal or regulatory selling restrictions in relation to the Offering. Furthermore, it is noted that, notwithstanding the Target Market Assessment, the Joint Bookrunners will only procure investors who meet the criteria of professional clients and eligible counterparties in the private placement parts of the Offering. For the avoidance of doubt, the Target Market Assessment does not constitute: (a) an assessment of suitability or appropriateness for the purposes of MiFID II; or (b) a recommendation to any investor or group of investors to invest in, or purchase, or take any other action whatsoever with respect to the Offer Shares. Each distributor is responsible for undertaking its own target market assessment in respect of the Offer Shares and determining appropriate distribution channels.

4. PROCEEDS AND COSTS OF THE OFFERING AND THE LISTING; REASONS FOR THE OFFERING AND THE LISTING

4.1. Proceeds and Costs of the Offering and the Listing

The Company will not receive any proceeds from the Offering.

The Selling Shareholder will receive the proceeds resulting from the sale of the Base Shares and a potential sale of Additional Base Shares, if and to the extent that the Upsize Option is exercised and the Additional Base Shares are placed, and the proceeds resulting from a potential sale of Over-Allotment Shares if and to the extent the Greenshoe Option is exercised. If the Upsize Option is exercised in full and the maximum number of Additional Base Shares is placed, the Selling Shareholder would sell additional 8,060,000 Offer Shares and will receive the proceeds from the sale of such shares.

The amount of the proceeds of the Offering as well as the costs related to the Offering depend, *inter alia*, on the Offer Price, which determines the Underwriters' commissions, and on the number of shares that will be placed in the Offering.

The overall costs for the Offering are estimated to be approximately EUR 68.2 million at the low end, EUR 73.7 million at the mid-point and EUR 79.1 million at the high end of the Price Range (assuming placement of the maximum number of Base Shares, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option), which includes the Underwriters' commissions and assuming full payment of the discretionary fee. These costs will be borne by the Selling Shareholder.

The Company estimates that at the low end, mid-point and high end of the Price Range, gross proceeds to the Selling Shareholder (assuming placement of the maximum number of Base Shares, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option) would amount to approximately EUR 3,481.9 million (low end), EUR 3,844.6 million (mid-point) and EUR 4,207.3 million (high end), respectively.

Assuming an Offer Price at the low end, mid-point and high end of the Price Range, that the maximum number of Base Shares is placed, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option, and assuming further payment in full of the discretionary fee of up to approximately EUR 17.4 million (low end), EUR 19.2 million (mid-point) and EUR 21.0 million (high end), respectively, the commission payable to the Underwriters will amount to approximately EUR 52.2 million, EUR 57.7 million and EUR 63.1 million, respectively.

Assuming that the maximum number of Base Shares is placed, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option, the Company estimates that at the low end, mid-point and high end of the Price Range, net proceeds for the Selling Shareholder would amount to EUR 3,413.7 million, EUR 3,771.0 million and EUR 4,128.2 million, respectively.

Investors will not be charged with expenses by the Company, the Selling Shareholder or the Underwriters in connection with their role as underwriters. Investors may, however, have to bear customary transaction and handling fees charged by their account-keeping financial institution.

4.2. Reasons for the Offering and the Listing

As of the date of the Prospectus, the Selling Shareholder and Ursus hold, on aggregate, 100% of the registered share capital of the Company. The Selling Shareholder intends to sell up to 30.0% of its interest in the share capital of the Company in the context of the Offering (assuming placement of the maximum number of Base Shares, the full exercise of the Upsize Option and placement of the maximum number of Additional Base Shares and Over-Allotment Shares and full exercise of the Greenshoe Option).

With the planned listing of its shares on the regulated market segment of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) and, simultaneously, on the sub-segment thereof with additional post-admission obligations (Prime Standard), the Company intends to secure its long-term successful development. Being a listed company will increase its strategic and financial flexibility. Access to the capital markets may enable the Company to focus continuously on profitable growth and cash flow. Further, the expectations of the capital markets towards the Company fit Knorr-Bremse's performance culture.

The Selling Shareholder will offer the Base Shares and the Additional Base Shares and Over-Allotment Shares to partially divest its shareholding in the Company. With the separation between ownership, supervision and management arising from the Company's obligations as a listed company, the Company has set up effective corporate governance.

The Company will not receive any proceeds from the Offering.

5. DIVIDEND POLICY

5.1. General Rules on Allocation of Profits and Dividend Payments

Shareholders have a share in the Company's distributable profits determined in proportion to their interest in the Company's share capital. The participation of new shares in the profits may be determined in a different manner.

Distributions of dividends on shares for a given fiscal year are generally determined by a process in which the Executive Board and the Supervisory Board submit a proposal for the distribution of dividends to the annual general shareholders' meeting held within the first eight months of the subsequent fiscal year. The general shareholders' meeting then adopts a resolution on such distribution with simple majority of the votes cast without being bound by the proposal of the Executive Board and the Supervisory Board. Pursuant to German law, dividends can only be resolved upon and paid if the unconsolidated financial statements of the Company show distributable profits (*Bilanzgewinn*). Compared to the Company's consolidated financial statements, which are prepared in accordance with IFRS and the additional requirements of German commercial law pursuant to Section 315e German Commercial Code (*Handelsgesetzbuch*), the annual financial statements are prepared in accordance with the accounting principles of the German Commercial Code and other applicable German law. These accounting regulations differ from IFRS in material respects. The unconsolidated financial statements of the Company are prepared by the Executive Board and approved by the Supervisory Board unless the Executive Board and the Supervisory Board refer the approval to the general shareholders' meeting. In determining the distributable profits, the profit or loss for the fiscal year is adjusted for profits or losses carried forward from previous fiscal years as well as for withdrawals from and transfers to reserves. Certain reserves must be formed by law and must be deducted when calculating the distributable profits. Subject to certain statutory restrictions, the general shareholders' meeting is entitled to transfer additional amounts to the reserves or carry them forward. Pursuant to the Company's Articles of Association and subject to applicable statutory law, the general shareholders' meeting may resolve to pay dividends in kind (*Sachdividende*) in accordance with Section 58(5) German Stock Corporation Act (*Aktiengesetz*) in addition to or in lieu of a cash distribution. If the Executive Board and the Supervisory Board approve the unconsolidated financial statements, they may, pursuant to Section 58(2) German Stock Corporation Act, transfer 50% of the profit for the fiscal year remaining after deducting any transfers to statutory reserves and any losses carried forward to non-statutory reserves.

Dividends resolved by the general shareholders' meeting are due and payable immediately after the relevant general shareholders' meeting, unless otherwise provided in the dividend resolution, in compliance with the rules of the respective clearing system. Pursuant to German law, the right to dividend payments is generally time-barred after three years for the benefit of the Company.

The Offer Shares will be entitled to profit participation beginning January 1, 2018, *i.e.*, for the full fiscal year 2018 and for all subsequent fiscal years. The dividends will be paid out in accordance with the rules of the clearing system of Clearstream Banking AG. Details on dividend payments and the respective payment agent will be published in the German Federal Gazette (*Bundesanzeiger*) after the general shareholders' meeting. Neither German law nor the Company's Articles of Association provide for a special procedure for the exercise of dividend rights by shareholders not resident in Germany.

Generally, withholding tax (*Kapitalertragsteuer*) is withheld from dividends paid. For more information on the taxation of dividends see "*21.2.1. — Taxation in Germany — Taxation of Dividends*".

5.2. Dividend Policy and Earnings per Share

The Company has paid dividends in the past and intends to continue to pay dividends as from the fiscal year 2019, *i.e.*, for the fiscal year 2018 onwards, and aims, provided that the business performance remains stable, to distribute an annual dividend within the range of 40% to 50% of the Group's consolidated net income according to IFRS. However, the decision on whether and in what amount dividends are to be distributed will depend on a series of factors, including the level of distributable profits for the year, the investment policy and the financing needs of the Company at the time. As the Company partially conducts its operating business through its subsidiaries and affiliates, its ability to pay dividends depends substantially on its operating subsidiaries and affiliates making profits and distributing these to the Company or transferring them to the Company via existing profit/loss transfer agreements. Furthermore, it cannot be excluded that under any future financing agreements, the Company will not be restricted by future customary covenants regarding dividend distributions.

The Company can make no predictions as to the size of any future profits available for distribution, and hence the Company cannot guarantee that dividends will be paid in the future. In addition, KB Holding may, on the basis of its remaining interest in the Company's share capital and upon completion of the Offering, determine the Company's dividend policy (see "*1.3.1. — Risk Factors — KB Holding GmbH, which is controlled by Mr. Heinz Hermann Thiele, will continue to exercise substantial influence over the Company following the completion of*

the Offering and the interests of KB Holding GmbH and Mr. Heinz Hermann Thiele might conflict with the interests of other shareholders.”).

The table below shows our net results for the period and our corresponding net results for the period per share for the fiscal years 2017, 2016 and 2015 (based on the Audited Consolidated Financial Statements). The net results per share are calculated on the basis of one share with a share capital in the amount of EUR 161,200,000.00 (divided into 161,200,000 no-par value shares), which represents the share capital of the Company as of the date of the Prospectus), unless otherwise stated. The table also shows the net profit/loss for the year of the Company — on an unconsolidated basis — in accordance with the German Commercial Code for the fiscal years 2017, 2016 and 2015 as well as any dividends per share distributed for the respective periods:

	Paid out in the fiscal year		
	2017[(*)]	**2016**[(*)]	**2015**[(*)]
	(audited, except as otherwise indicated)		
Consolidated net income for the year of the Knorr-Bremse Group in accordance with IFRS in EUR million	587.2	567.2	710.7
thereof attributable to:			
Profit attributable to non-controlling interests in EUR million	51.7	40.8	57.9
Profit attributable to the shareholders of Knorr-Bremse AG in EUR million	535.5	526.3	652.8
per share (IFRS), in EUR[(2)]	3.32	3.27	4.05
Profit (loss) for the fiscal year attributable to the Company’s shareholders in accordance with HGB in EUR million[(1)]	632.1	421.9	439.5
per share (HGB), in EUR (unaudited)[(2)]	3.92	2.62	2.73
Amount of dividend distributed in EUR million	364.0	364.0	312.0
Amount of dividend per share distributed by the Company, in EUR (*unaudited*)[(3)]	140.0	140.0	120.0
Amount of dividend per share distributed by the Company, in EUR (*unaudited*)[(2)]	2.26	2.26	1.94

(*) The payments included in the table relate in all cases to the dividend for the prior year. For the fiscal year 2017, a dividend of EUR 327 per bearer share (based on a share capital in an amount of EUR 67,600,000.00 divided into 2,600,000 shares at a nominal value of EUR 26 in the Company’s share capital) was declared and paid in the total amount of EUR 850.2 million (consisting of a regular dividend of EUR 350 million and a special dividend of EUR 500.2 million) in the fiscal year 2018.

(1) Figures taken from the Audited Unconsolidated Financial Statements of the Company.

(2) Figures based on an assumed number of 161,200,000 no-par-value shares, which corresponds to the number of shares of the Company as of the date of the Prospectus.

(3) Figures based on a share capital in an amount of EUR 67,600,000.00 divided into 2,600,000 shares at a nominal value of EUR 26 in the Company’s share capital, which corresponds to the number of shares of the Company as of the date of the payment of the dividend.

In the fiscal year 2014, the consolidated net income of the Knorr-Bremse Group in accordance with the German Commercial Code (*Handelsgesetzbuch*) amounted to EUR 560.0 million. Of such net income, an amount of EUR 312.0 million in dividends was distributed in 2015, which resulted in a dividend of EUR 120.0 per share (based on a share capital in an amount of EUR 67,600,000.00 divided into 2,600,000 shares at a nominal value of EUR 26 in the Company’s share capital, which corresponds to the number of shares of the Company as of the date of the payment of the dividend).

6. CAPITALIZATION AND INDEBTEDNESS

Investors should read the tables in this section in conjunction with the sections headed sections headed "*8. — Selected Financial and Business Information*" and "*9. — Management's Discussion and Analysis of Net Assets, Financial Position and Results of Operations*", as well as the Audited Consolidated Financial Statements and the Unaudited Condensed Consolidated Interim Financial Statements, including the notes thereto, which are presented in the section "*23. — Financial Information*".

6.1. Capitalization

The Offering does not involve the issuance of new shares by the Company and the Company will not receive any cash proceeds from the Offering. The Offering will thus have no effect on the Company's capitalization as reflected below.

The following table shows an overview of our consolidated capitalization (including total debt) as of June 30, 2018 derived from the Company's Unaudited Condensed Consolidated Interim Financial Statements and its accounting records prior to the implementation of the Offering:

(In EUR million)	As of June 30, 2018
	(unaudited)
Total current debt[1]	**2,535.7**
of which, guaranteed	0.00
of which, secured[2]	1.4
of which, unguaranteed/unsecured	2,534.3
Total non-current debt (excluding current portion of long-term debt)[3]	**2,220.6**
of which, guaranteed	0.00
of which, secured[2]	83.0
of which, unguaranteed/unsecured	2,137.6
Total debt[4]	**4,756.3**
Shareholders' equity	**1,222.6**
of which, share capital[5]	161.2
of which, legal reserve[6]	7.2
of which, other reserves[7]	35.9
Total capitalization[8]	**5,978.9**

(1) Total current debt includes current portion of non-current debt and is shown as current liabilities in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements and includes provisions for other employee benefits, other provisions, trade accounts payables, financial liabilities, other liabilities, contract liabilities, income tax liabilities and liabilities directly associated with assets held for sale and disposal groups. For a separate presentation of the current financial debt, see "*6.2 — Net Financial Indebtedness*".

(2) Land of leasing companies is secured by land charges.

(3) Total non-current debt is shown as total non-current liabilities in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements and includes provisions for pensions and similar obligations, provisions for other employee benefits, other provisions, financial liabilities, other liabilities, income tax liabilities and deferred tax liabilities. For a separate presentation of non-current financial indebtedness, see "*6.2 — Net Financial Indebtedness*".

(4) Total debt represents the sum of total current debt and total non-current debt.

(5) Share capital is shown as subscribed capital in the consolidated statement of financial position of the Unaudited Consolidated Interim Financial statements.

(6) Legal reserve is shown as capital reserves in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements.

(7) Other reserves are shown as retained earnings in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements.

(8) Total capitalization represents the sum of total debt and Shareholders' equity which consist of the Equity attributable to the shareholders of Knorr-Bremse AG.

6.2. Net Financial Indebtedness

The following table shows an overview of our net financial indebtedness as of June 30, 2018 derived from the Company's Unaudited Condensed Consolidated Interim Financial Statements and its accounting records prior to the implementation of the Offering:

(In EUR million)	As of June 30, 2018
	(unaudited)
A. Cash[(1)]	1,551.3
B. Cash equivalents[(2)]	0.0
C. Trading securities[(3)]	0.0
D. Liquidity (A)+(B)+(C)	**1,551.3**
E. Current financial receivables[(4)]	**1,429.1**
F. Current bank debt[(5)]	(93.3)
G. Current portion of non-current debt[(6)]	(1.8)
H. Other current financial debt[(7)]	(1,618.5)
I. Current financial debt (F)+(G)+(H)	**(1,713.6)**
J. Net current financial indebtedness (I)-(E)-(D)	**1,266.8**
K. Non-current bank loans[(8)]	(224.2)
L. Bonds issued[(9)]	(1,242.0)
M. Other non-current loans[(10)]	(29.9)
N. Non-current financial indebtedness (K)+(L)+(M)	**(1,496.1)**
O. Net financial indebtedness (J)+(N)	**(229.3)**

(1) Cash consists of cash at hand. In the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements cash is included in cash and cash equivalents.

(2) Cash equivalents are defined as redeemable fixed-term bank deposits. In the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements cash equivalents is included in cash and cash equivalents.

(3) Trading securities are short-term financial investments which are included in the current financial liabilities in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements as other current financial assets.

(4) Current financial receivable consist of current financial assets (excluding trading securities as indicated above).

(5) Current bank debt is included in current financial liabilities in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements and relates to the current portion of financial liabilities which consist of liabilities to banks and lease liabilities.

(6) Current portion of non-current debt is included in current debt (*i.e.,* total current liabilities) as shown in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements and amounts are therefore reflected in F. and H. above, except for the current portion of bonds issued.

(7) Other current financial debt includes all other current financial liabilities as shown in the notes to the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements.

(8) Non-current bank loans are included in non-current financial liabilities in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements and relate to the non-current portion of financial liabilities which consist of bank loans.

(9) Bond issued is included in non-current financial liabilities in the consolidated statement of financial position of the Unaudited Condensed Consolidated Interim Financial Statements and relates to the non-current portion of financial liabilities.

(10) Other non-current loans include all other and non-current financial liabilities as shown in the notes to the consolidated statement of financial position in the Unaudited Condensed Consolidated Interim Financial Statements.

6.3. Off-Balance Sheet Commitments / Contingent Liabilities

As of June 30, 2018, we had contingent liabilities amounting to EUR 30.6 million. These contingent liabilities were primarily in connection with guarantees (EUR 25.3 million). As of December 31, 2017, 2016 and 2015, our contingent liabilities amounted on aggregate to EUR 27.0 million, EUR 27.4 million and EUR 40.3 million, respectively. For further information on other financial liabilities and other liabilities see also "*9.8.7. — Management's Discussion and Analysis of Net Assets, Financial Position and Results of Operations — Financial and Other Liabilities*".

6.4. Working Capital Statement

The Company believes that the Knorr-Bremse Group has sufficient working capital to meet its present requirements as well as its payment obligations that become due within a minimum of twelve months following the date of the Prospectus.

6.5. No Significant Change

Between June 30, 2018 and the date of the Prospectus, there have been no significant changes in our financial or trading position. For information on management's view on full year trends, see "*24. — Recent Developments and Outlook*".

7. DILUTION

As the Offering comprises only existing shares of the Company, it will not lead to any dilution as is potentially the case in connection with a capital increase.

The Company's net asset value (calculated as total assets less total liabilities) as shown in the Unaudited Condensed Consolidated Interim Financial Statements as of and for the six-month period ended June 30, 2018 amounted to EUR 1,308.5 million.

The net asset value of the Company as of June 30, 2018 was EUR 8.12 per Company share (based on 161,200,000 shares). The Company will not receive any proceeds from the Offering, nor will it bear the expenses of the Offering. Assuming an Offer Price at the mid-point of the Price Range of EUR 79.50, such Offer Price would exceed the net asset value of EUR 8.12 per Company share by EUR 71.38. Consequently, investors acquiring Offer Shares in the Offering would experience an immediate dilution of 89.8% per Company share (based on 161,200,000 shares) assuming the net asset value of the Company remains otherwise unchanged from June 30, 2018.

8. SELECTED FINANCIAL AND BUSINESS INFORMATION

The following selected financial and business information of the Group as of and for the fiscal years 2017, 2016 and 2015, (i) if presented as "audited", is taken from our Audited Consolidated Financial Statements and, (ii) if presented as "unaudited", is either derived from our Audited Consolidated Financial Statements, or taken or derived from our accounting records or our management reporting. The selected financial and business information of the Group as of June 30, 2018, and for the six-month periods ended June 30, 2018 and June 30, 2017 is taken or derived from our Unaudited Condensed Consolidated Interim Financial Statements, or taken or derived from our accounting records or our management reporting.

The Audited Consolidated Financial Statements were prepared by the Company in accordance with IFRS, as adopted by the European Union, and were audited in accordance with Section 317 of the German Commercial Code (HGB) and German generally accepted standards for the audit of financial statements, which are promulgated by the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer), by KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, through its Munich branch, who issued an unqualified auditor's report thereon as included in the "23. Financial Information" section of the Prospectus beginning on page F-1. The Unaudited Condensed Consolidated Interim Financial Statements were prepared by the Company in accordance with IFRS, as adopted by the European Union, for interim financial reporting (IAS 34). For further information on the Consolidated Financial Statements, see also "9.3. Management's Discussion and Analysis of Net Assets, Financial Position and Results of Operations — Presentation of Financial Information and Factors Affecting Comparability" and "2.7. General Information — Note Regarding the Presentation of Certain Financial Information".

Certain of the following financial information in this section are not taken or derived from IFRS figures, but are based on data derived from German GAAP data and may therefore deviate from, and not be comparable to, data based on IFRS presented elsewhere in the Prospectus.

All of the financial data presented in the text and tables below are shown in millions of Euro, except as otherwise stated. Certain financial data (including percentages) in the following tables have been rounded according to established commercial standards, whereby aggregate amounts (sum totals, sub-totals, differences or amounts put in relation) are calculated based on the underlying unrounded amounts. As a result, the aggregate amounts in the following tables may not correspond in all cases to the corresponding rounded amounts contained in the following tables. Furthermore, in those tables, these rounded figures may not add up exactly to the totals contained in those tables.

Our historical results are not necessarily indicative of the results that should be expected in the future, and our interim results are not necessarily indicative of the results that should be expected for the full year or any other period. Investors should read the following section together with the additional financial information contained in the Prospectus, in particular in the sections on "1. Risk Factors", "6. Capitalization and Indebtedness", "9. Management's Discussion and Analysis of Net Assets, Financial Position and Results of Operations" and "11. Business" contained in the Prospectus, as well as our Consolidated Financial Statements, and the related notes thereto, which are contained in the "23. Financial Information" section of the Prospectus beginning on page F-1.

8.1. Selected Financial Information from the Consolidated Statement of Profit or Loss

The following table shows selected financial information from our consolidated statement of profit or loss for the six-month periods ended June 30, 2018 and June 30, 2017, as well as for the fiscal years 2017, 2016 and 2015:

(in EUR million)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)			(audited)	
Revenues	3,322.2	2,976.0	6,153.5	5,471.3	5,823.5
Changes in inventories of unfinished/finished products	29.3	59.1	38.8	(11.1)	(7.1)
Other own work capitalized	19.8	14.6	31.8	21.1	19.2
Total operating performance	**3,371.3**	**3,049.7**	**6,224.1**	**5,481.3**	**5,835.6**
Other operating income	47.8	40.9	81.2	83.3	89.1
Cost of materials	(1,680.4)	(1,463.6)	(3,009.6)	(2,571.4)	(2,747.3)
Personnel expenses	(746.5)	(708.4)	(1,438.9)	(1,272.1)	(1,272.2)
Other operating expenses	(410.0)	(400.6)	(741.3)	(668.9)	(636.2)
Earnings before interest, tax, depreciation and amortization (EBITDA)	**582.2**	**518.0**	**1,115.5**	**1,052.1**	**1,269.0**
Depreciation and amortization	(109.9)	(94.9)	(211.5)	(165.7)	(170.5)
Earnings before interests and taxes (EBIT)	**472.3**	**423.1**	**904.0**	**886.4**	**1,098.6**
Earnings before taxes	**430.5**	**388.7**	**852.5**	**841.3**	**1,048.0**
Net income	**307.0**	**269.6**	**587.2**	**567.2**	**710.7**

8.2. Selected Financial Information from the Consolidated Statement of Financial Position

The following table shows selected information from our consolidated statement of financial position as of June 30, 2018 and as of December 31, 2017, 2016 and 2015:

(in EUR million)	As of June 30, 2018	As of December 31, 2017	2016	2015
	(unaudited)		(audited)	
Assets				
Intangible assets and goodwill	552.6	540.5	484.5	333.7
Property, plant and equipment	1,099.8	1,116.4	1,099.4	1,014.9
Deferred tax assets	107.4	85.0	115.6	137.1
Non-current assets	**1,923.5**	**1,870.1**	**1,815.2**	**1,513.1**
Inventories	831.6	748.8	611.1	625.5
Trade accounts receivables	1,420.4	1,147.9	971.4	947.3
Cash and cash equivalents	1,551.3	1,600.0	1,720.8	1,360.5
Current assets	**4,141.3**	**3,857.3**	**3,619.9**	**3,201.6**
Total Assets	**6,064.8**	**5,727.4**	**5,435.1**	**4,714.7**
Equity				
Equity attributable to the shareholders of Knorr-Bremse AG	**1,222.6**	**1,847.8**	**1,813.4**	**1,684.0**
Equity	**1,308.5**	**1,995.7**	**1,965.9**	**1,838.1**
Liabilities				
Financial liabilities	1,496.1	738.7	756.3	261.9
Non-current liabilities	**2,220.6**	**1,427.9**	**1,472.5**	**973.8**
Trade accounts payables	1,042.7	894.1	754.5	727.0
Financial liabilities	671.0	571.0	531.3	490.7
Other liabilities	148.6	269.4	285.5	271.0
Current liabilities	**2,535.7**	**2,303.8**	**1,996.6**	**1,902.8**
Liabilities	**4,756.3**	**3,731.7**	**3,469.2**	**2,876.6**
Total Equity and Liability	**6,064.8**	**5,727.4**	**5,435.1**	**4,714.7**

8.3. Selected Financial Information from the Consolidated Statement of Cash Flow

The following table shows selected data from our consolidated statement of cash flows for the six-month periods ended June 30, 2018 and June 30, 2017, and for the fiscal years 2017, 2016 and 2015:

(in EUR million)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)		(audited)		
Cash flow from operating activities	**249.1**	**200.1**	**679.9**	**769.2**	**959.5**
Cash flow from investing activities	**(81.9)**	**(173.9)**	**(279.8)**	**(448.2)**	**(302.6)**
Cash flow from financing activities					
Proceeds from loans and borrowings	744.8	1.8	3.0	498.7	17.6
Cash flow from financing activities	**(301.1)**	**(480.1)**	**(460.1)**	**41.2**	**(406.1)**
Cash flow changes	**(133.9)**	**(453.8)**	**(60.0)**	**362.1**	**250.7**
Net change in cash funds	**(109.5)**	**(502.6)**	**(132.2)**	**371.7**	**272.1**
Cash funds at the end of the period	**1,469.4**	**1,208.4**	**1,578.8**	**1,711.0**	**1,339.3**

8.4. Selected Other Key Financial and Operating Data

The following tables show selected other financial and operating data for the Group and our operating segments for the six-month periods ended June 30, 2018 and June 30, 2017, as well as for the fiscal years 2017, 2016 and 2015, respectively. Certain of the following figures and financial measures are not presented in accordance with IFRS or any other generally accepted accounting principles. These non-IFRS measures are defined by our management and may not be comparable to similar measures used by other companies. For further information please see "*2.8. — General Information — Non-IFRS Measures/Alternative Performance Measures*".

(in EUR million, unless otherwise indicated)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)		(unaudited, unless otherwise indicated)		
Revenues	3,322.2	2,976.0	6,153.5(*)	5,471.3(*)	5,823.5(*)
by segment[1]					
thereof Rail Vehicle Systems	1,744.2	1,549.4	3,260.1	2,978.7	3,331.0
thereof Commercial Vehicle Systems	1,577.3	1,427.3	2,890.6	2,493.0	2,491.8
by region					
thereof Europe/Africa	1,652.6	1,505.1	3,076.4	2,677.0	2,567.9
thereof Asia-Pacific	936.6	775.7	1,690.4	1,553.7	1,788.9
thereof North America	681.2	650.6	1,294.0	1,141.0	1,366.6
thereof South America	51.8	44.6	92.8	99.5	100.1
Revenues growth (in %)	11.6	n/a	12.5	(6.0)	11.6
Aftermarket Sales Share (in % of revenues) (based on German GAAP data)[2]	33.3	35.9	35.3	36.0	33.4
thereof Rail Vehicle Systems (in % of revenues attributable to Rail Vehicle Systems)[2]	40.1	43.4	41.7	40.7	36.1
thereof Commercial Vehicle Systems (in % of revenues attributable to Commercial Vehicle Systems)[2]	25.8	27.7	27.9	30.2	29.8
EBITDA[1], [3]	582.2	518.0	1,115.5(*)	1,052.1(*)	1,269.0(*)
thereof Rail Vehicle Systems	322.2	276.1	639.3	624.0	797.3
thereof Commercial Vehicle Systems	259.6	242.8	503.7	425.7	468.1
EBITDA-margin (in % of revenues)[3]	17.5	17.4	18.1	19.2	21.8
thereof Rail Vehicle Systems	18.5	17.8	19.6	20.9	23.9
thereof Commercial Vehicle Systems	16.5	17.0	17.4	17.1	18.8
EBIT[1], [4]	472.3	423.1	904.0(*)	886.4(*)	1,098.6(*)
thereof Rail Vehicle Systems	259.7	219.9	523.3	547.6	724.0
thereof Commercial Vehicle Systems	218.8	210.6	421.5	357.8	398.0
EBIT-margin (in % of revenues)[4]	14.2	14.2	14.7	16.2	18.9
thereof Rail Vehicle Systems	14.9	14.2	16.1	18.4	21.7
thereof Commercial Vehicle Systems	13.9	14.8	14.6	14.4	16.0
Net Working Capital (as of the balance sheet date)[5]	1,014.9	n/a	782.0	719.3	709.7

(in EUR million, unless otherwise indicated)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)		(unaudited, unless otherwise indicated)		
Net Financial Cash (as of the balance sheet date)[6]	(8.2)	n/a	836.1	969.4	1,093.9
Cash flow from operating activities	249.1	200.1	679.9(*)	769.2(*)	959.5(*)
Free Cash Flow[7]	150.2	114.0	450.0	522.9	723.2
Cash Conversion Ratio (in %)[8]	48.9	42.3	76.6	92.2	101.8
Capital Expenditures[9]	(98.9)	(86.2)	(229.9)	(246.3)	(236.3)
Equity Ratio (in %)[10]	21.6	n/a	34.8	36.2	39.0
Return on Capital Employed (ROCE) (in %)[11]	17.7	n/a	37.1	38.5	53.4

(*) Audited.

(1) The financial data in our segment reporting is based on data derived from German GAAP data and includes reconciliation to IFRS figures. Segment revenues are calculated as a sum of revenues of reportable segments and revenues of reconciliation to IFRS according to information on reportable segments. For additional information on our segment reporting, see note 16 to our Unaudited Condensed Consolidated Interim Financial Statements and note I. 2 to our Audited Consolidated Financial Statements, "*23. — Financial Information*".

(2) Aftermarket Sales (secondary market) comprise all revenues of products and services (*e.g.*, spare parts, overhaul) not related to a new original equipment market business products and are based on data derived from German GAAP data and may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus. Aftermarket Sales Share is calculated, on a group level, as the percentage of total revenues (based on German GAAP data) and, on a segment level, as the percentage of revenues of the respective segment (based on German GAAP data). The following table shows, for the periods indicated, revenues based on German GAAP data taken or derived from the respective statutory financial statements or our accounting records:

(in EUR million, unless indicated otherwise)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)		(unaudited)		
Revenues (based on German GAAP data)	3,347.1	3,045.4	6,235.7	5,494.3	5,830.6
thereof Rail Vehicle Systems	1,749.6	1,596.9	3,325.2	2,990.3	3,341.1
thereof Commercial Vehicle Systems	1,597.5	1,448.5	2,928.0	2,523.2	2,491.8
Aftermarket Sales (based on German GAAP data)	1,113.9	1,095.1	2,204.2	1,980.2	1,947.6
thereof Rail Vehicle Systems	701.0	693.7	1,387.2	1,218.4	1,204.7
thereof Commercial Vehicle Systems	412.9	401.4	817.0	761.9	742.9
Aftermarket Sales Share (in % of revenues) (based on German GAAP data)	33.3	35.9	35.3	36.0	33.4
thereof Rail Vehicle Systems (in % of revenues attributable to Rail Vehicle Systems)	40.1	43.4	41.7	40.7	36.1
thereof Commercial Vehicle Systems (in % of revenues attributable to Commercial Vehicle Systems)	25.8	27.7	27.9	30.2	29.8

(3) Earnings before interest, tax, depreciation and amortization (EBITDA) is defined as net income/loss before taxes on income, other financial result, interest expenses, interest income, as well as depreciation and amortization. EBITDA-margin is calculated, on a group level, as the percentage of revenues and, on a segment level, as the percentage of revenues of the respective segment.

The following table shows, for the periods indicated, a reconciliation of EBITDA to net income:

(in EUR million)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)		(audited)		
Earnings before interest, tax, depreciation and amortization (EBITDA)	**582.2**	**518.0**	**1,115.5**	**1,052.1**	**1,269.0**
Depreciation and amortization	(109.9)	(94.9)	(211.5)	(165.7)	(170.5)
EBIT	**472.3**	**423.1**	**904.0**	**886.4**	**1,098.6**
Interest income	11.2	11.9	24.0	19.2	21.7
Interest expenses	(18.2)	(21.3)	(38.8)	(28.7)	(29.2)
Other financial result	(34.8)	(24.9)	(36.8)	(35.7)	(43.1)
Taxes on income	(123.5)	(119.1)	(265.2)	(274.1)	(337.4)
Net income	**307.0**	**269.6**	**587.2**	**567.2**	**710.7**

(4) Earnings before interests and taxes (EBIT) is defined as net income/loss before taxes on income, other financial result, interest expenses and interest income. EBIT-margin is calculated, on a group level, as the percentage of revenues and, on a segment level, as the percentage of revenues of the respective segment.

The following table shows, for the periods indicated, a reconciliation of EBIT to net income:

	For the six-month period ended June 30,		For the fiscal year		
(in EUR million)	**2018**	**2017**	**2017**	**2016**	**2015**
	(unaudited)			**(audited)**	
Earnings before interests and taxes (EBIT)	**472.3**	**423.1**	**904.0**	**886.4**	**1,098.6**
Interest income	11.2	11.9	24.0	19.2	21.7
Interest expenses	(18.2)	(21.3)	(38.8)	(28.7)	(29.2)
Other financial result	(34.8)	(24.9)	(36.8)	(35.7)	(43.1)
Taxes on income	(123.5)	(119.1)	(265.2)	(274.1)	(337.4)
Net income	**307.0**	**269.6**	**587.2**	**567.2**	**710.7**

(5) Net Working Capital is defined as the balance of inventories (as of June 30, 2018: 831.6; as of December 31, 2017, 2016, 2015 and 2014, respectively: 748.8; 611.1; 625.5 and 679.9; each in EUR million), trade accounts receivables (as of June 30, 2018: 1,420.4; as of December 31, 2017, 2016, 2015 and 2014, respectively: 1,147.9; 971.4; 947.3 and 904.3; each in EUR million), receivables from construction contracts (as of June 30, 2018: 128.3; as of December 31, 2017, 2016, 2015 and 2014, respectively: 116.2; 123.8; 101.9 and 101.6; each in EUR million), trade accounts payables (as of June 30, 2018: 1,042.7; as of December 31, 2017, 2016, 2015 and 2014, respectively: 894.1; 754.5; 727.0 and 679.6; each in EUR million), liabilities from construction contracts (as of June 30, 2018: 302.0; as of December 31, 2017, 2016, 2015 and 2014, respectively: 230.8; 126.3; 146.8 and 152.6; each in EUR million) and prepayments received (as of June 30, 2018: 20.7; as of December 31, 2017, 2016, 2015 and 2014, respectively: 106.0; 106.4; 91.2 and 105.8; each in EUR million). In the fiscal year 2014, our Net Working Capital amounted to EUR 747.9 million.

(6) Net Financial Cash is calculated by subtracting current financial liabilities to banks (as of June 30, 2018: 88.6; as of December 31, 2017, 2016, and 2015, respectively: 33.5; 9.9 and 22.3; each in EUR million), current lease liabilities (as of June 30, 2018: 4.8; as of December 31, 2017, 2016 and 2015, respectively: 5.3; 4.4 and 3.3; each in EUR million), non-current financial liabilities to banks (as of June 30, 2018: 195.2; as of December 31, 2017, 2016 and 2015, respectively: 197.1, 217.4 and 222.9; each in EUR million), non-current lease liabilities (as of June 30, 2018: 29.0; as of December 31, 2017, 2016 and 2015, respectively: 30.6; 23.0 and 18.1; each in EUR million) and bond liabilities (as of June 30, 2018: 1,242.0; as of December 31, 2017, 2016 and 2015, respectively: 497.4; 496.7 and 0; each in EUR million) from cash and cash equivalents (as of June 30, 2018: 1,551.3; as of December 31, 2017, 2016 and 2015, respectively: 1,600; 1,720.8 and 1,360.5; each in EUR million).

(7) Free Cash Flow is defined as cash flow from operating activities (for the six-month period ended June 30, 2018 and 2017, respectively: 249.1 and 200.1; for the fiscal year 2017, 2016, 2015 and 2014, respectively: 679.9; 769.2; 959.5 and 693.2; each in EUR million) less Capital Expenditures (as defined and calculated in footnote 9 below). In the fiscal year 2014, our Free Cash Flow was EUR 504.2 million.

(8) Cash Conversion Ratio is defined as Free Cash Flow (for the six-month period ended June 30, 2018 and 2017, respectively: 150.2 and 114.0; for the fiscal year 2017, 2016, 2015 and 2014, respectively: 450.0; 522.9; 723.2; 504.2; each in EUR million) divided by net income/loss (for the six-month period ended June 30, 2018 and 2017, respectively: 307.0 and 269.6; for the fiscal year 2017, 2016, 2015 and 2014, respectively: 587.2; 567.2; 710.7; 666.4; each in EUR million). In the fiscal year 2014, our Cash Conversion Ratio was 75.7%.

(9) Capital Expenditures are defined as sum of disbursements for investments in intangible assets (for the six-month period ended June 30, 2018 and 2017, respectively: 27.0 and 22.3; for the fiscal year 2017, 2016, 2015 and 2014, respectively: 45.2; 46.0; 31.5 and 30.8; each in EUR million) and disbursements for investments in property, plant and equipment (for the six-month period ended June 30, 2018 and 2017, respectively: 71.9 and 63.9; for the fiscal year 2017, 2016, 2015 and 2014, respectively: 184.7; 200.3; 204.8 and 158.1; each in EUR million). In the fiscal year 2014, our capital expenditures represented EUR 189.0 million.

(10) Equity Ratio is calculated as equity (as of June 30, 2018: 1,308.5; as of December 31, 2017, 2016, 2015 and 2014, respectively: 1,995.7; 1,965.9; 1,838.1 and 1,468.0; each in EUR million) divided by equity and liabilities (balance sheet total; as of June 30, 2018: 6,064.8; as of December 31, 2017, 2016, 2015 and 2014, respectively: 5,727.4; 5,435.1; 4,714.7 and 4,233.0; each in EUR million). Our equity ratio amounted to 34.7% in 2014.

(11) Return on Capital Employed (ROCE) is defined as EBIT (for the six-month period ended June 30, 2018: 472.3; for the fiscal year 2017, 2016, 2015 and 2014, respectively: 904.0; 886.4; 1,098.6 and 934.2; each in EUR million) divided by capital employed (sum of property, plant and equipment (as of June 30, 2018: 1,099.8; as of December 31, 2017, 2016, 2015 and 2014, respectively: 1,116.4; 1,099.4; 1,014.9; and 948.9; each in EUR million), intangible assets (as of June 30, 2018: 552.6; as of December 31, 2017, 2016, 2015 and 2014, respectively: 540.5; 484.5; 333.7 and 210.4; each in EUR million) and Net Working Capital (as of June 30, 2018: 1,014.9; as of December 31, 2017, 2016, 2015 and 2014, respectively: 782.0; 719.3; 709.7 and 747.9; each in EUR million). In the fiscal year 2014, our ROCE was at 49.0%.

9. MANAGEMENT'S DISCUSSION AND ANALYSIS OF NET ASSETS, FINANCIAL POSITION AND RESULTS OF OPERATIONS

The following financial and business information of the Group as of and for the fiscal years 2017, 2016 and 2015, (i) if presented as "audited", is taken from our Audited Consolidated Financial Statements and, (ii) if presented as "unaudited", is either derived from our Audited Consolidated Financial Statements, or taken or derived from our accounting records or our management reporting. The financial and business information of the Group as of June 30, 2018, and for the six-month periods ended June 30, 2018 and June 30, 2017 is taken or derived from our Unaudited Condensed Consolidated Interim Financial Statements, or taken or derived from our accounting records or our management reporting.

The Audited Consolidated Financial Statements were prepared by the Company in accordance with IFRS, as adopted by the European Union, and were audited in accordance with Section 317 of the German Commercial Code (HGB) and German generally accepted standards for the audit of financial statements, which are promulgated by the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer), by KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, through its Munich branch, who issued an unqualified auditor's report thereon as included in the "23. Financial Information" section of the Prospectus beginning on page F-1. The Unaudited Condensed Consolidated Interim Financial Statements were prepared by the Company in accordance with IFRS, as adopted by the European Union, for interim financial reporting (IAS 34). For further information on the Consolidated Financial Statements, see also "9.3. — Presentation of Financial Information and Factors Affecting Comparability" and "2.7. General Information — Note Regarding the Presentation of Certain Financial Information".

Certain of the following financial information in this section are not taken or derived from IFRS figures, but are based on data derived from German GAAP data and may therefore deviate from, and not be comparable to, data based on IFRS presented elsewhere in the Prospectus.

All of the financial data presented in the text and tables below are shown in millions of Euro, except as otherwise stated. Certain financial data (including percentages) in the following tables have been rounded according to established commercial standards, whereby aggregate amounts (sum totals, sub-totals, differences or amounts put in relation) are calculated based on the underlying unrounded amounts. As a result, the aggregate amounts in the following tables may not correspond in all cases to the corresponding rounded amounts contained in the following tables. Furthermore, in those tables, these rounded figures may not add up exactly to the totals contained in those tables.

Our historical results are not necessarily indicative of the results that should be expected in the future, and our interim results are not necessarily indicative of the results that should be expected for the full year or any other period. Investors should read the following section together with the additional financial information contained in the Prospectus, in particular in the sections on "1. Risk Factors", "6. Capitalization and Indebtedness", "8. Selected Financial and Business Information" and "11. Business" contained in the Prospectus as well as our Consolidated Financial Statements, and the related notes thereto, which are contained in the "23. Financial Information" section of the Prospectus beginning on page F-1.

This section may contain forward-looking statements. Such statements are subject to risks, uncertainties and other factors, including those set forth under the heading "1. Risk Factors", which could cause our future results of operations, financial position or cash flow to differ materially from the results of operations, financial position or cash flow expressed or implied in such forward-looking statements. For further information on risks associated with reliance on forward-looking statements, see also "2.3. General Information — Forward-Looking Statements".

9.1. Overview of the Business Activities of Knorr-Bremse

Knorr-Bremse is the world's leading manufacturer of brake systems (by revenues for the fiscal year 2017, based on our own assessment), and a supplier of additional safety-critical sub-systems for rail and commercial vehicles. The Company was founded by Georg Knorr in 1905 in Berlin and has evolved over the years from a German-centric supplier of individual components to a global provider of integrated and connected systems for the rail and commercial vehicles industries. For more than 110 years, we have been an innovation leader, pioneering the development, production, marketing and servicing of state-of-the-art brake systems.

Our operations are managed in two divisions which also form our reporting segments under IFRS: Rail Vehicle Systems and Commercial Vehicle Systems. The Rail Vehicle Systems segment equips mass transit vehicles such as metro cars and light rail vehicles ("**LRVs**"), as well as freight cars, locomotives, mainline passenger trains and high-speed trains, with highly advanced products. In addition to brake systems, our product portfolio includes intelligent entrance systems, heating, ventilation and air conditioning ("**HVAC**") systems, auxiliary power

supply systems, control components and windscreen wiper systems, platform screen doors, friction material, driver assistance systems, electrical traction equipment, and control technology. Furthermore, we offer e-learning systems for optimum train crew training. In the aftermarket, under our brand RailServices, we provide maintenance, overhaul and repair services for rail vehicles.

Our Commercial Vehicle Systems segment offers products for trucks, buses, trailers and agricultural machinery. Our product portfolio includes (i) brake systems and vehicle dynamics solutions including driver assistance and automated driving, brake control, brake system, steering and electronic leveling control (*i.e.*, driver assistance systems, anti-lock brake systems, emergency brake systems, air disc brakes, foundation drum brakes, actuators, valves/pedal units, steering systems, electronic leveling control, electronic stability programs and others), (ii) energy supply and distribution systems, including air compressors and air treatment, and (iii) fuel efficiency products, including engine components and transmission sub-systems (*i.e.*, vibration dampers, engine air control, gear actuation and clutch actuation). Under our aftermarket brand, TruckServices, we supply high-quality products and service solutions for commercial vehicles of all kinds and all ages.

In 1985, Heinz Hermann Thiele, as chairman of the Executive Board following a management buyout of the Company, introduced far-reaching structural changes and concentrated the business on its core activities, *i.e.*, braking technology for rail and commercial vehicles. The Group has grown significantly since then. Major milestones in the development of the business include the successful globalization strategy, growth in the area of connected systems (1985-1990), the set-up of several joint ventures (*e.g.*, a joint venture with Bosch in electronics in 1999, the engagement in other systems than brake systems by getting involved in IFE and Merak in 1997, four joint ventures for rail vehicle systems in China in 2006 and a joint venture with DongFeng Motor (China), which started operating in 2015) and numerous acquisitions (*e.g.*, the acquisition of Bendix in the U.S. in 2002, seven acquisitions in the years 2015 and 2016 and the acquisition of Vossloh Kiepe, an electrical systems business from Vossloh in 2017). In June and July 2018, we entered into a partnership agreement with Continental AG. Such cooperations and acquisitions allow us to expand our business into adjacent areas, accelerate our development as a systems provider and address megatrends in our industry.

Currently, we strive to benefit from the megatrends urbanization, eco-efficiency, digitization and automated driving by continuously evolving our products to address such trends in both of our business segments.

Growing population and urbanization provide for opportunities in both the Rail and Commercial Vehicles Systems business, as they call for increasingly fast, safe and reliable transportation modes. Electrification and other energy- and eco-friendly solutions result from growing energy demand that is coupled with growing public awareness of energy efficiency and increasing public policies on energy, such as stricter emission laws. In our view, electrified vehicles hold a high potential for emission-efficient mobility solutions in megacities, including LRVs operations, city buses and green delivery trucks. Digitization promotes the connectivity of Rail Vehicle and Commercial Vehicle Systems and sub-systems, which facilitate real-time data analytics and predictive maintenance solutions that aim to improve life cycle costs. Other results of digitization are automatic train operation, condition-based maintenance of rail vehicles and monitoring tools and telematics solutions for commercial vehicles. Automated driving may impact the rail and commercial vehicle industry significantly, depending on the speed of adjustment to regulatory challenges, the development of safe and reliable technical solutions, and customer acceptance of, and willingness to pay for, such solutions. In connection with this growing trend, new solutions such as the development of driver assistance functions are emerging with the aim of reducing accidents, transport costs and emissions. Thus, all current megatrends provide growth potential for our business, particularly due to our strong focus on research and development ("**R&D**").

In this respect, our two operating segments — Rail Vehicle Systems and Commercial Vehicle Systems — are highly synergistic. Our product offerings across both segments share the same core technologies which allows for the transfer of know-how and technology. Likewise, Rail Vehicle Systems and Commercial Vehicle Systems to a large extent feature similar types of components and materials. We leverage IP, technologies, know-how and improvements originally developed with a focus on one of the two business segments for product solutions in the other business area.

While our headquarters are based in Munich, we are represented across the globe, with over 100 locations in more than 30 countries. Locally-based, highly qualified employees who speak the local languages and are familiar with the respective cultural conventions and national product requirements ensure that we maintain the necessary proximity to our markets and customers. Our high degree of local presence allows us to operate with maximum flexibility and speed towards our customers while providing a natural hedge against currency fluctuations and trade barriers.

In the fiscal year 2017, we reported consolidated revenues of EUR 6,153.5 million (based on IFRS) and EBITDA of EUR 1,115.5 million (corresponding to a margin of 18.1%). We had an average number of 26,910 employees

(based on headcount in the fiscal year 2017, including leasing staff). In the fiscal year 2017, we generated 53% of our Group revenues and 55% of our Group EBIT in the Rail Vehicle Systems segment and 47% of our Group revenues and 45% of our Group EBIT in our Commercial Vehicle Systems segment. In the fiscal years 1989 to 2017, our revenues as reported in our statutory consolidated financial statements, which were prepared according to German GAAP, grew at a compound annual growth rate ("**CAGR**") of 10.3%. In the fiscal years 2003 to 2017, our revenues grew at a CAGR of approximately 7.6%, our EBITDA grew at a CAGR of approximately 11.1%, our EBITDA-margin increased by approximately 660 basis points over the same period and our operating cash flow grew at a CAGR of approximately 7.4% (as reported in our statutory consolidated financial statements, which were prepared according to German GAAP (2003-2013) and IFRS (2014-2017); data presented in accordance with German GAAP may not be comparable to data prepared in accordance with IFRS). In the fiscal years 2010 to 2017, our revenues at Group level, as reported in our statutory consolidated financial statements, which were prepared according to German GAAP (2010-2013) and IFRS (2014-2017), grew at a CAGR of approximately 7.5% and our EBITDA grew at a CAGR of 11.3%. In the fiscal years 2016 to 2017, the CAGR of our revenues on Group level was 12.5% and of our EBITDA was 6.0% (each based on IFRS). We experienced a sustained Order Intake momentum with a solid book-to-bill ratio, *i.e.*, a stable ratio of incoming orders in comparison to outgoing orders, underlining future growth potential. In the fiscal year 2017, our Order Intake was approximately EUR 6,656.6 million. In the fiscal years 2014 to 2017, our Order Intake grew at a CAGR of approximately 6.5%. We have a stable Order Book that indicates visibility of more than 60% of the following year's revenues. In the fiscal year 2017, our Order Book was approximately EUR 4,177.0 million. In the fiscal years 2014 to 2017, our Order Book grew at a CAGR of approximately 5.3%. In the fiscal year 2017, our personnel expenses amounted to EUR 1,438.9 million, while in the fiscal year 2014, they amounted to EUR 1,093.3 million. In the fiscal year 2017, our depreciation and amortization totaled EUR 211.5 million, while in the fiscal year 2014, it totaled EUR 125.7 million. Additionally, in the fiscal year 2017, our total assets were EUR 5,727.4 million and our equity, EUR 1,995.7 million, while in the fiscal year 2014, our total assets were EUR 4,233.0 million and our equity EUR 1,468.0 million.

9.2. Selected Factors Affecting Results of Operations and Financial Position

We believe that the factors discussed below have significantly affected our results of operations, financial position and cash flow in the past periods for which financial information is presented in the Prospectus, and that these factors will continue to have a material influence on our results of operations, financial position and cash flow in the future.

For a discussion of certain factors that may adversely affect our results of operations, financial position and cash flow, see also the risk factors set out in the section headed "*1. Risk Factors*".

9.2.1. General Economic and Political Conditions in the Regions in which we Operate

We are a global provider of safety-critical (*e.g.*, brake systems) and other systems, components and technologies, as well as related services for rail vehicles (including mass transit vehicles such as metro cars and LRVs, freight cars, locomotives, mainline passenger trains and high-speed trains) and commercial vehicles (such as trucks, buses, trailers and agricultural machinery). As our products are sold in numerous countries to, among others, major original equipment ("**OE**") manufacturers ("**OEM**"), as well as rail and fleet operators, which include private and public entities, the demand for our products is generally dependent on global economic and political conditions. These factors directly impact transportation volumes of goods and people, which to a large extent drive demand for rail and commercial vehicles. Therefore, we are affected by general developments in the global economy and, in particular, by fluctuations in the economic and political conditions of the markets for mass, rail based transit vehicles and commercial vehicles in which we sell our products and services.

In the periods under review, the global economic conditions remained largely stable. In 2017, the world economy grew by 3.8% as compared to 3.2% in 2016 and 3.4% in 2015 (source: IMF World Economic Outlook April 2018, IMF World Economic Outlook October 2017). Overall, global growth is projected to reach 3.9% in both 2018 and 2019 (source: IMF World Economic Outlook April 2018). However, this positive momentum is expected to slow over the next few years leaving many countries with a challenging medium-term outlook. Financial conditions are expected to tighten with the closing of output gaps and monetary policy normalization (source: IMF World Economic Outlook April 2018). In addition to other macroeconomic factors, political impacts, for example as a result of decisions by the U.S. government's "America First" policy, or regional

instabilities worldwide, for instance in the Middle East, might affect the general economic environment, see also also "*1.1.1. — Risk Factors — Unfavorable developments in the global economy could adversely affect our business.*".

With respect to both our Rail Vehicle Systems segment and Commercial Vehicle Systems segment, political, geopolitical, economic and social developments in the countries and regions in which we operate, in particular within Asia, the U.S. and Europe, can generally affect the purchasing behavior of our customers and, thus, our order volumes. When the spending levels of our customers decrease due to negative overall economic developments or other factors such as uncertain political conditions, our business has typically been, and may also in the future be, negatively affected. For example, the market declines as well as the uncertain political and economic situation in some of our important emerging markets such as Brazil have had, and may continue to have, a material negative impact on the economic climate in their respective regions and have had, and may continue to have, spill-over effects in neighboring countries and regions. In turn, improvements in macroeconomic conditions have generally positively affected our businesses in the past. For example, growing economies in China and India have seen growth of the metro market sector in these countries resulting in higher demand for locomotives. Since mid-2016, a buoyant global economy has progressively accelerated. Worldwide gross domestic product growth in 2017 reflected the broadest upswing in global economic growth since 2010 and this momentum has, so far, been maintained through 2018.

As an internationally diversified business, we generated 50.0% of our revenues in the fiscal year 2017 in the Europe/Africa markets, 27.5% in the Asia-Pacific markets, 21.0% in the North America markets and 1.5% in the South America markets. From a segmental perspective, 53.0% of our Group revenues were generated by the Rail Vehicle Systems segment while 47.0% was generated by the Commercial Vehicle Systems segment. We believe that our regional and divisional diversification has helped to partially mitigate the impact from negative economic developments confined to certain regions and business segments, and we expect that it will continue to do so in the future.

In addition to the general macroeconomic environment, specific cyclical developments and conditions beyond our control affected our results of operations, financial position and cash flow in the periods under review, and are expected to continue to do so in the future. In particular, the commercial vehicles market is dependent on economic cycles and conditions as this market is generally driven by private investment and to a lesser extent by public investment. For example, order volumes for trucks are strongly affected by times of slower economic growth or economic contraction as well as the average age of commercial truck fleets in a market. In particular, in anticipation of lower transport volumes, fleet operators typically tend to delay purchase decisions and rather rely on an extended use life of their vehicles. In contrast, the market for rail vehicles is mainly dependent on the construction and expansion of transit systems and other networks, which in turn mainly depend on public funding for such purposes. Municipalities, mass transit companies and rail authorities follow public transportation policies and receive funding based on political decisions by their respective governing bodies resulting in more long-term programs. This exposes the commercial vehicle market and rail vehicle market to different economic cycles as, in general, the commercial vehicle market is more dependent on short-term economic cycles whereas the rail vehicle market is more dependent on longer-term trends largely influenced by publicly funded projects. As an example, while our commercial vehicle business was materially affected by the global financial crisis in 2008-2009, our revenues and margins in our rail vehicle business remained largely unaffected during that time. As such, we believe that our segmental diversification of Rail Vehicle Systems and Commercial Vehicle Systems businesses has helped in the past to partially mitigate the impact of economic cycles and conditions beyond our control, and we expect that it will continue to do so in the future.

Both the rail vehicle and the commercial vehicle business also have an intrinsic cyclical component, which means that periods of large investments in rail and commercial vehicles are typically followed by slower periods in which demand declines. For example, a high-speed rail accident in China in late 2011 led to a sharp deterioration of high-speed train and locomotive demand in 2012 and 2013, followed by a pronounced increase in demand in 2014 and, in particular, in 2015. During these two years, we recorded peak revenues in our Chinese rail vehicle business. This extraordinary period was followed by a normalization in demand in 2016 which lead to a decline in revenues in our Chinese rail vehicle business of approximately 30% in that year.

Also in 2016, a cyclical slowdown occurred in the freight car and locomotive business in the U.S. and Canada, which resulted in a decline in freight prices and volumes, thereby negatively affecting our business in that region. Our revenues in this region decreased by approximately 17% in 2016 compared to the previous year, but recovered in 2017 increasing approximately 13% when compared to 2016.

Furthermore, we believe that our significant share of aftermarket business, as further described below, and which we intend to further increase in the long-term, also reduces our dependency on economic cycles which tend to primarily affect the original equipment business.

9.2.2. Trends, Conditions and Expected Developments in our Markets

We have been significantly affected, and we expect to continue to be significantly affected, by the trends, conditions (including the competitive environment) and developments in the markets in which we operate and in the underlying markets that are relevant for our business, most notably the global Rail Vehicle Market (as defined under "*10.1.1 — Markets and Competitive Environment — The Two Main Approaches to a Definition of the Rail Vehicle Market*" below) and our Addressable Rail Vehicle Systems Market (as defined under "*10.1.2.1. — Markets and Competitive Environment — Market Definition and Calculation of Market Size*" below) as well as global truck and bus production output (*i.e.*, truck production rate or "**TPR**") as the underlying parameter for our Commercial Vehicle Systems business and our Addressable Commercial Vehicle Systems Market (each as defined under "*10.1.4.1. — Markets and Competitive Environment — Market Definition and Calculation of Market Size*"*).* The industries in which we operate are characterized by developments which reflect change processes that, in part, structurally transform such industries and the relevant markets. We believe that the conditions and developments of the markets in which we operate have been and are expected to be shaped by various factors including, most notably, the four megatrends urbanization, eco-efficiency, digitization and automated driving/automated train operations.

According to the RB RV Report, the global underlying Rail Vehicle Market (including both the OE rolling stock and aftermarket/services segments) amounted to approximately EUR 101 billion in 2016; it has grown at a CAGR of approximately 2% over the 2010-2016 period and is expected to continue to grow at a CAGR of 2.5% globally over the 2016-2022 period (based on order intake volumes calculated as averages for three-year periods). The Rail Vehicle Market tends to show a relatively low dependency on general economic cycles. While mainly dependent on the levels of government and private operator spending on railway projects, it has historically also been subject to fluctuations related to overall economic conditions, typically with a certain time delay. According to our own market assessment, our Addressable Rail Vehicle Systems Market comprised the following segments in 2017: (i) brakes/brake systems, amounting to slightly more than EUR 4 billion; (ii) entrance systems, amounting to approximately EUR 1 billion; (iii) HVAC, with approximately EUR 1 billion; and (iv) other segments, amounting on aggregate to approximately EUR 6 billion, including so-called captive business, with respect to which we believe there is a market potential for us. In our own assessment, these three key sub-systems have been growing at strong CAGRs over the 2010-2017 period, namely approximately 3% to 4% for brakes/brake systems, approximately 5% for entrance systems and approximately 4% to 5% for HVAC. We expect this market to continue to grow across the relevant key OE segments in which we operate (brakes, entrance systems and HVAC) over the next few years. Also according to our own assessment, we estimate that several segments within our Addressable Rail Vehicle Systems Market have grown in the 2010-2017 period considerably faster than the growth assessed in the RB RV Report for the overall Rail Vehicle Market over the 2010-2016 period, in particular (with respect to brake systems) the high grade segments in China, India as well as Russia and the other CIS countries, the North American freight and passenger market segments, Germany as well as the UK and Ireland. In China, we expect growth, among others, in the OE metro market segment and in the aftermarket, but also in the high-speed market segment. In the 2010-2017 period, our Rail Vehicle Systems segment revenues grew at a CAGR of 7.3% (figure based on data derived from German GAAP data which may therefore deviate from and may not be comparable to data based on IFRS presented elsewhere in the Prospectus), so that it outperformed the underlying Rail Vehicle Market (in terms of the above-mentioned CAGR for the 2010-2016 period, as set forth in the RB RV Report, albeit based on different market definitions and methodologies; see "*10.1. — Markets and Competitive Environment — Introduction: Market Definitions, Background and Methodology*").

In general terms, the commercial vehicle market tends to be more dependent on overall economic cycles and conditions than the Rail Vehicle Market, for example with respect to order volumes for trucks and buses. Demand for trucks can also be affected by a pre-buy before the effective date of new regulatory requirements, such as changes in emissions standards, with a corresponding decrease after such standards are implemented. New bus orders are influenced by, among other factors, major replacement programs and by the construction and expansion of transit systems and other networks by transit authorities, which in turn depend on public and private funding for such purposes. The Addressable Commercial Vehicle Systems Market is generally dependent on the underlying data on truck and bus production output. Global TPR amounted to approximately 2.8 million vehicles worldwide in 2016 and is expected to grow at a CAGR of approximately 2.6% over the 2016-2022 period to reach 3.2 million units in 2022 (source: RB T&T Report (based on Knorr-Bremse TPR data, as further explained under "*10.1. — Markets and Competitive Environment — Introduction: Market Definitions, Background and Methodology*"*)).* Within that period, most of the TPR growth is expected to occur during the 2016-2018 period (CAGR of approximately 7.5%), whereas over the 2018-2022 period, a CAGR of approximately 0.3% is expected (source: RB T&T Report). The main reasons for this difference are the massive pre-buy effect in China during 2017, as well as the effects of recovering economies and markets in North America (where the truck market improved in 2017 following a downturn in 2016) and in South America (with an upturn after a recession

period). Based on our own analysis, we believe the global Addressable Commercial Vehicle Systems Market amounted to approximately EUR 6.0 billion in 2017 and grew at an overall CAGR of approximately 7% over the 2010-2017 period (with regions such as Western Europe, North America and Asia-Pacific showing significant growth in such period, at a CAGR of 10%, 17% and 6%, respectively, in our assessment). In our assessment, the global Addressable Commercial Vehicle Systems Market will continue to grow over the next few years. Growth has in the past varied — and in our assessment will also vary in the next few years — from region to region. Knorr-Bremse's revenues in the Commercial Vehicle Systems segment grew at a CAGR of 8.1% in the 2010-2017 period (figure based on data derived from German GAAP data which may deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus). Thus, and according to our own estimates, our Commercial Vehicle Systems segment grew stronger than the global CAGR for TPR in the 2010-2017 period (according to IHS, "Medium- and Heavy-Duty Commercial Vehicle Industry Forecast: Production Q1/2018", global TPR for trucks and buses equipped with pneumatic brakes increased in the 2010-2017 period by 1.3%), and we expect that revenues in our Commercial Vehicle Systems segment will continue to grow at a stronger pace than global TPR in the coming years until 2022 (according to the RB T&T Report, global TPR is expected to grow at a CAGR of approximately 2.6% over the 2016-2022 period), benefiting from an increasing relevant content per vehicle.

We estimate that our results of operations, financial position and cash flow have been and will continue to be affected by increasing content per vehicle of commercial vehicles due to new safety and emission regulations and technology adoptions facilitated by regulatory requirements. For example, in Asia, a high-volume market, we expect growth to be particularly driven by the rapidly increasing content per vehicle, in particular the adoption of air disc brake systems (*e.g.*, in China) and electronic systems. In mature markets, we expect moderate to high growth at an already high content per vehicle. In North America, we expect the content level to increase with the adoption of air disc brakes and collision mitigation systems, while South America is showing first signs of recovery, driven by replacement demand. In Europe, we expect a further increase in content per vehicle mainly as a result of increasing regulations covering emissions and safety and further overall market growth.

For additional information on our relevant markets, their past and expected future development and the competition that we face in these markets, see also "*10. — Markets and Competitive Environment*".

9.2.3. Revenues Growth

In addition to the overall general economic conditions, our revenues as well as our results of operations have been, and we expect them to continue to be, significantly affected by organic and inorganic growth of our business.

In the fiscal year 2017, we generated revenues of EUR 6,153.5 million (2016: EUR 5,471.3 million and 2015: EUR 5,823.5 million). As a result of positive developments in the markets in which we operate and despite negative foreign exchange effects, revenues in the fiscal year 2017 increased by 12.5% compared to the fiscal year 2016 (2016: decrease of 6.0%; 2015: increase of 11.6%).

During the fiscal years 2015 to 2017, revenues of the Commercial Vehicle Systems segment grew stronger with a CAGR of 7.7% compared to revenues of the Rail Vehicle Systems segment which declined slightly at a CAGR of (1.1)%. In the Commercial Vehicle Systems segment, growth of revenues in the fiscal years 2015 to 2017 was predominantly due to organic growth and only to a much smaller extent due to inorganic growth, with a CAGR for revenues attributable to organic growth of approximately 8.2% (figure based on data derived from German GAAP data which may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus).

Along with a strong market position in Europe this organic growth was mainly driven by our operations in North America and China. Notably, we were able to grow with the increasing truck production rate which was especially strong in Asia-Pacific with a focus on China, but also, albeit to a lesser extent, in Europe and North America, which was partly off-set by decreasing truck production rates in South America. Additionally, in the periods under review, we have been able to participate in the content per vehicle growth in different regions, in particular in the South America region but also in our other regions Asia-Pacific, Europe and North America and we expect to further participate in this development, especially in the Asia-Pacific region, where content per vehicle is growing from a comparably low base, but also in the other regions in the medium to long-term.

During the fiscal years 2015 to 2017, the global increase in content per vehicle was mainly related to safety improvements, emission reduction and improvements in transmission. In particular, an increased introduction of air disc brakes in North America and legislation introducing anti-lock brake systems in India supported increased content per vehicle. We expect legislative and regulatory changes, such as loading regulations and conversion to air disc brakes in China, increased emission standards in the USA, as well as adoption of electronic systems

(brake control and advanced driver assistance systems ("**ADAS**")) in Brazil and China to support continued increase of content per vehicle and organic growth.

Furthermore, our growth was supported by growth of market share, in particular in Asia-Pacific, with a strong performance in China, as well as in Europe and North America where we benefited from further growth of truck production rates, including in the North American market from the above described strong penetration of air disc brakes.

In the Rail Vehicle Systems segment during the fiscal years 2015 to 2017, our organic revenues decreased at a CAGR of approximately (3.0)%, partly offset by growing inorganic revenues (figure based on data derived from German GAAP data which may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus). Decline in organic growth in 2016 was mainly due to the increase of OE sales of high-speed trains in China in 2015 and the following normalization of sales thereafter. Organic growth in 2017 was mainly based on regional growth markets, such as China and India, and supported by continuous development of innovative technologies (*e.g.*, next generation brake systems). Furthermore, organic growth in this segment was driven by further penetration of digital rail solutions.

Revenues, as well as our results of operations for both operating segments have also been positively affected by a continuously growing installed base (referring to the number of vehicles in operation) and thus a growing volume of aftermarket business that has provided a stable source of revenues in the periods under review and is expected to do so in the future, thus also providing for more predictable cash flow from operating activities. Note that Aftermarket Sales, Aftermarket Sales Share and figures derived thereof, including CAGRs, are all figures based on data derived from German GAAP data which may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus. As a result of a dedicated aftermarket strategy, the Aftermarket Sales Share was approximately 35% in 2017, approximately 36% in 2016 and approximately 33% in 2015. On a segmental level, the Aftermarket Sales Share amounted to approximately 42% in the Rail Vehicle Systems segment in 2017 (2016: approximately 41%, 2015: approximately 36%) and approximately 28% in the Commercial Vehicle Systems segment in 2017 (2016: approximately 30%, 2015: approximately 30%) (figures based on data derived from German GAAP data which may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus). The comparably low Aftermarket Sales Share in our Commercial Vehicle Systems has, in particular, been due to the strong revenues growth driven by revenues attributable to OE. In total numbers, Aftermarket Sales in the Rail Vehicle Systems segment were approximately EUR 1,387 million in 2017 (2016: approximately EUR 1,218 million; 2015: approximately EUR 1,205 million) which corresponds to a CAGR of approximately 7.3% during this period, meaning that in this period, Aftermarket Sales growth significantly outperformed revenues growth relating to OE sales. Aftermarket Sales attributable to the Commercial Vehicle Systems segment were at approximately EUR 817 million in 2017 (2016: approximately EUR 762 million; 2015: approximately EUR 743 million), corresponding to a CAGR of approximately 4.9% during this period. In the long-term, we target to further increase the share of our revenues we generate from our aftermarket business.

These positive effects were partially offset by negative foreign exchange effects in the periods under review, see "*9.2.7. — Currency Fluctuations and Hedging*".

In the six-month period ended June 30, 2018, our revenues increased by EUR 346.2 million, or 11.6%, to EUR 3,322.2 million from EUR 2,976.0 million in the six-month period ended June 30, 2017. This increase was due to an increase in revenues in both the Rail Vehicle Systems segment and the Commercial Vehicle Systems segment. Revenues of our Rail Vehicle Systems segment grew stronger at 12.6%, to EUR 1,744.2 million in the six-month period ended June 30, 2018, compared to EUR 1,549.4 million in the six-month period ended June 30, 2017. Revenues of our Commercial Vehicle Systems segment increased by 10.5% to EUR 1,577.3 million in the six-month period ended June 30, 2018, from EUR 1,427.3 million in the six-month period ended June 30, 2017. These developments were primarily due to favorable developments of the Chinese and Indian rail businesses as well as in Europe and North America and a strong OE sales performance in all markets of our Commercial Vehicle Systems segment.

9.2.4. Acquisitions and Divestments

Acquisitions and investments in our core business areas, as well as in new or adjacent business areas are an integral component of our business strategy and have had, and are expected to have, a significant impact on our growth, our revenues and, accordingly, our results of operations. In line with our strategy of sustainable and profitable growth of our main areas of business through focused acquisitions, we have acquired a number of complementary businesses supporting our growth.

In the periods under review, our Rail Vehicle Systems segment's growth of revenues was significantly impacted by acquisitions. These include, for example, the Swiss Selectron Group (in January 2015), a provider of

automation solutions for rail vehicles, which contributed EUR 45.3 million to our revenues and EUR 0.8 million to our earnings before taxes in 2015 (as earnings before taxes was substantially burdened by the amortization of acquisition step-ups). In November 2016, we acquired, *inter alia,* the remaining outstanding shares in the Icer Rail joint venture. Icer Rail, which mainly acts as an intercompany supplier for brake pads and blocks for our Group, contributed EUR 0.1 million to our third party revenues and EUR 0.1 million to our earnings before taxes in the fiscal year 2016 and would have contributed EUR 3.5 million to our revenues and EUR 2.8 million to our earnings before taxes in the fiscal year 2016 if it had been acquired at the beginning of that year. Furthermore, with the acquisition of Kiepe Electric, an electrical systems business from Vossloh ("**Kiepe Electric**") in January 2017, we have added energy-efficient electrical systems for rail vehicles and buses to our portfolio. This acquisition positively affected our growth in the fiscal year 2017 and we expect the acquisition to open up new growth opportunities and potential applications for the Group as the electrification of rail and road mass transit continues to increase. Kiepe Electric contributed EUR 180.5 million to our revenues and EUR (26.4) million to our earnings before taxes in the fiscal year 2017 and would have contributed EUR 192.8 million to our revenues and EUR (27.8) million to our earnings before taxes in the fiscal year 2017 if it had been acquired at the beginning of that year.

In our Commercial Vehicle Systems segment, the strong growth in the periods under review was primarily due to organic growth (see also "*9.2.3. — Revenues Growth*") but also, albeit to a lesser extent, to acquisitions. In the fiscal year 2016, we acquired, *inter alia*, the UK-based GT Group (in July 2016) and German-based tedrive Group (in September 2016). GT Group contributed EUR 26.2 million to our revenues and EUR 0.7 million to our earnings before taxes in the fiscal year 2016 and would have contributed EUR 57.0 million to our revenues and EUR 3.0 million to our earnings before taxes in the fiscal year 2016 if it had been acquired at the beginning of that year. In the fiscal year 2016, revenues and earnings before taxes attributable to the tedrive Group amounted to EUR 28.9 million and EUR 1.0 million, respectively. If the acquisition had taken place at the beginning of that year, tedrive Group would have contributed EUR 83.7 million to our revenues and EUR 2.8 million to our earnings before taxes in the fiscal year 2016. In March 2017, we also acquired Bosch Japan's Transmission Systems division ("**TRS**") for on-highway vehicles to further strengthen our market position in Japan.

In addition to the outflow of funds that we recorded for purchase price payments, the aforementioned acquisitions also had other effects on our results of operations, most notably an increase in revenues as described above, but also on our financial position and cash flow. For more information on past acquisitions, see also "*11.8. — Business — Mergers and Acquisitions, Joint Ventures and Cooperations since 2014*".

Furthermore, certain businesses had been recognized as disposal groups classified as held for sale under the disposal group "Blueprint", including the Swedish part of the vehicle maintenance business of the Swedtrac subgroup, as well as certain parts of our UK vehicle maintenance business. Swedtrac was sold with effect as of April 1, 2018, which resulted in a gain of EUR 6.7 million presented in other financial result. On August 3, 2018, the remaining vehicle maintenance business based in the UK (Kiepe Electric Limited and Knorr-Bremse RailServices (UK) Limited) was sold at a loss of EUR 40.6 million. EUR 20.0 million of this amount was already recognized in the consolidated statement of profit or loss for the fiscal year 2017 and presented as an impairment under depreciation and amortization in the third quarter of the fiscal year 2017. The additional impairment of EUR 19.5 million was recognized in the consolidated statement of profit or loss for the six-month period ended June 30, 2018, again under depreciation and amortization. An additional EUR 1.1 million are expected to be recognized at closing. In total, the realized loss from the "Blueprint" disposal group (including the Swedish part of the vehicle maintenance business mentioned above) amounted to EUR 33.9 million. Furthermore, our Sydac disposal group was sold with effect as of July 31, 2018, which resulted in a total loss of EUR 10.8 million. Of this amount, EUR 5.3 million were recognized in our consolidated statement of profit or loss for the fiscal year 2017 and were presented as an impairment under depreciation and amortization in the third quarter of 2017. The additional impairment of EUR 5.5 million was recognized in our consolidated statement of profit or loss for the six-month period ended June 30, 2018, under depreciation and amortization.

Selective portfolio optimizations, in addition to the proceeds received and losses that we realized, also had, and continue to have, other effects on our results of operations, most notably a reduction of revenues during the last three fiscal years.

9.2.5. Cost Structure

The cost structure attributed to our operations, in particular the cost of materials and personnel expenses which are a major part of our cost base, is another important factor which has affected our results of operations and is expected to continue to do so in the future.

We purchase a broad range of materials, components and parts in connection with our manufacturing activities. Major items include electronic components and parts containing aluminum, steel, copper, zinc, rubber and

plastics. The costs of components and parts, which reflect in part the cost of the materials used therein, represent a significant portion of our total costs. We also require raw materials for our operations, such as iron/foundry coke, aluminum and steel as well as purchased services.

In the periods under review, although the cost of materials fluctuated ranging from EUR 2,747.3 million in 2015 to EUR 2,571.4 million in 2016 and to EUR 3,009.6 million in 2017, our cost of materials ratio (as a percentage of our revenues) has been comparably stable and only increased slightly over the past three fiscal years. Our cost of materials ratio was 48.9% in the fiscal year 2017 as compared to 47.0% in the fiscal year 2016 and 47.2% in the fiscal year 2015. In the six-month period ended June 30, 2018, our cost of materials increased by 14.8% to EUR 1,680.4 million from EUR 1,463.6 million in the six-month period ended June 30, 2017, generally proportional to the development of revenues. Our cost of materials ratio increased slightly to 50.6% in the six-month period ended June 30, 2018, compared to 49.2% in the six-month period ended June 30, 2017, primarily due to changes in our product and channel mix with a slight increase of our OE business compared to our aftermarket business.

Price fluctuations of the underlying commodities affect our results of operations in the Commercial Vehicle Systems segment more than in the Rail Vehicle Systems segment, due to a higher share of costs of materials as a percentage of revenues in the Commercial Vehicle Systems segment. Furthermore, because cost of materials also includes purchased services, the cost of materials as a percentage of revenues is also generally higher in our Commercial Vehicle Systems segment than in our Rail Vehicle Systems segment as we generally incur higher expenses for purchased services in our Commercial Vehicle Systems segment.

We continuously manage our cost of materials through design improvements and an efficient purchasing and procurement organization with a strong focus on price negotiations, also using software-supported tools.

Personnel expenses form the second largest portion of our cost base. These include wages and salaries, as well as statutory social welfare contributions and expenses relating to pensions and employee benefits. Thus, future increases in statutory minimum wages and general wage levels across the respective geographies in which we operate may impact our cost base directly or indirectly. In the periods under review, personnel expenses were largely unchanged in the fiscal years 2015 and 2016, amounting to EUR 1,272.2 million and to EUR 1,272.1 million, respectively, and increased to EUR 1,438.9 million in 2017. This latter increase was mainly due to acquisitions and investments in our core business areas, increased personnel-intensive service business and increased engineering efforts. While the average number of employees (based on headcount, including leasing staff) developed from 24,879 during the fiscal year 2015 to 24,664 during 2016 and 26,910 employees during 2017, our personnel expenses ratio (as a percentage of revenues) increased from 21.8% in 2015 to 23.3% in 2016 and remained largely unchanged at 23.4% in 2017. In the six-month period ended June 30, 2018, our personnel expenses increased by 5.4% to EUR 746.5 million from EUR 708.4 million in the six-month period ended June 30, 2017, primarily driven by revenues growth. The personnel expenses ratio decreased from 23.8% in the six-month period ended June 30, 2017 to 22.5% in the six-month period ended June 30, 2018, primarily due to a regional revenues shift with increasing China business.

Other operating expenses, mainly costs for external services, rent/lease, maintenance and warranty, remained largely stable in the periods under review.

9.2.6. Operating Efficiency and Other Improvements and Continued Cost Excellence

We seek to improve our operating performance and secure our long-term competitiveness on a continuous basis through efficiency-enhancing and cost-reducing programs. Examples of such efficiency measures include product redesign, process improvement, as well as the closure of less efficient plants and the relocation of production, development and administrative functions to more efficient and/or lower cost sites and overhead minimization. For example, we have in the past few years expanded our Rail Vehicle Systems segment's operations in Berlin and Budapest by shifting production capacities from Munich to these two locations.

In addition, we initiated the "KB2020 Bottom Line" program in the fourth quarter of 2015. This program initially sought to achieve, by 2020, a low three digit million Euro in aggregate savings (before deduction of costs) through a variety of cost savings measures, such as relocation of projects, overhead reduction and an optimization of engineering footprint (*e.g.*, best-cost-country approach) and cost optimization through major strategic production evolutions, such as global scalable brake control ("**GSBC**"). A portion of planned cost savings affected our results of operations in the fiscal years 2016 and 2017 as these savings were recorded in earnings before taxes. A further low three digit million Euro in cost savings is targeted post 2020 (before deduction of costs). Note that all data relating to "KB2020 Bottom Line" is derived from German GAAP data which may therefore deviate from and not be comparable to data based on IFRS presented elsewhere in the Prospectus.

Furthermore, for more than ten years we have been using our ongoing operative cost optimization program called "Strong Focus" which targets improving price negotiations through software tools, value analysis and value engineering and savings in other operational expenditures. In particular, "Strong Focus" provides us with transparency, tracks progress against targets, enhances control and enables us to reduce costs to compensate negative effects from inflation, price pressure from customers and price increases from suppliers.

For information on the risks we face in the event we fail to implement these efficiency and other operational improvements and cost savings measures, see "*1.1.10. — Risk Factors — We may fail to successfully identify, enter into or integrate acquisitions, joint ventures or cooperations or to successfully execute divestments, which could have a material adverse effect on our business, results of operations, cash flows and financial position*."

9.2.7. Currency Fluctuations and Hedging

Changes in foreign currency exchange rates have affected, and are expected to continue to affect, our results of operations and financial position, via our revenues and costs, as well as the book value of our foreign assets and liabilities when reported in Euro.

In the periods under review, we generated a significant part of our revenues and costs in a number of non-Euro currencies, mainly the U.S. Dollar and the Chinese Yuan. Other currencies, such as the British Pound, Hungarian Forint and the Czech Koruna are also important, since we sell products produced in these countries in Euro but incur costs in the respective local currency. Furthermore, we sell imported products and purchase various imported components and merchandise. A significant and growing portion of our products are manufactured in best-cost countries and sold in other countries. Cross-border transactions, both with external parties and within our Group, result in a certain exposure to transactional currency exchange effects. In the event of depreciation or appreciation of the respective currencies of the countries in which we operate, the cost of our imported products, components and equipment or our local expenses will be affected.

For example, in 2014 and 2015 the strengthening of the Chinese Yuan, especially in relation to the Euro, positively affected our revenues in our Rail Vehicle Systems segment and the strengthening U.S. Dollar, especially in relation to the Euro, positively impacted both the Rail Vehicle Systems and Commercial Vehicle segments. In 2016 and 2017, foreign exchange rates negatively impacted our revenues and margins in both operating segments, primarily due to a moderate recovery of the Euro against the U.S. Dollar and the Chinese Yuan.

Furthermore, changes in foreign currency exchange rates have affected and may in the future affect our costs as cash held in foreign currencies may be subject to value adjustments. In the periods under review we incurred not insignificant impairment charges related to cash held in the U.S. Dollar. In addition, unrealized non-recurring expenses and income related to periodic fluctuations of fair value measurements of cashflow hedges have, in the past affected our financial result. We expect that such effects will reduce following adoption of hedge accounting, currently planned to be implemented for the fiscal year ending December 31, 2019.

In order to help manage our exchange rate risk related to transactions across different regions, we employ two key strategies: first we make use of opportunities for compensatory supply volumes within the Group; and second, the remaining risk portfolio is, to an appropriate extent, hedged by means of derivatives. Such measures, however, serve exclusively to hedge basic transactions within the scope of normal business operations. In addition, in particular due to a geographic diversification over recent years and an establishment of a high proportion of local manufacturing and local suppliers within the respective currency zones, potentially adverse effects on our results of operations and financial position from exchange rates volatility resulting from operational transactions have been mitigated, see "*9.9.2. — Currency Risks*" and "*1.1.26. — Risk Factors — Our sales, results of operations and financial position may be adversely affected by currency fluctuations.*"

9.3. Presentation of Financial Information and Factors Affecting Comparability

9.3.1. Changes to Accounting Policies and Changes in Presentation

In the periods under review, Knorr-Bremse has applied or taken into account new or revised standards that have been adopted by the European Union into European law. Of these changes to the Groups's accounting policies and in presentation, the application of IFRS 15 *Customer Contracts* ("**IFRS 15**") had a significant impact on our Unaudited Condensed Consolidated Interim Financial Statements.

At Knorr-Bremse, customer-specific development work (pre-production engineering activities) may regularly be required to process new orders prior to the start of series production. As a result of the introduction of IFRS 15, costs to fulfil an anticipated contract are capitalized. The amortization begins with the start of production over the period of the supply relationship. Amortization is presented in changes in inventories of the consolidated statement of profit or loss.

Cost reimbursements received from customers in connection with pre-production engineering activities are recognized as a contract liability and subsequently recognized in revenues over the period of the supply relationship. Prior to the application of IFRS 15, these reimbursements were recognized in other operating income when payments were received. As of June 30, 2018, amortization of the capitalized costs to fulfil a contract has not yet started.

Nomination fees paid to customers, which comprise one-time bonus payments awarding future customer orders, are capitalized as other assets and subsequently recognized as deductions to sales over the period of the supply relationship.

With regard to the first-time application of IFRS 15, the Group applied the modified retrospective method according to which the cumulative adjustment amounts are recognized as of January 1, 2018. Consequently, the Group did not apply the requirements of IFRS 15 to the comparative period presented. The figures for the six-month period ended June 30, 2017 and as of June 30, 2017, presented in our Unaudited Condensed Consolidated Interim Financial Statements were therefore not adjusted.

The balance sheet positions contract assets, costs to fulfil a contract and contract liabilities are newly introduced due to IFRS 15. The previously presented receivables and liabilities from construction contracts were adjusted as a result of the first-time application of IFRS 15. Differences in presentation between contract assets and contract liabilities as well as receivables from construction contracts and liabilities from construction contracts mainly resulted from the offsetting of provisions for onerous contracts with corresponding receivables from construction contracts in the previous period. These were reported gross in accordance with IFRS 15. In accordance with IFRS 15, contract assets are to be included in the calculation of impairments in accordance with IFRS 9. This did not have any significant effects for the six-month period ended June 30, 2018. Further effects of the first time application of IFRS 15 were the recognition of costs to fulfil a contract (presented in a separate line item of non-current assets) and capitalization of nomination fees paid to customers (presented under other non-current assets).

The transition to IFRS 15 had the following effect on our consolidated statement of financial position as of June 30, 2018:

	As of June 30, 2018		
(in EUR million)	**Values as reported**	**Adjustment effects**	**Values without application of IFRS 15**
Assets			
Non-current assets	1,923.5	15.6	1,907.9
thereof other assets	38.5	6.5	32.0
thereof costs to fulfil a contract	9.1	9.1	–
Current assets	4,141.3	8.4	4,133.0
thereof contract assets	128.3	8.4	120.0
Balance sheet total	**6,064.8**	**24.0**	**6,040.8**
Equity	**1,308.5**		
thereof retained earnings	35.9	8.8	27.1
thereof profit attributable to the shareholders of Knorr-Bremse AG	283.5	0.6	283.0
Liabilities			
Non-current liabilities	2,220.6	2.7	2,217.9
thereof deferred tax liabilities	42.2	2.7	39.5
Current liabilities	2,535.7	11.9	2,523.8
thereof other provisions	244.5	26.4	218.0
thereof contractual liabilities	302.0	(14.5)	316.6
Total liabilities	**4,756.3**	**14.7**	**4,741.7**
Balance sheet total	**6,064.8**	**24.0**	**6,040.8**

Changes in the balance sheet resulted in particular from reclassifications due to the first-time disclosure of contract assets and contract liabilities and the reversal of the offsetting of provisions for onerous contracts in connection with construction contracts with associated balance sheet items. The contract assets recognized as of June 30, 2018 were reported as receivables from construction contracts prior to application of IFRS 15, contract liabilities as liabilities from construction contracts and advance payments received.

There were no significant transition effects in the consolidated statement of profit or loss for the six-month period ended June 30, 2018 as a result of the implementation of IFRS 15. Without the application of IFRS 15, the

net income for the six-month period ended June 30, 2018 would have amounted to EUR 306.4 million. With the application of IFRS 15, the net income for the six-month period ended June 30, 2018, amounted to EUR 307.0 million.

Furthermore, there were no material effects on the consolidated statement of cash flows for the six-month period ended June 30, 2018.

For additional information on our accounting principles and significant accounting policies issued by the IASB and applied for the first time, see note 1. and 2. to our Unaudited Condensed Consolidated Interim Financial Statements, "*23. — Financial Information*".

9.3.2. Basis for Consolidation

The Consolidated Financial Statements include, as fully consolidated subsidiaries, all companies of material significance to Knorr-Bremse, whose financial and operating policies can be directly or indirectly controlled by the Company so as to obtain benefits from the activities of these companies (subsidiaries within the meaning of IFRS). Subsidiaries that are individually and collectively immaterial for the net assets, financial position and results of operations of Knorr-Bremse are accounted for at cost. Acquisitions are accounted for using the cost method. All associated companies are accounted for using the equity method.

As of June 30, 2018, 150 companies were fully consolidated in our Consolidated Financial Statements (as of December 31, 2017: 146 companies; as of December 31, 2016: 143 companies; as of December 31, 2015: 133 companies) and 4 companies were accounted for using the equity method (as of December 31, 2017: 4 companies; as of December 31, 2016: 4 companies; as of December 31, 2015: 6 companies).

9.3.3. Segments and Regions

9.3.3.1. Segments

We manage our business through the following three reporting segments: Rail Vehicle Systems, Commercial Vehicle Systems and Others. Our reporting segmentation corresponds to our internal steering, controlling and reporting structures and reflects regional economic characteristics and functional principles. These reportable segments are reported in compliance with IFRS 8.

The Rail Vehicle Systems segment operates the OEM business as project business. The OEM business is based on individual project contracts that provide for delivery of certain products, in particular, brake, door and HVAC systems, for a different volume of the same type of trains. In our aftermarket business, which spans the entire product life cycle, we sell equipment and spare parts into the installed base, and engage in selective project business. Our project business in the aftermarket involves the general overhaul of entire trains for the brake, door and HVAC systems sectors.

The Commercial Vehicle Systems segment offers its customers brake systems for commercial vehicles such as trucks, buses, trailers and agricultural machinery. This includes the development, production, sales and service of modern brake systems. In addition to complete brake systems, including driver assistance systems, the segment also offers steering systems, torsional vibration dampers, powertrain-related solutions as well as transmission control systems for improving efficiency and saving fuel. Our commercial vehicles systems business is a volume business, both in the OEM business and in the aftermarket business, in which various products are delivered to customers in large quantities on a daily basis. There are framework agreements in place with OEM and aftermarket customers that regulate prices for a large number of products, which are produced just in time.

The Commercial Vehicle Systems segment offers its customers brake systems for commercial vehicles such as trucks, buses, trailers and agricultural machinery. This includes the development, production, sales and service of modern brake systems. In addition to complete brake systems, including driver assistance systems, the segment also offers steering systems, torsional vibration dampers, powertrain-related solutions as well as transmission control systems for improving efficiency and saving fuel. Our commercial vehicles systems business is a volume business, both in the OEM and in the aftermarket business, in which various products are delivered to customers in large quantities on a daily basis. There are framework agreements in place with OEMs and aftermarket customers that regulate prices for a large number of products, which are produced just in time.

Our segment Others primarily involves leasing, corporate functions and logistics activities as well as media, IT services, and Group control.

Key components of our segment reporting (which might deviate from our reporting on Group level) include, among others, the following:

- **Segment revenues** representing sales of the reporting segments to third parties outside our consolidation group or inter-segment deliveries in an immaterial amount.

- **Segment EBITDA**, as the key ratio for our segment reporting, sets forth the segment's net income/loss before taxes on income, other financial result, interest expenses, interest income, as well as depreciation and amortization.
- **Segment EBIT**, as a further key ratio for our segment reporting, sets forth as net income/loss before taxes on income, other financial result, interest expenses and interest income for the respective segment.
- **Segment earnings before taxes** sets forth net profit before taxes representing earnings for the period before taxes on income for the respective segment.
- **Segment Net Working Capital** is the balance of inventories, trade accounts receivables, receivables from construction contracts, trade accounts payables, liabilities from construction contracts and prepayments received for the respective segment.

The financial data in our segment reporting is based on data derived from German GAAP data and includes reconciliation to IFRS figures. For additional information on our segment reporting, see note 16 to our Unaudited Condensed Consolidated Financial Statements and note I. 2 to our Audited Consolidated Financial Statements "*23. — Financial Information*".

9.3.3.2. Regions

In addition to the information on our reporting segments sets forth above, similar information is provided with respect to our regions. Here, a distinction is made between the regions Europe/Africa (as the largest of our reportable regions in terms of revenues), Asia-Pacific and North America and South America which are constituted as follows:

- Europe/Africa, including Austria, Belgium, Czech Republic, France, Germany, Hungary, Italy, Netherlands, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkey, UK, and South Africa;
- Asia-Pacific, including Australia, China, Hongkong, India, Japan, and South Korea;
- North America, including Canada, Mexico and the USA; and
- South America, including Argentina and Brazil.

9.3.4. Key Items of our Consolidated Statement of Profit or Loss

The following section provides an explanation of key line items of our consolidated statement of profit or loss:

- **Revenues** primarily result from the sale of our products and services.
- **Total operating performance** comprises revenues less changes in inventories of unfinished/finished products and other own work capitalized.
- **Other operating income** consists primarily of income from the disposal of land and buildings, income from the disposals of prototypes and scrap sales, income from other services, and gains on exchange rate differences and extraordinary income, as well as insurance compensation and compensation payments. Other services mainly comprise sale of development and testing services to third parties.
- **Cost of materials** consists primarily of expenses for raw materials, consumables and supplies and for purchased goods, as well as expenses for purchased services.
- **Personnel expenses** include wages and salaries as well as statutory social security contributions and expenses relating to personnel leasing.
- **Other operating expenses** consist primarily of order-related expenses, maintenance expenses, legal and consulting fees, commissions, travel expenses, and miscellaneous administrative expenses.
- **Earnings before interest, tax, depreciation and amortization (EBITDA)** is defined as net income/loss before taxes on income, other financial result, interest expenses, interest income, as well as depreciation and amortization.
- **Depreciation and Amortization** primarily includes planned depreciation and amortization on purchased intangibles and property, plant and equipment as well as impairment on goodwill and property, plant and equipment.
- **Earnings before interests and taxes (EBIT)** is defined as net income/loss before taxes on income, other financial result, interest expenses and interest income.
- **Earnings before taxes** is defined as income for the period before taxes on income.
- **Net income/loss** is defined as income for the period after taxes on income.

9.3.5. Non-IFRS Measures and Non-Financial Operating Data

For the definition of certain Non-IFRS measures included in the Prospectus, see "*2.8. — General Information — Non-IFRS Measures/Alternative Performance Measures*".

9.4. Comparison of Results of Operations for the Six-Month Periods Ended June 30, 2018 and June 30, 2017

The following table shows information from our consolidated statement of profit or loss for the six-month periods ended June 30, 2018 and June 30, 2017:

(in EUR million, unless otherwise indicated)	For the six-month period ended June 30,		Change (in %)
	2018	2017	
	(unaudited)		
Revenues	3,322.2	2,976.0	11.6
Changes in inventories of unfinished/finished products	29.3	59.1	(50.5)
Other own work capitalized	19.8	14.6	35.6
Total operating performance	**3,371.3**	**3,049.7**	**10.5**
Other operating income	47.8	40.9	16.9
Cost of materials	(1,680.4)	(1,463.6)	14.8
Personnel expenses	(746.5)	(708.4)	5.4
Other operating expenses	(410.0)	(400.6)	2.4
Earnings before interest, tax, depreciation and amortization (EBITDA)	**582.2**	**518.0**	**12.4**
Depreciation and amortization	(109.9)	(94.9)	15.8
Earnings before interests and taxes (EBIT)	**472.3**	**423.1**	**11.6**
Interest income	11.2	11.9	(5.4)
Interest expenses	(18.2)	(21.3)	(14.4)
Other financial result	(34.8)	(24.9)	39.7
Earnings before taxes	**430.5**	**388.7**	**10.7**
Taxes on income	(123.5)	(119.1)	3.7
Net income/loss	**307.0**	**269.6**	**13.9**
thereof profit (loss) attributable to non-controlling interests	23.5	33.3	(29.5)
thereof profit (loss) attributable to the shareholders of Knorr-Bremse AG	283.5	236.4	20.0

9.4.1. Revenues

In the six-month period ended June 30, 2018, our revenues increased by EUR 346.2 million, or 11.6%, to EUR 3,322.2 million from EUR 2,976.0 million in the six-month period ended June 30, 2017. This increase was due to an increase in revenues in both our Rail Vehicle Systems segment, as well as our Commercial Vehicle Systems segment. The revenues growth in both segments was almost entirely organic, since the most recent acquisition in our Rail Vehicle Systems segment — Kiepe Electric — was acquired in February 2017. Revenues for the six-month period ended June 30, 2017 would have been EUR 12.3 million higher if Kiepe Electric had been acquired at January 1, 2017.

The following table shows a breakdown of our revenues per segment for the six-month periods ended June 30, 2018 and 2017.

(in EUR million, unless otherwise indicated)	For the six-month period ended June 30		Change (in %)
	2018	2017	
	(unaudited)		
Revenues by segment[(1)]	3,322.2	2,976.0	11.6
thereof Rail Vehicle Systems	1,744.2	1,549.4	12.6
thereof Commercial Vehicle Systems	1,577.3	1,427.3	10.5
thereof Others	0.7	(0.7)	n/a

(1) The financial data in our segment reporting is based on data derived from German GAAP data and includes reconciliation to IFRS figures. Segment revenues are calculated as a sum of revenues of reportable segments and revenues of reconciliation to IFRS according to information on reportable segments.

In our Rail Vehicle Systems segment, revenues increased by EUR 194.8 million, or 12.6%, to EUR 1,744.2 million in the six-month period ended June 30, 2018, compared to EUR 1,549.4 million in the six-month period ended June 30, 2017. This increase was primarily due to the strong performance in the mass transit and rail service business in China, as well as in India. In addition, brake and on-board sales in Europe and

the passenger and freight business in North America positively contributed to the Rail Vehicle Systems segment's increase in revenues.

In the six-month period ended June 30, 2018, Commercial Vehicle Systems segment revenues increased by EUR 150.0 million, or 10.5%, to EUR 1,577.3 million from EUR 1,427.3 million in the six-month period ended June 30, 2017. This increase was mainly attributable to a strong OE performance based on a further increase of the global truck production rates, in addition to stronger market penetration in North America. In Asia, an adoption of new technologies, mainly in China, further contributed to the increase in revenues in the Commercial Vehicle Systems segment.

The following table shows a breakdown of our revenues per region for the six-month periods ended June 30, 2018 and 2017:

(in EUR million, unless otherwise indicated)	For the six-month period ended June 30		Change (in %)
	2018	2017	
	(unaudited)		
Revenues	3,322.2	2,976.0	11.6
thereof Europe/Africa	1,652.6	1,505.1	9.8
thereof Asia-Pacific	936.6	775.7	20.7
thereof North America	681.2	650.6	4.7
thereof South America	51.8	44.6	16.2

On a regional basis, our revenues in Europe/Africa increased by EUR 147.6 million, or 9.8%, from EUR 1,505.1 million in the six-month period ended June 30, 2017, to EUR 1,652.6 million in the six-month period ended June 30, 2018, which constituted 49.7% of our total revenues (50.6% in the six-month period ended June 30, 2017). This increase was, in particular, attributable to the aforementioned higher brake and on-board sales.

In the Asia-Pacific region, revenues increased by EUR 160.9 million, or 20.7%, from EUR 775.7 million in the six-month period ended June 30, 2017, to EUR 936.6 million in the six-month period ended June 30, 2018, which constituted 28.2% of our total revenues (26.1% in the six-month period ended June 30, 2017). This increase was primarily due to the growth in China in both operating segments, as well as rail business in India.

Our revenues in the North America region increased by EUR 30.6 million, or 4.7%, from EUR 650.6 million in the six-month period ended June 30, 2017, to EUR 681.2 million in the six-month period ended June 30, 2018, which constituted 20.5% of our total revenues (21.9% in the six-month period ended June 30, 2017). This increase was mainly a result of the aforementioned strong development of the OE performance as a result of a further increase of the global truck production rates, in addition to stronger market penetration in North America, as well as a favorable sales development in the rail passenger and freight business.

In our South America region, revenues increased by EUR 7.2 million, or 16.2%, from EUR 44.6 million in the six-month period ended June 30, 2017, to EUR 51.8 million in the six-month period ended June 30, 2018, which constituted 1.6% of our total revenues (1.5% in the six-month period ended June 30, 2017). The main reason for this increase was a further recovery of the Commercial Vehicles Systems market in this region.

9.4.2. Total Operating Performance

In the six-month period ended June 30, 2018, our total operating performance increased by EUR 321.6 million, or 10.5%, to EUR 3,371.3 million from EUR 3,049.7 million in the six-month period ended June 30, 2017.

The main reason for this increase was the increase of our revenues. In addition, other own work capitalized increased by EUR 5.2 million, or 35.6%, from EUR 14.6 million in the six-month period ended June 30, 2017, to EUR 19.8 million in the six-month period ended June 30, 2018.

As a balancing effect, changes in inventories of unfinished/finished products amounted to EUR 29.3 million in the six-month period ended June 30, 2018, compared to EUR 59.1 million in the six-month period ended June 30, 2017. This decrease of EUR 29.9 million, or 50.5%, was mainly due to an increase in sales of products that were already manufactured in the previous period after a general build-up of inventories in all areas in the six-month period ended June 30, 2017.

9.4.3. Other Operating Income

In the six-month period ended June 30, 2018, our other operating income increased by EUR 6.9 million, or 16.9%, to EUR 47.8 million from EUR 40.9 million in the six-month period ended June 30, 2017.

The main reason for this increase was the increase in insurance compensation and compensation payments by EUR 2.6 million to EUR 3.6 million in the six-month period ended June 30, 2018, from EUR 1.0 million the six-month period ended June 30, 2017. In addition, income from government grants increased by EUR 2.0 million to EUR 3.9 million in the six-month period ended June 30, 2017, from EUR 1.8 million in the

six-month period ended June 30, 2017. Furthermore, rental income increased by EUR 2.0 million from EUR 1.8 million in the six-month period ended June 30, 2017, to EUR 3.8 million in the six-month period ended June 30, 2018.

9.4.4. *Cost of Materials*

In the six-month period ended June 30, 2018, our cost of materials increased by EUR 216.8 million, or 14.8%, to EUR 1,680.4 million from EUR 1,463.6 million in the six-month period ended June 30, 2017.

The main reason for this increase was the revenues growth related increase in expenses for raw materials, consumables and supplies and for purchased goods by EUR 210.8 million, or 15.6%, to EUR 1,563.5 million in the six-month period ended June 30, 2018, from EUR 1,352.7 million in the six-month period ended June 30, 2017. The development of costs of materials was generally proportional to the development of revenues.

Cost of materials as a percentage of revenues increased slightly to 50.6% in the six-month period ended June 30, 2018, compared to 49.2% in the six-month period ended June 30, 2017, primarily due to changes in our product and channel mix with a slight increase of our OE business compared to our aftermarket business.

9.4.5. *Personnel Expenses*

In the six-month period ended June 30, 2018, our personnel expenses increased by EUR 38.1 million, or 5.4%, to EUR 746.5 million from EUR 708.4 million in the six-month period ended June 30, 2017.

Our average number of employees (based on headcount, including leasing staff) increased to 28,936 employees during the six-month period ended June 30, 2018, compared to an average number of 26,182 employees during the six-month period ended June 30, 2017, driven by the revenues growth in all regions. Personnel costs per employee (calculated as personnel expenses divided by average number of employees) decreased from EUR 27.1 thousand in the six-month period ended June 30, 2017, to EUR 25.8 thousand in the six-month period ended June 30, 2018. On a segmental level, the average number of employees in our Rail Vehicle Systems segment (based on headcount) rose from approximately 15,601 during the six-month period ended June 30, 2017, to approximately 16,593 during the six-month period ended June 30, 2018. In the Commercial Vehicle Systems segment, the average number of employees (based on headcount, including leasing staff) increased from approximately 10,137 employees during the six-month period ended June 30, 2017, to approximately 11,711 during the six-month period ended of June 30, 2018.

Our personnel expenses as a percentage of total revenues amounted to 22.5% in the six-month period ended June 30, 2018, compared to 23.8% in the six-month period ended June 30, 2017. The main reason for this decrease was a regional sales shift with increasing China business. The overall increase in personnel expenses was mainly a result of higher wages and salaries which increased by EUR 30.2 million, or 5.0%, to EUR 632.5 million in the six-month period ended June 30, 2018, from EUR 602.3 million in the six-month period ended June 30, 2017, in particular due to the aforementioned increase in personnel. As a result of this increase, social security contributions also increased by EUR 7.9 million, or 7.5%, to EUR 114.0 million in the six-month period ended June 30, 2018, from EUR 106.1 million in the six-month period ended June 30, 2017.

9.4.6. *Other operating expenses*

In the six-month period ended June 30, 2018, our other operating expenses increased by EUR 9.4 million, or 2.4%, to EUR 410.0 million from EUR 400.6 million in the six-month period ended June 30, 2017.

The main reason for this increase were higher order-related expenses of EUR 33.3 million, increasing by 43.7%, from EUR 76.2 million in the six-month period ended June 30, 2017, to EUR 109.5 million in the six-month period ended June 30, 2018. This increase was mainly attributable to the increased sales volumes.

This increase was partially offset by the decrease in other expenses, which decreased by EUR 21.7 million, or 39.3%, to EUR 33.5 million in the six-month period ended June 30, 2018, from EUR 55.2 million in the six-month period ended June 30, 2017. These mainly related to declining extraordinary expenditures incurred in connection with the attempted acquisition of Haldex AB, the conversion of Group accounting to IFRS and the preparation for the initial public offering of the Company in the six-month period ended June 30, 2018 compared to the previous period. In addition, personnel related expenses decreased by EUR 11.9 million, or 18.9%, to EUR 51.0 million in the six-month period ended June 30, 2018, from EUR 62.9 million in the six-month period ended June 30, 2017. This decrease was mainly a result of lower travel and training expenses.

9.4.7. *Earnings before interest, tax, depreciation and amortization (EBITDA)*

In the six-month period ended June 30, 2018, our earnings before interest, tax, depreciation and amortization (EBITDA) increased by EUR 64.2 million, or 12.4%, to EUR 582.2 million from EUR 518.0 million in the six-month period ended June 30, 2017, due to the factors set out above.

Our EBITDA increased at a rate higher than the 11.6% increase in revenues primarily due to increased other operating income at 16.9%, which were only partially offset, in particular, by the 14.8% higher cost of materials in the six-month period ended June 30, 2018.

The following table shows a breakdown of our EBITDA by segment for the six-month periods ended June 30, 2018 and 2017.

(in EUR million)	For the six-month period ended June 30		Change (in %)
	2018	2017	
	(unaudited)		
EBITDA	582.2	518.0	12.4
thereof Rail Vehicle Systems	322.2	276.1	16.7
thereof Commercial Vehicle Systems	259.6	242.8	6.9
thereof Others	0.4	(0.9)	n/a

In our Rail Vehicle Systems segment, EBITDA increased by EUR 46.1 million, or 16.7%, to EUR 322.2 million in the six-month period ended June 30, 2018, compared to EUR 276.1 million in the six-month period ended June 30, 2017. This increase was primarily due to the higher segment revenues, whereby, additionally, we also benefited from a positive regional mix, mainly reflecting the revenues contribution from China.

In the six-month period ended June 30, 2018, the Commercial Vehicle Systems segment reported an increase in EBITDA by EUR 16.8 million, or 6.9%, to EUR 259.6 million from EUR 242.8 million in the six-month period ended June 30, 2017. This increase was mainly attributable to the revenues growth in all regions based on the globally positive development of truck production rates and, thus, an increase in our OE business.

9.4.8. Depreciation and Amortization

In the six-month period ended June 30, 2018, our depreciation and amortization increased by EUR 15.0 million, or 15.8%, to EUR 109.9 million from EUR 94.9 million in the six-month period ended June 30, 2017. This increase was largely attributable to the realized loss from the abovementioned sale of certain businesses which had been recognized as disposal groups classified as held for sale under the disposal group "Blueprint", as set out above. On August 3, 2018, we entered into an agreement for the sale of our UK vehicle maintenance business. In relation to this sale, EUR 19.5 million were recognized in our consolidated statement of profit or loss for the six-month period ended June 30, 2018, under depreciation and amortization. Furthermore, an additional effect of EUR 5.5 million resulted from the abovementioned sale of the Sydac disposal group effective as of July 31, 2018. As the primary off-setting item, amortization of intangible assets, decreased. Depreciation of property, plant and equipment increased from EUR 70.7 million in the six-month period ended June 30, 2017, to EUR 90.9 million in the six-month period ended June 30, 2018, mainly due to the impairment of the abovementioned disposal groups. Amortization of intangible assets decreased from EUR 24.1 million in the six-month period ended June 30, 2017, to EUR 19.0 million in the six-month period ended June 30, 2018.

The larger proportion of depreciation and amortization in the six-month period ended June 30, 2018, in the amount of EUR 62.5 million, was accounted for in the Rail Vehicle Systems segment, while depreciation and amortization in the Commercial Vehicle Systems segment totaled EUR 40.9 million.

9.4.9. Earnings before interests and taxes (EBIT)

In the six-month period ended June 30, 2018, our earnings before interests and taxes (EBIT) increased by EUR 49.2 million, or 11.6%, to EUR 472.3 million from EUR 423.1 million in the six-month period ended June 30, 2017.

This increase was primarily due to the increase in our EBITDA, as set out above, which was to some extent mitigated by increased depreciation and amortization, as explained above.

9.4.10. Earnings before Taxes

In the six-month period ended June 30, 2018, our earnings before taxes increased by EUR 41.8 million, or 10.7%, to EUR 430.5 million from EUR 388.7 million in the six-month period ended June 30, 2017.

The following table shows a breakdown of selected financial information from our financial result for the the six-month period ended June 30, 2018 and 2017:

(in EUR million, unless otherwise indicated)	For the six-month period ended June 30		Change (in %)
	2018	2017	
	(unaudited)		
Interest income	**11.2**	**11.9**	**(5.4)**
Interest expenses	**(18.2)**	**(21.3)**	**(14.4)**
Other financial result from other financial income and other financial expenses	**(34.8)**	**(24.9)**	**39.7**
Financial result	**(41.8)**	**(34.4)**	**21.7**

The increase in earnings before taxes was mainly a result of the aforementioned increase of our EBIT. Furthermore, in the first quarter of 2017, our earnings before taxes was comparably low as we recorded certain risk provisions, in particular relating to uncertain market expectations mainly in Asia-Pacific which were only released in the fourth quarter of 2017 as these risks did not materialize in the fiscal year 2017 and, accordingly, this effect was only offset in the second half of 2017. In the six-month period ended June 30, 2018, we did not record similar provisions. Another reason for the increased earnings before taxes was the decrease in interest expenses by EUR 3.1 million, or 14.4%, from EUR 21.3 million the the six-month period ended June 30, 2017, to EUR 18.2 million the the six-month period ended June 30, 2018, mainly due to favorable developments of financial market interest rates.

These effects were partly offset by a deterioration in other financial result which amounted to EUR (34.8) million in the six-month period ended June 30, 2018, compared to EUR (24.9) million in the six-month period ended June 30, 2017. This development primarily resulted from unrealized non-recurring expenses related to periodic fluctuations of fair value measurements of cashflow hedges which amounted to EUR 44.3 million in the six-month period ended June 30, 2018, whereas they positively contributed to our financial result in the six-month period ended June 30, 2017 by EUR 23.1 million. As a slight off-setting effect, in the six-month period ended June 30, 2018, we realized a gain of EUR 6.7 million recorded in other financial result form the sale of the Swedish part of the vehicle maintenance business as part of the “Blueprint” disposal group which was sold, on April 1, 2018.

9.4.11. Net Income

In the six-month period ended June 30, 2018, our net income increased by EUR 37.4 million, or 13.9%, to EUR 307.0 million from EUR 269.6 million in the six-month period ended June 30, 2017. Thereof, profit attributable to the shareholders of Knorr-Bremse AG increased by EUR 47.2 million, or 20.0%, to EUR 283.5 million in the six-month period ended June 30, 2017, from EUR 236.4 million in the six-month period ended June 30, 2017. Profit attributable to non-controlling interests decreased by EUR 9.8 million, or 29.5%, to EUR 23.5 million in the six-month period ended June 30, 2018, from EUR 33.3 million in the six-month period ended June 30, 2017. Profit attributable to non-controlling interests related to the minorities of Knorr-Brake Holding Corporation, Delaware, USA, and Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in in the six-month period ended June 30, 2017 and June 30, 2018. In April 2018, all non-voting preference shares in Knorr-Brake Holding Corporation, Delaware, USA, were repurchased and cancelled. The purchase price of USD 159.6 million, *i.e.*, EUR 130.6 million also covered the dividend rights of the previous shareholder, Ursus, with effect of January 1, 2018. Therefore, the profit attributable to non-controlling interests attributable to Knorr-Brake Holding Corporation, Delaware, USA, decreased to zero in the six-month period ended June 30, 2018.

The increase in net income was mainly due to the increased earnings before taxes, as set out above. As a slight counter-effect, taxes on income increased by EUR 4.4 million, or 3.7%, from EUR (119.1) million in the six-month period ended June 30, 2017, to EUR (123.5) million in the six-month period ended June 30, 2018, primarily as a result of the increase of earnings before taxes.

The nominal tax rate amounted to 32.8% in the six-month period ended June 30, 2018. In accordance with IAS 34, the calculation of the Group’s income taxes for the six-month period ended June 30, 2018, was based on the expected effective tax rate for the full year of 29.0% (expected effective tax rate for the six-month period ended June 30, 2017: 31.1%). The difference to the nominal tax rate was mainly due to lower local tax rates in comparison to the nominal tax rate on Group level, permanent differences resulting from tax corrections, as well as the non-capitalization of deferred tax assets on current year losses and loss carry-forwards, which were deemed to be not recoverable.

9.5. Comparison of Results of Operations for the Fiscal Year 2017 and the Fiscal Year 2016

The following table shows information from our consolidated statement of profit or loss for the fiscal year 2017 and the fiscal year 2016:

(in EUR million, unless otherwise indicated)	For the fiscal year 2017	For the fiscal year 2016	Change (in %)
	(audited)	(audited)	(unaudited)
Revenues	6,153.5	5,471.3	12.5
Changes in inventories of unfinished/finished products	38.8	(11.1)	n/a
Other own work capitalized	31.8	21.1	50.7
Total operating performance	**6,224.1**	**5,481.3**	**13.6**
Other operating income	81.2	83.3	(2.5)
Cost of materials	(3,009.6)	(2,571.4)	17.0
Personnel expenses	(1,438.9)	(1,272.1)	13.1
Other operating expenses	(741.3)	(668.9)	10.8
Earnings before interest, tax, depreciation and amortization (EBITDA)	**1,115.5**	**1,052.1**	**6.0**
Depreciation and amortization	(211.5)	(165.7)	27.7
Earnings before interests and taxes (EBIT)	**904.0**	**886.4**	**2.0**
Interest income	24.0	19.2	25.1
Interest expenses	(38.8)	(28.7)	35.3
Other financial result	(36.8)	(35.7)	3.1
Earnings before taxes	**852.5**	**841.3**	**1.3**
Taxes on income	(265.2)	(274.1)	(3.2)
Net income	**587.2**	**567.2**	**3.5**
thereof profit attributable to non-controlling interests	51.7	40.8	26.7
thereof profit attributable to the shareholders of Knorr-Bremse AG	535.5	526.3	1.7

9.5.1. Revenues

In the fiscal year 2017, our revenues increased by EUR 682.3 million, or 12.5%, to EUR 6,153.5 million from EUR 5,471.3 million in the fiscal year 2016. The increase was due to an increase in revenues in both the Commercial Vehicle Systems segment and the Rail Vehicle Systems segment, which was partially offset by the negative impact of a change in foreign
exchange rates.

The following table shows a breakdown of our revenues by segment for the fiscal year 2017 and 2016.

(in EUR million, unless otherwise indicated)	For the fiscal year 2017	For the fiscal year 2016	Change (in %)
	(audited)	(audited)	(unaudited)
Revenues	6,153.5	5,471.3	12.5
thereof Rail Vehicle Systems	3,260.1	2,978.7	9.4
thereof Commercial Vehicle Systems	2,890.6	2,493.0	16.0
thereof Others	2.8	(0.4)	n/a

In our Rail Vehicle Systems segment, revenues increased by EUR 281.4 million, or 9.4%, to EUR 3,260.1 million in the fiscal year 2017 compared to EUR 2,978.7 million in 2016 supported by growth from all regions, except for South America. The increase resulted from a largely positive development in the worldwide Rail Vehicle Market (as defined in "*10.1.1.1. — Markets and Competitive Environment — The Two Main Approaches to a Definition of the Rail Vehicle Market*" below). In the Europe/Africa region, the market moved slightly ahead of the previous year, while in Asia-Pacific it remained stable with positive developments in the Indian passenger market. Growth was generated by investments in the North American passenger transportation sector, with for example a new high-speed project, whereas our revenues in South America — due to the state of the Brazilian economy — slightly declined. In addition, the acquisition of Kiepe Electric in February 2017 added EUR 180.5 million to our revenues in the fiscal year 2017, whereas it did not contribute to our revenues in the fiscal year 2016.

In 2017, Commercial Vehicle Systems segment revenues increased by EUR 397.6 million, or 16.0%, to EUR 2,890.6 million from EUR 2,493.0 million in 2016. This increase was primarily due to a positive development in the global commercial vehicle market as well as in the majority of the regional markets in which we operate. The increase was largely attributable to a sharp increase in truck production rates and the corresponding increase of revenues in China. Additionally, the truck and trailer business in North and South America accelerated in the year under review, while business in Europe remained buoyant. In March 2017, we acquired Bosch Japan's TRS business for on-highway vehicles, which also contributed to the increase in our

revenues in 2017, whereas this business did not contribute to our revenues in the previous period. A further contribution to growth came from the acquisition of GT Group which we consolidated beginning on July 5, 2016, *i.e.*, revenues attributable to this business amounted to EUR 26.2 million in the last approximately six months of 2016 compared to EUR 57.0 million that would have been recorded for the entire fiscal year 2016 if the business had been acquired on January 1, 2016. Additionally, the acquisition of the tedrive Group with effect as of September 1, 2016 resulted in EUR 28.9 million additional revenues through initial revenues contributions for four months. If the acquisition had taken place at the beginning of the year, the tedrive Group would have contributed EUR 83.7 million in 2016.

The following table shows a breakdown of our revenues per region for the fiscal year 2017 and 2016.

(in EUR million, unless otherwise indicated)	For the fiscal year 2017	For the fiscal year 2016	Change (in %)
	(audited)	(audited)	(unaudited)
Revenues	6,153.5	5,471.3	12.5
thereof Europe/Africa	3,076.4	2,677.0	14.9
thereof Asia-Pacific	1,690.4	1,553.7	8.8
thereof North America	1,294.0	1,141.0	13.4
thereof South America	92.8	99.5	(6.8)

On a regional basis, our revenues in Europe/Africa increased by EUR 399.3 million, or 14.9%, from EUR 2,677.0 million in 2016, to EUR 3,076.4 million in 2017 which constituted 50.0% of our Group's consolidated total revenues (2016: 48.9%). This increase was, in particular, attributable to revenues growth in the Commercial Vehicle Systems segment in Europe. This was due in particular to the expansion of our new fields of activity: Engine Air, Steering Systems, and Transmission Control. In addition, a stable level of incoming orders from the European passenger and freight transportation sectors supported the revenues in the Europe/Africa region which was also driven by revenues growth in our Rail Vehicle Systems segment. The RailServices aftermarket business also showed positive development. While OEM business in Germany and the UK showed clear growth, in Turkey it declined. Additionally, revenues for Kiepe Electric was for the first time included in the Europe/Africa region.

In the Asia-Pacific region, revenues also increased by EUR 136.7 million, or 8.8%, from EUR 1,553.7 million in the fiscal year 2016 compared to EUR 1,690.4 million in 2017, which constituted 27.5% of our Group's consolidated total revenues (2016: 28.4%). This was, in particular, due to a positive development in the commercial vehicle market in China. In China, we benefited from the resurgent high-speed train and locomotive market, while in Australia we secured a share of several mass transit projects and India that also contributed to the growth. India Railways commissioned vehicle manufacturer ICF Chennai with the development and production of a new multiple unit rail vehicle, for which Knorr-Bremse India is to supply brake systems as well as automated plug sliding doors with sliding steps.

Our revenues in the North America region increased by EUR 153.0 million, or 13.4%, from EUR 1,141.0 million in the fiscal year 2016 to EUR 1,294.0 million in the fiscal year 2017, which constituted 21.0% of our Group's consolidated total revenues (2016: 20.9%). This increase was primarily due to dynamic growth in the Commercial Vehicle Systems segment in North America which, in particular, benefited from two trends: (i) truck manufacturers adopted an increased content per vehicle in advanced collision mitigation systems as standard; and (ii) air disc brakes increasingly replaced drum brakes as the standard on all axles. Other reasons for the increase were the expansion of mass-transit networks and the improving freight market in North America.

In our South America region, revenues decreased by EUR 6.7 million, or 6.8%, from EUR 99.5 million in the fiscal year 2016 to EUR 92.8 million in the fiscal year 2017, which constituted 1.5% of the consolidated total revenues (2016: 1.8%). The main reasons for the decline were lower revenues in the South American rail vehicle sector due to the crisis-hit Brazilian economy.

9.5.2. Total Operating Performance

In the fiscal year 2017, our total operating performance increased by EUR 742.8 million, or 13.6%, to EUR 6,224.1 million from EUR 5,481.3 million in the fiscal year 2016.

This increase was primarily due to the increase in our revenues. Additionally, changes in inventories of unfinished/finished products increased by EUR 49.8 million to EUR 38.8 million in the fiscal year 2017 compared to EUR (11.1) million in the fiscal year 2016 mainly due to a general build-up of inventories in all areas, especially in raw materials, auxiliary materials and supplies. In addition, other own work capitalized increased by EUR 10.7 million, or 50.7%, from EUR 21.1 million in the fiscal year 2016 to EUR 31.8 million in the fiscal year 2017 primarily due to increased capitalized research and development projects.

9.5.3. Other Operating Income

In the fiscal year 2017, other operating income decreased by EUR 2.1 million, or 2.5%, to EUR 81.2 million from EUR 83.3 million in the fiscal year 2016.

The main reason for this decrease was the decrease in income from the disposal of land and buildings by EUR 8.0 million to EUR 7.7 million in the fiscal year 2017 compared to EUR 15.8 million in the fiscal year 2016. The income in 2016 mainly related to a sale of land in Berlin-Marzahn, Germany which was no longer in use, whereas in 2017 the income of EUR 7.7 million resulted from a sale of part of the Company facility located in Munich, Germany. The lower income from the disposal of land and buildings was partially offset by an increase in income from the disposals of prototypes and scrap sales by EUR 3.5 million, or 31.8%, to EUR 14.5 million in the fiscal year 2017 from EUR 11.0 million in the fiscal year 2016.

9.5.4. Cost of Materials

In the fiscal year 2017, our cost of materials increased by EUR 438.2 million, or 17.0%, to EUR 3,009.6 million from EUR 2,571.4 million in the fiscal year 2016.

The increase was primarily due to a revenues growth related increase in expenses for raw materials, consumables and supplies and for purchased goods by EUR 390.6 million, or 16.3%, to EUR 2,779.8 million from EUR 2,389.2 million in the fiscal year 2016. The development of cost of materials is generally proportional to the development of revenues.

Additionally, expenses for purchased services increased by EUR 47.6 million, or 26.1%, to EUR 229.8 million from EUR 182.2 million in the fiscal year 2016. As expenses for purchased services attributed to our Commercial Vehicle Systems segment is generally higher as a percentage of revenues than in our Rail Vehicle Systems segment, the increase in revenues in our Commercial Vehicle Systems segment in this period by 16.0% was the primary reason expenses for purchased services increased in the fiscal year 2017.

Cost of materials as a percentage of revenues increased to 48.9% in 2017 compared to 47.0% in the previous year primarily due to the aforementioned changes in the product mix and a relative shift of our revenues from the Rail Vehicle Systems segment to the Commercial Vehicle Systems segment and because in our Commercial Vehicle Systems segment we generally incur higher expenses for purchased services.

9.5.5. Personnel Expenses

In the fiscal year 2017, our personnel expenses increased by EUR 166.7 million, or 13.1%, to EUR 1,438.9 million from EUR 1,272.1 million in the fiscal year 2016.

Our average number of employees (based on headcount) increased to 26,910 employees during the fiscal year 2017 compared to an average number of 24,664 employees during the fiscal year 2016 mainly due to growth of business as well as acquisitions such as of Kiepe Electric with a total of approximately 823 additional employees and Bosch TRS increasing our employees by a further approximately 90, and the hiring of new employees, especially in an effort to further strengthen our presence in the aftermarket business as well as increasing the number of employees in research and development. Personnel costs per employee (calculated as personnel expenses divided by average number of employees) increased from EUR 51.6 thousand in the fiscal year 2016 to EUR 53.5 thousand in the fiscal year 2017. On a segmental level, the number of employees in our Rail Vehicle Systems segment (based on headcount, including leasing staff) rose from approximately 14,440 as of December 31, 2016 to approximately 16,051 at year-end 2017. In the Commercial Vehicle Systems segment, the number of employees (based on headcount, including leasing staff) increased from approximately 9,674 employees at December 31, 2016 to approximately 11,082 at year-end 2017.

Our personnel expenses as a percentage of total revenues remained virtually the same at 23.4% in 2017 compared to 23.3% in 2016. Despite the strong increase in the average number of employees, the main reason for the virtually constant personnel cost ratio was a proportional growth in revenues.

The overall increase in personnel cost was mainly a result of higher wages and salaries which increased by EUR 116.2 million, or 12.0%, to EUR 1,084.1 million in 2017 from EUR 967.9 million in the fiscal year 2016, in particular due to the aforementioned increase in personnel.

As a result of this, social security contributions also increased by EUR 28.8 million, or 15.7%, to EUR 212.1 million in 2017 from EUR 183.3 million in the fiscal year 2016.

9.5.6. Other operating expenses

In the fiscal year 2017, our other operating expenses increased by EUR 72.4 million, or 10.8%, to EUR 741.3 million from EUR 668.9 million in the fiscal year 2016.

The main reason for this increase was the increase in other expenses, which increased by EUR 41.0 million, or 99.3%, to EUR 82.2 million in the fiscal year 2017 from EUR 41.2 million in the fiscal year 2016. Moreover, rents and leases increased by EUR 23.3 million, or 37.6%, from EUR 61.8 million in the fiscal year 2016 to EUR 85.1 million in the fiscal year 2017, primarily due to a loss from a lease contract in Russia pertaining to a dispute with the landlord of the premise. In addition, maintenance expenses increased by EUR 20.8 million, or 24.8%, to EUR 104.7 million in 2017 from EUR 83.9 million in the fiscal year 2016. Another reason for the increase were higher legal, consulting and audit costs in the amount of EUR 92.4 million in 2017 compared to EUR 83.1 million in the previous year. This increase of EUR 9.3 million, or 11.1%, was primarily due to extraordinary expenditures in the context of the attempted acquisition of Haldex AB in a low double digit million euro amount, the conversion of Group accounting to IFRS and the preparation for the initial public offering of the Company, also in a low double digit million euro amount, in the fiscal year 2017. Included therein was the fee paid to the independent auditors, KPMG AG Wirtschaftsprüfungsgesellschaft and their affiliates, that amounted to EUR 13.4 million for fiscal year 2017 and thereby increased by EUR 12.8 million from EUR 0.6 million in the fiscal year 2016. Of this, in 2017, EUR 2.1 million (2016: EUR 0.5 million) was paid for audit services and EUR 11.4 million (2016: EUR 0.1 million) for other services, such as the first time implementation of IFRS.

These increases were partially offset by a decrease in external research and development costs by EUR 8.5 million, or 18.1%, from EUR 46.7 million in 2016 to EUR 38.2 million in the fiscal year 2017.

9.5.7. Earnings before interest, tax, depreciation and amortization (EBITDA)

In the fiscal year 2017, our earnings before interest, tax, depreciation and amortization (EBITDA) increased by EUR 63.4 million, or 6.0%, to EUR 1,115.5 million from EUR 1,052.1 million in the fiscal year 2016.

This was mainly due to increased EBITDA in our Commercial Vehicle Systems segment as a result of increasing revenues, mainly due to a favorable development of original equipment sales due to a globally stronger truck production rate. Our EBITDA, however, increased at a rate slower than the 12.5% increase in revenues primarily due to cost of materials increasing at 17.0%, which has only been partially offset by a slower growth in other operating expenses, despite the abovementioned extraordinary expenditures in the context of the attempted Haldex AB acquisition, the conversion of the Group accounting to IFRS, the preparation for the initial public offering of the Company and the loss from the Russian lease contract. Additionally, changes in foreign exchange rates negatively affected our EBITDA in 2017 in a low double digit million euro amount.

The following table shows a breakdown of our EBITDA by segment for the fiscal year 2017 and 2016.

(in EUR million)	For the fiscal year 2017	2016	Change (in %)
	(audited)		(unaudited)
EBITDA	1,115.5	1,052.1	6.0
thereof Rail Vehicle Systems	639.3	624.0	2.5
thereof Commercial Vehicle Systems	503.7	425.7	18.3
thereof Others	(27.6)	2.4	n/a

In our Rail Vehicle Systems segment, EBITDA increased by EUR 15.4 million, or 2.5%, to EUR 639.3 million in the fiscal year 2017 compared to EUR 624.0 million in 2016. The small increase was primarily due to sales driven profit contribution, which was partially offset by the negative profit contribution caused by first-time consolidation of Kiepe Electric.

In 2017, the Commercial Vehicle Systems segment reported an increase in EBITDA by EUR 78.0 million, or 18.3%, to EUR 503.7 million from EUR 425.7 million in 2016. This was primarily due to revenues growth in all regions generating additional profit contribution.

9.5.8. Depreciation and Amortization

In the fiscal year 2017, our depreciation and amortization increased by EUR 45.8 million, or 27.7%, to EUR 211.5 million from EUR 165.7 million in the fiscal year 2016.

The main reason for this increase were impairments in the amount of EUR 20.0 million and EUR 5.3 million relating to the disposal of the "Blueprint" and Sydac disposal groups, respectively, as well as the amortization of step-ups related to intangible assets formed during first time consolidations following the acquisitions of Kiepe Electric and Bosch TRS. In addition, regular depreciation of property, plant and equipment increased from EUR 133.9 million in 2016 to EUR 142.8 million in 2017. The larger proportion of depreciation and amortization in the fiscal year 2017 in the amount of EUR 116.0 million was accounted for in the Rail Vehicle Systems segment, while depreciation and amortization in the Commercial Vehicle Systems segment totaled EUR 82.3 million.

9.5.9. Earnings before interests and taxes (EBIT)

In the fiscal year 2017, our earnings before interests and taxes (EBIT) increased by EUR 17.6 million, or 2.0%, to EUR 904.0 million from EUR 886.4 million in the fiscal year 2016.

This increase was primarily due to our increased EBITDA as described above. However, the increase in EBITDA was partly offset by an increase in our depreciation and amortization costs, in particular relating to the one-time depreciation of EUR 25.4 million on assets held for sale for the UK vehicle maintenance business in our Rail Vehicle Systems segment.

9.5.10. Earnings before taxes

In the fiscal year 2017, our earnings before taxes increased by EUR 11.2 million, or 1.3%, to EUR 852.5 million from EUR 841.3 million in the fiscal year 2016.

The following table shows a breakdown of selected financial information from our financial result for the fiscal year 2017 and 2016:

(in EUR million, unless otherwise indicated)	For the fiscal year 2017	For the fiscal year 2016	Change (in %)
	(audited)		(unaudited)
Interest income	**24.0**	**19.2**	**25.1**
Interest expenses	**(38.8)**	**(28.7)**	**35.3**
thereof interest expenses from financial investments[(1)]	(16.3)	(4.6)	253.0
thereof other interest expenses[(2)]	(6.4)	(5.8)	9.3
Other financial result from other financial income and other financial expenses	**(36.8)**	**(35.7)**	**3.1**
thereof other financial income	**68.2**	**74.5**	**(8.4)**
thereof currency translation differences from financial instruments[(3)]	67.3	61.1	10.3
thereof income from the revaluation of existing shares as part of a step acquisition[(4)]	–	10.2	–
***thereof* other financial expenses**	**(105.0)**	**(110.2)**	**(4.7)**
Financial result	**(51.6)**	**(45.2)**	**14.2**

(1) Interest expenses from financial investments are included in interest expenses in the Audited Consolidated Financial Statements and include interest income from financial instruments related to financial instruments (FVOCI) and financial instruments (FVTPL).

(2) Other interest expenses are shown as other and included in interest expenses in the Audited Consolidated Financial Statements.

(3) Currency translation differences from financial instruments are included in other financial result in the Audited Consolidated Financial Statements and include currency translation differences related to financial instruments (FVOCI) and financial instruments (FVTPL).

(4) Income from the revaluation of existing shares as part of a step acquisition is included in other financial income in the Audited Consolidated Financial Statements.

The increase in earnings before taxes was mainly driven by the aforementioned increase of our EBIT. Another reason for the increased earnings before taxes was the decreased other financial expenses by EUR 5.2 million, or 4.7%, from EUR (110.2) million in the fiscal year 2016 to EUR (105.0) million in the fiscal year 2017 mainly due to exchange rate effects from financial instruments, in particular relating to the weakening of the US Dollar against the Euro. Additionally, interest income rose by EUR 4.8 million, or 25.1%, to EUR 24.0 million in the fiscal year 2017 from EUR 19.2 million in the fiscal year 2016.

The increases in the fiscal year 2017 were partially offset by an increase in interest expenses by EUR 10.1 million, or 35.3%, to EUR 38.8 million from EUR 28.7 million in the fiscal year 2016. This increase was mainly attributable to an increase in other interest expenses which was, in particular, attributable to the bond issued in December 2016 as well as to an increase in interest expenses from financial investments. Moreover, in 2017, our other financial income decreased by EUR 6.3 million to EUR 68.2 million from EUR 74.5 million in 2016. This was mainly a result of a decline in profit contribution from income from the revaluation of existing shares as part of a step acquisition which amounted to EUR 10.2 million in the fiscal year 2016 with no comparable contribution in the fiscal year 2017. In 2016, the share in other financial result of companies accounted for using the equity method mainly resulted from the profit share of Icer Rail S.L. until November 21, 2016. As of this date, the Group acquired the outstanding shares in the Icer Rail joint venture with the corresponding transition from at-equity accounting to full consolidation. This decline in profit contribution was

partially offset by the improved income from currency translation differences from financial instruments by EUR 6.3 million, or 10.3%, from EUR 61.1 million in the fiscal year 2016 to EUR 67.3 million in the fiscal year 2017.

9.5.11. Net Income

In the fiscal year 2017, our net income increased by EUR 20.1 million, or 3.5%, to EUR 587.2 million from EUR 567.2 million in the fiscal year 2016. Thereof profit attributable to the shareholder of Knorr-Bremse AG increased by EUR 9.2 million, or 1.7%, to EUR 535.5 million in the fiscal year 2017 from EUR 526.3 million in the fiscal year 2016 and profit attributable to non-controlling interests increased by EUR 10.9 million, or 26.7%, to EUR 51.7 million in the fiscal year 2017 from EUR 40.8 million in the fiscal year 2016. Profit attributable to non-controlling interests related to the minorities of Knorr-Brake Holding Corporation, Delaware, USA, and Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in the fiscal year 2017 and the fiscal year 2016. The increase in profit attributable to non-controlling interests was mainly related to the minorities of Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in Knorr-Bremse which benefited from the revenues growth in China.

The increase was mainly due to the increased earnings before taxes and a lower effective tax rate in the amount of 31.1% in the fiscal year 2017 compared to 32.6% in the fiscal year 2016 mainly attributable to international tax law reforms, for example in the USA and in France, and the fact that deferred tax charges increased by EUR 7.2 million to EUR 13.6 million in the fiscal year 2017 compared to EUR 6.3 million in the previous year 2016. Accordingly, taxes on income decreased by EUR 8.9 million, or 3.2%, from EUR (274.1) million in the fiscal year 2016 to EUR (265.2) million in the fiscal year 2017.

9.6. Comparison of Results of Operations for the Fiscal Year 2016 and the Fiscal Year 2015

The following table shows information from our consolidated statement of profit or loss for the fiscal year 2016 and the fiscal year 2015:

(in EUR million, unless otherwise indicated)	For the fiscal year 2016	2015	Change (in %)
	(audited)		(unaudited)
Revenues	5,471.3	5,823.5	(6.0)
Changes in inventories of unfinished/finished products	(11.1)	(7.1)	55.9
Other own work capitalized	21.1	19.2	9.7
Total operating performance	**5,481.3**	**5,835.6**	**(6.1)**
Other operating income	83.3	89.1	(6.6)
Cost of materials	(2,571.4)	(2,747.3)	(6.4)
Personnel expenses	(1,272.1)	(1,272.2)	(0.0)
Other operating expenses	(668.9)	(636.2)	5.1
Earnings before interest, tax, depreciation and amortization (EBITDA)	**1,052.1**	**1,269.0**	**(17.1)**
Depreciation and amortization	(165.7)	(170.5)	(2.8)
Earnings before interests and taxes (EBIT)	**886.4**	**1,098.6**	(19.3)
Interest income	19.2	21.7	(11.5)
Interest expenses	(28.7)	(29.2)	(1.6)
Other financial result	(35.7)	(43.1)	(17.1)
Income before taxes	**841.3**	**1,048.0**	**(19.7)**
Taxes on income	(274.1)	(337.4)	(18.8)
Net income	**567.2**	**710.7**	(20.2)
thereof profit attributable to non-controlling interests	40.8	57.9	(29.5)
thereof profit attributable to the shareholders of Knorr-Bremse AG	526.3	652.8	(19.4)

9.6.1. Revenues

In the fiscal year 2016, our revenues decreased by EUR 352.3 million, or 6.0%, to EUR 5,471.3 million from EUR 5,823.5 million in the fiscal year 2015, mainly due to a decrease of revenues in our Rail Vehicle Systems segment. Furthermore, foreign exchange rate fluctuations had a negative effect on our revenues in the fiscal year 2016.

The following table shows a breakdown of our revenues per segment for the fiscal year 2016 and 2015.

(in EUR million, unless otherwise indicated)	For the fiscal year		Change (in %)
	2016	2015	
	(audited)		(unaudited)
Revenues	5,471.3	5,823.5	(6.0)
thereof Rail Vehicle Systems	2,978.7	3,331.0	(10.6)
thereof Commercial Vehicle Systems	2,493.0	2,491.8	0.0
thereof Others	(0.4)	0.7	n/a

The main reason for this decrease was a decline of revenues in our Rail Vehicle Systems segment, which decreased by EUR 352.3 million, or 10.6%, to EUR 2,978.7 million in the fiscal year 2016 compared to EUR 3,331.0 million in 2015. This decrease reflected a temporary decline in the worldwide demand for rail vehicles. The dominant factors in the year under review were a more volatile development of the global economy coupled with slow market growth, particularly in China and North America. Specifically, following extraordinarily strong growth in 2014 and 2015, demand for high-speed trains and locomotives in China normalized to more sustainable annual volumes. In addition, a cyclical slowdown in the freight car and locomotive business in North America affected revenues development. Through further expansion of our business relating to commuter rail and RailServices in these markets, we were able to partly offset the resultant decline in revenues.

In contrast, the Commercial Vehicle Systems segment remained stable with a marginal increase in revenues by EUR 1.1 million, or 0.0%, from EUR 2,491.8 million in the previous year to EUR 2,493.0 million in 2016. While the global commercial vehicle market in the year under review showed an overall modest upswing, the truck and trailer business in Europe and Asia showed progress and offset the cyclical market volatility in North America. In 2016, the disc brake and electronic brake systems product segments were the key sales drivers for the Commercial Vehicle Systems segment in Europe. Among other things, we were able to build on its leading market position in the brake control segment. In addition, in the aftermarket sector, we introduced the TruckServices brand in 2016 that brings together our services for this segment and aims to offer reliable and economical diagnostics, maintenance, and repair solutions for any commercial vehicle, irrespective of model and age. Furthermore, the increase was to some extent due to several acquisitions in 2016. In July 2016, we acquired GT Group which as of July 2016 contributed to our revenues, whereas it did not contribute to our revenues in the fiscal year 2015. As a consequence, the acquisition positively impacted our revenues as there was a revenues contribution from the acquired business of EUR 26.2 million in 2016. Furthermore, the acquisition of tedrive Group with effect as of September 1, 2016 resulted in additional revenues through initial revenues contributions for four months amounting to EUR 28.9 million, whereas it also did not contribute to our revenues in 2015.

The following table shows a breakdown of our revenues by region for the fiscal year 2016 and 2015.

(in EUR million, unless otherwise indicated)	For the fiscal year		Change (in %)
	2016	2015	
	(audited)		(unaudited)
Revenues	5,471.3	5,823.5	(6.0)
thereof Europe/Africa	2,677.0	2,567.9	4.2
thereof Asia-Pacific	1,553.7	1,788.9	(13.1)
thereof North America	1,141.0	1,366.6	(16.5)
thereof South America	99.5	100.1	(0.6)

On a regional basis, our revenues in Europe/Africa increased by EUR 109.1 million, or 4.2%, from EUR 2,567.9 million in 2015, to EUR 2,677.0 million in 2016, which constituted 48.9% of our Group consolidated total revenues (2015: 44.1%). This increase was due primarily to rail vehicle market growth in the UK as large-scale projects were ramped up, whereas the market volume remained largely unchanged year-on-year in Germany, France, and the Scandinavian countries. Furthermore, Russia/CIS stabilized in the course of the year following a decline in 2015. The European commercial vehicle market was able to compensate for the moderate decline in output in Eastern Europe through higher production volumes for Western Europe.

These positive effects were offset by a decrease of revenues in the Asia-Pacific region by EUR 235.2 million, or 13.1%, from EUR 1,788.9 million in 2015, to EUR 1,553.7 million in 2016 which constituted 28.4% of our Group consolidated total revenues (2015: 30.7%). The main reason for this decline was the normalization in the Chinese rail vehicle market in 2016 as described above. This negative development was partly offset by growth in the metro sector in China, as well as in the Indian market, where demand for locomotives also increased.

In addition, in 2016, revenues in our North America region fell by EUR 225.6 million, or 16.5%, to EUR 1,141.0 million compared to EUR 1,366.6 million in 2015, contributing 20.9% of our Group consolidated

total revenues (2015: 23.5%). This decrease was partly attributable to a marked downturn in the rail freight sector due in part to the large investments in rolling stock over the prior few years creating a surplus of vehicles as demand declined. At the same time, the North American rail vehicle systems mass-transit market continued to grow, leading to positive development in the passenger sector. We also experienced negative developments in the commercial vehicle market in North America. In general, market demand shifted away from standard tractor units and towards special-purpose vehicles.

Furthermore, in 2016, revenues in our South America region decreased by EUR 0.6 million, or 0.6%, from EUR 100.1 million in the fiscal year 2015 to EUR 99.5 million, which constituted 1.8% of our Group consolidated total revenues in 2016 (2015: 1.7%). The main reason for this slight decline was the remaining low level of the rail vehicle sector and truck production due to the continuing political and economic crisis in Brazil, which also impacted demand in neighboring countries.

9.6.2. Total Operating Performance

In the fiscal year 2016, our total operating performance decreased by EUR 354.4 million, or 6.1%, to EUR 5,481.3 million from EUR 5,835.6 million in the fiscal year 2015.

This decrease was largely in line with the decline of our revenues. In addition, changes in inventories of unfinished/finished products decreased by EUR 4.0 million, or 55.9%, to EUR (11.1) million in the fiscal year 2016 from EUR (7.1) million in fiscal year 2015. The decline in changes in inventories of unfinished/finished products was mainly due to an increase in sales of products that were already manufactured in the previous fiscal year. In addition, the year-on-year increase in impairments on raw materials, auxiliary materials and supplies contributed to the decrease in inventories.

9.6.3. Other Operating Income

In the fiscal year 2016, our other operating income decreased by EUR 5.8 million, or 6.6%, to EUR 83.3 million from EUR 89.1 million in the fiscal year 2015.

The main reasons for this decrease were lower insurance compensation and compensation payments than in the previous year which amounted to EUR 17.5 million in the fiscal year 2015 compared to EUR 4.2 million in the fiscal year 2016. This primarily resulted from a compensation payment received in the fiscal year 2015 due to the breach of a customer's purchase obligations. In addition, income from other services decreased by EUR 4.0 million to EUR 14.6 million in 2016, from EUR 18.5 million in 2015, due to lower income from development and test services to and for third parties in the fiscal year 2016. These decreases were partially offset by increased income from the disposal of land and buildings of EUR 15.8 million in 2016 mainly due to the sale of land in Berlin-Marzahn, Germany which was no longer in use. In the fiscal year 2015 there was no such income.

9.6.4. Cost of Materials

In the fiscal year 2016, our cost of materials decreased by EUR 175.9 million, or 6.4%, to EUR 2,571.4 million from EUR 2,747.3 million in the fiscal year 2015.

The decrease followed the decline in revenues and was also due to decreased expenses for raw materials, consumables and supplies and for purchased goods by EUR 190.8 million, or 7.4%, to EUR 2,389.2 million in 2016 from EUR 2,579.9 million in the previous year.

Cost of materials as a percentage of revenues remained largely unchanged from 47.2% in fiscal year 2015 compared to 47.0% in fiscal year 2016.

9.6.5. Personnel Expenses

In the fiscal year 2016, our personnel expenses remained largely unchanged, decreasing only EUR 0.1 million, or 0.0%, to EUR 1,272.1 million from EUR 1,272.2 million in the fiscal year 2015.

The average number of employees (based on headcount, including leasing staff) decreased to 24,664 employees in 2016 compared to 24,879 in 2015. Personnel costs per employee (calculated as personnel expenses divided by average number of employees) increased from EUR 51.1 thousand in the fiscal year 2015 to EUR 51.6 thousand in the fiscal year 2016. On a segmental level, the number of employees in our Rail Vehicle Systems segment (based on headcount, including leasing staff) declined from approximately 14,502 as of December 31, 2015, to approximately 14,440 at year-end 2016. By contrast, in the Commercial Vehicle Systems segment, the headcount rose from approximately 9,320 employees as of December 31, 2015, to approximately 9,674 at year-end 2016 mainly as a result of the acquisitions of GT Group and tedrive Group in 2016 with a total of approximately 585 additional employees not included in 2015.

Personnel expenses as a percentage of total revenues increased to 23.3% in 2016 from 21.8% in the fiscal year 2015. This increase was mainly due to the normalization of high margin high-speed rail sales in China in the Rail Vehicle Systems segment in 2016 following an increase in 2015. These high margin sales led to a comparatively low percentage of personnel expenses in 2015, supported by volume effects of this "serial production type business" with a high degree of repetitive processes which is untypical for our Rail Vehicles Systems segment, as generally the segment is characterized by its project business with low quantities and high varieties.

Overall, wages and salaries increased by EUR 26.1 million, or 2.8%, to EUR 967.9 million in 2016 from EUR 941.8 million in the previous year, primarily as a result of the aforementioned acquisitions in countries with generally high personnel cost as well as a general increase in wages.

The increase in wages and salaries was more than offset by lower social security contributions, which decreased by EUR 11.4 million, or 5.9%, to EUR 183.3 million in 2016 from EUR 194.7 million in the fiscal year 2015. Additionally, termination benefits decreased by EUR 7.9 million, or 32.8%, from EUR 23.9 million in 2015 to EUR 16.1 million in the fiscal year 2016, primarily due to decreased severance payments.

9.6.6. Other Operating Expenses

In the fiscal year 2016, our other operating expenses increased by EUR 32.7 million, or 5.1%, to EUR 668.9 million from EUR 636.2 million in the fiscal year 2015.

This increase in other operating expenses was mainly due to an increase of legal, consulting and audit costs from EUR 51.3 million in 2015 by EUR 31.8 million, or 61.9%, to EUR 83.1 million in 2016, which was primarily related to our bond issue in December 2016. Moreover, in 2016, expenses for external research and development costs increased by EUR 8.3 million, or 21.5%, to EUR 46.7 million from EUR 38.4 million in the fiscal year 2015. In addition, other expenses increased by EUR 8.3 million, or 25.4%, to EUR 41.2 million in the fiscal year 2016 from EUR 32.9 million in the fiscal year 2015. Another factor was an increase of order-related expenses which grew from EUR 119.2 million in 2015 by EUR 4.8 million, or 4.1%, to EUR 124.1 million in 2016.

These increases were partly offset by a decline in expenses for other services which decreased by EUR 10.2 million, or 13.1%, to EUR 67.8 million from EUR 78.0 million in the fiscal year 2015. Another factor were the decrease of personnel related expenses (relating mainly to travel expenses and cost for training) from EUR 110.1 million in 2015 by EUR 9.2 million, or 8.4%, to EUR 100.9 million in 2016. Moreover, the expenses for other taxes decreased by EUR 6.9 million, or 23.6%, to EUR 22.2 million from EUR 29.1 million in the fiscal year 2015.

9.6.7. Earnings before interest, tax, depreciation and amortization (EBITDA)

In the fiscal year 2016, our earnings before interest, tax, depreciation and amortization (EBITDA) decreased by EUR 216.9 million, or 17.1%, to EUR 1,052.1 million from EUR 1,269.0 million in the fiscal year 2015.

The main reason for this decrease of our EBITDA was the abovementioned normalization of high margin high speed train sales in China in the Rail Vehicle Systems segment in 2016, which had accounted for an extraordinarily high profit contribution in 2015. Furthermore, the abovementioned volume effects from the Chinese high-speed rail business affected our operating results. Additionally, changes in foreign exchange rates negatively affected our EBITDA in a low double digit million euro amount, in particular due to the moderate recovery of the Euro against important currencies for the Group, primarily the U.S. Dollar and the Chinese Yuan.

The following table shows a breakdown of our EBITDA by segment for the fiscal year 2016 and 2015.

(in EUR million)	For the fiscal year 2016	2015	Change (in %)
	(audited)		(unaudited)
EBITDA	1,052.1	1,269.0	(17.1)
thereof Rail Vehicle Systems	624.0	797.3	(21.7)
thereof Commercial Vehicle Systems	425.7	468.1	(9.1)
thereof Other	2.4	3.7	(34.2)

In our Rail Vehicle Systems segment, EBITDA decreased by EUR 173.3 million, or 21.7%, to EUR 624.0 million in the fiscal year 2016 compared to EUR 797.3 million in 2015 mainly as a result of abovementioned normalization of the Chinese rail business after the peak in 2015.

In our Commercial Vehicle Systems segment, EBITDA decreased by EUR 42.4 million, or 9.1%, to EUR 425.7 million in the fiscal year 2016 from EUR 468.1 million in 2015. This was primarily due to higher other operating expenses, only partly offset by favorable developments in the material and personnel expense ratios in the Commercial Vehicle Systems segment.

9.6.8. *Depreciation and Amortization*

In the fiscal year 2016, depreciation and amortization decreased by EUR 4.8 million, or 2.8%, to EUR 165.7 million from EUR 170.5 million in the fiscal year 2015.

This decrease was mainly a result of decreased impairment charges on property, plant and equipment.

Depreciation on property, plant and equipment decreased from EUR 140.5 million in 2015 to EUR 133.9 million in 2016, mainly due to an increase in extraordinary depreciation on property, plant and equipment of EUR 13.7 million in 2015, mainly due to the results of formal impairment tests in accordance with IAS 36 performed for our American subsidiary Black River Air Logistics Company LLC as of December 31, 2015 which only partially repeated in 2016 in the amount of EUR 7.2 million. The impairment mainly related to technical equipment and machinery. Amortization of intangible assets remained stable at EUR 31.8 million in 2016 compared to EUR 30.0 million in 2015 and the small increase in depreciation and amortization is mainly related to intangible assets acquired in connection with business combinations. The larger proportion of depreciation and amortization for the fiscal year 2016 in the amount of EUR 76.4 million was accounted for in the Rail Vehicle Systems segment, while depreciation and amortization in the Commercial Vehicle Systems segment totaled EUR 67.9 million.

9.6.9. *Earnings before interests and taxes (EBIT)*

In the fiscal year 2016, our earnings before interests and taxes (EBIT) decreased by EUR 212.1 million, or 19.3%, to EUR 886.4 million from EUR 1,098.6 million in the fiscal year 2015.

This decline was mainly related to the decreased EBITDA and to our increased other operating expenses, as mentioned above. These negative effects on our EBTIDA were partly offset by a decrease of our depreciation and amortization.

9.6.10. *Earnings before taxes*

In the fiscal year 2016, our earnings before taxes decreased by EUR 206.8 million, or 19.7%, to EUR 841.3 million from EUR 1,048.0 million in the fiscal year 2015.

The following table shows a breakdown of selected financial information from our financial result for the fiscal year 2016 and 2015:

	For the fiscal year		
(in EUR million, unless otherwise indicated)	**2016**	**2015**	**Change (in %)**
	(audited)		(unaudited)
Interest income	**19.2**	**21.7**	**(11.5)**
Interest expenses	**(28.7)**	**(29.2)**	**1.6**
thereof interest expenses from financial investments[1]	(4.6)	(5.4)	14.1
thereof other interest expenses[2]	(5.8)	(3.0)	(94.5)
thereof interest expenses from defined benefit plans[3]	(12.8)	(15.1)	15.5
Other financial result from other financial income and other financial expenses	**(35.7)**	**(43.1)**	**17.1**
thereof other financial income	**74.5**	**125.8**	**(40.8)**
thereof currency translation differences from financial instruments[4]	61.1	121.8	(49.9)
thereof income from the revaluation of existing shares as part of a step acquisition[5]	10.2	0.0	–
***thereof* other financial expenses**	**(110.2)**	**(168.9)**	**34.8**
Financial result	**(45.2)**	**(50.5)**	**10.6**

(1) Interest expenses from financial investments are included in interest expenses in the Audited Consolidated Financial Statements and include interest income from financial instruments related to financial instruments (FVOCI) and financial instruments (FVTPL).

(2) Other interest expenses is shown as other and included in interest expenses in the Audited Consolidated Financial Statements.

(3) Interest expenses from defined benefit plans are included in interest expenses in the Audited Consolidated Financial Statements.

(4) Currency translation differences from financial instruments are included in other financial result in the Audited Consolidated Financial Statements and include currency translation differences related to financial instruments (FVOCI) and financial instruments (FVTPL).

(5) Income from the revaluation of existing shares as part of a step acquisition is included in other financial income in the Audited Consolidated Financial Statements.

This decrease in earnings before taxes primarily resulted from the aforementioned decline of our EBIT. While interest income also declined by EUR 2.5 million, or 11.5%, to EUR 19.2 million in the fiscal year 2016 from EUR 21.7 million in the fiscal year 2015 mainly attributable to decreased income from financial instruments, interest expenses improved slightly from EUR 29.2 million in 2015 to EUR 28.7 million in 2016 with a decrease of EUR 2.3 million in interest expenses from defined benefit plans and a EUR 0.8 million decrease of interest expenses from financial investments and partially off-setting EUR 2.8 million increase of other interest expenses over the same period.

The decrease in EBIT was partially offset by an improvement in the other financial result by EUR 7.4 million to EUR (35.7) million in 2016 from EUR (43.1) million in 2015. This improvement was mainly due to a decline in other financial expenses by EUR 58.7 million, or 34.8%, from EUR 168.9 million in the fiscal year 2015 to EUR 110.2 million in the fiscal year 2016 mainly due to currency translation differences from financial instruments. In addition, income from the revaluation of existing shares as part of a step acquisition amounted to EUR 10.2 million in the fiscal year 2016 mainly due to the revaluation of profit share of Icer Rail S.L. which was accounted in other financial result by using the equity method until November 21, 2016.

This was partly offset by a decrease in other financial income by EUR 51.4 million, or 40.8%, to EUR 74.5 million in the fiscal year 2016 from EUR 125.8 million in the previous year primarily due to currency translation differences from financial instruments.

9.6.11. Net Income

In the fiscal year 2016, our net income decreased by EUR 143.5 million, or 20.2%, to EUR 567.2 million from EUR 710.7 million in the fiscal year 2015. Thereof profit attributable to the shareholder of Knorr-Bremse AG decreased by EUR 126.4 million, or 19.4%, to EUR 526.3 million in the fiscal year 2016 from EUR 652.8 million in the fiscal year 2015 and profit attributable to non-controlling interests decreased by EUR 17.1 million, or 29.5%, to EUR 40.8 million in the fiscal year 2016 from EUR 57.9 million in the fiscal year 2015. Profit attributable to non-controlling interests related to the minorities of Knorr-Brake Holding Corporation, Delaware, USA, and Knorr-Bremse CARS LD Co. Ltd., Daxing, China, in Knorr-Bremse in the fiscal year 2016 and the fiscal year 2015. The decrease is mainly related to the aforementioned normalization of high-speed rail sales in China in the Rail Vehicle Systems segment after the peak in 2015 which affected the minorities of Knorr-Bremse CARS LD Co. Ltd., Daxing, China.

While the effective tax rate increased slightly from 32.2% in 2015 to 32.6% in 2016, the decline in net income was mainly due to the decreased earnings before taxes, with taxes on income decreasing by EUR 63.3 million, or 18.8%, from EUR (337.4) million in the fiscal year 2015 to EUR (274.1) million in the fiscal year 2016.

9.7. Review of Selected Items of Consolidated Statement of Financial Position

9.7.1. Consolidated Statement of Financial Position

The following table shows the consolidated statement of financial position as of June 30, 2018, and as of December 31, 2017, 2016 and 2015:

(in EUR million)	As of June 30,	As of December 31,		
	2018	2017	2016	2015
	(unaudited)		(audited)	
Intangible assets and goodwill	552.6	540.5	484.5	333.7
Property, plant and equipment	1,099.8	1,116.4	1,099.4	1,014.9
Investments accounted for using the equity method	1.5	2.0	2.0	7.4
Other financial assets	87.9	93.1	94.2	7.3
Other assets	32.0	11.5	5.7	5.2
Other assets (IFRS 15)	6.5	–	–	–
Costs to fulfil a contract	9.1	–	–	–
Employee benefits	26.7	21.6	13.8	7.6
Deferred tax assets	107.4	85.0	115.6	137.1
Non-current assets	**1,923.5**	**1,870.1**	**1,815.2**	**1,513.1**
Inventories	831.6	748.8	611.1	625.5
Trade accounts receivables	1,420.4	1,147.9	971.4	947.3
Other financial assets	8.7	12.5	6.4	1.8
Other assets	138.4	132.1	146.5	134.6
Contract assets	128.3	–	–	–
Receivables from construction contracts	–	116.2	123.8	101.9
Income tax receivables	62.5	67.6	34.2	25.7
Cash and cash equivalents	1,551.3	1,600.0	1,720.8	1,360.5
Assets held for sale and disposal groups	–	32.1	5.6	4.1
Current assets	**4,141.3**	**3,857.3**	**3,619.9**	**3,201.6**
Total Assets	**6,064.8**	**5,727.4**	**5,435.1**	**4,714.7**
Equity				
Subscribed capital	161.2	67.6	67.6	67.6
Capital reserves	7.2	1.3	1.9	1.9
Retained earnings	35.9	107.0	94.9	81.2
Other components of equity	(157.7)	(166.4)	(54.9)	(45.8)
Profit carried forward	892.5	1,302.8	1,177.7	926.4
Profit attributable to the shareholders of Knorr-Bremse AG	283.5	535.5	526.3	652.8
Equity attributable to the shareholders of Knorr-Bremse AG	**1,222.6**	**1,847.8**	**1,813.4**	**1,684.0**
thereof Equity attributable to non-controlling interests	85.8	148.0	152.6	154.1
thereof share of non-controlling interests in net income	23.5	51.7	40.8	57.9
Equity	**1,308.5**	**1,995.7**	**1,965.9**	**1,838.1**
Liabilities				
Provisions for pensions and similar obligations	310.5	310.2	316.7	284.8
Provisions for other employee benefits	25.4	28.4	28.6	28.8
Other provisions	256.0	234.1	246.3	258.6
Financial liabilities	1,496.1	738.7	756.3	261.9
Other liabilities	17.0	17.3	25.9	26.1
Income tax liabilities	73.4	71.7	72.8	74.2
Deferred tax liabilities	42.2	27.3	26.0	39.4
Non-current liabilities	**2,220.6**	**1,427.9**	**1,472.5**	**973.8**
Provisions for other employee benefits	23.9	15.2	13.5	15.0
Other provisions	244.5	231.7	226.9	180.2
Trade accounts payables	1,042.7	894.1	754.5	727.0
Financial liabilities	671.0	571.0	531.3	490.7
Other liabilities	148.6	269.4	285.5	271.0
Contract liabilities	302.0	–	–	–
Liabilities from construction contracts	–	230.8	126.3	146.8
Income tax liabilities	68.1	53.1	58.0	72.1

(in EUR million)	As of June 30, 2018	As of December 31, 2017	2016	2015
	(unaudited)	(audited)		
Liabilities directly associated with assets held for sale	35.0	38.5	0.8	–
Current liabilities	**2,535.7**	**2,303.8**	**1,996.6**	**1,902.8**
Liabilities	**4,756.3**	**3,731.7**	**3,469.2**	**2,876.6**
Total Equity and Liability	**6,064.8**	**5,727.4**	**5,435.1**	**4,714.7**

9.7.2. Comparison of Selected Items of Financial Position as of June 30, 2018 and December 31, 2017

As of June 30, 2018, our total assets increased by EUR 337.4 million, or 5.9%, to EUR 6,064.8 million from EUR 5,727.4 million as of December 31, 2017.

This increase was primarily due to an increase in our current assets by EUR 284.0 million to EUR 4,141.3 million as of June 30, 2018, from EUR 3,857.3 million as of December 31, 2017, which mainly resulted from an increase in trade accounts receivables. Trade accounts receivables increased by EUR 272.5 million to EUR 1,420.4 million as of June 30, 2018, from EUR 1,147.9 million as of December 31, 2017, mainly due to the aforementioned strong sales development. Another reason for the increase in current assets was a primarily growth driven increase in inventories by EUR 82.8 million to EUR 831.6 million as of June 30, 2018, from EUR 748.8 million as of December 31, 2017. In addition, the aforementioned first-time application of IFRS 15 resulted in adjustment effects of EUR 8.7 million as of June 30, 2018, compared to December 31, 2017.

As a counter-effect, cash and cash equivalents decreased from EUR 1,600.0 million as of December 31, 2017, to EUR 1,551.3 million as of June 30, 2018. The main reasons for this decrease were, amongst others, the payout of an extraordinary dividend, partly offset by financing through a corporate bond. Furthermore, assets held for sale and disposal groups decreased from EUR 32.1 million as of December 31, 2017, to zero as of June 30, 2018, due to the aforementioned sale of our two former disposal groups in the six-month period ended June 30, 2018.

The increase in our total assets was also due to an increase in non-current assets by EUR 53.4 million to EUR 1,923.5 million as of June 30, 2018, as compared to EUR 1,870.1 million as of December 31, 2017. This increase primarily resulted from an increase in deferred tax assets of EUR 22.4 million from EUR 85.0 million as of December 31, 2017, to EUR 107.4 million as of June 30, 2018. The increase related to the expected annual effective income tax rate for the full fiscal year compared to the nominal tax rate, as mentioned above. Additionally, other non-current assets increased by EUR 20.4 million to EUR 32.0 million as of June 30, 2018, from EUR 11.5 million as of December 31, 2017. Moreover, intangible assets and goodwill increased by EUR 12.1 million to EUR 552.6 million as of June 30, 2018, from EUR 540.5 million as of December 31, 2017, mainly due to intangible assets related to development projects and software. Another reason for the increase in non-current assets were adjustment effects as a further consequence of the first-time application of IFRS 15 which amounted to EUR 15.6 million as of June 30, 2018, as mentioned above.

These increases in non-current assets were partially offset in particular by a decrease in property, plant and equipment by EUR 16.6 million to EUR 1,099.8 million as of June 30, 2018, from EUR 1,116.4 million as of December 31, 2017, principally as a result of non-operating logistics assets sold.

Total equity and liabilities increased by EUR 337.4 million, or 5.9%, to EUR 6,064.8 million as of June 30, 2018, from EUR 5,727.4 million as of December 31, 2017.

As of June 30, 2018, equity amounted to EUR 1,308.5 million, a decrease of EUR 687.3 million compared to EUR 1,995.7 million as of December 31, 2017. In particular, equity attributable to the shareholders of Knorr-Bremse AG decreased by EUR 625.2 million to EUR 1,222.6 million as of June 30, 2018, from EUR 1,847.8 million as of December 31, 2017. This decrease was primarily due to profit carried forward which decreased by EUR 410.4 million from EUR 1,302.8 million as of December 31, 2017, to EUR 892.5 million as of June 30, 2018, mainly as a result of the payout of a special dividend. In addition, profit attributable to the shareholders of Knorr-Bremse AG decreased by EUR 252.0 million from EUR 535.5 million as of December 31, 2017, to EUR 283.5 million as of June 30, 2018, as a result of a dividend paid by the Company in April 2018 of EUR 850.2 million. Furthermore, retained earnings decreased by EUR 71.1 million from EUR 107.0 million as of December 31, 2017, to EUR 35.9 million as of June 30, 2018, mainly as a consequence of a capital increase from company funds by converting retained earnings into subscribed capital, whereas, as a balancing effect, the first-time application of IFRS resulted in adjustment effects of EUR 8.8 million included in retained earnings as of June 30, 2018.

As the major counter-effect, subscribed capital increased from EUR 67.6 million as of December 31, 2017, to EUR 161.2 million as of June 30, 2018. This increase was a result of the aforementioned capital increase from

company funds by EUR 93.6 million, from EUR 67.6 million to EUR 161.2 million by converting retained earnings into subscribed capital.

Liabilities increased by EUR 1,024.7 million to EUR 4,756.3 million as of June 30, 2018, as compared to EUR 3,731.7 million as of December 31, 2017, mainly as a result of an increase of non-current liabilities.

Our non-current liabilities increased by EUR 792.7 million from EUR 1,472.9 million as of December 31, 2017, to EUR 2,220.6 million as of June 30, 2018, mainly due to an increase in our non-current financial liabilities by EUR 757.3 million from EUR 738.7 million as of December 31, 2017, to EUR 1,496.1 million as of June 30, 2018. This increase is mainly due to an issuance of a fixed-interest euro-denominated bond in June 2018, which matures in 2025.

Our current liabilities increased by EUR 231.9 million to EUR 2,535.7 million as of June 30, 2018, from EUR 2,303.8 million as of December 31, 2017. The increase was primarily due to an increase of trade accounts payables by EUR 148.6 million to EUR 1,042.7 million as of June 30, 2018, from EUR 894.1 million as of December 31, 2017, mainly due to an increased level of sales and, thus, purchases. Another reason for the increase was the increase of current financial liabilities by EUR 100.0 million to EUR 671.0 million as of June 30, 2018, from EUR 571.0 million as of December 31, 2017 primarily as a result of increased negative fair values of derivative financial instruments and increased short-term bank liabilities to finance growth in operating activities. In addition, other current provisions increased by EUR 12.8 million to EUR 244.5 million as of June 30, 2018, from EUR 231.7 million as of December 31, 2017, primarily as a result of the first-time application of IFRS 15 with adjustment effects of EUR 26.4 million included in other current provisions as of June 30, 2018. Furthermore, income tax liabilities increased by EUR 14.9 million to EUR 68.1 million as of June 30, 2018, from EUR 53.1 million as of December 31, 2017, based on an expected increase in taxable income for the current fiscal year.

9.7.3. Comparison of Selected Items of Financial Position as of December 31, 2017 and December 31, 2016

As of December 31, 2017, our total assets increased by EUR 292.3 million, or 5.4%, to EUR 5,727.4 million from EUR 5,435.1 million as of December 31, 2016.

This increase was primarily due to an increase in our current assets by EUR 237.3 million to EUR 3,857.3 million as of December 31, 2017, from EUR 3,619.9 million as of December 31, 2016 which mainly resulted from an increase in trade accounts receivables. Trade accounts receivables increased by EUR 176.4 million to EUR 1,147.9 million as of December 31, 2017, from EUR 971.4 million as of December 31, 2016, mainly due to the increase in our revenues and acquisitions in the period under review but also as certain outstanding payments were not received as expected. In addition, inventories increased by EUR 137.7 million to EUR 748.8 million as of December 31, 2017, from EUR 611.1 million as of December 31, 2016, mainly as a result of a sales driven build-up of inventories in all areas, whereby in particular raw materials, auxiliary materials and supplies increased by EUR 39.3 million. These increases were partially offset by a decrease in cash and cash equivalents which declined by EUR 120.8 million from EUR 1,720.8 million as of December 31, 2016, to EUR 1,600.0 million as of December 31, 2017, primarily due to the outflow of funds for investments and disbursements to Company owners and minority shareholders.

The increase in our total assets was also due to an increase in non-current assets by EUR 55.0 million to EUR 1,870.1 million as of December 31, 2017, as compared to EUR 1,815.2 million as of December 31, 2016. This increase primarily resulted from an increase in intangible assets and goodwill of EUR 56.0 million from EUR 484.5 million as of December 31, 2016, to EUR 540.5 million as of December 31, 2017, mainly due to additions to goodwill through acquisitions in the fiscal year 2017. Most notably, the business combination of Kiepe Electric and the acquisition of the assets of the Bosch TRS in Japan resulted in higher goodwill of EUR 4.3 million for Kiepe Electric and EUR 26.3 million for Bosch TRS. Additionally, property, plant and equipment increased by EUR 17.0 million to EUR 1,116.4 million as of December 31, 2017, from EUR 1,099.4 million as of December 31, 2016, primarily as a result of the business combinations in 2017, mentioned above, which contributed EUR 39.0 million to increased property, plant and equipment. This increase was partly offset by the reclassification of assets held for sale and disposal groups amounting to EUR 7.8 million which related to Sydac and the disposal of the “Blueprint” group before impairments. Other reasons for the increase were increased employee benefits by EUR 7.8 million from EUR 13.8 million as of December 31, 2016, to EUR 21.6 million as of December 31, 2017, mainly due to pension plan assets exceeding pension related liabilities, as well as an increase of other non-current assets by EUR 5.9 million to EUR 11.5 million as of December 31, 2017, from EUR 5.7 million as of December 31, 2016, primarily due to an increase in transportation tax receivables which are expected to be refunded by the Italian tax authorities. These increases were partially offset by decreases in deferred tax assets of EUR 30.6 million to EUR 85.0 million as of December 31, 2017, from EUR 115.6 million as of December 31, 2016, largely as a result of a change of

temporary differences between tax and accounting base for liabilities. Deferred tax assets on tax losses remained unchanged.

Total equity and liability increased by EUR 292.3 million, or 5.4%, to EUR 5,727.4 million as of December 31, 2017, from EUR 5,435.1 million as of December 31, 2016.

As of December 31, 2017, equity amounted to EUR 1,995.7 million, an increase of EUR 29.8 million as compared to EUR 1,965.9 million as of December 31, 2016. This increase was primarily due to increased profit carried forward of EUR 125.2 million from EUR 1,177.7 million as of December 31, 2016, to EUR 1,302.8 million as of December 31, 2017 mainly due to the increase of our net income in the fiscal year in the amount of EUR 587.2 million. Another reason for the increase in equity were the increased retained earnings that increased by EUR 12.1 million from EUR 94.9 million as of December 31, 2016, to EUR 107.0 million as of December 31, 2017. As a counter-effect, other components of equity decreased by EUR 111.5 million from EUR (54.9) million as of December 31, 2016, to EUR (166.4) million as of December 31, 2017, primarily due to the impact of foreign currency translation adjustments of EUR 110.4 million as well as impairment charges and realized losses from sold shares in the strategic investment in Haldex AB of EUR 22.6 million.

The increase in total equity and liability was primarily due to an increase of our liabilities by EUR 262.5 million to EUR 3,731.7 million as of December 31, 2017, as compared to EUR 3,469.2 million as of December 31, 2016.

Our current liabilities increased by EUR 307.2 million to EUR 2,303.8 million as of December 31, 2017, from EUR 1,996.6 million as of December 31, 2016. The increase was primarily due an increase of trade accounts payables by EUR 139.7 million to EUR 894.1 million as of December 31, 2017, from EUR 754.5 million as of December 31, 2016, mainly due to the increase of our net income as well as the additions from the business combination with Kiepe Electric in the fiscal year 2017. Another reason for the increase was the increase of liabilities from construction contracts by EUR 104.5 million to EUR 230.8 million as of December 31, 2017, from EUR 126.3 million as of December 31, 2016, primarily as a result of the business growth, mentioned above. In addition, current financial liabilities increased by EUR 39.7 million to EUR 571.0 million as of December 31, 2017, from EUR 531.3 million as of December 31, 2016, mainly due to an increase of a put option liability by EUR 12.5 million and lease liabilities by EUR 8.5 million.

The increase in current liabilities was partially offset by a decline in non-current liabilities by EUR 44.6 million from EUR 1,472.5 million as of December 31, 2016, to EUR 1,427.9 million as of December 31, 2017, mainly due to a decrease in our non-current financial liabilities by EUR 17.5 million from EUR 756.3 million as of December 31, 2016, to EUR 738.7 million as of December 31, 2017. This decrease is mainly due to decreased liabilities from derivatives by EUR 16.4 million. Additionally, our other provisions decreased by EUR 12.2 million to EUR 234.1 million as of December 31, 2017, from EUR 246.3 million as of December 31, 2016, primarily due to lower levels of warranty provisions which decreased by EUR 32.9 million to EUR 179.5 million as of December 31, 2016, compared to EUR 146.6 million as of December 31, 2017, whereas provisions for onerous contracts related to a lease of a production site increased.

9.7.4. Comparison of Selected Items of Financial Position as of December 31, 2016 and December 31, 2015

As of December 31, 2016, our total assets increased by EUR 720.4 million, or 15.3%, to EUR 5,435.1 million from EUR 4,714.7 million as of December 31, 2015.

This increase was mainly due to an increase in our current assets by EUR 418.4 million to EUR 3,619.9 million as of December 31, 2016, from EUR 3,201.6 million as of December 31, 2015, which resulted primarily from an increase in cash and cash equivalents. Cash and cash equivalents increased by EUR 360.3 million to EUR 1,720.8 million as of December 31, 2016, from EUR 1,360.5 million as of December 31, 2015, mainly due to the proceeds from the issuance of a bond in December 2016 explained below, which increase was partially offset by decreasing cash flow from operating activities and cash outflows for the strategic investment in Haldex AB shares. In addition, trade accounts receivables increased by EUR 24.1 million from EUR 947.3 million as of December 31, 2015, to EUR 971.4 million as of December 31, 2016. Moreover, receivables from construction contracts increased by EUR 21.9 million from EUR 101.9 million as of December 31, 2015, to EUR 123.8 million as of December 31, 2016. As a slight counter-effect, our inventories decreased by EUR 14.4 million to EUR 611.1 million as of December 31, 2016, from EUR 625.5 million as of December 31, 2015 mainly due to the decrease in finished goods by EUR 12.5 million compared to the previous period.

The increase in our total assets was also due to an increase in non-current assets by EUR 302.0 million to EUR 1,815.2 million as of December 31, 2016, as compared to EUR 1,513.1 million as of December 31, 2015. This increase primarily resulted from an increase in intangible assets and goodwill by EUR 150.8 million from EUR 333.7 million as of December 31, 2015, to EUR 484.5 million as of December 31, 2016, mainly due to additions to goodwill as a result of several acquisitions in the fiscal year 2016. Most notably, the acquisitions of

the tedrive Group and GT Group, as well as the step acquisition of the Icer Rail joint venture resulted in higher goodwill of EUR 7.5 million, EUR 74.2 million and EUR 24.6 million, respectively. Furthermore other non-current financial assets increased by EUR 86.9 million to EUR 94.2 million as of December 31, 2016, from EUR 7.3 million as of December 31, 2015, mainly due to the strategic investment in Haldex AB shares. Additionally, property, plant and equipment rose by EUR 84.5 million to EUR 1,099.4 million as of December 31, 2016, from EUR 1,014.9 million as of December 31, 2015, primarily as a result of the completion of our development center in Munich. These increases were partially offset by a decrease in deferred tax assets by EUR 21.4 million to EUR 115.6 million as of December 31, 2016, from EUR 137.1 million as of December 31, 2015.

Total equity and liability increased by EUR 720.4 million, or 15.3%, to EUR 5,435.1 million as of December 31, 2016 from EUR 4,714.7 million as of December 31, 2015.

As of December 31, 2016, our equity amounted to EUR 1,965.9 million, an increase of EUR 127.9 million as compared to EUR 1,838.1 million as of December 31, 2015. The major part of this increase related to increased profit carried forward by EUR 251.2 million to EUR 1,177.7 million as of December 31, 2016, from EUR 926.4 million as of December 31, 2015. In contrast, net income decreased by EUR 143.5 million to EUR 567.2 million as of December 31, 2016, from EUR 710.7 million as of December 31, 2015, mainly due to a decrease in earnings before taxes due to a sales decline as described above mainly relating to the decline of high speed train sales in China.

The increase in total equity and liability was primarily due to an increase of our liabilities by EUR 592.5 million to EUR 3,469.2 million as of December 31, 2016 as compared to EUR 2,876.6 million as of December 31, 2015, which was largely due to the net impact of the changes explained below.

Our non-current liabilities increased by EUR 498.7 million to EUR 1,472.5 million as of December 31, 2016, from EUR 973.8 million as of December 31, 2015. This increase was primarily due to an increase in non-current financial liabilities of EUR 494.3 million to EUR 756.3 million as of December 31, 2016, from EUR 261.9 million as of December 31, 2015, mainly as a result of the issuance of a bond but also due to an increase in liabilities from options on minority interest, which were offset by lower liabilities to credit institutions. This increase was partially offset by a decrease in non-current other provisions by EUR 12.3 million to EUR 246.3 million as of December 31, 2016, from EUR 258.6 million as of December 31, 2015, primarily due to a reduction in guarantees.

In addition, current liabilities increased by EUR 93.8 million to EUR 1,996.6 million as of December 31, 2016, from EUR 1,902.8 million as of December 31, 2015. Key contributions to the increase came from increased current other provisions by EUR 46.7 million to EUR 226.9 million as of December 31, 2016, from EUR 180.2 million as of December 31, 2015, primarily due to an increase in guarantees which were previously recorded in non-current other provisions. Furthermore, current financial liabilities increased by EUR 40.6 million to EUR 531.3 million as of December 31, 2016, from EUR 490.7 million as of December 31, 2015. In addition, trade accounts payables increased by EUR 27.4 million to EUR 754.5 million as of December 31, 2016, from EUR 727.0 million as of December 31, 2015, mainly due to the aforementioned acquisitions in the fiscal year 2016.

An opposing effect resulted from a decline in liabilities from construction contracts of EUR 20.5 million from EUR 146.8 million as of December 31, 2015, to EUR 126.3 million as of December 31, 2016.

9.8. Liquidity and Capital Resources

9.8.1. Overview

In the periods under review, our principal sources of funds were cash flow generated from our operating activities as well as borrowed funds, primarily in the form of a bond issued with a principle amount of EUR 500 million with a fixed coupon rate of 0.5% p.a. maturing in 5 years with effect from December 8, 2016 as well as a bond issued with a principle amount of EUR 750 million with a fixed coupon rate of 1.125% p.a. maturing in 7 years with effect from June 14, 2018. Our principal uses of cash were to fund Capital Expenditures, working capital and acquisitions as well as debt service obligations (including payment of interest and repayment of principle). Our Cash Conversion Ratio ranged between 76.6% in 2017, 92.2% in 2016 and 101.8% in 2015 driven by our working capital management geared at efficiency, in particular by improving inventory turns with active warehouse and inventory management, active management of receivables, as well as further measures such as factoring and supply chain financing programs. The Cash Conversion Ratio of 101.8% in 2015 was in particular due to a strong cash collection in the Asia-Pacific region in our Rail Vehicles Segment at year end and we generally consider a Cash Conversion Ratio of 80% to 90% as a normal range.

9.8.2. Consolidated Statement of Cash Flows

The following table shows the consolidated statement of cash flows for the six-month periods ended June 30, 2018 and June 30, 2017, and for the fiscal years 2017, 2016 and 2015:

(in EUR million)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)			(audited)	
Cash flow from operating activities					
Net income (including earnings share of minority interests)	307.0	269.6	587.2	567.2	710.7
Adjustments for					
Depreciation and amortization	109.9	94.9	211.5	165.7	170.5
Impairment/reversal of impairment on inventories	5.9	(5.2)	(8.8)	24.1	(1.0)
Impairment/reversal of impairment on trade accounts receivables	1.0	(0.6)	(0.9)	(1.6)	1.9
(Profit)/loss on sale of property, plant and equipment	(3.9)	0.6	(0.6)	(11.5)	1.2
Other non-cash expenses and income	38.7	27.1	38.6	23.1	32.4
Interest income	7.0	9.4	14.8	9.5	7.5
Investment result	0.7	1.0	0.6	(2.6)	(0.8)
Income tax expense	123.5	119.1	251.7	267.8	329.2
Income tax payments	(106.4)	(118.9)	(254.4)	(280.3)	(311.0)
Changes to					
Inventories, trade accounts receivables and other assets, which cannot be allocated to investing or financing activities	(383.4)	(345.0)	(201.6)	49.5	33.8
Trade accounts payables, which cannot be allocated to investing or financing activities	107.7	131.9	87.2	(95.8)	3.8
Provisions	41.5	16.1	(45.3)	54.1	(18.6)
Cash flow from operating activities	**249.1**	**200.1**	**679.9**	**769.2**	**959.5**
Cash flow from investing activities					
Proceeds from the sale of intangible assets	–	–	–	0.1	0.5
Disbursements for investments in intangible assets	(27.0)	(22.3)	(45.2)	(46.0)	(31.5)
Proceeds from the sale of fixed assets	11.9	11.4	19.3	37.3	20.7
Disbursements for investments in property, plant and equipment	(71.9)	(63.9)	(184.7)	(200.3)	(204.8)
Proceeds from the sale of investments	6.3	–	28.3	5.5	1.3
Disbursements for financial investments	–	(8.7)	(8.7)	(86.8)	(6.1)
Disbursements for the acquisition of consolidated companies and other business units	–	(96.5)	(96.5)	(160.1)	(104.0)
Interest received	3.4	10.6	16.7	8.3	26.6
Net disbursements for investments in plan assets (pensions)	(4.7)	(4.5)	(9.0)	(6.2)	(5.4)
Cash flow from investing activities	**(81.9)**	**(173.9)**	**(279.8)**	**(448.2)**	**(302.6)**
Cash flow from financing activities					
Proceeds from equity contributions by minority shareholders	–	–	0.2	2.4	–
Proceeds from loans and borrowings	744.8	1.8	3.0	498.7	17.6
Disbursements from the repayment of borrowings	(1.9)	(9.5)	(18.3)	(41.2)	(10.8)
Disbursements for finance lease liabilities	(3.3)	(2.8)	(5.3)	(3.3)	(3.0)
Interest paid	(5.3)	(7.9)	(20.2)	(16.3)	(20.9)
Dividends paid to parent company shareholders	(851.3)	(385.1)	(385.1)	(384.9)	(333.0)
Dividends paid to minority shareholders	(3.9)	(23.0)	(48.0)	(43.8)	(63.0)
Net proceeds from factoring	(49.6)	(53.7)	13.6	29.5	7.0
Disbursements for repurchase of own shares	(130.6)	–	–	–	–
Cash flow from financing activities	**(301.1)**	**(480.1)**	**(460.1)**	**41.2**	**(406.1)**

(in EUR million)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)			(audited)	
Cash flow changes	**(133.9)**	**(453.8)**	**(60.0)**	**362.1**	**250.7**
Change in cash funds resulting from exchange rate and valuation-related movements	24.0	(48.7)	(72.1)	9.5	21.4
Change in cash funds resulting from changes to the Group structure	0.5	–	–	–	–
Net change in cash funds	**(109.5)**	**(502.6)**	**(132.2)**	**371.7**	**272.1**
Cash funds at the beginning of the period	1,578.9	1.711.0	1,711.0	1,339.3	1,067.2
Cash funds at the end of the period	**1,469.4**	**1,208.4**	**1,578.8**	**1,711.0**	**1,339.3**
Cash funds are comprised as follows:					
Cash and cash equivalents	1,551.3	1,242.2	1,600.0	1,720.8	1,360.5
Short-term marketable securities	0.1	0.1	0.1	0.1	0.0
Short-term bank debt (less than 3 months)	(82.0)	(33.8)	(21.3)	(9.9)	(21.2)

9.8.3. Comparison of the Six-Month Periods Ended June 30, 2018 and June 30, 2017

9.8.3.1. Cash Flow from Operating Activities

In the six-month period ended June 30, 2018, the cash flow from operating activities increased by EUR 49.0 million, or 24.5%, to EUR 249.1 million from EUR 200.1 million in the six-month period ended June 30, 2017, mainly as a result of our net income which increased by EUR 37.4 million, or 13.9%, from EUR 269.6 million in the six-month period ended June 30, 2017, to EUR 307.0 million in the six-month period ended June 30, 2018. In addition, changes to provisions resulted in an increased cash generation of EUR 41.5 million in the six-month period ended June 30, 2018, compared to EUR 16.1 million in the six-month period ended June 30, 2017, mainly due to an increase in provisions for guarantees and warranties.

A major counter-effect resulted from changes to inventories, trade accounts receivables and other assets, which cannot be allocated to investing or financing activities which increased to a cash outflow of EUR 383.4 million in the six-month period ended June 30, 2018, from a cash outflow of EUR 345.0 million in the six-month period ended June 30, 2017, mainly as a result of our operating growth. Furthermore, changes to trade accounts payables, which cannot be allocated to investment or financing activities resulted in a decreased cash generation of EUR 107.7 million in the six-month period ended June 30, 2018, compared to a cash generation of EUR 131.9 million in the six-month period ended June 30, 2017.

9.8.3.2. Cash Flow from Investing Activities

In the six-month period ended June 30, 2018, cash outflows from investing activities decreased by EUR 91.9 million, or 52.9%, to EUR 81.9 million from EUR 173.9 million in the six-month period ended June 30, 2017. This decrease was primarily due to the decrease in disbursements for the acquisition of consolidated companies and other business units where, in the six-month period ended June 30, 2017, a cash outflow of EUR 96.5 million was recorded, mainly as a result of several acquisitions in the six-month period ended June 30, 2017, most notably the business combination of Kiepe Electric and the acquisition of the assets of the Bosch TRS, as mentioned above, whereas no such disbursements for acquisitions were effected in the six-month period ended June 30, 2018.

9.8.3.3. Cash Flow from Financing Activities

In the six-month period ended June 30, 2018, cash outflows from financing activities amounted to EUR 301.1 million, a decrease of EUR 179.0 million compared to cash outflows from financing activities of EUR 480.1 million in the six-month period ended June 30, 2017. This decrease was mainly due to higher proceeds from loans and borrowings which amounted to EUR 744.8 million in the six-month period ended June 30, 2018, compared to EUR 1.8 million in the six-month period ended June 30, 2017, primarily as a result of the issuance of a EUR 750 million fixed-interest euro-denominated bond in June 2018, as mentioned above.

As the major counter-effect, in the six-month period ended June 30, 2018, cash outflows from dividends paid to parent company shareholders amounted to EUR 851.3 million, compared to cash outflows of EUR 385.1 million in the six-month period ended June 30, 2017. This increased cash outflow was a result of the higher dividend paid to the shareholders of Knorr-Bremse AG in April 2018. A further counter-effect in the six-month period ended June 30, 2018, which did not occur in the six-month period ended June 30, 2017 was attributable to disbursements for the repurchase of own shares, which amounted to USD 159.6 million, *i.e.*, EUR 130.6 million

and which related to the abovementioned repurchase of non-voting preference shares in Knorr-Brake Holding Corporation, Delaware, USA.

9.8.4. Comparison of the Fiscal Years 2017 and 2016

9.8.4.1. Cash Flow from Operating Activities

In the fiscal year 2017, the cash flow from operating activities decreased by EUR 89.3 million, or 11.6%, to EUR 679.9 million from EUR 769.2 million in the fiscal year 2016, although our net income (including earnings share of minority interests) increased by EUR 20.1 million, from EUR 567.2 million in the fiscal year 2016 to EUR 587.2 million in the fiscal year 2017.

Cash flow from operating activities benefited primarily from an increase in trade accounts payables, which cannot be allocated to investing or financing activities, which improved from a net use of cash of EUR 95.8 million in the fiscal year 2016 to a net generation of cash of EUR 87.2 million in the fiscal year 2017. A further positive effect resulted from an increase in depreciation on intangible assets and property, plant and equipment from EUR 165.7 million in the fiscal year 2016 to EUR 211.5 million in the fiscal year 2017. Additionally, the decrease in income tax payments by EUR 25.9 million from EUR 280.3 million in the fiscal year 2016 to EUR 254.4 million in the fiscal year 2017 had positive effects on our cash flow.

These positive effects were more than offset by a sharp increase in inventories, trade accounts receivables and other assets, which cannot be allocated to investing or financing activities and a net release of provisions in 2017 compared to a net increase in provisions in the prior year, which negatively affected our cash flow from operating activities in 2017. Inventories, trade accounts receivables and other assets, which cannot be allocated to investing or financing activities increased by EUR 251.1 million to EUR 201.6 million in 2017 whereas it positively contributed to our cash flow from operating activities in 2016 by EUR 49.5 million. The increase was primarily a result of further, disproportionate net working capital increase due to the significant revenues growth as well as one-off effects from extraordinary expenditures due to the attempted acquisition of Haldex AB, the conversion of Group accounting to IFRS and preparation for the initial public offering of the Company.

The release of provisions negatively impacted our cash flow from operating activities by EUR 45.3 million in the fiscal 2017 compared to a positive contribution of similar provisions taken in the amount of EUR 54.1 million in the fiscal year 2016. This was primarily due to the release of provisions relating to the abovementioned lease contract in Russia, as well as the release of provisions relating to guarantees and, to a lesser extent, the release of provisions for employee benefits. Furthermore, foreign exchange rate effects also negatively affected our cash flow from operating activities.

9.8.4.2. Cash Flow from Investing Activities

In fiscal year 2017, cash outflows from investing activities decreased by EUR 168.4 million, or 37.6%, to EUR 279.8 million from EUR 448.2 million in the fiscal year 2016. This was primarily due to the EUR 78.1 million year-on-year decrease in cash outflows for disbursements for financial investments to EUR 8.7 million in the fiscal year 2017 compared to EUR 86.8 million in the fiscal year 2016 mainly due to the fact that no comparable investment was made in the fiscal year 2017 that corresponds to the same extent to the strategic investment in Haldex AB shares acquired in the fiscal year 2016.

In addition, the EUR 63.6 million year-on-year decline in cash outflows for disbursements for the acquisition of consolidated companies and other business units from EUR 160.1 million in 2016 to EUR 96.5 million in 2017 also contributed to the decrease in cash outflows from investing activities. This decrease in outflows mainly resulted from the abovementioned acquisitions of Kiepe Electric for EUR 29.4 million as well as Bosch TRS for EUR 65.5 million (less acquired cash and cash equivalents) and a contingent purchase price payment of EUR 4.0 million that was due in 2017 for the Selectron Group acquired in 2015.

Additionally, the EUR 15.6 million decline in disbursements for investments in property, plant and equipment to EUR 184.7 million from EUR 200.3 million was mainly due to the fact that certain planned investments occurring in fiscal year 2018 rather than fiscal year 2017 as well as reduced spending for building projects. In 2017, these investments were mainly attributable to increased investments for machinery, equipment and the introduction of new product generations as well as expanding capacity in high-growth business areas and locations.

9.8.4.3. Cash Flow from Financing Activities

In fiscal year 2017, the cash outflows from financing activities amounted to EUR 460.1 million which represented an increase of EUR 501.2 million compared to the cash inflows from financing activities of EUR 41.2 million in the previous year. The main reason for the increase was the bond issuance in 2016, whereas

there was no comparable bond offering in the fiscal year 2017. In the fiscal year 2017, the cash outflows from financing activities were primarily due to dividends paid to parent company shareholders and minority shareholders in the aggregate amount of EUR 433.1 million, a decrease of EUR 4.4 million compared to the previous year. Additionally, payments for the repayment of financial loans decreased by EUR 22.9 million to EUR 18.3 million in the fiscal year 2017.

9.8.5. Comparison of the Fiscal Years 2016 and 2015

9.8.5.1. Cash Flow from Operating Activities

In the fiscal year 2016, the cash flow from operating activities decreased by EUR 190.3 million, or 19.8%, to EUR 769.2 million compared to EUR 959.5 million in the previous year. This decrease was mainly due to the decline in our net income (including earnings share of minority interests) by EUR 143.5 million that amounted to EUR 710.7 million in the fiscal year 2015 compared to EUR 567.2 million in the fiscal year 2016, which was mainly due to the abovementioned decline in revenues in the fiscal year 2016. In addition, the decline in trade accounts payables, which cannot be allocated to investing or financing activities by EUR 99.7 million from EUR 3.8 million in 2015 to EUR (95.8) million also negatively affected our cash flow from operating activities. Furthermore, cash flow from income tax expense decreased from EUR 329.2 million in 2015 by EUR 61.4 million to EUR 267.8 million.

Our cash flow was positively impacted by an increase in provisions by EUR 72.7 million from EUR (18.6) million in 2015 to EUR 54.1 million in 2016 which was mainly due to increases in provisions for guarantees and other provisions. Positive effects further included decreased income tax payments, which declined from EUR 311.0 million in 2015 by EUR 30.7 million to EUR 280.3 million in 2016, mainly due to lower earnings before taxes in this period.

9.8.5.2. Cash Flow from Investing Activities

In the fiscal year 2016, the cash outflows from investing activities increased by EUR 145.6 million to EUR 448.2 million from EUR 302.6 million in the fiscal year 2015. This increase was primarily due to additional disbursements for the acquisition of consolidated companies and other business units in the amount of EUR 56.1 million and for increased disbursements for financial investments in the amount of EUR 80.8 million in the fiscal year 2016.

The cash outflows for the acquisition of consolidated companies and other business units in the fiscal year 2016 in the amount of EUR 160.1 million mainly resulted from various acquisitions such as, *inter alia*, the acquisition of the GT Group in July 2016 for EUR 102.6 million, of the tedrive Group in September 2016 for EUR 23.3 million, of the remaining shares in the Icer Rail joint venture in November 2016 for EUR 18.5 million, as well as the acquisition of the assets of TMD Friction in January 2016 for EUR 10.8 million, all of which are recognized in the cash flow less acquired cash and cash equivalents.

The cash outflows for financial investments in 2016 primarily resulted from the acquisition of the strategic investment in Haldex AB shares.

9.8.5.3. Cash Flow from Financing Activities

In the fiscal year 2016, the cash flow from financing activities amounted to EUR 41.2 million, which represented an increase of EUR 447.3 million compared to the cash outflow from financing activities of EUR 406.1 million in the previous year. This change was mainly due to increased cash flow from proceeds from borrowings of EUR 498.7 million in the fiscal year 2016 which were at EUR 17.6 million in the fiscal year 2015, mainly due to net cash proceeds from the issuance of the fixed-interest euro-denominated bond we issued in December 2016. This cash inflow exceeded cash outflows, in particular for dividends paid to parent company shareholders and minority shareholders in the aggregate amount of EUR 428.7 million (an increase of EUR 32.7 million compared to the previous year) and resulted in total cash inflows from financing activities in the amount of EUR 41.2 million in the fiscal year 2016.

9.8.6. Investments

9.8.6.1. Overview

Investments comprise Capital Expenditures (including payments made for the purchase of property, plant and equipment and intangible assets) as well as non-cash relevant investments in property, plant and equipment and intangible assets without deducting for disposals of tangible and intangible assets and excluding mergers and acquisitions.

Investments shown in this section are not identical with cash flow from investing activities as described above under "*9.8.2. — Consolidated Statement of Cash Flow*". For additional information on the acquisitions of the Group, see also "*9.2.4. — Acquisitions and Divestments*".

The main source of funding for our historic and ongoing investments has been, and continues to be, cash generated from cash flow from operating activities and, as required, external borrowings, including the issuance of bonds.

The following table shows our investments of the Group and, as applicable, broken down by segments and regions for the six-month periods ended June 30, 2018 and June 30, 2017, and for the fiscal years 2017, 2016 and 2015:

(in EUR million)	For the six-month period ended June 30, 2018	2017	For the fiscal year 2017	2016	2015
	(unaudited)			(unaudited)	
Investments of the Group	**(106.1)**	**(86.1)**	**(235.2)**	**(248.9)**	**(239.2)**
by segments:					
thereof Rail Vehicle Systems	(39.8)	(35.6)	(91.7)	(137.6)	(128.8)
thereof Commercial Vehicle Systems	(50.5)	(42.2)	(120.0)	(100.8)	(99.0)
thereof Others	(15.8)	(8.2)	(23.5)	(10.5)	(11.4)
by regions:					
thereof Asia-Pacific	(16.4)	(12.1)	(33.5)	(28.7)	(41.1)
thereof Europe/Africa	(66.5)	(56.5)	(160.7)	(177.9)	(146.7)
thereof North America	(21.4)	(15.8)	(36.0)	(37.7)	(48.3)
thereof South America	(1.8)	(1.6)	(5.0)	(4.7)	(3.2)

9.8.6.2. Ongoing and Future Investments

Investments totaled EUR 106.1 million in the six-month period ended June 30, 2018, mainly related to maintaining and expanding our business operations. Regarding our Rail Vehicle Systems segment, the major part of the investments in the first half of 2018 related to investments in machinery and equipment supporting further capacity increases. The most significant part of our investments attributable to our Commercial Vehicle Systems segment in the first half of 2018 related to supplier tooling supporting current and future growth and the introduction of new product generations. Both operating segments also undertook regular replacement investments.

An important part of our planned investments relates to expenditures for building projects, replacing production machinery and equipment, capacity increases and productivity measures for existing and new products, supplier tooling, and IT-software.

9.8.6.3. Investments in the Fiscal Year 2017

In the fiscal year 2017, we incurred investments of EUR 235.2 million, which represented a 5.5% decrease compared to the fiscal year 2016. Thereof, approximately EUR 91.7 million were attributable to our Rail Vehicle Systems segment and approximately EUR 120.0 million to our Commercial Vehicle Systems segment.

With respect to our Rail Vehicle Systems segment, a major part of the investments in the fiscal year 2017 related to expanding capacity in high-growth business areas and locations, as well as to the expansion of the Guo Tong site in China and regular replacement investments.

A significant part of our investments in the fiscal year 2017 attributable to our Commercial Vehicle Systems related to supplier tooling, machinery and equipment related to the introduction of new product generations and replacement investments.

9.8.6.4. Investments in the Fiscal Year 2016

In the fiscal year 2016, we incurred investments in property, plant and equipment and intangible assets of EUR 248.9 million, which represented a 4.1% increase compared to the fiscal year 2015. Thereof, approximately EUR 137.6 million was attributable to our Rail Vehicle Systems segment and approximately EUR 100.8 million to our Commercial Vehicle Systems segment.

With respect to our Rail Vehicle Systems segment, a major part of the investments in the fiscal year 2016 related to the expansion of the Budapest plant, the new location of the French rail subsidiary in Tinqueux near Reims, as well as the equipment for the new development center in Munich, Germany.

A significant part of our investments in 2016 attributable to our Commercial Vehicle Systems segment related to supplier tooling and machinery and equipment related to the expansion of global production capacities and replacement investments.

9.8.6.5. *Investments in the Fiscal Year 2015*

In the fiscal year 2015, we incurred investments in property, plant and equipment and intangible assets of EUR 239.2 million. Thereof, approximately EUR 128.8 million was attributable to our Rail Vehicle Systems segment and approximately EUR 99.0 million to our Commercial Vehicle Systems segment.

With respect to our Rail Vehicle Systems segment, a major part of the investments in the fiscal year 2015 related to property and equipment of the new development center in Munich, Germany, as well as on machinery and property in South Africa to strengthen our market position in the Rail Vehicle Systems sector and replacement investments.

A significant part of our investments in 2015 attributable to our Commercial Vehicle Systems segment related to supplier tooling and machinery and equipment related to the expansion of global production capacities and replacement investments.

9.8.7. *Financial and Other Liabilities*

9.8.7.1. *Financial Liabilities*

Financial liabilities amounted to EUR 2,167.0 million as of June 30, 2018 and comprised derivatives and financial obligations, including bank loans, bonds and debt instruments, liabilities resulting from options for minority interests, lease liabilities and other financial liabilities.

The following table shows our financial liabilities as of June 30, 2018 and December 31, 2017, including a breakdown of these financial liabilities according to maturity as of December 31, 2017:

	As of June 30, 2018	**As of December 31, 2017**			
(in EUR million)	**Total**	**Total**	**Maturity of 0-1 year**	**Maturity of 1-5 year**	**Maturity of >5 year**
	(unaudited)	**(audited, unless otherwise indicated)**			
Derivatives	(41.3)	(7.3)	(1.0)	(0.1)	(6.2)
Financial Obligations	(1,941.0)	(1,143.5)(*)	(434.9)(*)	(702.5)(*)	(38.6)(*)
thereof bank loans	(283.8)	(230.6)	(46.1)	(175.6)	(19.0)
thereof bonds and debt instruments	(1,243.8)	(497.4)	(2.5)	(507.5)	–
thereof liabilities resulting from options for minority interests	(379.6)	(379.6)	(379.6)	–	–
thereof lease liabilities	(33.8)	(36.0)	(6.7)	(19.4)	(19.6)
Other financial liabilities	(184.7)	(158.8)	(150.6)	(8.2)	–
Financial Liabilities	(2,167.0)	**(1,309.7)**(*)	**(586.5)**(*)	**(710.8)**(*)	**(44.8)**(*)

(*) Unaudited.

For additional information on our financial liabilities, see note 7 to the Unaudited Condensed Consolidated Financial Statements and note F.13 and H.1.5 of the Audited Consolidated Financial Statements in "*23. — Financial Information* " and for information on our financing agreements, see "*13. — Material Contracts*".

9.8.7.2. *Other Financial Liabilities*

The following table shows our other financial liabilities as of June 30, 2018 and December 31, 2017, including a breakdown of these financial liabilities according to maturity as of December 31, 2017:

	As of June 30, 2018	**As of December 31, 2017**			
(in EUR million)	**Total**	**Total**	**Maturity of 0-1 year**	**Maturity of 1-6 year**	**Maturity of >6 year**
	(unaudited)	**(audited, unless otherwise indicated)**			
Rent and lease obligations	222.5	182.4(*)	36.9	81.2	64.3
Investment projects	6.8	12.7(*)	11.9	0.8	–
Other obligations	2.3	17.6(*)	16.8	0.9	–
Other financial agreements	231.6	212.8(*)	**65.6**	**82.9**	**64.3**

(*) Unaudited.

Other financial liabilities comprised rent and lease obligations, investment projects, major repairs/maintenance work and other obligations.

For additional information on our other financial and non-financial liabilities, see note 11 to the Unaudited Condensed Consolidated Financial Statements and note H.7 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.8.7.3. Contingent Liabilities

Contingent liabilities include, on the one hand, possible obligations arising from past events whose existence is confirmed only by the occurrence or non-occurrence of uncertain future events that are not entirely under the Group's control. On the other hand, contingent liabilities represent current obligations arising from past events for which, however, an outflow of economic resources is not considered probable or whose amount cannot be determined with sufficient reliability. According to IAS 37, such liabilities are not recognized in the balance sheet but disclosed in the notes to the Audited Consolidated Financial Statements.

Our contingent liabilities primarily involve guarantees and warranties. Guarantees are mainly issued for rent guarantees for commercial and factory buildings.

Guarantees exist mainly in Hungary with respect to customer contracts for products. In this case, the guarantee exceeds the statutory warranty obligations already recognized in the Consolidated Financial Statements.

The following table shows our contingent liabilities as of June 30, 2018, as well as December 31, 2017, 2016 and 2015.

(in EUR million)	As of June 30, 2018	As of December 31, 2017	2016	2015
	(unaudited)		(audited)	
Guarantees	25.3	23.2	23.6	36.6
Warranties	2.8	1.5	2.7	3.0
Other	2.5	2.4	1.1	0.7
Contingent liabilities	**30.6**	**27.0**	**27.4**	**40.3**

For additional information on our contingent liabilities, see note 11 to the Unaudited Condensed Consolidated Financial Statements and note H.8 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.8.7.4. Factoring

The Group participates in a receivables sales program, in which trade accounts receivables are sold to a financial services provider. We distinguish between factoring with disposal on the balance sheet and without disposal in the balance sheet.

In the case of factoring with disposal, essentially all opportunities and risks associated with ownership of the financial asset are transferred to the financial service providers. The intention is to hold the non-transferred receivables in a portfolio until final payment and to collect the contractual cash flow. The business model for these receivables is therefore classified as hold and sell and recognized at fair value with no effect on income.

In the case of factoring without disposal in the balance sheet, the receivable is also transferred to the financial service providers. The Knorr-Bremse Group, however, bears the credit risk until the receivable has been settled, so that the opportunities and risks associated with ownership of the receivables are essentially not transferred. These receivables are not derecognized and the corresponding portfolios are reported in the "Hold" category and are carried at "amortized cost". Since factoring is carried out without disposal from the balance sheet until the customer settles its liabilities with the financial services provider by agreed payment dates, the credit risk remains with Knorr-Bremse.

The following table shows factored receivables as of June 30, 2018 and December 31, 2017, 2016 and 2015, including a breakdown into recourse and non-recourse factoring.

(in EUR million)	For the six-month period ended June 30, 2018	For the fiscal year 2017	2016	2015
	(unaudited)		(audited)	
Book value of transferred receivables (factoring with balance sheet disposal)	110.7	205.8	129.4	143.5
Transactions price	(0.7)	(1.4)	(1.0)	(1.3)
Book value of transferred receivables (factoring without balance sheet disposal)	38.3	87.9	74.1	44.2
Transactions price	(0.4)	(1.1)	(1.0)	(0.5)
Book value of liabilities from factoring without balance sheet disposal	38.3	87.9	74.1	44.2

For additional information on our other financial and non-financial liabilities, see note F.14.1 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.8.7.5. Leases

The Group is a lessee in finance lease agreements as well as in operating lease agreements.

For additional information on our finance and operating liabilities, see note H.10 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.8.7.5.1. Finance Leases

The total of future minimum lease payments primarily results from obligations from finance leases for land and commercial/production buildings of certain Group companies. As of December 31, 2017, the minimum lease payments amount to EUR 45.3 million. No atypical termination or extension options exist.

The following table shows payments due under finance leases as of June 30, 2018 and December 31, 2017, including a breakdown of these financial liabilities according to maturity as of December 31, 2017.

	As of June 30, 2018	As of December 31, 2017			
(in EUR million)	**Total**	**Total**	**Maturity of 0-1 year**	**Maturity of 1-5 year**	**Maturity of >5 year**
	(unaudited)	**(audited)**			
Minimum lease payment as at the reporting date	41.8	45.3	6.6	19.1	19.6
./. included interest	7.8	9.3	1.2	4.2	3.9
Present value of the minimum lease payment	34.1	36.0	5.3	14.9	15.7
Future minimum lease payments, whose receipt is expected based on non-terminable subleases	–	–	–	–	–

9.8.7.5.2. Operating Leasing Relationships

The Group leases a range of production buildings and plants within the scope of long-term operating leases and forklift trucks and company cars, which generally have a term of 3 to 5 years. No atypical termination or extension options exist.

The following table shows payments due under operating leasing relationships as of June 30, 2018 and December 31, 2017, including a breakdown of these financial liabilities according to maturity as of December 31, 2017.

	As of June 30, 2018	As of December 31, 2017			
(in EUR million)	**Total**	**Total**	**Maturity of 0-1 year**	**Maturity of 1-5 year**	**Maturity of >5 year**
	(unaudited)	**(audited)**			
Outstanding minimum lease payments	287.5	182.4	36.9	81.2	64.3
Outstanding minimum lease payments (non-terminable)	0.5	0.7	0.4	0.4	–
Outstanding minimum lease payments from subletting (non-terminable)	–	–	–	–	–

9.8.7.6. Provisions for Defined Benefit Plans and Similar Obligations

We have pursued a policy of designing our pension systems primarily on the basis of defined contribution plans for some time now. However, in various countries, we make pension commitments to our employees, which are based on defined benefit plans and whose promised benefits depend either on the employee's pensionable remuneration or contain other guarantees. Pension commitments are measured based on actuarial principles using the projected unit credit method. The pension plan accruals reported in the balance sheet correspond to the present value of the defined benefit obligation in consideration of future salary and pension increases as at the reporting date, less the fair value of the plan assets. An excess of plan assets beyond the present value of the defined benefit obligation is limited to the present value of the benefit attributable to the company, from the reimbursement of contributions or the reduction of future contribution payments.

The defined benefit plans in Germany and United Kingdom represent the vast majority of the total gross obligation. Pension obligations from defined benefit pension schemes also exist in France, India, Italy, Japan, Mexico, Austria, Sweden, Switzerland, South Korea, Turkey and the USA. In Germany, United Kingdom, Japan, Korea, Austria (in some cases), and the USA, the benefits are granted on a voluntary basis, while, in the other countries, the benefits are based on statutory regulations.

In Germany employees benefits are granted from pension schemes for which the benefits in old age, in the event of disability or death are calculated depending on the period of employment, the salary at the time of commencement of the annuity, and the relevant assessment ceiling in the statutory pension insurance scheme (BBG), as well as a defined benchmark figure.

The defined benefit plans in United Kingdom provide the current employees - newcomers are excluded - for benefits upon retirement and death in the form of an annuity, whereby a part of the benefit can also be paid as a one-off capital payment at the request of the plan participant. The benefits depend on the salary and period of employment up to the closure of the plan in 2012.

The following table shows our provisions for the defined benefits plans and similar obligations as of June 30, 2018 and December 31, 2017, 2016 and 2015.

(in EUR million)	As of June 30, 2018	As of December 31, 2017	2016	2015
	(unaudited)		(audited)	
Assets from employee benefits	**26.7**	**21.6**	**13.8**	**7.6**
Provisions for pensions	(310.5)	(310.2)	(316.7)	(284.8)
Other personnel related provisions	(49.4)	(43.6)	(42.1)	(43.8)
Provisions for employee benefits	**(359.9)**	**(353.9)**	**(358.7)**	**(328.5)**
Non-current	(23.9)	(338.7)	(345.2)	(313.6)
Current	(335.9)	(15.2)	(13.5)	(15.0)

The following table shows the change in net debt from January 1 to December 31 for 2017, 2016 and 2015 divided into defined benefit obligation, fair value of plan asset and net debt (net assets) from defined benefit plans.

(in EUR million, audited)	defined benefit obligation 2017	2016	2015	fair value of plan assets 2017	2016	2015	net debt (net assets) from defined benefit plans 2017	2016	2015
As of January 01,	**(548.3)**	**(495.1)**	**(470.4)**	**245.5**	**218.0**	**175.5**	**(302.9)**	**(277.1)**	**(294.9)**
Current service costs	(10.0)	(7.3)	(7.5)				(10.0)	(7.3)	(7.5)
Past service costs	(0.3)	0.0	1.9				(0.3)	0.0	1.9
Interest income				6.0	7.5	7.3	6.0	7.5	7.3
Interest expense	(11.2)	(12.8)	(15.1)				(11.2)	(12.8)	(15.1)
Net cash flow	7.3	5.0	9.6	1.4	8.6	9.3	8.8	13.6	18.9
Remeasurements	**10.8**	**(75.2)**	**16.9**	**4.9**	**37.8**	**(6.2)**	**15.6**	**(37.4)**	**10.7**
a) Return from plan assets				*4.9*	*37.8*	*(6.2)*	*4.9*	*37.8*	*(6.2)*
b) Actuarial gains / losses (change in demographic assumptions)	*1.2*	*0.8*	*0.5*				*1.2*	*0.8*	*0.5*
c) Actuarial gains / losses (change in financial assumptions)	*13.1*	*(75.5)*	*22.2*				*13.1*	*(75.5)*	*22.2*
d) Effect of experience adjustments	*(3.5)*	*(0.5)*	*(5.7)*				*(3.5)*	*(0.5)*	*(5.7)*
Effect of changes in foreign exchange rates	11.8	27.6	(15.7)	(10.5)	(28.6)	12.9	(1.3)	(1.0)	(2.9)
Employer contributions	12.3	13.0	12.4	0.0	0.0	0.0	12.3	13.0	12.4
Participant contributions	(0.8)	(0.7)	(0.6)	0.8	0.7	0.6	_	_	_
Increase / decrease due to effect of business combinations / divestitures	(16.6)	(2.9)	(26.5)	8.4	1.5	18.6	(8.2)	(1.4)	(7.9)
As of December 31,	**(545.1)**	**(548.3)**	**(495.1)**	**256.5**	**245.5**	**218.0**	**(288.6)**	**(302.9)**	**(277.1)**

The following table shows a sensitivity analyses for the post-employment benefits plans and similar obligations as of December 31, 2017, 2016 and 2015.

	As of December 31,					
	2017		2016		2015	
	audited					
(in EUR million, unless otherwise indicated)	Increase	Decrease	Increase	Decrease	Increase	Decrease
Present value of defined benefit obligation						
Change in discount rate 0.5%	(42.9)	45.0	(40.6)	50.9	(34.7)	41.4
Change in salary increase 0.5%	4.6	(7.7)	7.5	(3.0)	5.5	(3.2)
Change in future pension increases 0.5%	26.0	(24.5)	30.3	(21.1)	24.5	(18.3)
Average duration of defined benefit obligations (in years)						
Change in discount rate 0.5%	15.75	16.55	16.19	17.0	14.84	15.55

For additional information on our provisions for post-employment benefit plans and similar obligations, see note F.10 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.9. Quantitative and Qualitative Disclosure of Market Risks

9.9.1. Overview

In the course of our operating activities we are exposed to financial risks. These primarily relate to currency risk, interest rate risk, commodity price risks, creditworthiness risks and liquidity risks. The goal of financial risk management is to reduce financial risks. The aim of corporate policy is to limit these risks through systematic financial management. For additional information on these financial risks and their management, see note H.1 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.9.2. Currency Risks

Currency risks arise from future transactions involving both the purchase of intermediate products and the sale of end products. Receivables and liabilities recognized in the balance sheet as well as highly probable expected cash flows in foreign currencies are examined. Risk positions also arise in a minor role from financing in foreign currencies.

The objective of the Group's hedging transactions is to reduce the risks from exchange rate fluctuations. For this purpose, currency exposure is centralized and the aggregated position is hedged with external banks using forward exchange transactions and options. The terms are based on the terms of the underlying transactions, whereby the planning and hedging horizon generally extends over three years. Currency futures and option transactions are exclusively entered into to hedge existing and future foreign currency receivables and payables from the purchase and sale of goods, as well as to eliminate the currency risk for financing transactions.

In addition to exposures in USD, HUF and CZK, we have exposures in other currencies which, however, do not have a material effect on our results of operations. The following table shows the effects on our net income in the event of an increase or decrease of the exchange rates (USD, HUF, CZK) against the EUR by 10% as of December 31, 2017, 2016 and 2015.

	(in EUR million, audited)					
	December 31, 2017		December 31, 2016		December 31, 2015	
Currency pair	+ 10%	- 10%	+ 10%	- 10%	+ 10%	- 10%
USD/EUR	(4.3)	7.1	(0.1)	0.2	(2.6)	4.2
HUF/EUR	4.1	(5.0)	4.5	(5.5)	4.4	(5.4)
CZK/EUR	4.1	(5.0)	5.9	(7.2)	1.9	(2.3)

For additional information on our currency risks, see note H.1.1 to our Audited Consolidated Financial Statements in "*23. Financial Information*".

9.9.3. Interest rate risks

Interest rate risks arise as a result of market-related fluctuations in interest rates. They affect the level of the Group's interest expenses. In the Knorr-Bremse Group, these arise from variable interest financial debt which amounted to EUR 57.8 million as of December 31, 2017 (December 31, 2016: EUR 49.9 million; December 31, 2015: EUR 66.6 million), whereas fixed interest financial debt amounted to EUR 674.6 million as of December 31, 2017 (December 31, 2016: EUR 678.8 million; December 31, 2015: EUR 183.4 million).

To hedge the variable components of obligations under a leasing agreement, the Group has two interest rate derivatives with a nominal volume of EUR 35.5 million in its portfolio for which hedge accounting is not applied.

The following table shows the sensitivity of earnings to a change in interest rates (by a rise of 100 basis points and a fall of 25 basis points) based on the impact on variable-rate loans and balances as well as on the present value of interest rate derivatives.

	(in EUR million, audited)					
	December 31, 2017		December 31, 2016		December 31, 2015	
	+ 100 bp	- 25 bp	+ 100 bp	- 25 bp	+ 100 bp	- 25 bp
Variable-interest financial debt	(0.6)	0.1	(0.5)	0.1	(0.7)	0.2
Interest rate derivatives	1.9	(0.5)	2.2	(0.6)	2.5	(0.6)
Total	**1.3**	**(0.3)**	**1.7**	**(0.4)**	**1.9**	**(0.5)**

For additional information on our interest rate risks, see note H.1.2 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.9.4. Commodity Price Risks

Commodity price risks arise from the fact that raw materials (especially metals) required in the production process can only be procured at higher costs due to fluctuating market prices, without a full price adjustment in sales transactions. The planned purchases of raw materials or components with raw material contents as well as the corresponding sales contracts are taken into account for the analysis of the commodity price risk.

The volume of the underlying transactions is calculated from the highly probable need for commodities over a rolling 2-year planning period, especially for aluminum. Commodity exposures for the procurement of aluminum amounted to 5,167 megatons in the fiscal year 2017 (2016: 3,566 megatons; 2015: 6,874 megatons).

In the fiscal year 2017, the Group did not use derivative financial instruments to hedge its raw materials requirements, whereas derivative financial instruments were used in the fiscal year 2016 and 2015 with a volume of 1,195 megatons and 1,380 megatons, respectively. Exposure for the remaining open position can essentially be passed on the sales side.

The following table shows the sensitivity of earnings to commodity prices (10% increase/decrease in market price):

	(in EUR million, audited)					
	December 31, 2017		December 31, 2016		December 31, 2015	
	+ 10%	- 10%	+ 10%	- 10%	+ 10%	- 10%
Aluminum	(1.2)	1.2	(0.6)	0.6	(1.1)	1.1
Derivative financial instruments	0.0	0.0	0.2	(0.2)	0.2	(0.2)
Total	**(1.2)**	**1.2**	**(0.4)**	**0.3**	**(0.9)**	**0.9**

For additional information on our commodity price risks, see note H.1.3 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.9.5. Credit Risks

Credit risks arise from the total or partial loss of a counterparty, for example, through counterparty default or in connection with financial investments and derivative financial instruments with positive market values. The book value of the financial assets reported in the consolidated financial statements represents the maximum default risk.

In principle, commercial transactions are exposed to the risk of a possible loss of value due to the defaulting of business partners, such as banks, suppliers and customers. Regular monitoring is carried out both on the customer and on the core banks. The Group's aggregate investments amounted to EUR 1,600.0 million, EUR 1,720.8 million and EUR 1,360.5 million as of December 31, 2017, 2016 and 2015, respectively, and are in the business accounts of a small number of select banks, most of which belong to the Group's core or principal commercial banks. As at the reporting date, there were no material agreements that limit the maximum default risk. No significant collateral was received in the periods under review.

For additional information on our creditworthiness risks, see note H.1.4 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.9.6. Liquidity Risk

Liquidity risks exist in that funds required to satisfy payment obligations cannot be procured on time.

Within our Group, liquidity risks arise from payment obligations arising from operating transactions or financing obligations. The management of liquidity within our Group is intended to ensure that sufficient cash and cash equivalents are always available to meet payment obligations at maturity under both normal and tense conditions without incurring unacceptable losses or damaging the reputation of the Group. Liquidity requirements from business activities over the next three months are determined on a rolling weekly basis and differentiated by currency in short-term liquidity planning. This planning takes into account the more precise expected cash flows.

The Group has sufficient cash and cash equivalents available to meet its payment obligations. In addition there are not yet drawn down credit, current and guarantee facilities of which EUR 150 million midterm facilities are spread over the Group's core banks. On September 21, 2017, the Luxembourg Stock Exchange approved the increase of an existing debt issuance program to a total of EUR 1,500 million with a program term until September 30, 2018. On this basis, we issued a EUR 500 million fixed-interest euro-denominated bond in December 2016 which matures in 2021. Additionally, in June 2018 we issued another EUR 750 million fixed-interest euro-denominated bond which matures in 2025.

The remaining free volume from the debt issuance program, further loans and, if required, the use of the capital market represent additional financing instruments that ensure a long-term supply of liquidity at all times. There are certain concentrations of risk for the final repayment of the European Investment Bank ("**EIB**") promotional loan (EUR 100 million) in 2020 and the final repayment of a bond (EUR 500 million) in 2021.

For additional information on our liquidity risks, see note H.1.5 to our Audited Consolidated Financial Statements in "*23. — Financial Information*".

9.10. Critical Accounting Policies Concerning Judgments, Estimates and Assumptions

The preparation of our Consolidated Financial Statements required the application of accounting methods and policies that are based on judgments, estimates based on past experience and assumptions determined to be reasonable and realistic based on the related circumstances. The application of these estimates and assumptions affected the reported amounts of assets and liabilities and the disclosure of contingent liabilities at the reporting date and the reported amounts of revenues and expenses during the periods under review.

Accounting policies with significant impact on our financial performance and financial position are, in particular, accounting for business combinations, principles of revenues recognition, principles of capitalization of self-constructed intangible assets, determining impairments of intangible and tangible fixed assets, the measurement of defined benefit obligations and the recognition and measurement of other provisions.

Although great care has been taken in making judgments, estimates and assumptions, actual values may deviate from them in individual cases. Further information on the judgments, assumptions and estimates upon which the Audited Consolidated Financial Statements are based, as well as on the Group's accounting standards can be found in A.5 as well as in the explanations of the individual items in the notes to the Audited Consolidated Financial Statements and in the notes to the Unaudited Condensed Consolidated Financial Statements included in "*23. — Financial Information*".

9.11. Additional Information Relating to the Audited Unconsolidated Financial Statements of the Company for the Fiscal Year 2017

As parent company of our Group, the Company performs business operations on its own as well as through its subsidiaries. In the fiscal year 2017, the distributable profit (*Bilanzgewinn*) as shown in the Company's Audited Unconsolidated Financial Statements 2017 amounted to EUR 944.3 million. As of December 31, 2017, the total assets and liabilities as shown in the Company's Audited Unconsolidated Financial Statements 2017 amounted to EUR 2,211.0 million. For additional information on the Audited Unconsolidated Financial Statements 2017, see "*23. — Financial Information*".

10. MARKETS AND COMPETITIVE ENVIRONMENT

Certain statements on markets and competition provided below are directly taken from studies and data published by third parties or commissioned by us, in particular the RB RV Report, commissioned by us and prepared by Roland Berger, and a further study prepared and published by Roland Berger, the RB T&T Report. Other statements are based on our internal market observations and estimates, as further explained below, many of which have not been verified externally. We refer to our own market assessments based on the scope and methodologies described below as our "internal market research". For more information, see "*2.4. — General Information — Information from Third Parties*".

10.1. Introduction: Market Definitions, Background and Methodology

We are a leading provider of brake and other systems, components and technologies as well as related services for (i) rail vehicles (including mass transit vehicles such as metro cars and light rail vehicles, as well as freight cars, locomotives, mainline passenger trains and high-speed trains); and (ii) commercial vehicles (such as trucks, buses, trailers and agricultural machinery). As such, our relevant and addressable markets are part of larger, underlying markets for both types of vehicles.

In the following sections we describe the methodologies, definitions and sources used for both the underlying markets and our more specific addressable markets to assess market potentials and our market positions.

10.1.1. The Rail Vehicle Market as the Underlying Market for Rail Vehicle Systems

10.1.1.1. The Two Main Approaches to a Definition of the Rail Vehicle Market

The rail vehicle market ("**Rail Vehicle Market**") is the underlying market of our Rail Vehicle Systems business. There are two main assessments of this market: (i) that of the World Rail Market Study conducted by the European Rail Industry (UNIFE) and Roland Berger; and (ii) that of Knorr-Bremse. While there are differences between both views, certain general trends and approximate forecasts in terms of overall growth rates are generally comparable across these studies and market assessments.

As noted, the first method is used by UNIFE (in the World Rail Market Study reports carried out by Roland Berger, hereinafter referred to as the UNIFE Reports) and the RB RV Report (which is based on the UNIFE Reports and UNIFE data, in part modeled by Roland Berger). This allocates the full sales volume of a project based on the point in time when the respective project was awarded (so-called "order intake" approach), regardless of when the systems or vehicles will be produced or delivered. The data on market volumes and market developments is aggregated for fixed three-year intervals (*e.g.*, 2015 to 2017, 2018 to 2020, or 2021 to 2023), and then divided by three to produce a yearly average. Thus the yearly average does not correspond to specific years (meaning that, for example, any order awarded in either 2015, 2016 or 2017 will be allocated, in thirds, to the fixed 2015-2017 interval).

On the other hand, Knorr-Bremse assesses the Rail Vehicle Market based on a different methodology. This considers when the respective orders for a given project (for the rail vehicles as well as its systems and sub-systems) are delivered into the market. This approach (based on "order output") is also followed in the studies published by SCI Verkehr GmbH, Hamburg, Germany ("**SCI**") (*e.g.*, in the SCI 2016 Report), which are highly regarded and widely used in the industry, including by Knorr-Bremse. Knorr-Bremse's market assessment is based on actual (or estimated) deliveries for specific years, and therefore the computed growth figures may be impacted by potential peaks and low-points in particular years. This is in contrast to the approach of calculating a yearly average across a three-year period, described above, and to the method employed by the SCI, which splits the market volume for the Rail Vehicle Market over three-year horizon periods (given that delivery periods of rail vehicles are spread over several years). Furthermore, due to a time lag between the delivery of the sub-systems for a certain vehicle and the delivery of the (finished) vehicle, Knorr-Bremse's assessment of the development of the Rail Vehicle Market and that of its Addressable Rail Vehicle Systems Market (as defined in "*10.1.2.1. — Market Definition and Calculation of Market Size*" below) do not show an exact correlation even under the same delivery-based approach.

As a result of the differences between UNIFE's/Roland Berger's and Knorr-Bremse's approach of assessing the Rail Vehicle Market, Knorr-Bremse has a different assessment of market sizes and growth rates than those included in the RB RV Report and the UNIFE Reports, which may be illustrated by the following example: A large order for a rail vehicle is awarded in full in May 2017 and is to be delivered (including the relevant systems and sub-systems) over a period of ten years, for example, until May 2027. Under the UNIFE (and Roland Berger) approach, the complete order volume is allocated (in thirds) to the fixed three-year interval 2015-2017, *i.e.*, the year in which the order was awarded and the other two years that are part of the fixed interval. Under the Knorr-Bremse approach, the order volume is allocated over the full delivery period 2017-2027 according to the

specific delivery plans for the vehicle‘s systems and sub-systems. As a result, the market volumes on the basis of which the growth rates are calculated are allocated to different periods. Thus, there are limitations with respect to a direct comparability of market volumes, for a given year, of the Rail Vehicle Market, as defined in the UNIFE Reports and in the RB RV Report, on the one hand, and the Rail Vehicle Market, as viewed by the Company (or the Addressable Rail Vehicle Market as defined by the Company or Knorr-Bremse’s sales data), on the other hand. The same applies to a direct comparison of market developments within such markets and segments over a given period.

There are also other differences between both market views. The UNIFE Reports assess the size of the Rail Vehicle Market and its segments for the main 60 countries covered in the UNIFE Reports. While the UNIFE Reports, for certain countries, consider only a certain percentage of the market as being “accessible” for the UNIFE members, even for sizeable markets such as China, they also provide separate figures for “total” market volumes (*i.e.*, regardless of accessibility). For purposes of the RB RV Report, Roland Berger considered the “total” volume figures included in the UNIFE Reports for its quantification of the Rail Vehicle Market.

The following table summarizes the key differences between the methodologies of Knorr-Bremse and UNIFE with respect to the global Rail Vehicle Market:

	UNIFE/Roland Berger Approach	Knorr-Bremse Approach
Scope	• Awarded orders (order intake) • As average of three-year period	• Deliveries (order output) • For particular delivery year
Market	• Total rail supply market, including infrastructure (rolling stock and services being two further separate segments of the rail supply market) • Separation in total and “accessible” market (China, Japan, etc. are only partially included)	• Total rolling stock sub-systems supply market, including aftermarket • No differentiation in accessible and inaccessible markets (since Knorr-Bremse is active in all markets)
CAGR period / key trend	• UNIFE: CAGR for average awarded order volume 2013-2015 (latest historical data) and average awarded order volume 2019-2021 (forecast data) • RB RV Report includes forecast data for 2018-2020 and 2021-2023	• CAGR for deliveries calculated on the basis of specific-year deliveries
Market volumes / prices	• Market volumes and growth rates based on 2015 prices (UNIFE; for 2016 study) and on 2017 prices (RB RV Report), respectively	• Market volumes and prices based on specific prices (partly, price estimates for competitors) including assumed price increases and decreases
Exchange rate effects	• UNIFE: Methodology not fully disclosed • RB RV Report: Constant currency data (2017) for forecast figures; for historic figures, exchange rates for 2011 and 2017 were used for the respective three-year time intervals (*e.g.*, 2009-2011 and 2015-2017)	• Exchange rate according to Knorr-Bremse actual rates and financial budget planning rates

10.1.1.2. Definition of the Rail Vehicle Market according to the RB RV Report

The RB RV Report defines the global Rail Vehicle Market to include both the original equipment (“**OE**”) rolling stock market segment (“**OE Rolling Stock Market Segment**”) and the aftermarket segment (“**Rail Aftermarket/Services Segment**”). The OE Rolling Stock Market Segment is defined to include the following new rolling stock vehicles: very high-speed trains and high-speed trains, locomotives, multiple units, coaches,

shunters, freight cars, light rail and metro vehicles (including automated systems). The Rail Aftermarket/Services Segment is defined to include services and aftermarket sales for the above mentioned vehicle categories of the OE Rolling Stock Market Segment, including both heavy and light maintenance (labor and spare parts) as well as refurbishment (*i.e.*, large overhauls which, for passenger vehicles, include a retrofit of the interior) and modernization of vehicles. As many railway operators conduct maintenance themselves, this portion of the market (in particular, the labor portion of maintenance performed by railway operators in-house) is not regarded by Roland Berger as accessible to external maintenance suppliers. However, this reasoning does not apply to spare parts, where operators source externally — hence a large portion of spare parts is considered by Roland Berger as part of the accessible Rail Aftermarket/Services Segment.

In the RB RV Report, volumes are reported as a yearly average of a fixed three-year time period. For example, the average value of the years 2015-2017 (presented as the most recent historical data) is referred to in the RB RV Report and in the Prospectus as the "2016" value, while the average for the forecast period 2021-2023 is shown as "2022". The benchmark year for past development is calculated as an average of the years 2009-2011 based on the UNIFE Reports and shown as "2010". In the RB RV Report, historical figures are shown for the 2010-2016 period, and forecast figures for the 2016-2022 period, comprising the sub-periods 2016-2019 and 2019-2022 (whereby the values shown for 2019 correspond to the three-year interval 2018-2020 and those shown for 2022 correspond to the three-year interval 2021-2023).

The forecast of the OE business relating to the Rail Vehicle Market (which corresponds to the OE Rolling Stock Market Segment) was based on a bottom-up calculation of the values of rolling stock projects, which was then compared with the explanations from various interviews with market experts and adapted if required. The volume of the Rail Aftermarket/Services Segment was calculated taking into account the rolling stock in operation (based on a compilation of vehicles in operation) and service costs (per vehicle type, estimated based on interviews for several reference countries and modeled for other countries). Historic market data shown in the RB RV Report correspond to actual market figures; forecast figures in the RB RV Report are based on 2017 prices and shown in EUR, using 2017 exchange rates.

10.1.2. Knorr-Bremse's Addressable Rail Vehicle Systems Market

10.1.2.1. Market Definition and Calculation of Market Size

We define our addressable market based on the main products we offer in our Rail Vehicle Systems segment.

Our addressable rail vehicle systems market ("**Addressable Rail Vehicle Systems Market**") includes sales relating to our key market segments for:

(i) the types of brakes/brake systems we offer (in particular pneumatic brakes, but also hydraulic brakes, which account for a much smaller portion of the market),

(ii) entrance systems;

(iii) heating, ventilation, air conditioning (HVAC), and

(iv) other rail product segments (category "other"), such as traction motors, converters (traction and auxiliary), power electrics and train control management systems ("**TCMS**").

Within our Addressable Rail Vehicle Systems Market, our focus is on brakes, entrance systems and HVAC, the three major sub-systems of our OE sales (which are all safety-critical systems within a rail vehicle). The three major sub-system categories relating to brakes/brake systems, entrance systems and HVAC made up 66%, 9% and 6%, respectively, of our Rail Vehicle Systems sales in the fiscal year 2017.

For the calculation of volumes in our Addressable Rail Vehicle Systems Market we include both OE sales as well as aftermarket and service sales. For the assessment of the market size and its development (as well as the calculation of market shares), we excluded the labor portion of the aftermarket (*i.e.*, the portion relating to the actual performance of services), given the limited availability of data required to make such an assessment across all product categories (such as hourly rates and labor force required). We do, however, perform aftermarket-related services, the extent of which varies from country to country.

In order to assess volumes in our Addressable Rail Vehicle Systems Market, we use a bottom-up approach that considers the global pipeline for all projects relating to the abovementioned product categories (whether a project is awarded to Knorr-Bremse or not, *i.e.*, the market potential of our Addressable Rail Vehicle Systems Market). We compile project-based information using data from our global network, industry newsletters, information from customers and releases and other information from market monitoring companies, among others, in a comprehensive database. Sales relating to a project are allocated in our database to a given year depending on the time when the sub-system or component was delivered (not when the project was awarded). For the "other"

category, the data we collect is not available to the same level of detail as for the brakes, entrance systems and HVAC categories. A portion of the "other" category relates to volumes which potential OE customers currently produce and supply internally, through their own in-house activities (so-called "**Captive Business**"), but which represent market potential for the Group.

Given the lack of third-party sources covering our Addressable Rail Vehicle Market, we use our own (regularly updated) database as a source of information covering our Addressable Rail Vehicle System Market; we use this tool extensively for our own planning. Similarly, we calculate the forecast growth rates using our projections for future projects from our database (which we update when the underlying assumptions regarding a particular project change); these use certain assumptions as to the future development of the number of rail vehicles in the different regions and the installed base (relevant for the aftermarket) as well as other assumptions and market observations. The market size of our Addressable Rail Vehicle Systems Market is calculated in EUR amounts by multiplying the number of cars relating to each project by the price (*i.e.*, the actual Knorr-Bremse price and a project-specific estimate of competitor prices) of each relevant sub-system (brakes, entrance systems etc.). For entrance doors and HVAC, only passenger rail vehicles are relevant, since freight rail vehicles are not equipped with such sub-systems.

10.1.2.2. Calculation of Market Shares

As noted, the assessment of our market shares is based on deliveries of the relevant sub-systems (or, for the aftermarket, spare parts and components) and not on the award of a contract for a given order (hence it is based on invoices and delivery schedule). Market shares are also based on the value of the respective sub-systems in EUR amounts, and not on quantities (such as units delivered). We calculate actual market shares for the OE business based on the worldwide OEM project pipeline in our database (taking into account both received orders and lost tenders). Thus, the development of market shares is influenced by the number of vehicles for which we and our competitors deliver components, but also by the proportion of components delivered (*e.g.*, a complete system or only a sub-system or a portion thereof).

10.1.3. Truck Production Rate as Underlying Parameter for Commercial Vehicle Systems

For our Commercial Vehicle Systems business, the data on truck and bus production output (*i.e.*, truck and bus production rate or TPR) is relevant to assess the underlying commercial vehicle market. TPR data included in the Prospectus is taken from the RB T&T Report, unless otherwise stated. For the 2010-2015 period, TPR data is based on the IHS database for TPR, which includes the TPR for: (i) heavy-weight trucks (over 15 tons) and medium-weight trucks (between 6 and 15 tons), collectively also referred to as "Class 6 and above" (air brakes such as ours are used mostly in this class); and (ii) buses over 8 tons (which are also mostly air-braked). For the 2016-2022 period, comprising the sub-periods 2016-2018 and 2018-2022, the RB T&T Report is based on Knorr-Bremse's compilation of (actual or forecast, as the case may be) TPR data for the years 2016 to 2022, which Roland Berger verified for purposes of the RB T&T Report. TPR data is provided in terms of number of produced vehicles (units, in millions), globally or per region, as the case may be.

Our compilation of TPR data includes only trucks and buses that use air brakes (also referred to as "pneumatic brakes") (reflecting the type of brake system we mainly offer) and is compiled by us for each country — with respect to historic, actual and forecast volumes (in terms of the number of produced vehicle units values in such country). This is based on (i) external data sources such as IHS, official statistical data in the countries where such data is available, data from LMC Automotive, a part of the group led by LMC International Ltd., Oxford, U.K. ("**LMC**"), or publicly available information on the vehicle manufacturers; and (ii) internal data sources such as information from customers or economic experts with whom we cooperate as well as our own market observations and assumptions. Our compilation of TPR includes (i) heavy- and medium-weight trucks and (ii) all types of buses (although most of these buses are over 8 tons).

10.1.4. Knorr-Bremse's Addressable Commercial Vehicle Systems Market

10.1.4.1. Market Definition and Calculation of Market Size

The global truck and bus market (including trailers) is a large market which includes categories (in terms of product systems and sub-systems) that are not addressed by Knorr-Bremse. It also includes product segments in which a substitution with Knorr-Bremse products would be possible, but which we exclude from our market assessment due to limited data accessibility for such other categories. We define our addressable market for Commercial Vehicle Systems ("**Addressable Commercial Vehicle Systems Market**") to include market potential of OE sales (for trucks, buses and trailers) in the following categories:

(i) brake systems and vehicle dynamics, including driver assistance and automated driving. This category comprises air brake systems (including air disc brakes, valves/pedal units, actuators, foundation drum

brakes, electronic brake systems (“**EBS**”), anti-lock brake systems (“**ABS**”) and electronic stability programs (“**ESP**”)), steering, electronic leveling control (“**ELC**”), advanced driver assistance systems (ADAS) and similar functions;

(ii) energy supply and distribution. This category includes air treatment and compressors; and

(iii) fuel efficiency. This category comprises engine components and transmission sub-systems, including vibration dampers, engine air control, transmission-gear actuation and transmission-clutch actuation.

In the fiscal year 2017, brake systems and vehicle dynamics, including driver assistance and automated driving, accounted for approximately 71% of the OE sales of our Commercial Vehicle Systems segment, while the product segments for energy supply and distribution and for fuel efficiency accounted for approximately 15% and 14% of our Commercial Vehicle Systems OE sales, respectively.

While the market potential within our Addressable Commercial Vehicle Systems Market also includes aftermarket and services sales (because we address both types of business), we assessed the market size only relating to OE sales of the Addressable Commercial Vehicle Systems market for the three categories shown above, given the difficulty in providing an accurate assessment of the aftermarket and services portion thereof. For the assessment of OE sales (for new vehicles), parameters such as orders received by the truck, bus or trailer manufacturer, the level of truck and bus production (including trailers) and sales, and figures regarding initial vehicle registration are relevant. The figures for our Addressable Commercial Vehicle Market also include the market potential relating to the so-called Captive Business relating to brake discs and drum brakes (the degree to which the business relating to such products is captive or not varies from region to region).

Given that we only began systematically compiling trailer-related data in 2016, we are only providing data for our Addressable Commercial Vehicle Systems Market (which we define to include trailer OE sales) as of 2017 (as the latest available historical data).

The size of our Addressable Commercial Vehicle Systems Market is calculated separately for each of the relevant product sub-systems and then aggregated. The starting point for the calculation of OE sales for a given year is the TPR data from our own compilation (as explained above under “*10.1.3. — Truck Production Rate as Underlying Parameter for Commercial Vehicle Systems*”*;* our own TPR compilation used as basis for the calculation of our Addressable Commercial Vehicle Systems Market also includes trailers, besides trucks and buses; however, trailers are not included in the TPR data shown in the Prospectus, which is based on the RB T&T Report). Our compilation of TPR data provides the amount of trucks, buses and trailers to be equipped with the respective general product category (*e.g.*, brakes). We then assess the “**Equipment Rate**”, *i.e.*, the amount of trucks and buses to be equipped with the specific relevant type of product (*e.g.*, air disc brakes), based on tender information, technical sales contacts to customers, etc. The Equipment Rate multiplied by the amount of products of the relevant type required per vehicle (which amount is based general technical information, *e.g.*, six air disc brakes per vehicle) results in the market potential relevant for our business, and thus when multiplied by the price of the relevant product in EUR (*i.e.*, the actual Knorr-Bremse price for the product and a price estimate for competitor volumes), provides the size of the OE portion of our Addressable Commercial Vehicle Systems Market in EUR.

10.1.4.2. Calculation of Market Shares

For the assessment of our market shares within our Addressable Commercial Vehicle Systems Market, we consider only the OE sales for new vehicles, because it is difficult to ascertain an accurate market share for the aftermarket, in particular services (similarly as with market size, as explained above). For purposes of calculating our market shares within our Addressable Commercial Vehicle Systems Market, we first consider the share of trucks and buses (or trailers, as the case may be) to be equipped by Knorr-Bremse multiplied by the quantity of relevant products (*e.g.*, air disc brakes) to be provided per vehicle, and then put the resulting figure in relation to the overall Addressable Commercial Vehicle Systems Market (*i.e.*, as a percentage of the overall market potential as described above).

It is important to note that the calculation of our market shares is based on our estimates for market potential. Such market potential is calculated on an annual basis (conducted in the second quarter every year for the then current year) within our strategic planning process and not on realized sales. The assumptions as well as the realized sales are monitored on a regular basis. Retroactively, in the past (including for 2017) as well as for 2018, we had no reason to believe that our estimates were not reliable or that assumptions should have to be changed.

10.1.5. Geographic Markets

For the underlying Rail Vehicle Market (and its two market segments, *i.e.*, the OE Rolling Stock Market Segment and the Rail Aftermarket/Services Segment), the RB RV Report contains the following regional split: (i) North

America and South America (as well as aggregated data for both regions under the term "**Americas**"); (ii) Europe, Middle East and Africa ("**EMEA**") and the ten former member states of the Soviet Union, belonging to the Commonwealth of Independent States ("**CIS**"); (iii) Asia Pacific without China ("**APAC without China**"); and (iv) China.

For TPR data and its analysis of selected commercial vehicle systems, Roland Berger used the following regional split in the RB T&T Report: (i) Europe (defined as Western and Eastern Europe, the CIS countries and Turkey); (ii) North America; (iii) South America; (iv) APAC without China (defined in this context as Japan, Korea and India); and (v) China.

For the regional split of our Addressable Rail Vehicle Systems Market and Addressable Commercial Vehicle Systems Market, we have used the regions relevant to our business, namely: (i) the Americas, including North, Central and South America; (ii) Europe, including Western and Eastern Europe, the CIS countries, Africa and the Middle East; and (iii) Asia/Australia. While for the assessment of the size of our Addressable Rail Vehicle Systems Markets, project and other data from virtually all countries within the abovementioned regions are included in our database under a bottom-up approach, for the assessment of the size of our Addressable Commercial Vehicle Systems Market, the geographic scope is based on the main countries in which trucks and buses are produced, *e.g.*, for the Asia/Australia region, China, Japan, India and South Korea.

For our Addressable Rail Vehicle Systems Market, the relevant parameter for the allocation of project-based sales to a given country is the final destination country, *i.e.*, the country in which the vehicle shall be operated (and not where the customer, *i.e.*, the car builder, is located or where the Knorr-Bremse sales office which is involved in the project is located). For our Addressable Commercial Vehicle Systems Market, the relevant parameter for the allocation of system sales to a given country is the country in which the vehicle is produced.

10.2. Megatrends Driving Growth in Our Key Markets and End-Markets

We believe that the following megatrends drive and will continue to drive growth in the end-markets that we serve, and thus also in the markets in which we operate:

- **Growing Population and Urbanization**: Global population is expected to grow significantly in the 21st century and is forecast to reach 11.2 billion by 2100 (source: United Nations, "World Population Prospects: The 2017 Revision"). Furthermore, the world urban population is forecast to increase from 55% of total world population in 2018 to 68% in 2050 (source: United Nations, "World Urbanization Prospects: The 2018 Revision (Key Facts)"). Both growing population and urbanization pose major challenges in general; nevertheless, they provide for opportunities in the Rail and Commercial Vehicles Systems business, as they call for increasingly fast, safe and reliable transportation modes. Key priorities in connection with growing urbanization in rail vehicles include the increase of transport capacities and infrastructure utilization (requiring, for example, consistent, repeatable brake distances), the increased requirements regarding availability and reliability of rail vehicle systems and the use of international platforms. We also expect that increasing emission and infrastructural requirements will demand alternative vehicle concepts in inner-city passenger and freight transportation. In the commercial vehicle environment, accident-free transport and increased road safety play an important role against the background of growing population and urbanization. Therefore, we expect an increased adoption of driver assistance systems including functions such as blind spot technology, turning assist and advanced emergency braking to support this trend.

- **Electrification and Other Energy- and Eco-friendly Solutions**: Worldwide energy demand is forecast to grow at approximately 30% until 2040 (source: International Energy Agency, World Energy Outlook 2017, executive summary; forecast under the main "New Policies Scenario"). Such growing energy demand is coupled with growing public awareness of energy efficiency and environmental impact and increasing public policies on energy, such as stricter emission laws, which lead to a more efficient use of energy and a limitation of the negative environmental impact. In our view, electrified vehicles hold a high potential for emission-efficient mobility solutions in megacities, including light rail vehicle operations, city buses and green delivery trucks. We expect that delivery vehicles and city buses will be electrified sooner than heavy-duty long-distance trucks. We believe that the growing need for environmentally-friendly and energy-efficient products in the rail and commercial vehicle industries will result in an increasing demand for electrified vehicles and solutions, with a further electrification of components for rail and commercial vehicles. Key priorities around eco-efficiency of rail vehicles are the reduction of weight and noise and lower energy consumption. There is also an increasing focus on life-cycle efficiency, with extended maintenance cycles and increased system reliability as well as condition monitoring and condition-based maintenance as key enablers. In several jurisdictions, new regulations to take effect over the coming years are expected to drive electrification of brake and other systems and components, *e.g.*, in China, India and the U.S. (regulations on zero/low emissions), Brazil (regulation Rota 2030, on safety enhancement and energy

efficiency) and the EU (with further carbon-dioxide limits and related zero/low emissions regulations). In addition, new regulations require eco-friendly rail vehicle systems and components, *e.g.*, the global Kigali agreement caps, and provide for a reduction in the use of refrigerants in a gradual process beginning in 2019. Eco-design, with an increasing operator focus on sustainability and comfort, plays an important role. In the commercial vehicles market, electrified buses already play an important role in reducing emissions, especially in the inner-city environment. We expect electrified trucks to follow, in order to support the expected legislative emission targets (*e.g.*, emission-free zones).

- **Digitization**: Digitization, *i.e.,* the process of converting information into a digital format which allows for the reduction of costs and an improvement of service quality (for example, with predictive models or the digitization of business models) has become ubiquitous. The connectivity of Rail and Commercial Vehicle Systems and sub-systems, with wireless connections to the back-office and cloud, facilitates real-time data analytics and predictive maintenance for improved life cycle costs. With increasing connectivity of such systems, cyber security becomes an important factor. Other results of digitization are automatic train operation, condition-based maintenance of rail vehicles and monitoring tools and telematics solutions for commercial vehicles to improve safety, reduce costs and provide sustainable management for fleets.
- **Automated Driving/Automated Train Operations**: While automated vehicles are already used in selected applications within controlled environments, the level of impact of automated driving on the commercial vehicle industry will depend on the speed of adjustment to regulatory challenges, the development of safe and reliable technical solutions, and the customer acceptance and willingness to pay for such solutions. We view automated systems with harmonized processes as a basis for greater safety and increased efficiency. On account of this growing trend, new solutions such as the development of driver assistance functions in commercial vehicles, *e.g.*, ADAS and HAD are emerging with the aim of reducing accidents, transport costs and emissions. Automated driving functions are based on long-standing electronic brake and driver assistance know-how, where Knorr-Bremse is one of the leading market players, in our own assessment. Compared with the implementation of automated driving functions for passenger cars, automated driving functions for heavy- and mid-weight commercial vehicles have more complex technical requirements. With respect to rail vehicles, we observe a trend towards automated train operations, with a focus on improving life-cycle costs and total cost of ownership, maintenance and overhaul, and reducing operating cost and vehicle obsolescence.

The above megatrends result in industry-specific trends and growth opportunities for both Rail and Commercial Vehicle Systems, including the relevance of high safety standards for efficient and reliable public mass transit (*e.g.*, our "Next Generation" brake for rail vehicles, which enables automatic, reliable braking within all operating conditions, or smart systems for accident avoidance which increase our content per vehicle for commercial vehicles), monitored and connected systems and smart, modular, innovative and robust systems that contribute to reduce life-cycle costs and environmental impact.

10.3. The Global Rail Vehicle Market and Our Addressable Rail Vehicle Systems Market

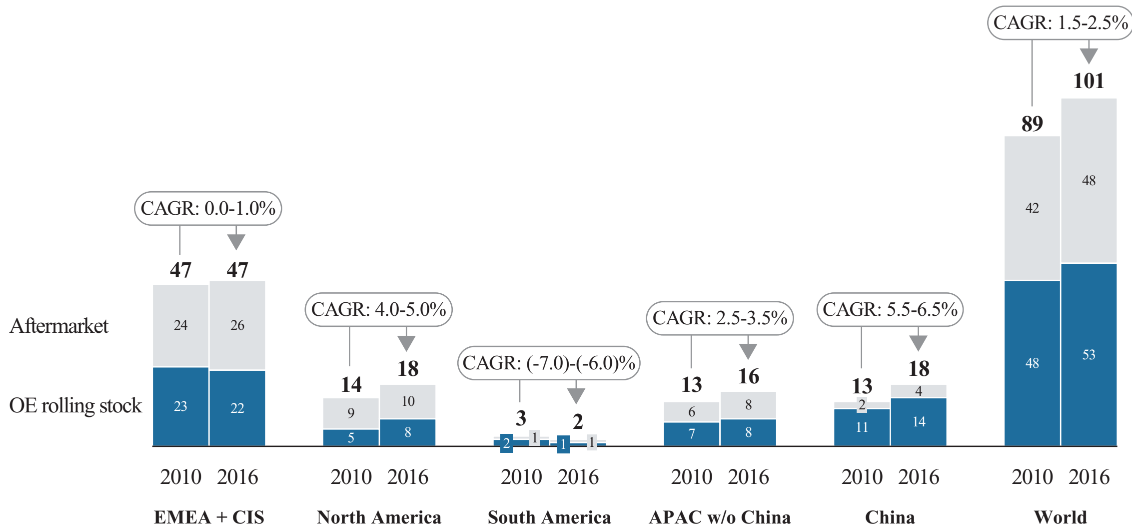
10.3.1. Market Development and Key Growth Drivers and Trends

10.3.1.1. The underlying Rail Vehicle Market

According to the RB RV Report, the global Rail Vehicle Market amounted to approximately EUR 101 billion in 2016, compared to approximately EUR 90 billion in 2010 (CAGR 2010-2016: approximately 2% on average; mean value of range for the three-year periods from 2009 to 2011 and from 2015 to 2017 as calculated by RB), and is expected to grow at a CAGR of approximately 2.5% (on average; mean value of range for the three-year periods from 2009 to 2011 and from 2015 to 2017 as calculated by RB) over the 2016-2022 period, to reach approximately EUR 118 billion in 2022. Growth in the OE Rolling Stock Market Segment is expected to be driven especially by the EMEA and CIS region and by North America, while growth in the Rail Aftermarket/Services Segment is expected to come mostly from North America and China, according to the RB RV Report.

The following chart provides an overview of the estimated size and past development of the Rail Vehicle Market, globally and by region, including a breakdown of the OE Rolling Stock Market Segment and the Rail Aftermarket/Services Segment for the 2010-2016 period according to the RB RV Report:

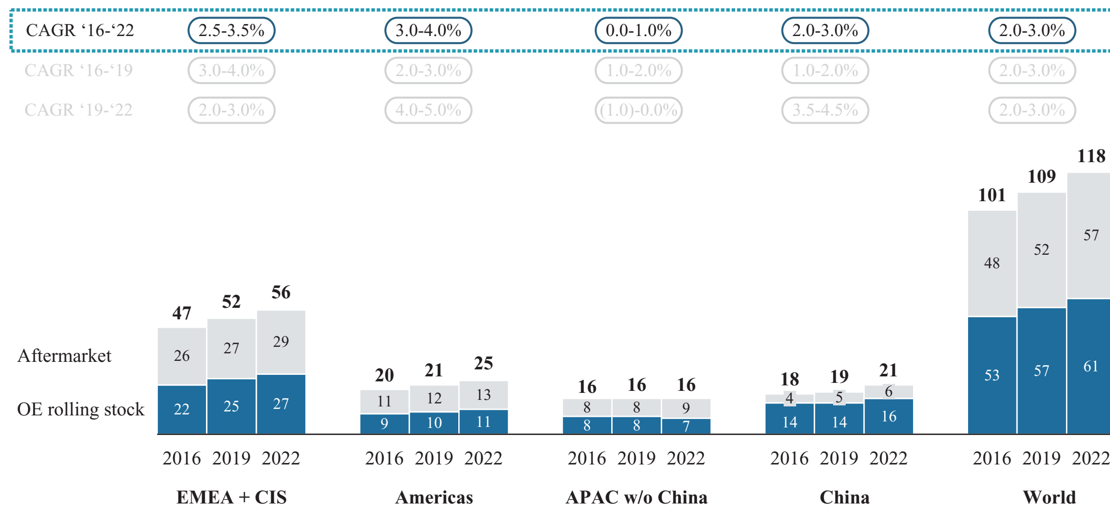
Rail Vehicle Market 2010-2016, globally and by region and including OE Rolling Stock Market Segment and Rail Aftermarket/Services Segment split (in EUR bn, except CAGRs)



Source: RB RV Report. Based on order intake estimates. "2010" refers to the yearly average of the three-year period 2009-2011; "2016" refers to the yearly average of the three-year period 2015-2017. CAGR 2010-2016 presented as ranges for the average period.

The following chart provides an overview of the expected future development of the Rail Vehicle Market, globally and by region, including a breakdown of the OE Rolling Stock Market Segment and the Rail Aftermarket/Services Segment for the 2016-2022 period according to the RB RV Report, with separate forecast development for the 2016-2019 and the 2019-2022 sub-periods:

Rail Vehicle Market 2016-2022F, globally and by region and including OE Rolling Stock Market Segment and Rail Aftermarket/Services Segment split (in EUR bn, except CAGRs)



Source: RB RV Report. Based on order intake estimates. "2016" refers to yearly averages of the three-year period 2015-2017; "2019F" refers to the forecast yearly average of the three-year period 2018-2020; and "2022F" to the forecast yearly average of the three-year period 2021-2023. CAGR 2016-2022, CAGR 2016-2019 and CAGR 2019-2022 presented as ranges for the average period.

Over the 2010-2016 period, the strongest growth in order intake was reported between 2012 and 2014, mainly driven by high levels of investment in China and North America, where a large number of new high-speed lines and urban rail systems were opened (source: RB RV Report). Since 2014, according to the RB RV Report, overall growth rates have slowed, in particular with regards to investments in new rolling stock. During the 2010-2016 period, China showed the highest growth, with a CAGR of approximately 5.5% to 6.5%. The largest region, EMEA, and the CIS countries, remained largely stable over the 2010-2016 period. However, this region

is estimated to grow during 2016-2022 at a CAGR of approximately 2.5% to 3.5%. The RB RV Report also expects North America to grow at a CAGR of approximately 3.0% to 4.0% over the 2016-2022 period to reach an order intake of EUR 22 billion in 2022, thus becoming the second largest of the contemplated regions before China (which is expected to reach EUR 21 billion in 2022).

10.3.1.1.1. The OE Rolling Stock Market Segment

The OE Rolling Stock Market Segment is largely dependent on the level of government and private operator spending on railway projects. Whereas the freight transport segment typically shows a strong connection to overall economic development, passenger rail transport (mainline and urban) is generally less dependent on short-term economic cycles than on long-term trends, due to it being generally based on publicly-funded projects. In fact, mainline and urban rail transport trends may even be anti-cyclic due to growth programs carried out by governments in a declining economic environment. However, major shifts in economic circumstances also impact the passenger rail market; for example, in Brazil and Russia major projects were cancelled or put on hold on account of unfavorable economic developments.

For the global OE Rolling Stock Market Segment, the RB RV Report forecasts a CAGR of 2.0% to 3.0% for the 2016-2022 period, with stronger growth in the 2016-2019 sub-period. The RB RV Report projects the strongest growth during the 2016-2022 forecast period to occur in South America, albeit coming from a rather low base, hence the volume in absolute numbers is still rather modest. In addition, the RB RV Report expects a positive development for the EMEA and CIS countries, driven by markets such as Germany, France, Denmark and Saudi Arabia. Solid growth is also expected in North America, in particular, driven by high-speed projects, diesel locomotives and freight car orders. In APAC without China, the RB RV Report expects weaker order intake for rolling stock over the 2016-2022 period ranging from -2.5% to -1.5% and forecasts that growth in India will be offset by a decline in other regions, for example in Australia. In China, Roland Berger expects the metro segment to remain stable or only slightly grow (at a CAGR of 0% to 1.0% during 2016-2022).

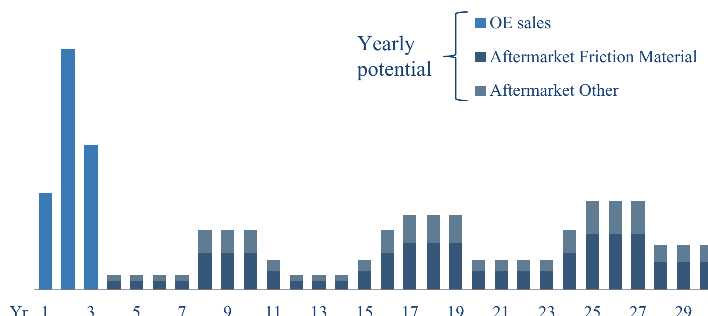
Our market assessment is based on a different (delivery-based) market definition than Roland Berger's (as further explained under "*10.1. — Introduction: Market Definitions, Background and Methodology*"). In our assessment, we expect major growth in APAC without China, coming mainly from the locomotive segment (*e.g.*, in India), but also multiple units and metros. We expect that such growth will be able to compensate the market decline in other APAC markets. Overall, according to our own estimates, we expect APAC without China to grow at a CAGR of 9.9% over the 2016-2022 period. We further expect that growth in China over the 2016-2022 period will come mostly from multiple units for regional and commuter vehicles, passenger cars and locomotives (besides the aftermarket segment), and that the metro segment in China will grow at a CAGR of 2.4% over the 2016-2022 period. For more information, see "*10.3.1.3. — Selected Growth Market Segments*".

10.3.1.1.2. The Rail Aftermarket/Services Market Segment

We believe that rail aftermarket activities (including services) offer long-term, predictable cash flows to suppliers of rail vehicle systems such as our Group. Aftersales have a lifecycle of roughly 30 to 45 years following delivery of a system or component (according to the RB RV Report, which states that, therefore, the maintenance volume is very stable). Typically, aftersales include customized on-site support and training in the first years following delivery, followed by other services along the systems' lifecycle. Such other services include mandatory and recommended checks and services (given that operators are in most cases obliged to inspect and maintain safety-critical components regularly and tend to follow the maintenance plan recommended by the sub-systems suppliers in order not to jeopardize their services), or replacements along the useful life of the system, spare parts logistic services for optimized inventory management and, when required, an overhaul with rigorous quality testing. Towards the end of the lifecycle, services aiming at an innovative modernization play a relevant role.

We estimate that the total aftermarket potential could reach a value two to three times as high as the value of the respective OE for a given rail vehicle system over such system's lifetime. The following chart provides an illustrative example of the indicative sales pattern for OE and aftermarket material/services for brake systems:

Illustrative example of brake systems: indicative annual sales pattern



Source: Knorr-Bremse internal market research.

In general terms, the Rail Aftermarket/Services volume depends on the number of vehicles in operation (so-called "installed base") and on the age of such installed base. Overall, the installed base of the rolling stock has been growing in the last decade and is expected to continue to do so, acting as the main driver of the expected growth years for the 2016-2022 forecast period, according to the RB RV Report. We believe that we will benefit from our large installed base and that therefore our rail aftermarket business will grow more strongly than the overall Rail Aftermarket/Services Segment over the next years.

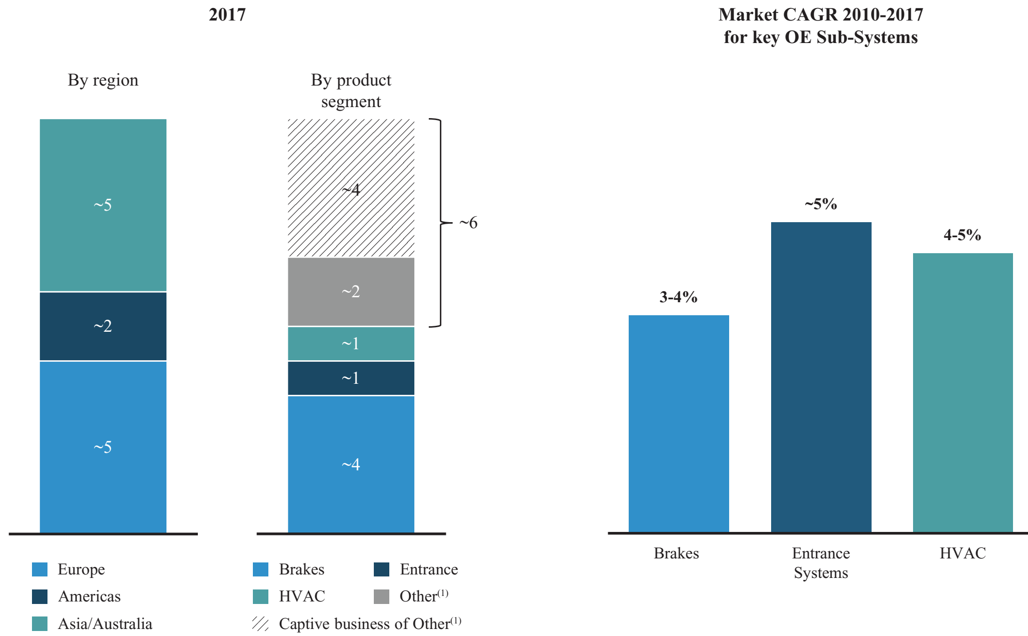
The global Rail Aftermarket/Services Segment grew at a CAGR of approximately 2.0% to 3.0% over the 2010-2016 period in terms of overall volume, with China showing particularly high growth, as a result of the significant extension of the Chinese railway system in the last few years (as the large number of newly purchased trains and locomotives require maintenance services now and in the future) (source: RB RV Report). However, in terms of total volume, the Chinese Rail Aftermarket/Services Segment is still much smaller than that in EMEA and the CIS countries, which have dense and further developed railway systems. For the global Rail Aftermarket/Services Segment, Roland Berger expects growth at a CAGR of 2.0% to 3.0% over the 2016-2022 period. Roland Berger expects very strong growth in China, in particular regarding the areas of high-speed and multiple units, due to the higher number of existing vehicles (high installed base) over recent years. The RB RV Report foresees a more modest positive development for the EMEA and CIS region, while growth in North America is expected to come from the United States, mainly driven by aftermarket and services for the mainline and freight vehicle segments.

10.3.1.2. Our Addressable Rail Vehicle Systems Market

We assess that our Addressable Rail Vehicle Systems Market accounted for approximately 10% to 15% of the size of the underlying Rail Vehicle Market (including both the OE Rolling Stock Market Segment and the Aftermarket/Services Segment) in 2017. It should be noted, however, that the assessment of our Addressable Rail Vehicle Systems Market is based on a different methodology and definition than that used by Roland Berger in its RB RV Report, as explained under "*10.1. — Introduction: Market Definitions, Background and Methodology*". According to our own market assessment, our Addressable Rail Vehicle Systems Market comprised the following segments in 2017: (i) brakes/brake systems, amounting to slightly more than EUR 4 billion; (ii) entrance systems, amounting to approximately EUR 1 billion; (iii) HVAC, with approximately EUR 1 billion; and (iv) other segments (*e.g.*, auxiliary power supply, wipe and wash systems, platform screen doors, signaling systems, power electrics, simulators and driver assistance systems), amounting on aggregate to approximately EUR 6 billion, whereby approximately EUR 4 billion thereof corresponds to so-called Captive Business, with respect to which we believe there is a market potential for us in the future, following outsourcing trends of the major OEMs. Therefore, we estimate that the aggregate size of the market segments relating to our three key sub-systems — brakes/brake systems, entrance systems and HVAC — amounted to approximately EUR 6 billion in 2017 on aggregate. In our own assessment, these three key sub-systems have been growing at strong CAGRs over the 2010-2017 period, *i.e.*, approximately 3% to 4% for brakes/brake systems, approximately 5% for entrance systems and approximately 4% to 5% for HVAC.

The following chart shows an overview of our Addressable Rail Vehicle Systems Market for 2017, with regional and product segment splits, and of the 2011-2017 CAGRs of our three key sub-systems:

Aggregate size of brakes/brake systems, entrance systems and HVAC by region and rail vehicle type (2017) (in EUR billion); 2010-2017 CAGRs for key sub-systems (in percentages)



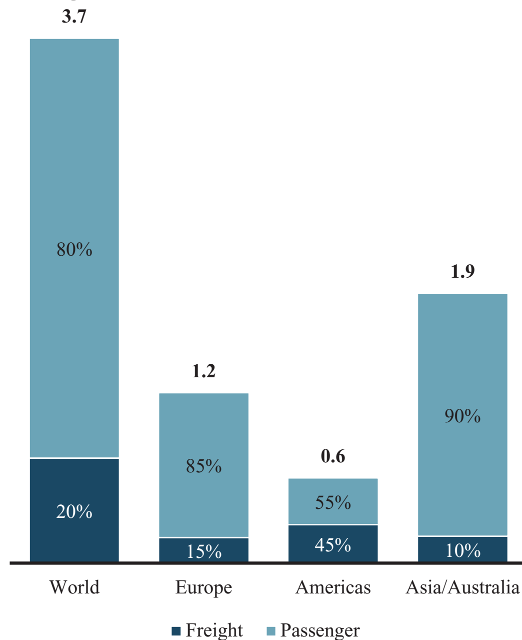
Source: Knorr-Bremse internal market research. Based on actual and estimated deliveries.

Note: The 2010 data used for the calculation of the 2010-2017 CAGRs was estimated by Knorr-Bremse based on 2011 available figures from Knorr-Bremse internal market research.

(1) The category "Other" includes traction motors, converters (traction and auxiliary), power electrics and TCMS.

From a global perspective, the vast majority of our Addressable Rail Vehicle Systems Market relates to passenger rail vehicles (approximately 80% of the market in 2017, in our assessment). This pattern also applies to Europe and Asia/Australia, while in the Americas there is a more balanced distribution between passenger and freight rail vehicles. The following chart shows the market size for OE sales (deliveries) relating to our three key sub-systems (in aggregated form), split by rail type and by region for 2017 (*i.e.*, excluding aftermarket):

Aggregate size of brakes/brake systems, entrance systems and HVAC by region and rail vehicle type (2017) (in EUR billion and percentages)



Source: Knorr-Bremse internal market research. Based on actual and estimated OE deliveries only (excluding aftermarket). Percentages rounded to the nearest multiple of 5.

The passenger and freight market segments differ in several respects. In the passenger segment, the consistent urbanization trend and the increasing number of megacities play an important role. The passenger segment is by and large independent from economic cycles and mostly driven by continued government spending. We have observed and continue to expect high growth in the passenger segment in Asia/Australia. In addition, we see an ongoing expansion of mass transit networks in North America and Asia/Australia. The passenger segment exhibits higher systems value, driven by the use of multi-systems (*i.e.*, the supply of more than one sub-system) and higher requirements in terms of safety, reliability/availability, comfort and efficiency. On the other hand, the freight market segment is a more standardized market and globally subject to market cyclicality. For example, in North America, the freight vehicle market segment underwent three to four cycles in the past 20 years. We have seen, in recent years, and expect, for the next years, growth of the freight market segment in large-volume countries such as China, India and Russia. The passenger segment accounted for 84% of the OE sales of our Rail Vehicle Systems Market in the fiscal year 2017, while 16% of such sales related to the freight segment. In the passenger segment, we profit from our ability to offer several sub-systems, given our extended product portfolio. In the freight segment, with respect to freight cars, for example, only brake systems are relevant (and not, for example, entrance systems or HVAC); freight locomotives also cannot typically be equipped with a wide range of products within our portfolio.

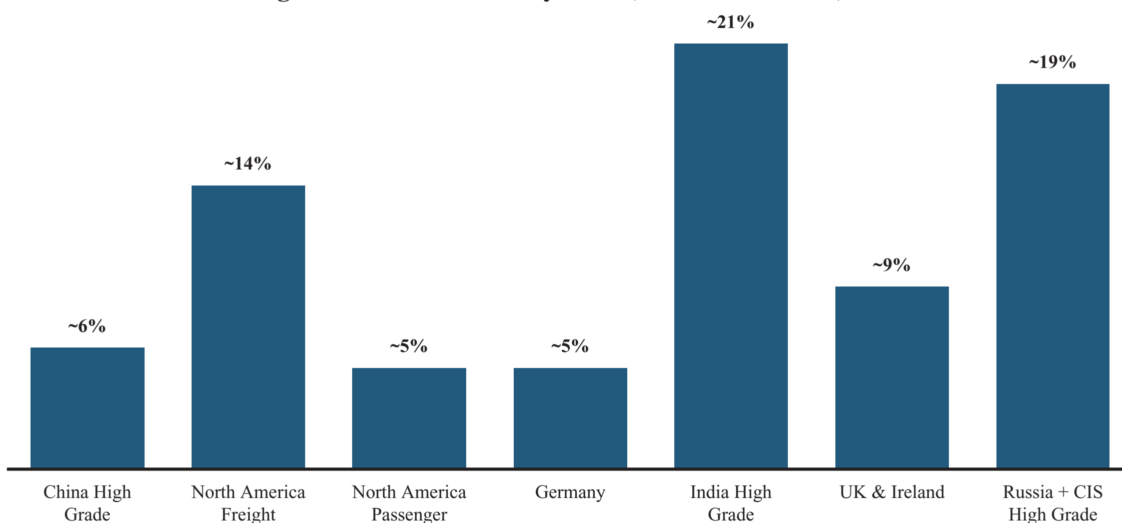
We expect our Addressable Rail Vehicle Systems Market to grow across the relevant sub-systems over the next few years. We see the main reasons for the strong growth of our Addressable Rail Vehicle Systems Market in the positive development of mass transit in Asia (mainly in China, India, South East Asia, Hong Kong and Taiwan) as well as freight transport and urban transit in Europe, driven, among other factors, by the German and the recovering Russian freight market, and the French and Polish passenger market segments. The expected growth in passenger mainline and urban transit has a stronger positive impact on our Addressable Rail Vehicle Systems Market (due to the broader scope of applications of our relevant product categories in these transport segments, for which passenger doors and passenger HVAC systems are relevant, in addition to brake systems) than growth of the freight business (which mainly has an impact on brake systems). We also expect growth in the aftermarket segment, mainly in mature markets such as Europe and North America.

Overall, we expect a slowdown of growth in our Addressable Rail Vehicle Systems Market in the Americas over the 2017-2022 period, compared to the 2010-2017 period, which can be explained in part with the typical cyclical development of the freight transport segment, which had a low in 2010 and then a peak in 2015, followed by a pattern-typical slowdown in the following years.

10.3.1.3. Selected Growth Market Segments

According to our own assessment, several segments within our Addressable Rail Vehicle Systems Market have grown considerably faster than the growth assessed in the RB RV Report for the overall Rail Vehicle Market over the 2010-2016 period (based on order intake), which was approximately 1.5% to 2.5%. Focusing only on brake systems, we assessed the 2010-2017 CAGR in terms of deliveries of brake systems and supply of services/aftermarket parts and components (excluding labor and friction material). According to our own market analysis therefore, growth segments within the brake systems market (part of our Addressable Rail Vehicle Systems Market), include the following:

Selected Growth Market Segments Within Brake Systems (2010-2017 CAGR)



Source: Knorr-Bremse internal market research. Based on actual and estimated deliveries for brakes OE and aftermarket, excluding labor and friction material.

Note: With respect to China, India and Russia and other CIS countries, "high grade" (as opposed to "conventional") refers to so-called standard, international technologies (mostly used in Western countries), with globally comparable prices and global suppliers. By contrast, the "conventional" portion of these country markets, which is not considered in the chart above, relates to simpler, typically older or local applications with a significantly lower price level, mostly offered by local suppliers. We estimate that the Chinese high grade market for brake systems had an overall potential of roughly EUR 1 billion in 2017, while the high grade market segments for brake systems in India, Russia and other CIS countries are considerably smaller, but offer significant growth potential.

(1) Europe excluding UK and including Russia.

The following description relates to the general development of rail vehicles corresponding to the abovementioned countries and regions *(i.e.*, not only focusing on brake systems). In China we expect growth in the OE metro market segment and in the aftermarket, among others. China is characterized by high government spending: the 13th five-year-plan maintains the investment level in railways at RMB 3.5 trillion (corresponding to approximately EUR 448 billion as of the end of 2017) (source: China Daily, "China issues five-year plan to expand transport network", February 28, 2017). China has the fastest growing rail network globally, with a total length expected to reach approximately 175,000 km by 2025 (source: People's Daily Online, "China's high-speed rail network expands alongside speed and passion", July 12, 2017). A high urbanization ratio of approximately 60% of permanent residents by the end of 2017 (source: Chinese NBS, Statistical Communiqué of the People's Republic of China on the 2017 National Economic and Social Development dated February 28, 2018) requires further mass transit development. Metros have shown a steady growth in China over the last decade, almost doubling every five years, according to our own market assessment. We estimate that the fleet of metro cars in China increased from approximately 8,000 in 2010 to approximately 29,000 in 2017, and expect that the number of total metro cars in China (i.e., cumulative figures for the metro fleet in China) will continue to increase rapidly, both in terms of new metro lines and supplementary vehicles for existing lines. In addition, a strong development in the Chinese high-speed and very high-speed segments can be observed: we estimate that the Chinese fleet of high-speed cars increased from approximately 5,000 in 2010 to approximately 24,000 in 2017, with peak years for deliveries in 2014-2015, and we expect the number of high-speed cars to continue to grow in the coming years (at a high rate, but lower than in such peak years). The high-speed rail network is expected to expand to 30,000 km by the end of 2020, as stated in China's updated national railway development plan of November 2017 (source: China Daily, "Rails expand high-speed network", December 28, 2017), and to expand to eight vertical and eight horizontal high-speed lines nationwide until 2025, including 38,000 km of high-speed rail (source: People's Daily Online, "China's high-speed rail network expands alongside speed and passion", July 12, 2017), thus leading to a high demand for high-speed cars. Approximately half of the global installed base of high-speed cars is located in China (2017), according to our market research. By contrast, the regional and commuter train network in China is relatively underdeveloped.

In our view, the following recent key developments are driving and are expected to continue to drive strong market growth in India: (i) electrification, with 35,000 km of railway lines and an increase of e-locomotive production targeted within the next two to three years; (ii) the complete migration of passenger coaches of Indian Railways to German-designed Linke Hofmann Busch ("**LHB**"), with a production of 4,000 LHB coaches per year (and more expected on a longer-term basis); (iii) dedicated freight corridors such as Delhi-Mumbai (approximately 1,800 km, to be completed by December 2019) and Ludhiana-Dankuni (approximately 1,500 km, expected to be completed by December 2020); (iv) seven high-speed corridors (approximately 10,000 km on aggregate) and an investment of approximately EUR 130 billion in the next ten years, with large tenders expected; and (v) new factories for e-locomotives (Alstom) and diesel locomotives (GE), among others (source: Knorr-Bremse internal market research). According to our internal market research, currently nine major Indian cities are covered by metros, with approximately 3,500 metro cars, with potential expansion into additional cities; major forthcoming projects with over 2,500 metro cars have been announced.

In the UK and Ireland, we see growth driven by a significant increase in high-speed, regional and commuter trains, with, currently an all-time high in vehicle purchase. Growth in the North American passenger segment has been driven, in our own market assessment, by demand for metros and light rail vehicles, in particular coming from metropolitan areas. In the North American freight segment, we expect a cyclical development. In Germany, we see growth in the segments relating to passenger cars and metros, as well as locomotives and high-speed trains, while in Russia and other CIS countries we observe growth in the segments relating to metros as well as regional and commuter trains.

10.3.2. Competitive Environment

In recent years, suppliers of rolling stock components have been affected by consolidation processes, which have reduced the number of competitors in the market, so that single components are now produced by very few suppliers (as stated, for example, in the SCI 2016 Report).

The Addressable Rail Vehicle Systems Market is, in our view, well protected by high entry barriers, including low purchased volumes (*i.e.*, it is expensive to produce components, since the development costs are spread among fewer parts), homologation requirements (*i.e.*, the freight market segment is characterized by global certification requirements — according to four major global standards — and also numerous components in the passenger market segment need to be certified, which is complex and time-consuming), significant portfolio complexity, with seven unique configurations for different vehicle types, different sub-systems (three for brake systems), more than a hundred safety-critical components with numerous country- and customer-specific variants, as well as high initial capital requirements and the relatively long lifecycle of relevant components and systems. In addition, customers tend to maintain their loyalty to their incumbent suppliers, resulting in a long gestation for the aftermarket. Increasing regulatory requirements and highly-protected intellectual property also pose difficulties for potential new entrants. In our assessment, we are the only supplier worldwide that is certified for all local standards and norms. Furthermore, we estimate that our rail vehicle systems are installed in approximately 50% to 55% of all active rail vehicles globally, excluding freight cars (the calculation considers such vehicles in which at least one Knorr-Bremse system relating to brakes, entrance systems and HVAC is installed).

Based on our own assessment, we are a leading player across all main market segments of our Addressable Rail Vehicle Systems Market. We have calculated the following market shares in terms of 2017 sales, based on our own market assessment and available information regarding sales for original equipment and aftermarket components (excluding the labor portion) delivered relating to brakes/brake systems for rail vehicles deliveries, rounded to the nearest multiple of 5.

10.3.2.1. Brakes/Brake Systems

According to our own estimates, we had a global market share of approximately 50% of total worldwide sales of brakes/brake systems for rail vehicles in 2017, and were the largest provider in this market segment, followed by Wabtec Corporation, Wilmerding/Pennsylvania, U.S. (which in 2016 acquired a majority interest in the French company Faiveley Transport S.A; thus, we have considered the aggregate market shares of Wabtec and Faiveley; hereinafter "**Wabtec/Faiveley**"), which we estimate had a market share of approximately 15% in brakes/brake systems for rail vehicles in 2017.

From a regional perspective, we estimate that we were the number 1 supplier of brakes/brake systems in the three regions Europe, the Americas and Asia/Australia, with a market share in 2017 of approximately 50%, 45% and 45%, respectively (in each case, followed by Wabtec/Faiveley).

The market share evolution in the brakes/brake systems market segment since 2000 illustrates the growing importance of the two major players, Knorr-Bremse and Wabtec/Faiveley. Whereas in 2000, according to our assessment, we were the leading player with a market share of approximately 35%, followed by Wabtec (without Faiveley), SAB Wabco/Cardo Rail (later acquired by Faiveley), and other smaller suppliers, we estimate that in 2017, our Group and Wabtec/Faiveley had a combined market share of approximately 65% of the brakes/brake systems market segment, with other smaller suppliers accounting for the remaining 35%.

In addition, in our own assessment, we are the leading supplier for brake systems (OE and aftermarket, without labor and friction material) in the following growth market segments: the high grade market segments in China, India, Russia and the other CIS countries; the North American passenger market segment; Germany and the UK and Ireland (for 2017). We also estimate that we are the second largest supplier in the North American freight market segment (also for 2017).

10.3.2.2. Entrance Systems

We estimate that we are the leading provider for rail entrance systems worldwide, with a global market share of approximately 25% in 2017, followed by Wabtec/Faiveley (with a market share of approximately 20% in 2017).

In regional terms, we assess that we are the largest player in Europe, with a 2017 market share of approximately 40%, and the second largest supplier in the Americas and in Asia/Australia, with a market share of approximately 15% in each of these two regions, after Wabtec/Faiveley. We also estimate that we are among the top 3 suppliers of entrance systems for the Chinese high grade market segment (for 2017).

10.3.2.3. HVAC

In our own assessment, we are the second largest provider for HVAC systems for rail vehicles, with a global market share of approximately 15% in 2017, slightly behind Shijiazhuang King Transportation Equipment Co., Ltd., Shijiazhuang City, China ("**King China**") (with a market share of approximately 15% in 2017) and ahead of Wabtec/Faiveley (with a market share of approximately 10%).

From a regional perspective, we are, in our assessment, one of the two leading suppliers in Europe and the Americas (together with Wabtec/Faiveley), with an estimated market share of approximately 20% and 25%, respectively, in 2017, and the second largest player in Asia/Australia (after Wabtec/Faiveley), with a market share of approximately 10% in 2017. In addition, we estimate that we are among the four suppliers of HVAC systems for the Chinese high grade market segment (for 2017).

10.3.2.4. Overview of Main Competitors

In our Addressable Rail Vehicle Systems Market we compete with, besides Wabtec/Faiveley, a number of mostly product-specific OEM suppliers, but also certain vehicle manufacturers that manufacture certain sub-systems themselves or in cooperation with partners (in particular for sub-systems such as TCMS and power supply systems). While we have a particularly strong focus footprint on the passenger segment, Wabtec/Faiveley has a stronger focus on the freight segment: approximately 68% of the 2017 sales attributable to the combined entity to be composed of Wabtec/Faiveley and GE Transportation relate to the freight segment (source: Wabtec/Faiveley presentation on its merger with GE Transportation of May 21, 2018; assumes that GE Transportation assets are allocated to the freight segment and is based on 2017 financial information for Wabtec/Faiveley and GE Transportation, taken together).

Other competitors in the brakes market segment include the Locomotive and Cars Research Institute ("**LCRI**") (overall, the third largest supplier worldwide for rail brakes/brake systems in 2017, according to our estimates, and currently operating mainly in China), Nabtesco Corporation, Tokyo, Japan ("**Nabtesco**") and JSC MTZ TRANSMASH, Moscow, Russia (with whom we compete mainly in Russia and the CIS countries), among others.

In the entrance systems market segment we also compete with Nanjing Kangni Mechanical & Electrical Co., Ltd., Nanjing, China (mainly in Asia), Gebr. Bode GmbH & Co. KG, Kassel, Germany, a part of the group led by Schaltbau Holding AG, Munich, Germany (with whom we compete mainly in Europe), Nabtesco, Ultimate Europe Transportation Equipment GmbH, Amstetten, Austria, Beijing Bode Transportation Equipment Co., Ltd., Peking, China (with whom we compete in China), Fuji Electric Co., Ltd., Tokyo, Japan, and KMT Production Company, St. Petersburg, Russia (with whom we compete mainly in Russia and the CIS countries), among other suppliers.

Further competitors in the HVAC market segment (besides Wabtec/Faiveley) include King China (with whom we compete mainly in Asia), and Mitsubishi Electric Corporation, Tokyo, Japan ("**Melco**"), Shandong Longertek Technology Co. Ltd., Qingdao, China (with whom we compete in Asia), Guangzhou Zhongche Railway Vehicles Air Conditioning Co., Ltd., China (known as "ZRAC", acquired by Beijing Dinghan Technology Co., Ltd.) (which produces and distributes railway air conditioning and other products and with whom we compete in Asia), Liebherr-Transportation Systems GmbH & Co KG, Korneuburg, Austria, Toshiba Infrastructure Systems & Solutions Corporation; Kawasaki, Japan (with whom we compete in Asia) and Thermo King Corporation, Minneapolis/Minnesota, U.S. (with whom we compete mainly in Europe and the Americas), among others).

10.4. Global Truck and Bus Production Output, Content per Vehicle Level and Our Addressable Commercial Vehicle Systems Market

10.4.1. Market Development and Key Growth Drivers and Trends

10.4.1.1. Truck and Bus Production Output as Underlying Parameter for Commercial Vehicle Systems

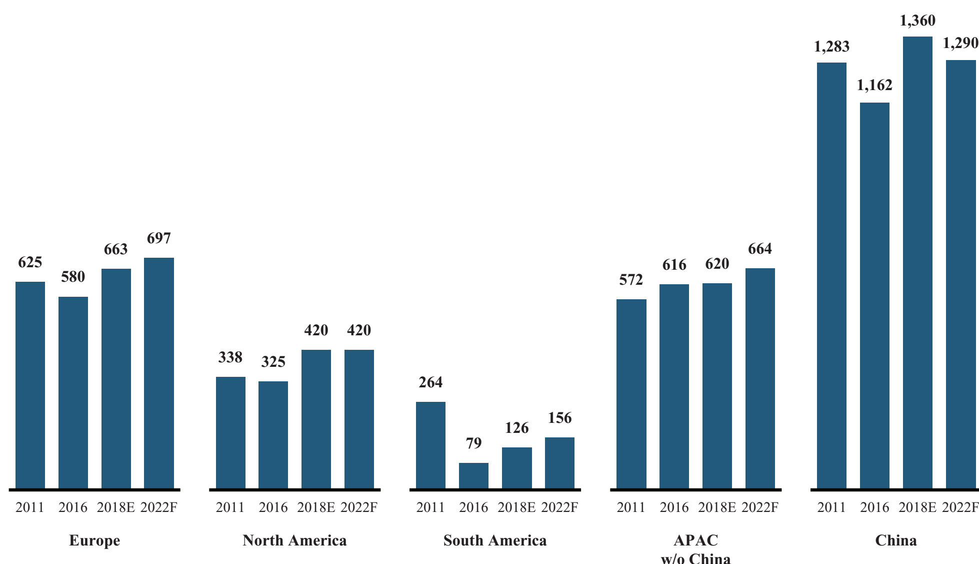
TPR (*i.e.*, the truck and bus production rate in terms of units) amounted to approximately 2.8 million vehicles worldwide in 2016 (source: RB T&T Report; references to the RB T&T Report in the following description relating to TPR figures during the 2016-2022 period refer to verifications of our own market data included in the RB T&T Report, as further explained above under "*10.1. — Introduction: Market Definitions, Background and Methodology*"*).* According to the RB T&T Report, global TPR is expected to grow at a CAGR of approximately 2.6% over the 2016-2022 period to reach 3.2 million units in 2022; trucks account for 84% of global TPR (on average, for the 2016-2022 period). Most of the TPR growth is expected to be generated in the 2016-2018 period, with a global CAGR of 7.5%, whereas in the remaining sub-period (2018-2022), TPR is expected to grow at a much lower CAGR of 0.3%. The reasons for this discrepancy are the massive pre-buy effect in China during 2017, as explained further below, as well as the effects of recovering economies and markets in North America

(where the truck market picked up in 2017 after a downturn in 2016) and in South America (with an upturn after a recession period).

The following chart provides an overview of the estimated size, past and expected future development of TPR split by region:

TPR 2011-2022F by region

CAGR	Europe	North America	South America	APAC w/o China	China
2011-2016	**-1.5%**	**-0.8%**	**-21.4%**	**+1.5%**	**-2.0%**
2016-2022F	**+3.1%**	**+4.4%**	**+12.0%**	**+1.3%**	**+1.8%**
2016-2018E	+6.9%	+13.7%	+26.1%	+0.4%	+8.2%
2018E-2022F	+1.3%	+0.0%	+5.5%	+1.7%	-1.3%



Source: RB T&T Report, for 2011-2015 based on IHS database and Knorr-Bremse internal market research, for 2016-2022 as verified by Roland Berger. CAGRs for 2011-2016 were calculated by Knorr-Bremse using the 2011 and 2016 data included in the RB T&T Report.

By way of comparison, according to IHS data (source: "Medium- and Heavy-Duty Commercial Vehicle Industry Forecast: Production Q1/2018"), global TPR increased in the 2010-2017 period at a GAGR of 1.3% (based on global TPR for trucks and buses equipped with pneumatic brakes).

TPR declined at a CAGR of approximately -2.2% over the 2011-2016 period, from a basis of approximately 3.1 billion in 2011 (CAGR calculated on the basis of data included in the RB T&T Report). Reasons for such decline include, among others, the weak macroeconomic situation in China in 2015 and the recession in South America in 2015-2016 (source: RB T&T Report).

According to the RB T&T Report, China accounts for the largest share of TPR worldwide production (with an average of 42% of global production during the 2016-2022 period). For the same reference period, according to the RB T&T Report, Europe accounts for 21%, APAC without China for 20% and North America for 13% of global TPR. South America accounts for the largest share of bus production, with 25% on average for the 2016-2022 period, and the lowest share is in Europe, with 9% on average for the same period (source: RB T&T Report). In the U.S., the production rate for buses is not reported separately because the platform used for buses and trucks is similar.

TPR has been volatile in recent years in China, which plays a major role in the region. For example, TPR in China was negatively affected by the strained macroeconomic environment in 2015, leading to a decrease over the 2011-2016 period of -2% (in terms of CAGR, calculated using 2011 and 2016 figures included in the RB T&T Report). On the other hand, in 2017, TPR figures, according to the RB T&T Report, increased very significantly as a result of the massive "pre-buy" effect in 2017 to address a tightening of emission standards, which applied for diesel engines of newly registered diesel vehicles as of January 2018 ("**China V**"); further emission standards ("**China VI**") are currently expected to come into effect most probably in 2020. The RB T&T Report assumes that TPR volumes in China will return to normal levels after the pre-buy effect, which explains the fluctuation in growth levels — from a CAGR of 8.2% in 2016-2018 to a CAGR of -1.3% during the

2018-2022 period. In APAC without China, Roland Berger expects a stable volume that will remain at a high level, with slight growth (at a CAGR of 1.3% during the 2016-2022 period). Japan appears to be a stable market. In South Korea, we expect a slight increase over the coming years. In general, we expect growth in India driven by its dynamic and demanding economy; however, the positive effect from these factors is sometimes offset by the political situation, including government decisions affecting truck production, and a quite volatile market.

In the Americas, after a decline in 2016, we expect TPR to increase in the forecast period until 2022 due to the recovery of the freight market and a strong development of the overall U.S. economy. North America is expected to contribute the largest portion of TPR's absolute growth in the Americas with a CAGR of 4.4% during 2016-2022 (source: RB T&T Report). In turn, South America is expected to grow faster in relative terms, with a CAGR of 12.0% during the same period, albeit coming from a much smaller base in 2016.

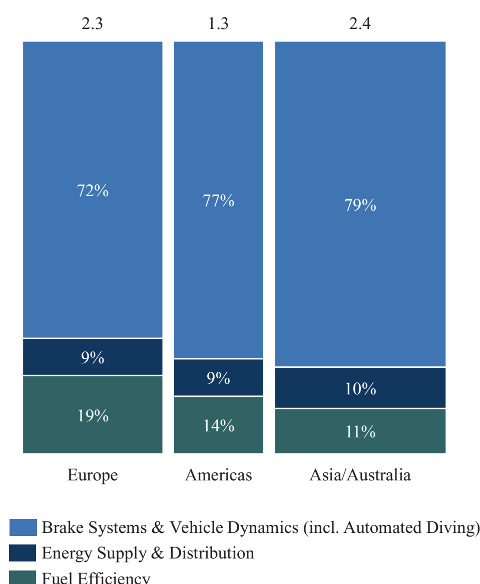
In Europe, Roland Berger expects stable growth at a CAGR of 3.1% over the 2016-2022 period (source: RB T&T Report), driven by a positive development of the economic environment leading to increased consumption and thus increased transport activity, as well as increased replacement demand: for example, vehicles delivered during the years of very high vehicle demand — 2007/2008 — are beginning to be replaced. We estimate that Eastern Europe will be one of the main drivers behind growth in Europe due to backlog demand.

10.4.1.2. Our Addressable Commercial Vehicle Systems Market

According to our own market assessment, our Addressable Commercial Vehicle Systems Market amounted to approximately EUR 6.0 billion in 2017, of which we estimate that the brake systems and vehicle dynamics segment, including driver assistance and automated driving, amounted to 76% (or EUR 4.6 billion), while the segment for energy supply and distribution amounted to approximately 9% (or EUR 0.6 billion) and the segment for fuel efficiency to approximately 15% (or EUR 0.9 billion).

The following chart shows a breakdown of our Addressable Commercial Vehicle Systems Market by region and product category for 2017:

Addressable Commercial Vehicle Systems Market by region and product category (2017) (in EUR billion, except percentages)



Source: Knorr-Bremse internal market research.

We estimate that our Addressable Commercial Vehicle Systems Market grew at a CAGR of approximately 7% over the 2010-2017 period. We also estimate that the three categories relating to brake systems and vehicle dynamics, energy supply and distribution, and fuel efficiency grew at a CAGR of approximately 7%, 7% and 9% during the same period. From a regional perspective, we estimate that in particular Western Europe, North America (with a 2010-2017 CAGR of 10% and 17%, respectively) grew at a particularly strong rate; Asia/Australia also contributed to growth in our Addressable Commercial Vehicle Systems Market over the 2010-2017 period, with a CAGR of 6%, and within this region, we estimate that China grew at a 2010-2017 CAGR of 5%. We estimate that Eastern Europe grew at a CAGR of 1% during 2010-2017, and that South America had a negative CAGR of 12% (in part due to negative currency effects).

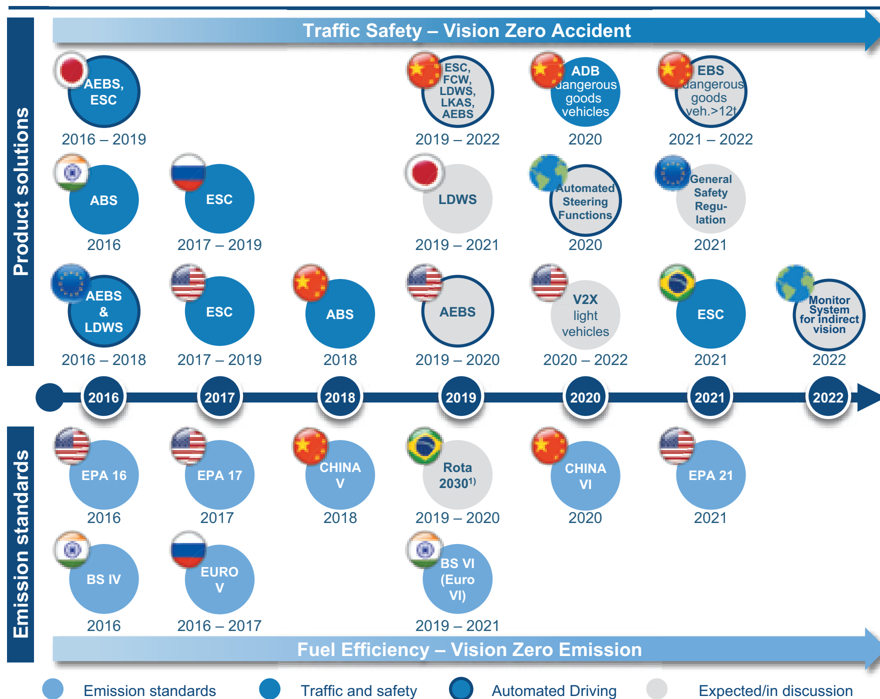
Overall, we expect that our Addressable Commercial Vehicle Systems Market will continue to grow over the next few years. We expect particularly strong growth in the Americas, and also stable growth in Europe and

Asia/Australia, respectively, over the same period. We estimate that growth in our Addressable Commercial Vehicle Systems Market will be mainly driven by increasing content per vehicle. Content per vehicle may increase both as a result of an increase in equipment rate (*e.g.*, an increasing share of trucks and buses being equipped with air disc brakes, shifting from foundation drum brakes) and from an increase in additional functions (such as ADAS). New safety and emission regulations and technology adoptions facilitated by regulatory requirements are driving an increase in the level of content per vehicle.

For example, in Asia, a high-volume market, we expect growth to be strongly driven by the rapidly increasing level of content per vehicle, in particular the adoption of air disc brake systems (*e.g.*, in China) and electronic systems, thus opening up larger volumes to international supplies compared to the domestic supplies in the past. In mature markets, we expect moderate to high growth at an already high level of content per vehicle. In North America, we expect the content per vehicle level to increase with the further adoption of air disc brakes and collision mitigation systems, while South America is showing its first signs of recovery, driven by replacement demand. For example, in 2017, Daimler announced comprehensive investments of approximately EUR 600 million for its Brazilian commercial vehicle business for the next five years, stating that many older vehicles are to be replaced (source: Daimler Communications, press release entitled "*Daimler investiert rund 600 Millionen Euro in brasilianisches Nutzfahrzeuggeschäft*", October 10, 2017). Furthermore, in emerging markets, we expect an increase in the adoption of electronic systems due to the shift to higher technological standards, for example from ABS to EBS, and partially including ESP functions. For more information on content per vehicle levels and developments, see "*10.4.1.4. — Content per Vehicle Level*" below.

Moreover, several new regulations are driving technology upgrades for trucks and buses. The following chart provides an overview of new regulatory standards and the trend towards convergence of legislation in areas such as emissions, noise reduction and safety. We believe these standards constitute a growth driver for the Addressable Commercial Vehicle Systems Market, in particular for those players offering the required technologies, such as more efficient engine emission technologies (in light of tightening emission standards), brake and steering systems with certain ADAS/HAD (for enhanced safety), electrification (*e.g.*, in light of zero/low emission zones for urban areas in key markets, such as Beijing in China) and mandatory measures for trucks to achieve more safety and protection of vulnerable road users (*e.g.*, in the EU, with a new framework provided by a (proposed) regulation (COM (2018) 286) and the Vulnerable Road Users Directive), including requirement of blind spot information systems and three reversing safety measures, among others.

Adoption of relevant new regulatory standards in selected jurisdictions



Source: RB T&T Report; Knorr-Bremse market research.

(1) Approved on May 15, 2018; Brazilian government intends to stimulate energy efficiency and vehicle safety.

10.4.1.3. Selected Product Segments within the Addressable Commercial Vehicle Systems Market

We estimate that the market segment for air disc brakes amounted to EUR 859 million globally in 2017; thereof, EUR 162 million was attributable to North America, EUR 113 million to China and EUR 575 million to Europe (South America and Japan had much smaller market sizes). While in Europe (especially in Western Europe) trucks are predominantly equipped with air disc brakes, we estimate that in North America roughly every third truck is equipped with an air disc brake. In South America and in Asia (including China), the equipment rate for air disc brakes is still on a low level and mainly relevant for buses. We also expect that the global market segment for air disc brakes will grow at a CAGR of 5% over the 2017-2023 period. We expect that growth will be mainly driven by North America and South America (with CAGRs of 12% and 18% over the 2017-2023 period) as well as China (at a CAGR of 8% over the same period), while we expect Europe, in which the adoption level of air disc brakes is already high, to grow at a CAGR of 2% over such period. Air disc brakes increase the safety of transportation. Moreover, air disc brakes achieve a higher brake force in the same rim size compared to drum brakes, and enable a stable brake performance with high thermal durability and smooth braking graduation. Furthermore, air disc brakes are easy to service. On a global basis, we estimate that an air disc brake is approximately 1.7 times more expensive than a foundation drum brake. We expect that the new generation of air disc brakes will contribute to higher fuel savings and emission reductions and a higher degree of predictive maintenance (since sensors continuously monitor the brake condition). In addition, sophisticated brake condition monitoring is one of the key enablers for HAD. Also Roland Berger, in the RB T&T Report, expects a major shift from drum to disc brakes over the next five years.

The market segment for conventional powertrains (defined as the total heavy- and medium-duty truck market minus the electric truck market segment; this essentially comprises trucks with combustion engines) comprised approximately 3.5 million units in 2017, and is expected to grow at a CAGR of 1% over the 2017-2025 period, to reach 3.8 million units in 2025 (source: Frost & Sullivan CV Presentation for 2017 and 2025 figures on total heavy- and medium-duty truck market and electric truck market segment; conventional powertrain segment and CAGR calculated by Knorr-Bremse on the basis of such figures). With respect to electric vehicles, Frost & Sullivan estimates that there were approximately 11,000 units globally in 2017 (comprising plug-in hybrid, battery electric and fuel cell electric truck vehicles), and expects the number of electric vehicles to grow at a significant CAGR of 47.5% over the 2017-2025 period to reach approximately 240,000 units in 2025, due to more stringent Phase 2 regulations targeting fuel consumption and greenhouse gas emissions attributable to new heavy-duty vehicles and engines in the U.S. and Canada, Stage III emissions regulations in China and the continuing improvement in performance of batteries and the reduction in their cost (source: Frost & Sullivan CV Electrification Overview).

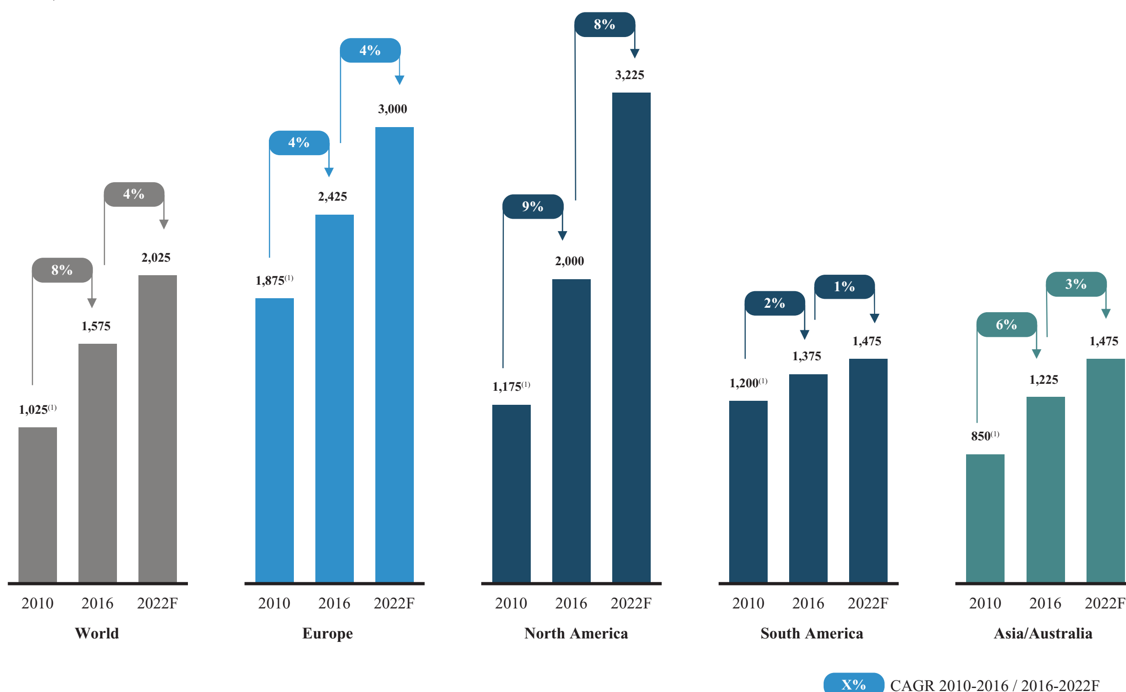
Also Roland Berger expects high growth in the powertrain market segment, with a shift from manual to automated manual ("**AMT**") and fully automated transmissions (source: RB T&T Report). We estimate that the adoption rate for AMT in 2010 was approximately 30% in North America, 75% in Europe and 1% in China, based on our own market observations and experience (including expert product knowledge). We also estimate that the adoption rate for AMT will increase significantly in the next decade and that regions such as North America and China will catch-up with respect to such adoption, driven by future legislation and market requirements and trends (*e.g.*, driver shortages in North America and increases in demand for more comfort, with AMT being easier to handle than manual transmission, as well as fuel savings).

10.4.1.4. Content per Vehicle Level

One of the key drivers of future growth in the underlying truck and bus market and our Addressable Commercial Vehicle Systems Market is the increasing level of content (*i.e.*, component value) per vehicle. New technology standards contribute to drive content per vehicle. Currently, Europe is the most advanced market in terms of technology standards, while the Americas currently lie behind Europe but are quickly catching up. We expect that the convergence of technology standards (*i.e.*, the adoption of new technologies) in commercial vehicle systems will thus lead to a "gap closure" in content per vehicle between regions. The level of content per vehicle is calculated as the relevant market size for the product categories (TPR multiplied by the equipment rate for a component or sub-system, multiplied by the price for such component or sub-system) divided by TPR.

The following chart provides an overview of the past and expected development in the level of content per vehicle (in EUR) worldwide and in the different regions for four product categories considered in the RB T&T Report, *i.e.*, brake systems, steering systems, powertrain and ADAS, taken together:

Content per vehicle 2010-2022F for selected product categories, global and by region (in EUR, except CAGRs):



Source: The data for 2016 and 2022F (including 2016-2022F CAGRs) is taken from the RB T&T Report. The 2010-2016 CAGRs have been calculated by Knorr-Bremse using comparable data compiled by Knorr-Bremse in line with the market definition used by Roland Berger (see the "Note" below). The absolute figures for 2010 were calculated discounting the respective 2016 figures included in the RB T&T Report with the 2010-2016 CAGR data calculated by Knorr-Bremse. Data for Asia/Australia for 2016-2022 (including 2016-2022F CAGR) calculated based on separate Roland Berger data for (i) Asia-Pacific without China and (ii) China.

Note: Aggregate figures for four product categories included in the RB T&T Report, *i.e.*, brake systems, steering systems, powertrain and ADAS. Roland Berger's scope excludes categories such as valves and pedal units, actuators, compressors, air treatment and others, which are considered in Knorr-Bremse's definition of the Addressable Commercial Vehicle Systems Market. Figures rounded to the nearest EUR 25.

(1) Implied; calculated by Knorr-Bremse by applying the market growth CAGR for 2010-2016 (per Knorr-Bremse's own market assessment) to Roland Berger's 2016 data for the four abovementioned categories, as included in the RB T&T Report.

As shown in the chart above, Roland Berger expects that content per vehicle for selected product categories (*i.e.*, brake systems, steering systems, powertrain and ADAS, taken together) in Europe and North America will keep outgrowing the rest of the world in the period until 2022.

With respect to the categories we include in our Addressable Commercial Vehicle Systems Market, we assess that the level of content per vehicle has increased globally during the 2010-2017 period at a CAGR of approximately 5.3%. From a regional perspective, and in our own assessment, the level of content per vehicle increased, over the same period, at a CAGR of 3.1% in Europe, 7.0% in North America, -0.9% in South America (negative CAGR due to currency effects) and 5.2% in Asia/Australia (within which China saw an increase at a CAGR of 5.0% during 2010-2017) (all CAGRs have been calculated in EUR, using the conversion rates for 2010 and 2017, respectively, for foreign currencies). With respect to China, in our assessment, certain market segments (such as electronic systems and air disc brakes, which are market segments we are particularly focusing on) show a significantly higher growth in content per vehicle than the general market. In Japan, a smaller but very mature market, we estimate that content per vehicle increased over the 2010-2017 period at a CAGR of 6.3% as a result of the adoption of advanced technologies, thus driving growth in Asia/Australia, together with China.

10.4.2. Competitive Environment

Knorr-Bremse is one of two global suppliers (the other global supplier being WABCO Holdings Inc., with headquarters in Brussels, Belgium ("**Wabco**")), as further detailed below, in a market protected by high barriers to entry. Ongoing technological advancements increase such barriers for both new entrants and existing competitors. While Knorr-Bremse's Commercial Vehicle Systems segment focuses almost exclusively on commercial vehicles (approximately 99% of 2017 sales of this Group segment, with the remaining 1% mainly relating to stationary dampers for engines that may be installed in ships, power stations, etc.), a portion of Wabco's business (approximately 8% of 2017 sales, excluding aftermarket, as calculated by us, based on information published by Wabco in its 2017 annual report) relates to passenger cars. We estimate that we had a global market share of approximately 25% in our Addressable Commercial Vehicle Systems Market in 2017 (based on estimates conducted in 2017). From a regional perspective, we estimate that we are the leading supplier of the product categories comprised in our Addressable Commercial Vehicle Systems Market in Western and Eastern Europe (with a market share of approximately 30% in 2017 in Europe, on aggregate) and North and South America, and the second largest supplier in Asia/Australia (whereby in China, we estimate that we are the leading supplier) (in terms of 2017 market shares conducted in 2017).

With respect to air brakes for trucks and buses (excluding trailers; in this categorization air brakes includes air disc brakes, foundation drum brakes, brake control and air supply), we estimate (based on estimates conducted in 2017) that we were the leading supplier worldwide in 2017, with a market share of 32%, followed by Wabco (with a market share of 23%). When excluding drum brakes and brake rotors, since drum brakes are mainly produced by the OEMs and brake rotors are mainly sourced separately, we estimate that we held a market share of 42% in pneumatic braking systems for commercial vehicles in 2017.

Overall, we intend to expand our global market share in our Addressable Commercial Vehicle Systems Market over the next years, in particular as a result of (i) the increasing adoption of new technologies such as ADAS and AMT, for which our product portfolio is well-positioned; (ii) a further strong shift from foundation drum brakes to air disc brakes in North America, following a recent acceleration of this trend; and (iii) an increase in the level of content per vehicle in Asia with market share gains both in already established and in innovative technologies. We expect that in particular in China, our regional set-up including a network of joint venture partners, will support the expansion of our market share in that region.

10.4.2.1. Brake Systems and Vehicle Dynamics

We estimate that we were the market leader in 2017 in the category comprising brake systems and vehicle dynamics, including driver assistance and automated driving, with a market share of approximately 23%, followed by Wabco (with a market share of approximately 19%; the third largest competitor in this market segment had a market share of approximately 6% in 2017, according to our estimates conducted in 2017). From a regional perspective, we estimate that our market share in this market segment in 2017 in Europe, the Americas and Asia/Australia was 32%, 37% and 8%, respectively. On this basis, we estimate that we were the leading supplier for this category in Europe and the Americas, and the second largest in Asia/Australia.

In Asia/Australia, we expect that our leading position in air disc brakes and safety systems will pay off, as new technological standards gain importance due to the adoption of corresponding regulations. We also expect that we will be able to profit from our technological know-how and capacities in connection with expected new regulations in Asia favoring products with technologies that Knorr-Bremse is already offering in the region (*e.g.*, EBS technology). In addition, we believe that we will be able to benefit from our local capacities in that region, especially in China, for example in terms of the optimization of production footprint and local content, which leads to competitive products and ensures the fulfillment of the "local producer" criterion relevant for project awards in China.

Knorr-Bremse and Wabco are the main global competitors regarding air brake systems (defined to include electronic systems, valves/pedal units, air disc brakes, actuators and foundation drum brakes). All other competitors have only regional relevance. In particular the European and North American markets are consolidated with the respective top 4 players accounting, on aggregate, for a market share of over three-quarters of the market (according to our estimates for 2017). In Western Europe, for example, Haldex (the group led by Haldex AB, Landskrona, Sweden) and Meritor (the group led by Meritor Inc., Troy/Michigan, U.S.) compete in the air disc brake segment, while in the Americas, Meritor and Master (Master Sistemas Automotivos Ltda., Caxias do Sul/Rio Grande do Sul, Brazil) compete in North America and South America, respectively. In Asia (including China), the market is very fragmented and Knorr-Bremse and Wabco compete, among others, with SORL Auto Parts, Inc., Zhejiang, China ("**SORL**"), and VIE (Zhejiang VIE Science & Technology Co., Ltd., Zhejiang, China) regarding a broad product range and with Youfin in the air disc brake segment. In Japan, the two main global providers compete with Nabtesco, which is the market leader in that country, according to our

assessment. Meritor and Haldex also have activities in Asia (India), besides the abovementioned regions, in particular in the field of foundation drum brakes, and are therefore also global competitors.

With respect to the sub-category air disc brakes, we estimate that we were the leading supplier globally, with a market share of approximately 47% in 2017 (based on estimates conducted in 2017). With respect to air disk brakes for OE trucks and buses (excluding trailers), we estimate that we were the global market leader in 2017 (disk brake and brake rotor; based on estimates conducted in 2017). For the complete air disk brake (disk brake and brake rotor) for OE trucks and buses (excluding trailers), we estimate our market share to amount to 52% (based on estimates conducted in 2017). For the disk brake as a standalone product (excluding the rotor), we estimate to have a market share of 60% (based on estimates conducted in 2017).

We also estimate that we were the leading supplier in North America, with the next two competitors having delivered roughly a tenth-part of the units we delivered in such year, or less (based on information on the number of units delivered by competitors, as estimated by us in 2017). We also estimate that we have a clear leading position in air disc brakes in Europe, and that the next two competitors for air disc brakes in Europe delivered less than a third and approximately one-quarter of the units we delivered in 2017, respectively. In China, a more fragmented market for air disc brakes, we also estimate that we are the leading air disc brake supplier, but there were a number of suppliers supplying sizeable numbers of air disc brake units in 2017.

10.4.2.2. Energy Supply and Distribution

In the field of energy supply and distribution, we estimate that we had a global market share in 2017 of approximately 40%, ranking first before Wabco (approximately 35%; the third largest competitor in this market segment had a market share of approximately 5% in 2017, according to our estimates in 2017). From a regional perspective, we estimate that we were the largest player in Europe, with a market share in 2017 of approximately 58%, and the second largest player in the Americas and Asia/Australia, with a market share in 2017 of approximately 42% and 23%, respectively (based on estimates conducted in 2017). Other competitors in this field include, besides Wabco, SORL, Sanwa Seiki Ltd., Kawagoe-city, Japan, and Nabtesco.

10.4.2.3. Fuel Efficiency

In the area of fuel efficiency, we estimate that we were one of the two market leaders globally in 2017, with a market share of approximately 23% ((based on estimates conducted in 2017; Wabco's market shares amounted, in our own assessment, also to approximately 23% in 2017; the third largest competitor in this market segment had a market share of approximately 16% in 2017, according to our estimates conducted in 2017). From a regional perspective, we estimate that we were the second largest player in Europe and the Americas, with a market share in 2017 of approximately 20% and 11%, respectively (based on estimates conducted in 2017). In Asia/Australia, we estimate that we were the largest supplier in 2017, with a market share of approximately 38% (based on estimates conducted in 2017). Other competitors in this area include, besides Wabco, ZF Sachs, Schweinfurt, Germany (a part of the group led by ZF Friedrichshafen AG, Germany), Kongsberg Automotive ASA, Kongsberg, Norway, and Pierburg GmbH, Neuss, Germany (part of the group led by Rheinmetall Automotive AG, Neckarsulm, Germany).

11. BUSINESS

11.1. Overview

Knorr-Bremse is the world's leading manufacturer of brake systems (by revenues for the fiscal year 2017, based on our own assessment), and a supplier of additional safety-critical sub-systems for rail and commercial vehicles. The Company was founded by Georg Knorr in 1905 in Berlin and has evolved over the years from a German-centric supplier of individual components to a global provider of integrated and connected systems for the rail and commercial vehicles industries. For more than 110 years, we have been an innovation leader, pioneering the development, production, marketing and servicing of state-of-the-art brake systems.

Our operations are managed in two divisions which also form our reporting segments under IFRS: Rail Vehicle Systems and Commercial Vehicle Systems. The Rail Vehicle Systems segment equips mass transit vehicles such as metro cars and light rail vehicles, as well as freight cars, locomotives, mainline passenger trains and high-speed trains, with highly advanced products. In addition to brake systems, our product portfolio includes intelligent entrance systems, heating, ventilation and air conditioning systems, auxiliary power supply systems, control components and windscreen wiper systems, platform screen doors, friction material, driver assistance systems, electrical traction equipment, and control technology. Furthermore, we offer e-learning systems for optimum train crew training. In the aftermarket, under our brand RailServices, we provide maintenance, overhaul and repair services for rail vehicles.

Our Commercial Vehicle Systems segment offers products for trucks, buses, trailers and agricultural machinery. Our product portfolio includes (i) brake systems and vehicle dynamics solutions including driver assistance and automated driving, brake control, brake system, steering and electronic leveling control (*i.e.*, driver assistance systems, anti-lock brake systems, emergency brake systems, air disc brakes, foundation drum brakes, actuators, valves/pedal units, steering systems, electronic leveling control, electronic stability programs and others), (ii) energy supply and distribution systems including air compressors and air treatment, and (iii) fuel efficiency products including engine components and transmission sub-systems (*i.e.*, vibration dampers, engine air control, gear actuation and clutch actuation). Under our aftermarket brand TruckServices, we supply high-quality products and service solutions for commercial vehicles of all kinds and all ages.

In 1985, Heinz Hermann Thiele, as chairman of the Executive Board following a management buyout of the Company, introduced far-reaching structural changes and concentrated the business on its core activities, *i.e.*, braking technology for rail and commercial vehicles. The Group has grown significantly since then. Major milestones in the development of the business include the successful globalization strategy, growth in the area of connected systems (1985-1990), the set-up of several joint ventures (*e.g.*, a joint venture with Bosch in electronics in 1999, the engagement in other systems than brake systems by getting involved in IFE and Merak in 1997, four joint ventures for rail vehicle systems in China in 2006 and a joint venture with DongFeng Motor (China), which started operating in 2015) and numerous acquisitions (*e.g.*, the acquisition of Bendix in the U.S. in 2002, seven acquisitions in the years 2015 and 2016 and the acquisition of Vossloh Kiepe, an electrical systems business from Vossloh in 2017). Such cooperations and acquisitions allow us to expand our business into adjacent areas, accelerate our development as a systems provider and address megatrends in our industry.

Currently, we strive to benefit from the megatrends urbanization, eco-efficiency, digitization and automated driving by continuously evolving our products to address such trends in both of our business segments.

Growing population and urbanization provide for opportunities in both the Rail and Commercial Vehicles Systems business, as they call for increasingly fast, safe and reliable transportation modes. Electrification and other energy- and eco-friendly solutions result from growing energy demand that is coupled with growing public awareness of energy efficiency and increasing public policies on energy, such as stricter emission laws. In our view, electrified vehicles hold a high potential for emission-efficient mobility solutions in megacities, including light rail vehicle operations, city buses and green delivery trucks. Digitization promotes the connectivity of Rail Vehicle and Commercial Vehicle Systems and sub-systems which facilitates real-time data analytics and predictive maintenance solutions that aim to improve life cycle costs. Other results of digitization are automatic train operation, condition-based maintenance of rail vehicles and monitoring tools and telematics solutions for commercial vehicles. Automated driving may impact the rail and commercial vehicle industry significantly, depending on the speed of adjustment to regulatory challenges, the development of safe and reliable technical solutions, and customer acceptance of and willingness to pay for such solutions. In connection with this growing trend, new solutions such as the development of driver assistance functions are emerging with the aim of reducing accidents, transport costs and emissions. Thus, all current megatrends provide growth potential for our business, particularly due to our strong focus on R&D.

In this respect, our two operating segments — Rail Vehicle Systems and Commercial Vehicle Systems — are highly synergistic. Our product offerings across both segments share the same core technologies which allows for

the transfer of know-how and technology. Likewise, Rail Vehicle Systems and Commercial Vehicle Systems to a large extent feature similar types of components and materials. We leverage IP, technologies, know-how and improvements originally developed with a focus on one of the two business segments for product solutions in the other business area.

While our headquarters are based in Munich, we are represented across the globe, with over 100 locations in more than 30 countries. Locally-based, highly qualified employees who speak the local languages and are familiar with the respective cultural conventions and national product requirements ensure that we maintain the necessary proximity to our markets and customers. Our high degree of local presence allows us to operate with maximum flexibility and speed towards our customers while providing a natural hedge against currency fluctuations and trade barriers.

In the fiscal year 2017, we reported consolidated revenues of EUR 6,153.5 million (based on IFRS) and EBITDA of EUR 1,115.5 million (corresponding to a margin of 18.1%). We had an average number of 26,910 employees (based on headcount) in the fiscal year 2017 (including leasing staff) and approximately 28,000 employees (based on headcount, including leasing staff) as of December 31, 2017 worldwide. In the fiscal year 2017, we generated 53% of our Group revenues and 55% of our EBIT in the Rail Vehicle Systems segment and 47% of our revenues and 45% of our EBIT in our Commercial Vehicle Systems segment. In the fiscal years 1989 to 2017, our revenues as reported in our statutory consolidated financial statements, which were prepared according to German GAAP, have grown at a CAGR of 10.3%. In the fiscal years 2003 to 2017 our revenues grew at a CAGR of 7.6%, our EBITDA grew at a CAGR of 11.1%, our EBITDA-margin increased by 660 basis points over the same period and our operating cash flow grew at a CAGR of 7.4% (as reported in our statutory consolidated financial statements, which were prepared according to German GAAP (2003-2013) and IFRS (2014-2017); data presented in accordance with German GAAP may not be comparable to data prepared in accordance with IFRS). In the fiscal years 2010 to 2017, our revenues at Group level, as reported in our statutory consolidated financial statements, which were prepared according to German GAAP (2010-2013) and IFRS (2014-2017), grew at a CAGR of 7.5% and our EBITDA grew at a CAGR of 11.3%. In the fiscal years 2016 to 2017, the CAGR of our revenues on Group level was 12.5% and of our EBITDA was 6.0% (each based on IFRS). We experience a sustained Order Intake momentum with a solid book-to-bill ratio, *i.e.*, a stable ratio of incoming orders in comparison to outgoing orders, underlining future growth potential. In the fiscal year 2017, our Order Intake was EUR 6,656.6 million. In the fiscal years 2014 to 2017, our Order Intake grew at a CAGR of 6.5%. We have a stable Order Book that indicates visibility of more than 60% of the following year's revenues. In the fiscal year 2017, our Order Book was EUR 4,177.0 million. In the fiscal years 2014 to 2017, our Order Book grew at a CAGR of 5.3%. In the fiscal year 2017, our personnel expenses amounted to EUR 1,438.9 million, while in the fiscal year 2014, they amounted to EUR 1,093.3 million. In the fiscal year 2017, our depreciation and amortization totaled EUR 211.5 million, while in the fiscal year 2014, it totaled EUR 125.7 million. Additionally, in the fiscal year 2017, our total assets were EUR 5.727.4 million and our equity, EUR 1.995.7 million, while in the fiscal year 2014, our total assets were EUR 4.233.0 million and our equity EUR 1,468.0 million.

11.2. Competitive Strengths

We believe that the following strengths and, in particular, their combination, distinguish us from our competitors and provide us with competitive advantages in the markets we operate in:

11.2.1. We are the global market leader in brake systems and a leading supplier of other safety-critical systems in the rail and commercial vehicle markets which are protected by high barriers to entry

We are the number one global supplier of brake systems and a leading supplier of other safety-critical rail and commercial vehicle systems (according to our own estimates for 2017 revenue). We benefit from these leading market positions in our key target markets across our entire product portfolio.

According to our own estimates, we had a global market share of approximately 50% of total worldwide sales of brake systems for rail vehicles in 2017. This is approximately three times the market share of our most important competitor in this product category, Wabtec/Faiveley, which we estimate to be the second largest supplier with a market share of approximately 15%. We are thus, in our assessment, the number one supplier of rail vehicle brake systems. We estimate that we also hold a number one global market position in our other key product group of entrance systems, with a market share of 25%, and that we are the second largest player for HVAC systems with a market share of 15% in 2017.

We estimate that we were the leading supplier worldwide in 2017 of air brakes for trucks and buses (for truck and bus OEM sales only; including air disc brakes, foundation drum brakes, brake control and air supply, excluding trailer and aftermarket), with a market share of 32%. We estimate that this market share was 1.4 times larger than the market share of our closest competitor, Wabco. Likewise, according to our estimates, we enjoy leading market positions in our two other key product groups, with a number one position in energy supply and distribution, as well as a joint number one position in fuel efficiency products. We estimate that our respective market share in these two product categories is 40% and 23%, respectively.

We believe that the markets in which we operate are well protected by high barriers to entry. First, given the safety-critical nature of our products and services, they are subject to intense regulation and safety standards which are continuously increasing. In addition, in our Rail Vehicle Systems segment, certification plays a major role, in particular in light of the trend towards increasing regulatory requirements, higher homologation costs and longer certification time. We face rigorous homologation requirements driven by many different regional safety standards such as GOST standards, applicable in Russia and the CIS countries, among others, and the standards of the International Union of Railways ("**UIC**") (primarily applicable in Europe, India, Japan, South-East Asia and parts of Africa), the Association of American Railroads (primarily applicable in the Americas, part of Africa and Saudi Arabia) and the Australasian Railway Association (applicable in China and Australia). It is complex to achieve certification in all of these regions and homologation according to such standards typically entails long approval processes. For our most recent products, for example, homologation of each individual product took between four and eight years. Further, the number of product variants that need to be homologated is very high. In the Rail Vehicle Systems segment, for example, we have over 100,000 active brake articles. We therefore believe the extensive regulation and the strict safety standards work in our favor and give us an advantage over our competitors as, to our knowledge, we are the only supplier worldwide that is certified for all local standards and norms applicable to our products. Similarly, continuously increasing safety and emission standards shape our Commercial Vehicle Systems segment, in which we believe we are one of only two suppliers able to offer homologated products on a global basis. Secondly, comparatively low volumes in the rail and commercial vehicle markets combined with the need for substantial customization of each individual product create considerable challenges for new entrants in our target markets. This is further exacerbated by high initial capital requirements to create production capacities. In addition, as a result of OEM customers' and rail operators' focus on risk aversion, incumbent market participants have, over decades, established comprehensive and well protected intellectual property portfolios to meet high quality and safety standards. Finally, the rail and commercial vehicles industries generally feature long lifespans, resulting in the ability of incumbent market participants to offer products and services over the entire lifecycle of rail and commercial vehicles, including long service periods in the aftermarket. Not only does this create stable business for us, but it also instills loyalty in our customers.

As a consequence of these barriers to entry, the major players in the rail and commercial vehicle markets today, especially in brake systems, are the same as those that existed 100 years ago (ourselves as well as Wabtec and Wabco, the successor entities to Westinghouse), which also underscores our position as market leader in brake systems and other safety-critical rail and commercial vehicle systems.

11.2.2. Synergies between our rail and commercial vehicle segments and benefits of scale help us sustain technological leadership

In the context of developing our product portfolio, we have identified a wide range of synergies between our Rail Vehicle Systems and Commercial Vehicle Systems segments, emphasizing that our two business segments are highly interdependent and create numerous benefits for each other. We are well-positioned to capitalize on synergies between our two business segments. Our product offerings across both segments share the same core technologies (most notably regarding the use of pneumatics in brake systems) which allows for the transfer of know-how and technology. Likewise, Rail Vehicle Systems and Commercial Vehicle Systems to a large extent feature similar types of components and materials enabling us to leverage our knowledge in both segments and to make the most of our comprehensive research and intellectual property base.

More specifically, we leverage IP, technologies, know-how and improvements originally developed with a focus on one of the two business segments for product solutions in the other business area. For example, we have applied know-how regarding electric compressors, friction material, friction pairing and air disc brakes acquired in the Rail Vehicle Systems segment to the Commercial Vehicle Systems segment. Similarly, know-how gained in the Commercial Vehicle Systems segment in connection with driver assistance, trailer control valves and electronic air supply has helped us advance our products in the Rail Vehicle Systems segment.

Likewise, wherever possible, we also apply this principle of technology transfer with respect to potential acquisitions. For example, with the acquisition of Kiepe Electric in 2017, we gained critical electrification

competence that can be applied to both the rail and bus segment. We believe that our ability to leverage these various synergies between our rail and commercial vehicle segments gives us a distinctive advantage over our competitors and promotes our technological excellence.

We have thus decided to invest in shared research centers, most recently our new Research and Development Center in Munich which accommodates both our business segments. Furthermore, our Rail Vehicle Systems segment benefits from our experience in the Commercial Vehicle Systems segment with advanced driver assistance systems and highly automated driving functions, for example related to the interference of trams with road traffic, thus helping us make faster progress in new technological developments and providing an advantage over our competitors. We believe that we also benefit from such technology transfer in condition monitoring, condition-based and predictive maintenance and electromechanical brake systems. Over the last few years, we have advanced our products and services in both segments in response to global megatrends such as electrification and connectivity by addressing the same issues and providing similar solutions, showing that we can combine our R&D for both our business segments and maximize the use of our expertise. Our technological excellence is also underscored by the fact that we introduced, in our management's view, nine out of the ten most industry-defining innovations in the rail vehicle industry and eight out of the ten most industry-defining innovations in the commercial vehicle industry over the last decades.

In addition to these advantages resulting from synergies, we also enjoy unique benefits of scale in our R&D activities. Based on our overall revenues in the fiscal year 2017, we are approximately twice as large as our largest competitors (according to our own estimates from our revenues under IFRS as compared to Wabtec's standalone revenues prior to its expected merger with GE Transportation), which allows us to dedicate considerable investment to future technological developments and puts us in a strong position to retain our technological excellence.

11.2.3. We have consistently managed to outperform our underlying end-markets and are well positioned to capitalize on global megatrends and increasing content per vehicle

Over the past few decades, we have consistently managed to grow faster than our underlying end-markets (although the impact of different market definitions should be noted — see "*10.1. — Introduction: Market Definitions, Background and Methodology*"*)* and we believe that we will be able to continue to do so in the future for a variety of reasons.

We are well-positioned to capitalize on current global megatrends, in particular urbanization, eco-efficiency, digitization and automated driving, which will shape both the rail and commercial vehicle industries. Traditionally, our product focus has been built around safe, clean and efficient solutions, which aligns our product and services offering well with these megatrends and entails that our corporate DNA and capabilities are well-suited to address the new product and services demands.

In our Rail Vehicle Systems segment, we have an impressive track record of industry outperformance as shown by our revenues CAGR of 7.3% (comprising an organic CAGR of 5.7%) from 2010 to 2017 (based on Rail Vehicle Systems organic revenues growth under German GAAP) in comparison to a CAGR of approximately 2% for the underlying Rail Vehicle Market (underlying OE rolling stock and aftermarket volume) over the 2010 to 2016 period (market CAGR is based on order intake, with an average for three-year periods; source: RB RV Report). Overall, we thus outperformed the market by 3.7 times (and by 2.8 times when taking into account organic growth alone).

We believe one of the key growth drivers of our Rail Vehicle Systems segment is the high growth of the Asian market due to continuing urbanization driving mass urban transport demand in APAC, the increase of high speed rail lines in China and the expansion/upgrade of rail rolling stock in India. Also, China Railway Rolling Stock Corporation's ("**CRRC**") strategy of international expansion contributes to our increasing business volume. Other key growth drivers include, in our view, digitization with its rising demand for connected systems and other digital solutions and the resulting business opportunities in the global rail services and aftermarket for rolling stock. We believe that we are well-positioned to benefit from the Asian market growth as we are a partner of several Chinese OEMs, with a large installed base in the Asian market. Furthermore, our engineering and R&D capabilities as well as our technological excellence in connected systems make us a natural partner for OEMs and help us gain from increasing outsourcing of production by rail OEMs and the trend of de-verticalization. Finally, our growing installed based as well as our advanced control and monitoring technology gives us a competitive advantage in the rail vehicle aftermarket. Accordingly, we are well positioned to continue to outperform the underlying rail vehicle market.

In our Commercial Vehicle Systems segment, we also have a strong track record of industry outperformance. From 2010 to 2017, our revenues grew at a CAGR of 8.1% (of which organic sales grew at a CAGR of 7.5%, based on German GAAP) in comparison to a CAGR of approximately 1.3% of global TPR according to IHS.

Overall, we thus outperformed the market by 6.0 times (and by 5.6 times when taking into account organic growth alone).

Key growth drivers that we identified in our Commercial Vehicle Systems segment comprise the global megatrends described above, in particular eco-efficiency, digitization and automated driving, and increasing regulation relating to safety and environment. These factors contribute to the global adoption of technologies in commercial vehicles, especially increase in content per vehicle relating to traffic safety and fuel efficiency (*e.g.* increasing adoption of ADAS and the continuing shift from drum to disc brakes in North America and China, combined with the increasing adoption of ABS systems, including ESP, in these regions), among others. From 2010 to 2017, the content per vehicle in our Addressable Commercial Vehicle Systems Market, based on our own estimates, increased at a CAGR of 5.3% on a global level (7.0% in North America, (0.9)% in South America, 3.1% in Europe and 5.2% in Asia/Australia). We believe we are well-positioned to benefit from secular growth drivers in the Commercial Vehicle Systems segment and to increase our market share given our proven track record of industry innovations that introduce key products to address megatrends and upcoming legislation across key geographies worldwide. Our wide-ranging product portfolio often gives us an advantage over our competitors and makes us a partner of choice for OEMs.

11.2.4. Through our dedication to R&D and quality standards we drive innovation in mobility and transportation technologies and have excellent expertise in connected systems

We have a history of driving innovation in our end-markets and have consistently invested a higher proportion of our revenues in R&D than our closest competitors, which we believe help us maintain and expand our technological and innovation excellence. This dedication to R&D is further fueled by our commitment to high quality standards which also requires constant technological advancement. As of the date of this Prospectus, our ambitious R&D activities have resulted in over 10,000 patents (comprising approximately 2,800 patent families) that have been granted or applied for and a superior R&D innovation platform in terms of spending. In 2017, we dedicated 5.8% of our revenues to R&D, (6.2% of our revenues in the Rail Vehicle Systems segment and 5.2% of our revenues in the Commercial Vehicle Systems segment, based on German GAAP). In comparison, our main competitor in the Rail Vehicle Systems segment, Wabtec/Faiveley, spent 2.5% of its revenues on R&D according to the Wabtec/Faively annual report 2017. Our most important competitor in the Commercial Vehicle Systems segment, Wabco, spent 4.4% of its revenues on R&D according to its annual report 2017. Hence, the efforts of both of our main competitors exhibit lower relative and absolute levels of R&D commitment than ours.

Additionally, we continuously screen the market for strategic acquisition opportunities that will further broaden our technology portfolio and advance our product offering. Through our focused M&A approach we complement our technological expertise to address new customer demands and product requirements. In 2016, for example, we acquired tedrive Steering Systems GmbH (renamed as "Knorr-Bremse SteeringSystems GmbH"), thus improving our steering technologies for autonomous driving. With the acquisition of Selectron, we can now offer hardware and software for Train Control Management Systems (TCMS). In 2016, we entered into a partnership with Microlise Ltd. which enabled us to tap into the telematics segment and strengthen our profile as a connected systems provider.

We continuously review and update our innovation roadmaps for both our Rail Vehicle Systems and our Commercial Vehicle Systems segments. These roadmaps provide an overview of our internal development priorities, which we map against the external market trends and opportunities that we perceive, such as the megatrends of digitization and automated driving. For example, we integrated our individual component solutions into connected systems, thus providing our customers with comprehensive, integrated and standardized solutions from a single source and generating added value for manufacturers and operators in terms of time, technology and cost. In our Rail Vehicle Systems segment, we combine braking, HVAC, entrance systems and controls in our digital 4.0 intelligent condition-oriented maintenance ("**iCOM**") software which provides the flexibility to use or turn off HVAC systems based on load requirements and to direct passengers to less busy cars. Similarly, in Commercial Vehicle Systems, our combination of brake and steering systems, powertrain controls and telematics has led to lower wear, weight and driver costs, increased operating time and the development of redundancy concepts (*e.g.*, steering by brakes). We believe that our connected systems capabilities provide for significant customer benefits, such as increased efficiency and lower costs of operation, and distinguish us from our competitors.

11.2.5. We pursue a resilient business model, which is characterized by two main markets following different business cycles, broad geographical and customer diversification, strong localization and high aftermarket exposure

Over the past few decades, we have demonstrated strong resilience in terms of growth and profitability, even during times of economic turmoil or downturns, including the global financial crisis of 2008/09. Our revenues

grew at a CAGR of 8% in the fiscal years 2003 to 2017 and at a CAGR of 7.5% from 2010 to 2017 (based on our statutory consolidated financial statements, which were prepared according to German GAAP (2003-2013) and IFRS (2014-2017); data presented in accordance with German GAAP may not be comparable to data prepared in accordance with IFRS). Various factors, either characteristic of the markets in which we operate or of our own business model, contributed to our ability to maintain growth and profitability levels, and we expect they will continue to do so in the future. First, the Rail Vehicle Systems and Commercial Vehicle Systems markets naturally follow different and empirically uncorrelated economic cycles due to their respective market drivers. The Rail Vehicle Market is characterized by long cycles as it is largely driven by public spending, whereas our Addressable Commercial Vehicle Market tends to live on shorter cycles, since it is predominantly fueled by the private sector.

Given the fact that our split in revenues from our Rail Vehicle Systems and Commercial Vehicle Systems segments is close to 50/50, we benefit from a balanced exposure to these two complementary markets. The high sales visibility in the Rail Vehicle Market, resulting from the long cycle nature and project related order backlog, also provides for reliability in our business planning and helps us adjust to economic developments.

A second major factor in our strong resilience is our diversified customer base. As a result of our global market leadership for brake systems (see "*11.2.1. — We are the global market leader in brake systems and a leading supplier of other safety-critical systems in the rail and commercial vehicle markets which are protected by high barriers to entry*"), we supply all major global and local players, resulting in low customer concentration, with our top 5 customers accounting for only approximately 28% of our revenues in the fiscal year 2017. Third, we operate a global footprint, with a presence in more than 30 countries and over 100 locations. Over 80% of our total employees are based outside Germany (with 15% employed in China). This worldwide presence entails a high degree of local production combined with local sourcing and local R&D activities which serves as a natural hedge against currency fluctuations, increasing trade barriers and economic volatility in individual markets. For example, during the financial crisis of 2008/09, decreasing demand in Europe and North America was offset by a strong freight sector in Asia.

A fourth key reason to support our continued resilience is our increasing focus on aftermarket business, which contributed approximately 35% of our total revenues in the fiscal year 2017 (representing 42% of revenues in our Rail Vehicle Systems segment and 28% in our Commercial Vehicle Systems segment). Both, the rail vehicle and commercial vehicle aftermarkets tend to be very stable, thus enhancing our resilience of growth and profitability. Between 2010 and 2017, our revenues in the aftermarket grew at a CAGR of 9.7% (based on German GAAP). Regulated maintenance intervals, relationships with our customers that last between 20 and 30 years and our large installed base form the basis of our strong aftermarket business. Additionally, a high number of service centers help us achieve close relationships with our customers. Our strong customer retention is further enhanced by high switching costs, a strong focus on safety and quality as well as a high level of IP protection. Further, we continuously introduce innovative connectivity-based business models that include preventive and predictive maintenance solutions and thus further strengthen our position to capture a high aftermarket share in the future.

11.2.6. We benefit from a stable financial profile featuring strong growth, profitability and cash generation

Over the past 15 years, we increased our revenues at a CAGR of approximately 8% while our EBITDA margin expanded by 660 basis points from approximately 12% in the fiscal year 2003 (based on German GAAP) to approximately 18% in the fiscal year 2017 (based on IFRS). The substantial growth in both our revenues and profitability resulted in a stable level of value generation which we are committed to maintain. While the strong performance was achieved through rising business volumes in both our Rail Vehicle Systems and Commercial Vehicle Systems segment, we also achieved sector leading profitability in both segments, with profitability expansion further strengthened through a comprehensive cost program and continuous improvements of internal processes and structures. The steps we took to create sustainable and profitable growth have thus proven effective. Additionally, with an equity ratio of 35% and EUR 1.6 billion of gross cash plus undrawn bank facilities as of December 31, 2017, our financial position is very stable. This is reflected by our positive credit ratings from Standard & Poor's (A) and Moody's (A2). Our solid equity base allows us to leverage our balance sheet for future investments. Likewise, our stable operating performance and our strong profitability provide us with strong free cash flow generation and a net cash position that also leaves us sizeable headroom for M&A activities, which can further enhance our technological competence as well as our product portfolio. We are thus well-prepared to continue our course of sustainable and profitable growth.

11.2.7. Our management team is very experienced and has a clear vision for future value creation

Our management team combines strong experience in terms of industry, capital markets, transformation and specific experience from within Knorr-Bremse. It is highly dedicated to pursuing sustainable profitable growth and cost reduction. We intend to raise our top line, *i.e.*, our revenues, by expanding our technology excellence,

focusing on growth potential from introducing new technologies, in particular in areas of connected systems and automated driving, digitization and connectivity. Accordingly, our management is also poised to harness opportunities from megatrends currently driving the rail vehicle and the commercial vehicle markets. We will further drive our international orientation which enables us, on the one hand, to benefit from regional developments such as mass urbanization in Asia, and on the other hand to continue shifting our production to best-cost countries. An important part of our management's vision for the future is to grow our profitable aftermarket business. Secondly, our management aims to continue its focus on bottom line growth, *i.e.*, reducing our costs. To this end, we have implemented global standards for the supply chain (including unified purchasing) and global process standards, which both enhance our internal processes and are an integral part of our cost reduction program. We believe that optimizing operating costs and pursuing targeted M&A with successful integration of the acquired business will help us to achieve our target organic CAGR of between 4.5% and 5.5% p.a. and a medium-term EBITDA margin expansion of 150 basis points from the 2017 base which is complemented by value-add acquisitions. Furthermore, our management board has established rigorous corporate governance structures, including clear accountability of individual board members.

11.3. Strategy

In order to retain our leading positions in both the Rail Vehicle and the Commercial Vehicle Markets and to continue achieving sustainable and profitable growth, we aim at shaping the future of rail and commercial vehicle transportation by making it safer, more reliable and more efficient while at the same time increasing value for our customers, employees and shareholders. We strive to continue outgrowing our underlying markets and to maintain a high level of profitability by leveraging and strengthening our current market positions.

We believe that our corporate culture and our core values which promote technical excellence combine an entrepreneurial mindset with a passion for work and nurture responsibility and reliability, facilitate the implementation of our business strategy. Furthermore, we understand how to balance the global set-up of our business and product excellence with local entrepreneurship and local expertise.

The key elements of our strategy for pursuing and achieving the abovementioned objectives are as follows:

11.3.1. Setting industry standards by expanding our global technology leadership

We perceive ourselves as a global technology leader. As such, we strive to implement innovative and value-added solutions while setting industry-wide standards for efficiency, emission reduction and e-mobility and maintaining a high level of safety, reliability and quality. For this reason, we are continuously expanding our synergistic R&D activities. In our Rail Vehicle Systems segment, for example, we create innovative sub-systems and intelligent connected solutions designed to enhance rail vehicle performance, *i.e.*, to maximize operational and functional safety and minimize life-cycle costs. Similarly, in our Commercial Vehicle Systems segment, we engage innovative functionalities for automated driving and smart system connectivity for vehicle efficiency, *i.e.*, emission reduction, and traffic safety.

In addition to the technological developments in our individual segments, we exploit synergies between our Rail Vehicle Systems and Commercial Vehicle Systems segments and intend to systematically strengthen and leverage such synergies over the coming years (*e.g.*, by establishing further shared research centers and transferring technology between our two segments). We believe that there is considerable further potential for synergistic developments in the fields of condition monitoring, condition-based and predictive maintenance and electromechanical brake systems. As a result of such comprehensive R&D activities, we believe our innovative product solutions generate additional value for manufacturers, operators and users alike.

Furthermore, our longstanding customer relationships enable us to readily adapt our technologies to the needs of the different customer segments. However, they also allow us to anticipate future trends and make the best use of our R&D investments while customizing products and ensuring high product quality. Staying at the forefront of technological developments, while maintaining our focus on customer needs, we intend to exploit current and future global megatrends by introducing new technologies addressing such megatrends. For example, we have developed safe entrance systems and solutions for increasing transportation demand, catering to the need for improved transport capacity as a result of urbanization. We have introduced environmentally-friendly HVAC systems and adapted our portfolio to energy-efficient mobility in response to the increasing global focus on eco-efficiency. Digitization has had a significant influence on the shape of our smart mechatronic products and our capabilities in the area of remote diagnostics. To address the increasing trend toward automated driving, we established a roadmap for technological developments from assisted driving to ADAS. We are also driving innovation with our rail driver assistance and our rail collision avoidance solutions, all of which makes us believe that we will be able to continue setting industry standards and expand our position as global technology leader.

11.3.2. Being the system partner of choice for our customers

We strive to be the system partner of choice for our customers by systematically advancing our products and services and aligning them with customer expectations, thereby creating maximum customer value. We believe in staying ahead of our competition by delivering innovative products of high quality that we support with comprehensive customer service.

Additionally, we are continuously expanding our systems expertise, as exemplified by our entry into the steering technology sector through the acquisition of tedrive Steering Systems GmbH. Our close relationship with, and deep knowledge of, our customers further helps us hone our innovation capabilities and deliver on customer needs. It also creates a platform for fast interaction cycles through integrated value chains, readily adapting to changing customer needs. Due to our connected systems expertise, we believe we are the natural partner for OEMs catering to this demand. Our connected systems offer an integrated solution at lower R&D costs, lower overall system costs and lower total cost of ownership. They allow for reduced weight and space. Further, we expect to see a higher share of outsourcing for whole modules due to consolidation among OEMs. Due to our development in past decades, we see ourselves in a strong position to benefit from this trend, as we have large expertise in electronics, mechanics and mechatronics and in the handling of large projects. Our systems integration capabilities are well-established and the closeness with our customers allows us to develop tailored solutions with a high degree of customer specifications.

We see our customers as partners with whom we collaborate closely on R&D projects, underlined by the fact that around half of our R&D efforts are dedicated towards defined projects with customers. Operating in more than 30 countries, covering all continents and with over 100 locations, we are able to serve our customers globally. This is particularly emphasized by the fact that we are the only supplier globally able to meet local requirements and to achieve homologation on a global basis in our Rail Vehicle Systems segment. We believe, however, that we are also able to win shares in unregulated markets with our diversified product portfolio. Furthermore, we benefit from an international mindset while being fully aware of and adapting to local market intricacies, combining the benefits of our global organization with the advantage of local expertise. We build up production and development capacities in local markets, supplying them directly and solidifying our relationships with customers worldwide, as well as creating jobs and positioning ourselves as regional partners. We take great care that our local management teams show entrepreneurial responsibility while being familiar with local customs and standards. This ensures short lead times for our customers and adherence to country-specific quality standards, all of which further underscores our status as the system partner of choice. Additionally, we benefit from an integrated global organization, enabling seamless communication and know-how sharing across our entire Group. This generates strong synergies between our Rail Vehicle Systems and our Commercial Vehicle Systems segment, which in turn provides our customers with a variety of benefits. Lastly, what distinguishes us from our competitors as the system-partner of choice for our customers is our unwavering dedication to quality and reliability.

11.3.3. Expanding our market share by continued penetration of international markets and global expansion

Historically, we have demonstrated a strong growth trajectory with a revenues CAGR of 7.5% from 2010 to 2017 (based on German GAAP for 2010-2013 and based on IFRS for 2014-2017; data presented in accordance with German GAAP may not be comparable to data prepared in accordance with IFRS), benefitting from organic growth linked to the targeted expansion of our product and services portfolio, as well as focused acquisitions to facilitate industry consolidation. In order to sustain such strong growth, we have defined strategic objectives for both of our core business segments as well as for potential M&A opportunities. We believe that these objectives will continue to secure our future growth.

In China we expect growth in the OE metro market segment and in the aftermarket, among others. China is characterized by high government spending and a high urbanization ratio. We have been able to benefit from the Chinese government's efforts, particularly in the last few years, to promote efficiency and safety, and have managed to capture a large share of the demand from the high-speed sector and the expansion of the local mass transit infrastructure. Between 2010 and 2017, our OE revenues in China grew at a CAGR of 36.4% (truck, bus and trailer OE revenues, excluding aftermarket; based on German GAAP), of which more than nine-tenth was attributable to organic growth. We now intend to leverage our large installed base, trusted relationships with leading Chinese railway players and our strong presence in the Chinese market to pursue further growth. China's "one belt one road" or "Belt and Road Initiative", the objective of which is to build trade routes between China and the countries in Central Asia, Europe and the Indo-Pacific coastal countries, will, in our assessment, continue to serve as a strong platform to retain and enhance our market position in China.

In India, we believe recent trends like the electrification of railway lines and the establishment of dedicated freight and high-speed corridors, for example, will continue to drive strong market growth. For these reasons, we

believe India offers great business potential. We are confident that we can use our experience in China as a blueprint for expanding our market share on the Indian subcontinent. Therefore, we have established a strong local footprint, modeled on a strategy that we have been pursuing profitably in China. Our operations in India are characterized by an entrepreneurial culture with close alignment to the needs of our key customers. Thus, we seek to harness and benefit from India's market growth.

In our Commercial Vehicle Systems segment, we intend to leverage the current trend regarding increasing content per vehicle, which is driven by an ongoing global convergence towards air disk brakes, to further grow our OE business in China, North America and Europe. Moreover, new regulations are driving technology upgrades for trucks and buses. We believe these standards constitute a growth driver in light of zero and low emission zones for urban areas in key markets, such as Beijing in China. Those developments help us promote the technological excellence of our products in the Chinese market and exploit our position in electric vehicles. Accordingly, we plan to intensify our collaboration with key local players and to expand our network to establish our aftermarket services for trucks. In North America, where the content per vehicle has been historically lower than in Europe, we expect the content per vehicle level to increase with the further adoption of air disc brakes and collision mitigation systems. Due to our technological expertise and brand, we intend to capitalize on this development. Further, due to the strong Indian economy, we expect strong business growth with major Indian customers.

In addition to our organic growth, we will continue to pursue targeted acquisitions and joint ventures, in particular to strengthen our market positions in China and North America. We continuously search for new investment opportunities. Our M&A pipeline currently comprises approximately 50 targets that we monitor closely, of which approximately 25 are shortlisted. With our focused acquisition strategy, we strive to expand our existing product and services portfolio, in order to enhance our international growth, strengthen our systems competence and acquire technology-enabled related business fields. Our M&A strategy serves our participation in active market consolidation and underscores our efforts to identify new areas of business and broaden our current product offering.

We believe our capabilities in connectivity and systems integration as well as the ability to look beyond our traditional business are decisive factors in ensuring our future success. Accordingly, our targeted acquisitions serve to strengthen our connected systems approach and our lifecycle business while extending our product portfolio and acquiring adjacent business fields. In line with our technology excellence, we aim to actively influence emerging innovations not only through our own R&D activities but also through co-operations and investments in start-ups. Currently, we are focusing such venture capital investments on Europe, but will gradually expand such partnerships into our other target markets. We believe that this selective outsourcing of R&D activities will help create networks and enable us to expand into technology-enabled adjacent business fields. We believe that both targeted M&A and co-operations will further contribute to our future growth.

11.3.4. Further pursuing of our dedicated aftermarket strategy

In both our Rail Vehicle and Commercial Vehicle Systems segment, we are well-positioned to take advantage of the highly attractive and stable aftermarket opportunities across our two business segments.

The aftermarket in the Rail Vehicle Systems segment offers predictable cash-flow potential. We estimate that the total aftermarket potential could reach a value two to three times as high as the value of the respective OE for a given rail vehicle system over such system's lifetime. In China, where we believe half of the global installed base of high-speed is located, our high-speed rail cumulative deliveries increased at a CAGR of 27.8% between 2010 and 2017, thus significantly increasing our total installed base which amounted to a total of approximately 217,000 cars as of December 2017. Accordingly, we strive to leverage our strong OE business and the corresponding (young and growing) installed base, which according to our own assessment amount to 50-55% of the total global fleet (based on German GAAP; BilRUG sales allocated proportional between OE and aftermarket) to capture a higher aftermarket share.

With regard to the rail vehicle aftermarket, we also benefit from mandatory service plans as regulators worldwide increasingly prescribe mandatory regular checks and fleet modernization, both of which have a direct influence on our business volume. Due to our ever increasing technology excellence, we furthermore intend to offer aftermarket services based on new data driven business models which allow for condition-based maintenance and remote diagnostics, both of which are becoming more and more market standard and driving our growth. We believe that we will benefit from our large installed base and increase our rail aftermarket business over the next few years.

In the Commercial Vehicle Systems aftermarket segment, we also intend to leverage our installed base which consists of, for example, 17.3 million air disk brakes and 6.8 million air treatment systems sold between 2008

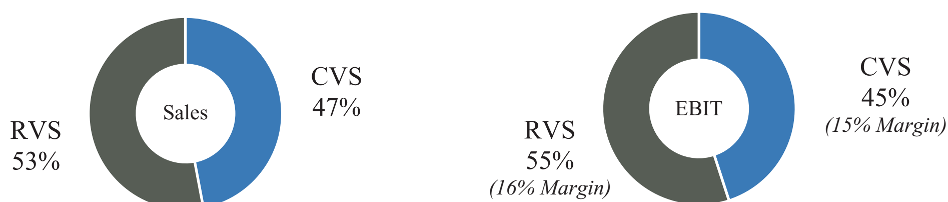
and 2017. The aftermarket, in our view, offers attractive opportunities with respect to wear and tear parts during the lifetime of a commercial vehicle (approximately 20 years on average): for example, brake pads and brake discs for air disc brakes are replaced, on average, seven to nine times and three to five times, respectively, over the vehicle's lifetime, while filter cartridges for air treatment systems may be replaced, depending on the technology, seven to twenty times over the vehicle's lifetime. We believe we have strong market shares in Commercial Vehicle Systems products with a significant content in wear and tear parts, giving us a solid foundation for a sustainable aftermarket business. Further, our global aftermarket platform with a strong warehouse and customer base and numerous service facilities provide for a high presence where we can offer our independent aftermarket solutions that also fit our competitors' systems. We intend to leverage this position to further expand our existing Commercial Vehicle Systems aftermarket business and to develop additional innovative aftermarket business models.

11.3.5. Continuing to strive for cost and process excellence

In order to retain our sustainable and profitable growth and to further improve profitability, we strive for continuous cost excellence, scale benefits and synergies between our Rail Vehicle Systems and our Commercial Vehicle Systems segments. We are aware that rigorous cost management and efficient processes are as important as ever in a market that is increasingly driven by consolidation amongst our OEM customers. We therefore focus on strict cost and financial management, strengthening efficient processes (including the introduction of global process standards, global supply chains and unified purchasing standards) and leveraging our sound balance sheet for future growth. In particular, we continuously work on process optimization, most notably regarding project management and sales. We plan on being able to further reduce our costs, including through structural cost savings such as relocation projects and overhead cost reduction. We also rely on increasing transparency for holistic project controlling and monitoring, which in our experience, having introduced an ongoing operative cost improvement program over 10 years ago, contributes to further cost optimization. In addition, we use software to improve price negotiations, value analysis and engineering and continuously screen for savings in other operational expenditures. We have also introduced big data analysis and autonomous systems that additionally contribute to a streamlining of our production processes into the value chain, all of which enhance our cost and performance excellence. In these efforts toward cost reduction, we carefully balance our manufacturing and R&D footprint, focusing on quality with the need for cost optimization. Accordingly, we continuously improve our high-tech vs. best-cost footprint and aim to increase the production amount in best-cost countries from our current level of approximately 52% without making concessions to the overall standard of our product and services portfolio.

11.4. Our Operating Segments

Our operations are managed in two segments, the Rail Vehicle Systems and Commercial Vehicle Systems segment. In 2017, we generated 53% of our revenues and 55% of our EBIT in the Rail Vehicle Systems segment with 47% of our revenues and 45% of our EBIT in our Commercial Vehicle Systems segment.



In our Rail Vehicle Systems segment, we had revenues of EUR 3,260.1 million and an EBIT of EUR 523.3 million, corresponding to a margin of 16.1% in the fiscal year 2017 based on IFRS. EUR 1,938.0 million of such revenues in the fiscal year 2017 were attributable to OE, whereas EUR 1,387.2 million resulted from aftermarket sale (based on German GAAP; sales according to the German Accounting Directive Implementation Act (*Bilanzrichtlinie-Umsetzungsgesetz*; "**BilRUG**") allocated proportionally between OE and aftermarket). From 2014 to 2017, our revenues in this segment grew at a CAGR of 2.9%, whereas our EBITDA was at a CAGR of (2.6)% and our EBIT at a CAGR of (6.3)% (based on IFRS). From 2014 to 2017, on a regional basis, our revenues in Europe grew at a CAGR of 9.1%, in Asia/Australia, decreased at a CAGR of 3.9%, in North America, grew at a CAGR of 6.1% and, in South America, decreased at a CAGR of 12.6% (based on IFRS). Between 2014 and 2017, our aftermarket revenues grew at a CAGR of 12.6% (based on German GAAP; sales according to BilRUG allocated proportionally between OE and aftermarket). Between 2010 and 2017, our OE revenues grew at a CAGR of 3.8%, wheres our aftermarket revenues grew at a CAGR of 14.7% (based on German GAAP; sales according to BilRUG allocated proportionally between OE and aftermarket). In the fiscal years 2010 to 2017, our revenues in this segment, based on our statutory consolidated financial statements, which were prepared according to German GAAP (2010-2013)

and IFRS (2014-2017), grew at a CAGR of 7.0%, whereas our EBITDA grew at a CAGR of 9.6% (data presented in accordance with German GAAP may not be comparable to data prepared in accordance with IFRS). From 2010 to 2017, our revenues CAGR was at 7.3%, of which organic sales grew at a CAGR of 5.7% (based on German GAAP). In the fiscal years 2003 to 2017, the CAGR for our Rail Vehicles Systems segment's revenues were at 9.7% and our EBITDA grew at a CAGR of 14.0%; from 2016 to 2017 the CAGR for our Rail Vehicles Systems segment's revenues was at 9.4% and our EBITDA grew at a CAGR of 2.5% (based on our statutory consolidated financial statements, which were prepared according to German GAAP (2003-2013) and IFRS (2014-2017)). In our Rail Vehicle Systems segment, we received sales orders for EUR 3,536.6 million in the fiscal year 2017 based on IFRS. Our Order Book was EUR 2,876.3 million in the fiscal year 2017 based on IFRS.

In our Commercial Vehicle Systems segment, we generated revenues of EUR 2,890.6 million and an EBIT of EUR 421.5 million (corresponding to a margin of 14.6%), in the fiscal year 2017 based on IFRS. EUR 2,111.0 million of such revenues in the fiscal year 2017 were attributable to OE, whereas EUR 817.0 million resulted from aftermarket sales (based on German GAAP; sales according to BilRug allocated proportionally between OE and aftermarket). From 2014 to 2017, our revenues in this segment grew at a CAGR of 9.1%, whereas our EBITDA was at a CAGR of 13.0% and our EBIT at a CAGR of 13.2% (based on IFRS). From 2014 to 2017, on a regional basis, our revenues in Europe grew at a CAGR of 7.2%, in Asia/Australia, at a CAGR of 28.9%, in North America, at a CAGR of 7.3% and, in South America, decreased at a CAGR of 11.2% (based on IFRS). Between 2014 and 2017, our aftermarket revenues grew at a CAGR of 5.2% (based on German GAAP; sales according to BilRUG allocated proportionally between OE and aftermarket). Between 2010 and 2017, our OE revenues grew at a CAGR of 10.1%. One-third of such CAGR resulted from organic growth. One-tenth resulted from our M&A activity and from TPR. According to our estimates (conducted in 2017), an increase in content per vehicle in our Addressable Commercial Vehicle Systems Market contributed to almost half of such CAGR.

Our aftermarket revenues in the Commercial Vehicle Systems segment grew at a CAGR of 4.0% (based on German GAAP; sales according to BilRUG allocated proportionally between OE and aftermarket). In the fiscal years 2010 to 2017, revenues in the Commercial Vehicle Systems segment, based on our statutory consolidated financial statements, which were prepared according to German GAAP (2010-2013) and IFRS (2014-2017), grew at a CAGR of 7.9%, whereas our EBITDA grew at a GACR of 14.3% (data presented in accordance with German GAAP may not be comparable to data prepared in accordance with IFRS). From 2010 to 2017, our revenues grew at a CAGR of 8.1%, of which organic sales grew at a CAGR of 7.5% (based on German GAAP). In the fiscal years 2003 to 2017, the CAGR for our Commercial Vehicles Systems segment's revenues were at 6.0% and our EBITDA grew at a CAGR of 9.1%; from 2016 to 2017, revenues in our Commercial Vehicles Systems segment increased by 16.0% and our EBITDA grew by 18.3% (based on our statutory consolidated financial statements, which were prepared according to German GAAP (2003-2013) and IFRS (2014-2017)). In our Commercial Vehicle Systems segment, we received sales orders for EUR 3,122.7 million in the fiscal year 2017 based on IFRS. Our order book was EUR 1,316.1 million in the fiscal year 2017 based on IFRS. In 2017, air disk brakes contributed 24% to the revenues of our Commercial Vehicle Systems Segment. From 2012 to 2017, revenues from air disk brakes grew at a CAGR of approximately 7%.

With all of our products, we make a decisive contribution to safety and energy efficiency on road and rail around the world. As many of our products are safety-critical, a high level of operational availability and product reliability is one of the main reasons for our customers' purchase decision. Hence, we have a very high focus on quality. By implementing integrated management systems and introducing different quality initiatives throughout the Rail Vehicle Systems and the Commercial Vehicle Systems segments, we have increased quality awareness and created a quality-oriented mindset. We believe that a high degree of management attention further contributes to a high standard in product quality and processes. Such measures lead, in our view, to robustness of our products at delivery and during use in the field.

Research and development (R&D) is key to developing product offerings and brands in line with customer needs and future megatrends such as urbanization, eco-efficiency, digitization and automated driving. Therefore, we have always been highly committed to our R&D activities. Our innovations have a clear focus on customer benefit, in terms of reduction of energy consumption, noise or weight, total cost of ownership, modernization and upgrade solutions and adaption to regulation, among others. In our R&D activities, we aim to leverage on the high synergy potential between the Rail Vehicle Systems and Commercial Vehicle Systems segments. For the majority of our product portfolio, the underlying technology can be applied to both segments.

In the Rail Vehicle Systems segment, the majority of our R&D efforts is allocated to new technologies addressing the abovementioned megatrends. In 2017, we estimate we invested nearly two-thirds of our R&D budget in the Rail Vehicle Systems segment into electronic/mechatronic, software and digital products. We aim to extend our strong technology position in TCMS by designing a next-generation system that will provide the

hardware and software tooling to realize lower cost, cyber-secure systems. Our innovative iCOM platform bundles a number of functions offering efficient, low-wear driving, real-time energy consumption measurement and diagnostics, thus contributing to the digitization of the rail industry. In order to fulfill safety and emission requirements resulting from further urbanization, we developed a new Intelligent Air Control system which automatically adjusts the volume of supplied air. Due to other technical innovations of this system, benefits such as lower costs, a simplified system and reduced noise emissions for passengers and the surrounding environment are realized. In the field of automatic entrance systems, the new design of our fourth-generation entrance system results in improved sound and thermal insulation as well as increased passenger comfort. To meet the requirements of today’s automated train operation systems, we have developed a suite of functions to provide consistent, reliable and predictable braking performance as well as the adaptive control of the new MGS3 wheel slide protection system, which achieves reduced braking distances under a very wide range of weather conditions.

With respect to our Commercial Vehicle Systems segment, R&D activities in the past three years focused in particular on the megatrends of automated driving, digitization and electrification. With respect to automated driving, we developed advanced driver assistance functions as well as complete systems for highly automated driving (“**HAD**”) for commercial vehicles. In parallel, we plan to release the “Highway Pilot”, an entire HAD system, enabling a truck to follow a pre-set route without the intervention of the driver. As a major step towards the Highway Pilot, the “Platooning Pilot” is expected to be one of the first HAD Level functions on public roads, where several vehicles communicate and drive close behind one another. With respect to HAD functions on non-public roads, our Automated Yard Maneuvering System enables a truck to operate completely independently. To address the requirements associated with HAD and connectivity, we are also developing concepts for a new truck and trailer electronic architecture. To provide the necessary control for automated driving, we bundle the various vehicle control mechanisms with our integrated Truck Motion Controller (“**TMC**”). Paving the way for fully automated functionality, the Global Scalable Brake Control (GSBC) and the intelligent Hydraulic Steering Assist (iHSA®, “**iHSA**”) form a network for coordinated control of automated vehicles. With the acquisition of tedrive Steering Systems GmbH, a steering specialist for convential Recirculating Ball Technology as well as torque overlay steering, we believe we are now a leading supplier of connected chassis and safety systems that efficiently integrate brake system, steering system and driving dynamics interfaces. With our driver assistance system, Wingman Fusion, we aim to respond to the growing demand for innovative safety equipment for commercial vehicles.

Other major R&D focus areas include digitization and connectivity. In-vehicle system connectivity enables, for example, the simultaneous utilization of multiple sensors for different functionalities as well as connectivity between vehicles. In the field of telematics, we developed ProFleet Connect together with our partner, Microlise Ltd., a modular telematics system for fleet operators and drivers across Europe.

In order to address a future electrification of commercial vehicles, we are in the process of developing adapted and new solutions such as high-precision electric actuators, new electric-driven compressors and new concepts for brake blending considering the recuperation of energy in electric trucks and buses.

In the fiscal year 2017, we invested EUR 358.8 million or 5.8% of revenues into our R&D activities, thereof EUR 207.3 million, or 6.2% of our revenues, on R&D in our Rail Vehicle Systems segment and EUR 151.5 million, or 5.2% of our revenues on R&D in the Commercial Vehicle Systems segment (in each case based on German GAAP). As of December 31, 2017, more than 3,700 of our employees (including engineers, technicians, merchants) worked in R&D functions for the Group.

11.5. Main Products and Services

11.5.1. Rail Vehicle Systems

In the Rail Vehicle Systems segment, we have a long tradition of supplying high-quality and innovative products and services for local public transport vehicles, such as metros, light rail vehicles (“**LRV**”), freight cars, locomotives, regional and high-speed trains and monorails. Our portfolio is centered on key safety-critical systems within the rail vehicle such as brake systems, entrance systems and HVAC systems. In addition to that, our product portfolio includes auxiliary power supply systems, control components, and windscreen wiper systems, as well as platform screen doors, friction material, driver advisory systems, traction systems and train control and monitoring systems. The product portfolio is completed by the digital 4.0 iCOM platform, with monitoring, driver assistance systems, and energy metering and sanding systems.

The focus in this segment going forward is to develop the connectivity of train subsystems (connected systems) which we consider to have different key benefits for OEMs and rail operators alike when outsourcing whole modules, such as reduction of weight and space, lower R&D costs or lower total costs of ownership. Further, we

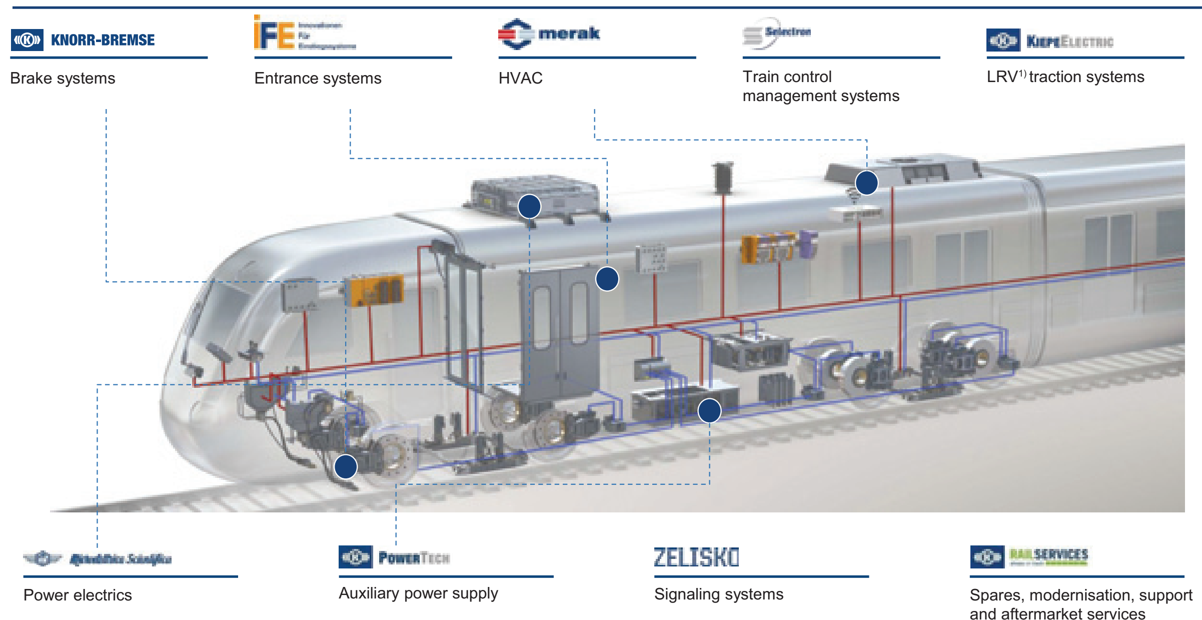
aim to provide eco-friendly solutions while improving safety and reducing energy consumption, thus improving total ownership costs.

Under the "RailServices" brand, we bundle our global service activities in the aftermarket, offering tailored service packages with a focus on flexibility and customer needs, including spare parts, repair and maintenance as well as overhaul services. A large and growing amount of products installed during the manufacturing of the vehicles (the so-called "installed base") gives us strong and complete access to customers in the aftermarket. We aim to increase maintenance and operating efficiency with rail digital solutions, such as the digital 4.0 iCOM platform.

We continuously extend our portfolio into new segments with the aim to strengthen the integrated systems approach, one of our key focuses. One of the principal advantages for rail vehicle manufactures and operators from our product range is easier project handling and simplified approval processes for train operation, e.g. homologation support. With strategic acquisitions such as Kiepe Electric and Selectron, we have further strengthened our integrated systems strategy; for more details on these acquisitions see "*11.8. — Mergers and Acquisitions, Joint Ventures and Cooperations since 2014*".

In addition, we work to adapt our offerings to the changing needs of our customers: growing demand for safety, efficiency, comfort and diagnostic capabilities in rail vehicles has resulted in the need for widespread use of electronics. As a result, integration at the development stage has become a more complex task, and the amount of documentation required for certification has increased. Both factors make it more difficult for vehicle manufacturers to meet time-to-market requirements. With growing sophistication of network technologies we aim to satisfy these demands through high-performing and standardized networking of vehicle sub-systems. Within our "Connected Systems" initiative, we are working towards complete solutions from a single source that generate technical, temporal and financial added-value for vehicle manufacturers and operators. If the hardware and software for sub-systems are carefully matched, equipped with standardized interfaces and tested prior to delivery, vehicle manufacturers can benefit from improved project planning, more straightforward approval procedures, and therefore lower costs. If diagnostics can also be carried out on the various vehicle sub-systems using a single service tool, this accelerates commissioning and servicing significantly, resulting in greater vehicle availability and lower operating costs. In addition, the network architecture can be adapted on a modular basis to the requirements of individual vehicle projects. It is our experience that an increasing network setup increases the customer value proposition.

The following graphic illustrates the value-added integration of several of our sub-systems for rail vehicles along with our key brands:



The following table provides an overview of the main products and services of the Rail Vehicle Systems segment:

Product/Service Portfolio of the Rail Vehicle Systems Segment

Brake Systems	**On-board Systems**	**Off-board Systems**	**RailServices (Aftermarket)**
• Air supply • Bogie equipment • Brake control • Sanding systems • Friction material	• Entrance systems • HVAC systems • Power electrics • Auxiliary power supply systems • LRV traction systems • Train control management systems (TCMS) • Digital 4.0 iCOM platform (*e.g.* condition monitoring, driver advisory systems)	• Platform screen systems • Signaling systems for level crossings	• Maintenance • On-site service/ customer training • Modernization and engineering • Spare parts and logistics

11.5.1.1. Brake Systems

Our core competence, as a systems partner for the rail vehicle industry, is the design, development and production of complete brake systems for all types of rail vehicles. Our extensive product portfolio ranges from electronic control systems, pneumatic control, air supply and auxiliary equipment (for example, sanding systems) to hydraulic brake systems.

A perfect balance of operational/functional safety and economy can only be achieved if all the components and sub-systems operate in coordination with one another. Drawing on more than 110 years of experience, and with a high degree of flexibility and modularization, we offer innovative, project-specific system solutions with a combination of electronics, pneumatics, mechanics and hydraulics.

By taking responsibility for the entire brake system, we provide the vehicle manufacturer with a single, direct interface that is designed to allow effective integration into the overall vehicle system at low cost and with reduced requirement for resources.

11.5.1.1.1. Air Supply

An air supply system involves the production of compressed air by means of compressors and air preparation. Compressed air is the energy source for the basic functions of a railway train. The trend towards more compact, lighter vehicles with increasing levels of safety and performance provides an additional challenge for every manufacturer. We offer a tailor-made system for every air supply requirement of rail vehicles. We supply a complete product range, from the ancillary compressor unit to heavy locomotive systems. All are specially developed and tested as well as homologated for use in rail vehicles.

Our product range comprises compressors, air dryers, complete systems and accessories.

11.5.1.1.2. Bogie Equipment

The bogie equipment is the part of the overall system that actually generates the braking force.

Due to continuous product and system innovation in this demanding product area, we have significantly improved braking performance, life cycle costs, noise emissions and installation costs to a very high level and safety standard. For example, we achieved a reduction of envelope space and component weight (*e.g.*, by developing compact calipers), a prolongation of service intervals and the ability of friction material to cope with higher energy dissipation and emission of less noise (*e.g.*, by developing Flexpad Silent). Every piece of bogie equipment is individually designed to take into account customer-specific operating conditions, operating area and installation conditions.

Our product range comprises brake discs, brake caliper units, block brake units, UIC brake cylinders and slack adjusters in various sizes as well as track brakes.

11.5.1.1.3. Friction Material

Friction material is part of the brake mechanics which generates the required friction in order to decelerate or stop the train. Detailed know-how in brake systems with proven design principles is the basis for reliability and brake safety. We have many years of experience in friction couple commissioning with car builders as well as know-how from over two million brake tests performed in our test center. Friction material is a key function in train brake applications and is increasingly gaining importance for customers because of its significant impact on life cycle costs. In the last years, we have continuously developed our railway friction business, including the acquisition of related assets (*e.g.*, of TMD Friction/COSID and Icer Rail; for details see "*11.8. — Mergers and Acquisitions, Joint Ventures and Cooperations since 2014*"). Our portfolio comprises a wide range of brake blocks and brake pads for various rail applications. We offer sinter pads, organic pads and organic blocks which ensure an environmentally-friendly and reliable brake performance compliant with UIC and Association of American Railroads ("**AAR**") standards.

11.5.1.1.4. Brake Control

Brake control is an extremely safety-critical sub-system of the train.

As the driver herself/himself is not in a position to apply the brakes with a specific force to each axle or bogie, which optimum braking requires, modern brake control systems need to have a large number of integrated intelligent functions. We offer solutions that are tailored to the customer's specific requirements, for all markets and the most diverse environmental factors. Furthermore, our equipment is not only simple to install, maintain and repair but also offers compact design and low life cycle costs, due to the combination of pneumatic and electronic components.

The main product groups within our brake control portfolio include control units, carrier systems that provide for the integration of pneumatic and electronic braking control in a compact unit, control valves for pipe or panel installation, driver's cab equipment and electronic systems for rail applications. Further, we offer a modular system with standardized hardware and software that can be used in nearly all control applications, including sensor technology and actuator technology. Diagnosis systems, operator and electronic test benches are also part of our product portfolio.

11.5.1.1.5. Other Brake Systems Products

Other brake system products include hydraulic and sanding systems.

Due to today's passenger expectations, including a high degree of freedom of movement, comfort and safety, the amount of space available for installing brake systems is becoming increasingly limited. The challenge, therefore, is to design extremely compact, light hydraulic systems (such as those for LRVs and metros). As a response to this, we offer a wide product range of hydraulic solutions including electro-hydraulic units, braking pressure generators and hydraulic leveling and suspension systems.

Sanding systems are used in rail vehicles to improve friction between wheel and track, for example during emergency braking. We offer the entire range of components for a sanding system and complete pre-assembled sandboxes with a compact design and economical life cycle costs.

11.5.1.2. On-board Systems

We offer a broad range of on-board systems, including entrance systems, HVAC systems, power electronics, power supply systems, traction systems, TCMS, iCom, our innovative digital 4.0 platform, traction systems and widescreen wipers.

11.5.1.2.1. Entrance Systems

Our subsidiary IFE is a specialist in the field of doors and passenger access systems. The products fulfill the highest safety and reliability standards and have low life cycle costs. IFE has a standardized and modularized product range and also offers customer-specific solutions. Furthermore, IFE acts as a full-service partner, including for the supply of parts, maintenance and integration.

At the biennial industry trade fair InnoTrans 2016, IFE showcased a wide range of new products to improve the safety, comfort and efficiency of rail travel. The innovative SNAKE entrance system for mass transit vehicles, for example, comprises ultra-flat, light-weight doors that can be installed in a restricted space and offer rapid opening and closing, making them ideal for operations with high passenger volumes. The entrance system is not only very robust but also requires minimal maintenance.

11.5.1.2.2. HVAC Systems

Heating, ventilation and air conditioning (HVAC) systems for railway vehicles need to deliver reliable performance for the lifetime of the product, even under the severe conditions of railway operation. Our

subsidiary Merak benefits from extensive experience of more than 50 years and offers design, manufacturing, installation and support of HVAC systems especially designed for railway applications including high-speed, regional and commuter trains, passenger coaches as well as subway and urban trains all over the world, both for new and for retrofitted vehicles. Our HVAC systems portfolio includes compact or split systems for passenger area and driver's cabs, and can be supplied with a variety of energy-efficient solutions. The service-proven modules are designed to meet high quality standards and operate under all types of temperature conditions. Additional elements, such as sand filtration or air purification systems can be supplied as required. In addition, we integrate related electronic applications both for emergency ventilation and for energy consumption optimization.

11.5.1.2.3. Power Electrics

Our subsidiary Microelettrica Scientifica S.p.A ("**Microelettrica**") produces a range of electromechanical and electronic components for both industrial and railway applications, which includes alternating current ("**AC**") and direct current ("**DC**") contactors and disconnectors, DC high speed circuit breakers, resistors and devices for energy metering.

Contactors and disconnectors are electrical switches mainly used to control the power flow to the electric propulsion system of trains. We offer four ranges of contactors and disconnectors, which can be supplied already assembled on a structure, thus significantly facilitating installation. DC high speed circuit breakers are also a kind of switch that enhances the safety of railway vehicles and infrastructure by protecting them from short circuits and overloads. Our resistors portfolio includes a wide range of customized solutions, designed mainly for installation on board of railway vehicles. Their main purpose is to slow down trains, without overloading their disc brakes and preserving them for emergency braking.

We also offer on-board high voltage metering systems which are designed to ensure conformity with environmental and electrical conditions established by reference standards, by monitoring the electrical power supply parameters at the interface between a train and the infrastructure.

11.5.1.2.4. Auxiliary Power Supply Systems

The auxiliary power supply system in a train supplies the electrical power for the train's on-board auxiliary systems (such as HVAC, lighting and air supply compressor). Energy efficiency and reliability of auxiliary power systems are of key importance in view of rising energy costs and rising standards of passenger comfort worldwide.

Our tailor-made Power Tech systems ensure optimally managed energy conversion around the world. The Group's portfolio of standardized and modularized on-board power converters supports all types of rail vehicles and power classes. The product range comprises compact and weight-optimized auxiliary power supply systems, high-performance stand-alone battery chargers and stand-alone inverters. The modular design of all power conversion systems and our comprehensive diagnostic software help in the maintenance of the systems and increase their efficiency throughout the life cycle.

11.5.1.2.5. LRV Traction Systems

Kiepe Electric (which we acquired from Vossloh in 2017) is, according to our assessment, one of the global leaders in electrical traction technology for local public transport vehicles, including LRVs, metro trains and buses. With more than 110 years of experience, Kiepe Electric not only offers innovative traction technologies for rail vehicles and buses, but also provides for a broad range of related maintenance services, including comprehensive refurbishment of existing vehicles. We expect that Kiepe Electric's systems will be instrumental in the rising trend of electrifying inner-city traffic, both with LRVs and electric buses.

Kiepe Electric optimizes the entire electrical system by integrating various sub-systems. Kiepe Electric components include an effective on-board power supply system and energy-efficient HVAC technology. In the rail sector, we offer effective and innovative carbon dioxide air conditioning systems with an energy-saving heat recovery function.

Kiepe Electric's products are designed to be low-maintenance. Diagnostic tools and a worldwide service network allow for life cycle costs to be kept to a minimum. This is the result of closely connected sub-systems, with vehicle data management systems enabling operators to collect and evaluate a wide range of operating and diagnostic data related to on-board components.

11.5.1.2.6. Train Control Management Systems

Our subsidiary Selectron, acquired in 2015, offers system solutions for automation in rail vehicles, commonly known as Train Control Management Systems (TCMS). TCMS integrate, control, communicate, supervise and

diagnose all electronic train signals coming from sub-systems such as engine, auxiliary, propulsion, battery, brake or HVAC systems, as well as pantographs and lights, via one network in an efficient and standardized manner. It represents the "brain and the neural system" of a train and thus has a high impact on engineering, commissioning, operating, maintenance, power consumption, recurring device and wiring costs. Our high-performance TCMS are programmed with comprehensive and efficient software tools that enable diagnosis and condition monitoring, which are critical for ensuring efficient operation and maintenance of rail vehicles.

11.5.1.2.7. Digital 4.0 iCOM Platform

We provide an innovative digital platform for the digitization of the railway industry 4.0 with various user-friendly applications using one on-board computer unit and a back office. This platform for the digital railroad combines a number of functions offering efficient, low-wear driving, real-time energy consumption measurement and preventive diagnostics. Our digital 4.0 iCOM platform consists of the Monitor, Assist and Meter applications.

The iCOM Monitor application monitors the status of products and provides a detailed consistent overview of generated diagnostics and predictive events. In addition, the application allows monitoring of tracks and fleet via a heat map function. iCOM Monitor's open architecture also supports third-party products. An integrated user-friendly and advanced reporting tool provides configurable and dynamic reports and statistics. With an integrated interface, customers are able to submit the analyzed reports directly to a maintenance schedule. Customer benefits include increased vehicle availability, reduced operating costs, less wear and tear, improved energy efficiency and lower carbon-dioxide emissions.

The iCOM Assist application provides advanced driver assistance for energy-efficient and economic driving with improved punctuality and energy savings. It also provides lower operation costs, a reduction of wear and tear, *i.e.*, damage due to usage, and a simple implementation and semi-automatic integration of topography and timetable data.

Finally, the iCOM Meter application enables innovative energy management by accurate energy accounting, covering data collection and smart visualization of both consumption and regeneration energy. The measurement of energy consumption is key for an energy-efficient rail vehicle operation. The comprehensive data analysis enables to convert and improve the train operation.

For more information, see also "*11.12. — Research and Development*".

11.5.1.3. Off-board Systems

We also provide several off-board systems, such as platform screen doors and signaling systems, as well as other systems and products, such as traffic management systems, transformers and sensors. The following description focuses on our main off-board systems.

11.5.1.3.1. Platform Screen Systems

Platform screen systems form a barrier between the passengers and the track or train and can be installed on new metro systems and in many cases retrofitted on existing metro systems. We offer three main system types, namely full height-doors, almost full-height doors (allowing existing metro tunnel ventilation) and half-height gates (mainly for above-ground use). Opening and closing in synchronization with the train doors, platform screen systems increase safety levels for passengers and enhance the platform environment by reducing or totally eliminating (when full-height) noise, dirt and air turbulence generated by the trains, thus making metro use more attractive. For the operator, full-height platform screen doors also allow economic air-conditioning of the platform, reducing operational costs and environmental impact. They also contribute to a significant improvement of passenger flow due to clearly — defined boarding and disembarkation areas on the platform, thus supporting better schedule adherence and operational efficiencies.

11.5.1.3.2. Signaling Systems for Level Crossings

We provide signaling systems that are in operation on many major rail connections worldwide and contribute to greater safety and security for all road and railway users. The portfolio includes processor-based level crossing protection systems as well as our LED technology rail signals. Further, we have developed solutions for the control of magnetic track brakes in the area of rail vehicle brake systems.

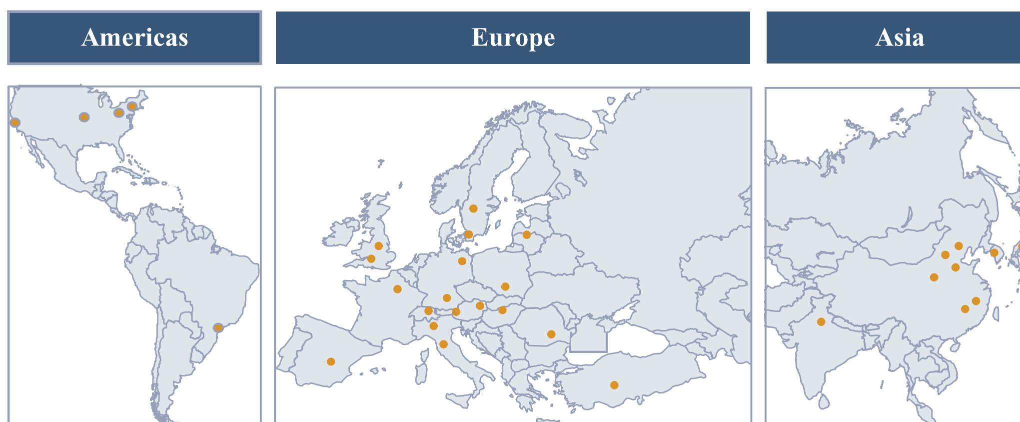
11.5.1.4. RailServices in the Aftermarket

As part of our value proposition, we make every effort to ensure that rail systems delivered to our customers, such as braking, entrance and HVAC systems, remain safe, reliable and efficient throughout the life of the vehicle. For a train to operate safely at all times, besides high-quality systems, (i) the operator's employees need

to have in-depth and up-to-date knowledge about the systems, (ii) spare parts in OEM quality need to be available whenever they are needed, and (iii) rail vehicles must be regularly and expertly inspected and overhauled throughout their entire lifetime. As the original equipment manufacturer, we do not only provide services in this capacity, but also offer original parts. Further, we offer customized modernization in order to enhance performance and reduce life cycle costs.

We intend to leverage our installed fleet by offering efficient spare part solutions and the overhaul of our own products. Further, we provide obsolescence solutions and the maintenance of other rail components. We also focus on the modernization of rail systems by introducing new product generations, modernizing third party products and providing obsolescence solutions in this regard. We aim to introduce new business models such as data driven business models, condition monitoring, condition based maintenance and customer value driven service models.

We have 36 service centers worldwide directly operated by ourselves that provide state-of-the-art support and services. Technology integration means that the service centers carry out both repairs and maintenance at a single location. Further, we have 20 service locations globally which are located at customers' premises. The following graphic shows the worldwide distribution of our service centers, which provide the full range of support adapted to the local market requirements:



For our service network, as of December 31, 2017, we employ around 200 full-time equivalents ("**FTE**") in the Americas, 1,100 FTE in Europe and 600 FTE in Asia (including employees at customers' premises). We work closely with our customers to identify the right solution to specific challenges, evaluating the work required in terms of safety, life cycle costs and environmental impact. Our solutions and services include:

11.5.1.4.1. Maintenance

RailServices supports customers with overhaul cycles of their respective rail vehicles. Experienced specialists based at our service centers deliver consistent, on-time and high-quality maintenance. We work closely with customers to ensure satisfaction and keep delivery times short. All our RailServices centers follow proven methods established within our standardized "Knorr-Bremse Production System", so that before a serviced component is returned to a customer, it undergoes the same rigorous testing procedures that we apply to our own new products.

11.5.1.4.2. On-Site Support

In case an *ad hoc* service is required, our RailServices experts provide customers with on-site support. Our comprehensive service portfolio includes recommissioning, fitting, dismantling, overhauling and trouble-shooting or even shop-in-shop solutions to support customers at their maintenance location. In addition, RailServices specialists deliver training to customers, including bespoke training packages.

11.5.1.4.3. Modernization & Engineering

Regularly upgrading rail vehicles to the latest technological standards ensures that they always deliver best performance. In addition, their service life is extended and life cycle costs are reduced. RailServices provides innovative and economically sound component upgrades and systems modernization for existing fleets. We offer various system solutions worldwide for rail vehicles of all ages, supporting also the rehomologation process, if required.

11.5.1.4.4. Original Part Logistics

Original parts deliver original performance. We offer our customers the same quality spare parts, adhering to the same specifications, as those originally fitted to the respective trains. Our parts are all tried-and-tested,

temperature-resistant, durable and designed to work as one system. We also ensure that original parts for older trains remain available over a long period of time. Our parts management process helps customers optimize their inventories, offering them high-quality reconditioned parts and helping them reduce costly and time-consuming administration.

11.5.2. Commercial Vehicle Systems

As a leading Tier-1 and Tier-2 supplier in the commercial vehicle systems industry, we serve our customers on a global scale addressing all major truck and bus OEMs as well as various other Tier-1 suppliers and trailer manufacturers. Our product offering addresses both the OE and the aftermarket channels and respective sub-segments. Our product portfolio includes (i) brake systems and vehicle dynamics solutions including driver assistance and automated driving, brake control, brake system, steering and electronic leveling control (*i.e.*, driver assistance systems, anti-lock brake systems, emergency brake systems, air disc brakes, foundation drum brakes, actuators, valves/pedal units, steering systems, electronic leveling control and others), (ii) energy supply and distribution systems including air compressors and air treatment and (iii) fuel efficiency products including engine components and transmission sub-systems (*i.e.*, vibration dampers, engine air control, gear actuation and clutch actuation).

Besides maintaining and growing our brakes business, the focus in this segment going forward is to develop solutions for highly automated driving, as well as to improve energy efficiency and fuel consumption while reducing emissions and thereby improving total ownership costs. We develop innovative solutions for safe and efficient truck-trailer combinations in an increasingly mobile and connected society. The focus here is not only on a contribution to the advancement of automated driving but also on resource-friendly production processes and the continuous improvement of the components employed. By combining the advantages of lighter weight, lower fuel consumption, and a longer service life, we continuously concentrate on further improving the sustainability and economy of our products. Our modular brake control systems are well-established in the marketplace and we have for many years been progressively adding functionalities to our commercial vehicle brake systems, as well as adding scalable solutions to our portfolio for many markets worldwide. We believe that customers benefit from the enhanced systems architecture and a reduced number of variants.

Apart from catering our offering to OEMs and operators, we operate a global aftermarket and service business. To that end, we have expanded our aftermarket capabilities by establishing an alliance called Alltrucks Truck & Trailer Service in conjunction with the renowned suppliers Bosch und ZF Friedrichshafen. We have also launched new, modular service concepts for workshops. Such service concepts prevent a complete exchange of the product and enable an efficient repair by exchanging only a certain element of the product or by using one of the product related service kits in case of a product failure. We offer a holistic aftermarket concept for commercial vehicles of virtually all types and ages that helps to keep the vehicles operating reliably and economically throughout their entire life cycle. We also offer diagnostics, needs-based maintenance and repair services to distributors, workshops and fleet managers, as well as access to our expertise via online services, training programs and individual advice.

We have also substantially expanded our range of remanufactured products, as market demand has shifted toward alternative, resource-friendly approaches in the replacement segment and value-based repairs.

Since the acquisition of tedrive Steering Systems GmbH in 2016, we have been able to offer customers state-of-the-art steering systems. With the acquisition we have not only gained access to new markets, but also acquired the capability of actively influencing lateral as well as longitudinal truck dynamics — for example in order to keep a truck automatically in its lane or to steer round a hazard. Intelligent Hydraulic Steering Assist (iHSA) technology, an electronically-controlled hydraulic steering system especially for ADAS and HAD functionalities, plays an important role in this capability. In addition, the acquisition of GT Group in 2016 enabled us to expand our portfolio with emission-efficient powertrain solutions. The recent acquisition of Kiepe Electric by the Rail Vehicle Systems segment aims to pursue our own strategic expansion in the field of electrification of buses (see "*11.12.2. — R&D in our Rail Vehicle Systems Segment*"*).* Moreover, with the acquisition of Bosch Transmission Systems division (TRS), Japan, we now offer systems and components for manual and automated transmissions for on-highway commercial vehicles on a global base. The automated transmission is substantial for advanced driver assistance systems and for autonomous driving in order to allow automated gear selection.

New types of driver assistance systems and automated driving functions as well as connectivity (including connected vehicles, connectivity between vehicle and workshop as well as workshop and distributor) are our current focus. For more information, see "*11.12.3. — R&D in our Commercial Vehicle Systems Segment*". We also offer specific solutions for safe and efficient mobility on the roads with innovative, intelligently networked braking, steering and powertrain systems and our new TruckServices aftermarket brand.

The following graphic illustrates the value-added integration of several of our main products for commercial vehicles:

The following table provides an overview of the main products and services of the Commercial Vehicle Systems segment:

Product/Service Portfolio of the Commercial Vehicle Systems Segment

Brake Systems & Vehicle Dynamics	Energy Supply & Distribution Systems	Fuel Efficiency Systems	TruckServices (Aftermarket)
• Disc brakes	• Air treatment	• Transmission control for automatic shifting	• Service with new parts, remanufactured parts and service kits Electronic catalogue, web-shop, EDI interfaces
• Drum brakes	• Compressors	• Clutch actuators	• Commercial & technical support (hotline, training)
• Slack Adjusters		• Dampers	• Workshop concepts (Alltrucks and Expert network)
• Actuators			• Fleet management solutions
• Valves			• Diagnostics system
• Electronic leveling control			
• Steering Systems			
• Electronics			
• Driver assistance systems			
• Automated Driving			

11.5.2.1. Brake Systems and Vehicle Dynamics

As a result of decades of experience in the field of brake technology and global research and development work, we possess extensive technical competence and innovative energy in the four major braking technologies: pneumatics, mechanics, electronics and complex control engineering. With modern development tools, simulation procedures and intensive experimentation, we strive to develop robust brake systems which function safely and reliably even under very tough conditions.

Compressed air is the most important working medium in the commercial vehicle sector. It is produced by a compressor, directed via the air processing unit to the compressed air containers and stored. During braking, or in the case of a change of load, the compressed air is directed via control valves and/or control modules to the brake actuators or suspension bellows. Furthermore, there are additional options that are controlled by pneumatics, such as lifting and lowering of chassis or "RTR" (reset to ride). In mechanic braking, the actual braking effect is achieved mechanically by the clamping mechanism over the brake pad on the brake disc. Our light-weight disc brakes apply a clamping force which produces a high retardation. The functional advantages of this technology in performance and fading behavior have led to a broad penetration in trucks, semi-trailer tractor units, buses and trailers. Advanced developments consistently contribute to the fuel efficiency of truck and trailer.

11.5.2.1.1. Disc and Drum Brakes; Slack Adjusters

We have been supplying air disc brakes for the truck, bus and trailer industry for approximately three decades. By the end of the year 2018, we expect to have supplied the 40 millionth air disc brake to our customers. The disc brake has become the standard in Europe for the wheel brake of heavy goods vehicles. Together with actuators, rotors and our competence in friction pairing, we are able to offer the entire wheelend as a Knorr-Bremse system. We cover the entire spectrum of medium- and heavy-weight commercial vehicles. With our two new product platforms "SYNACT" and "NexTT" which will be introduced at the IAA Motor Show ("**IAA**") for Commercial Vehicles in September 2018, we are completing our global product line-up. SYNACT is a new generation of air disc brakes for heavy-duty commercial vehicles, while NexTT has been developed for the medium-duty class and trailers. These new base brakes are already designed to enable future upgrade features which also support improvements in terms of total cost of ownership as well as readiness for highly automated driving and e-mobility.

We also develop, manufacture and market drum brake systems that include S-Cam drum brakes, actuators and slack adjusters. When S-Cam drum brakes, actuators and slack adjusters are bundled together, they provide optimal cost of ownership benefits for many commercial vehicle applications. In the short- to mid-term future, we expect an increasing replacement of drum brakes by disk brakes.

11.5.2.1.2. Actuators

The brake actuator is assembled on the brake of the vehicle and converts pneumatic energy into mechanical energy. For buses, heavy goods vehicles and trailers, irrespective of the size, performance classes or installation conditions, we offer reliable and adapted solutions. A very compact design allows for a reduced installation space. Due to a low number of individual components, maintenance costs are significantly reduced.

11.5.2.1.3. Valves

Valves enable precise control of the supply of compressed air to the braking and suspension systems. Our products cover all requirements of a conventional brake system, for example foot or hand brake valves, brake pressure regulators, trailer control valves or selector valves for operating with containers — also as an addition to electronic brake and suspension control systems.

11.5.2.1.4. Electronic Leveling Control

Our Electronic Leveling Control ("**ELC**") system covers leveling functionalities for loading or unloading of a vehicle as well as for keeping constant vehicle height while driving. Further, our ELC system contributes to the control of load distribution across axles. In addition, functionalities such as lift axle handling, dumper control and kneeling for buses can be implemented based on this system.

11.5.2.1.5. Steering Systems

With the acquisition of tedrive Steering Systems GmbH in 2016, we acquired extensive expertise in the engineering, application, testing, production and assembly of steering systems and their components for truck platforms, high-volume passenger cars and high-performance applications. The product synergies between our core braking competency and this newly acquired expertise in steering systems lays the foundations to take the complex driving functionalities of driver assistance systems and automated driving to the next level.

As a full-line supplier of steering systems with expertise in rack-and-pinion ("**R&P**") and recirculating ball ("**RCB**") steering gear systems, we have a strong competency in steering engineering and manufacturing across all commercial vehicle segments and axle loads. Applications are found in light commercial vehicles, buses and heavy-duty trucks, as well as special-purpose vehicles, SUVs and passenger cars, all the way to motor sport, where we equip almost all the participants in the FIA European Truck Racing Championship. With iHSA, we offer a hydraulic steering system with electronic actuation especially developed to meet the demands of driver assistance and automated driving in commercial vehicles.

We offer a broad range of steering systems for commercial vehicles. Our RCB steering gears for commercial vehicles fit overall strategies in terms of weight reduction and improved steering performance. The use of a variable steering ratio provides the driver with an optimized and very precise steering feel. The modular iHSA technology can be integrated into our Knorr-Bremse base RCB steering systems.

The iHSA control module, developed by Knorr-Bremse SteeringSystems GmbH ("**KB SteeringSystems**"), offers an interface to modern driver assistance systems that allows the integration of various safety and comfort features into the vehicle architecture without significant changes to the electrical board net. The iHSA technology is modular, applicable on all our base RCBs, and so is available for light commercial vehicles, trucks and buses. In combination with the Group's global strategy to integrate braking and steering as an interacting system into its

sophisticated roadmap, the iHSA technology is an important module towards highly automated driving. Further advantages include its optimized installation dimensions as well as cost and design advantages for platform strategies. In combination with an electric-driven pump, the carbon-dioxide saving potential can be further optimized.

The R&P steering systems, also developed by KB SteeringSystems, consist of steering gears for hydraulic and electrohydraulic steering systems that contribute towards optimizing the overall carbon-dioxide balance of the vehicle. We also offer the optional use of the iHSA control module, which enables the integration of all safety and comfort features, for light commercial vehicles.

11.5.2.1.6. Electronics

The series Air Brake System and Electronic Braking System (EBS) as well as the new generation Global Scalable Brake Control (GSBC), currently under development, consist of pneumatic and mechatronic modules and components. Due to the electronic networking of the components, a significantly shorter response time of the entire brake system is achieved and the brake pressure of the individual axles can be controlled independently of each other. One of the functions in Air Brake Systems, EBS and GSBC is ABS. ABS is a safety system that allows the wheels on a motor vehicle to maintain tractive contact with the road surface according to driver inputs while braking, preventing the wheels from locking up (ceasing rotation) and avoiding uncontrolled skidding. ABS and EBS are in use worldwide.

At system level, functions such as traction control by Anti-Slip Regulation ("**ASR**") and Electronic Stability Programs Control (ESP) are realized. The trailer is also controlled by the electronic brake system and by the central control units. The systems have a pneumatic backup mode, which becomes active in the event of an electrical fault and enables the pneumatically controlled braking. In the U.S., the ABS / ESP product growth is driven by fleets based on total costs of ownership and a phased regulatory implementation of the ESP technology, which began in August 2017 and will be completed in August 2019, mandated by the U.S. National Highway Transportation Agency. Across China and India, we expect that the number of applications and the equipment rate of vehicle dynamic control systems will significantly grow in the coming years. In India, after legislative introduction of ABS functionality in 2016, it is expected that the market growth will be driven by ESP legislation for buses and heavy duty trucks. Further, we anticipate that China will enforce ESP for coaches, heavy duty cargo trucks and dangerous goods vehicles. In addition, we expect the number of EBS applications to grow with the introduction of ESP. This will, in our assessment, result in a higher content per vehicle we deliver to the Chinese customers. Such developments bear strong growth potential for our EBS, ABS and ESP systems and could result in a stronger presence of our brand is these markets.

Further, our Electronic Parking Brake ("**EPB**"), in combination with the Hand Control Unit, is either available as a standalone version or as an integrated version in the Electronic Air Control Unit (EAC) for customers worldwide. The EPB can realize functions such as manual park and release as well as proportional braking. In addition, safety and comfort functions such as autopark and autorelease are integrated in our EPB.

11.5.2.1.7. Driver Assistance Systems and Automated Driving

According to our own market assessment, we are a leading player in driver assistance systems in the chassis systems sector. We aim to further expand our know-how and product portfolio in order to address the growth opportunities in automated driving. Therefore, several developments for automated driving were presented and demonstrated at various customers premises in 2017 and 2018 (summer and winter testing) as well as during the 2016 IAA. Driver assistance functionalities support the driver in critical situations and contribute to safer driving, for example the features for advance emergency braking (Automatic Emergency Brake System ("**AEBS**")) and "Lane Keep Assist". The "Lane Keep Assist" warns the driver in good time of any unintentional departure from the lane and actively steers the vehicle back into the lane. The AEBS detects an impending rear-end collision by permanently measuring the distance to vehicles ahead and warning the driver if a certain safety distance is not reached. If the driver does not react and the collision becomes increasingly probable, the system automatically brakes the vehicle.

The Blindspot Detection system is used to monitor blind spots, *i.e.*, sensors monitor, *e.g.*, the traffic space on the passenger side of the vehicle and sound an alarm if a collision with a person or obstacle in this area is imminent. This enables the driver to react in time and prevent accidents. Highly automated driving requires precise and coordinated control of steering and brakes. Vehicle guidance and stabilization must be autonomous, i.e. without any intervention on the part of the driver, in both longitudinal and transverse directions.

Highly automated driving functions can relieve the driver of the driving task, such as the "Highway Assist" which eases the driver's tasks during normal freeway driving. A coordinated longitudinal and lateral guidance (by braking and active steering) keeps the vehicle stable even in critical driving situations. The extensions to "Highway Pilot" (a level 4 function, as defined in the standards for automated driving developed by SAE International, a global association of more than 128,000 engineers and related technical experts in the aerospace, automotive and commercial-vehicle industries) is currently expected to be developed as a next step by

approximately 2023. In the event of a system failure, our system architecture for Highway Pilot provides a full and cost-efficient redundancy for braking and steering is available to ensure that the vehicle is brought safely to a standstill — without the intervention of a driver. We are developing Truck Motion Control (TMC) concepts for vehicle guidance and stabilization, including the mapping of functional redundancy for brakes and steering. The GSBC can easily be updated with TMC. With these future architectures, almost all highly automated functions from Traffic Jam Pilots to Platooning and Highway-Pilot can be realized.

At the 2016 IAA Commercial Vehicle show, the development projects "Autonomous Yard Maneuvering" and "Turning Assist" illustrated the potential for greater efficiency and road safety that can be leveraged by consistently connecting the sub-systems in a truck, as well as through additional sensors. In 2016, trailer remote control and fleet management systems were joined by the possibility of integrating video cameras.

The increasing adoption of advanced driver assistance systems and highly automated driving functions is one of the key drivers of future growth in the Commercial Vehicles Systems market. For more information, see "*11.12.3. — R&D in our Commercial Vehicle Systems Segment*".

11.5.2.2. Energy Supply and Distribution Systems

11.5.2.2.1. Air Treatment

The compressed air produced by the compressor must be dried and cleaned before being distributed to up to seven different brake and subsidiary circuits. This preparation is necessary as protection against freezing, internal corrosion, and brake circuit failure, thereby ensuring efficient operation. In addition, in order to increase the life of the brake system, we offer an oil separator cartridge for oil separation plus air drying.

We also offer a product range for conventional air treatment, which ranges from pressure regulators to air, and which contributes to the functional safety of pneumatic systems. Furthermore, we offer the air processing unit, which combines all different functions in one device.

With respect to electronic air treatment, we offer Electronic Air Control (EAC), a product that combines the pneumatics of key functions with intelligent control. Field-proven software and other components lead to a measurable reduction in the vehicle's fuel consumption.

We also offer integration of the electronic or pneumatic parking brake into the EAC. The main advantages for the vehicle manufacturer in terms of the electronic parking brake integration are the reduction of the required installation space in the cabin, flexibility in the dashboard design and a reduced mounting effort as well as low system cost and additional safety functions. We believe we are currently the sole supplier worldwide providing an EAC with an integrated electronic parking brake.

11.5.2.2.2. Compressors

Compressed air is the main source of energy for all pneumatic brake systems, air suspensions and clutches in heavy commercial vehicles. Our product portfolio covers a wide range of requirements in terms of transport and propulsion. Another of our innovations is a compressor with clutch which delivers considerable savings in fuel costs and reduces oil emission. We aim to address the growth opportunity resulting from e-mobility by offering an electrical compressor to supply the compressed air for the pneumatic vehicle system for electrified commercial vehicles such as hybrid and battery-electric buses and trucks.

11.5.2.2.3. Dampers

Our dampers reduce rotary oscillation, thus reducing noise and ensuring a long engine life. Our portfolio includes both Viscosity rotary oscillation dampers and hydraulic dampers.

11.5.2.3. Fuel Efficiency Systems

11.5.2.3.1. Transmission Control for Automated Shifting

Our product portfolio includes state-of-the-art automated manual transmissions.

We also offer solutions for automated manual transmissions (AMT), which provide increased driving comfort and road safety. Electronically-controlled clutch and gear actuators enable the driver to focus his or her attention on the road traffic, rather than on gear selection and gear shift. The use of an optimized gear shift strategy results in a significant reduction of fuel consumption.

11.5.2.3.2. Clutch Actuators

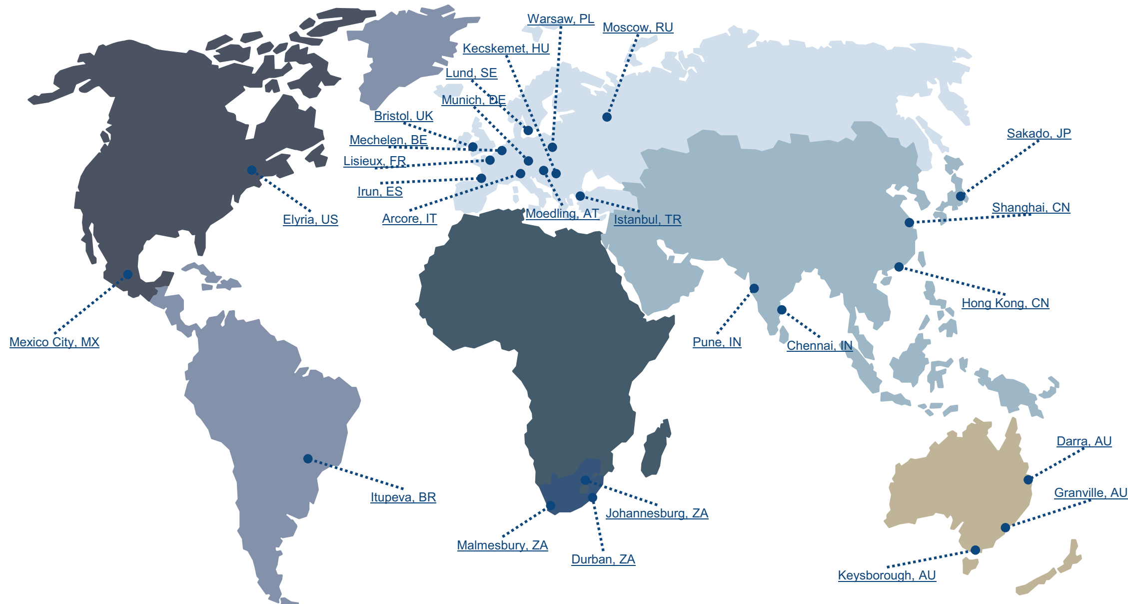
We offer a wide range of clutch and gear actuation products for conventional manual transmissions.

With respect to solutions for conventional manual transmission, clutch servos proportionally reinforce the foot pedal strength via compressed air during the clutch operating process. Our transmission product portfolio also

includes servo-shift modules, allowing a quick and comfortable gear change for maximum road safety and supporting the selection of the correct gear for the optimum fuel consumption. Furthermore, we offer all kind of pneumatic valves, for state-of-the-art conventional transmissions.

11.5.2.4. TruckServices in the Aftermarket

We provide state-of-the-art support and services in the Commercial Vehicle Systems field in more than 20 locations worldwide, under the aftermarket brand TruckServices:



Our service facilities also include approximately 1,600 service centers, more than 500 Alltrucks workshops and 17 warehouses for our aftermarket business. We serve 1,100 independent aftermarket customers (distributors, excluding outlets) and 200 original equipment services customers. We consider the captive aftermarket share to be significant. 34% of our EMEA independent aftermarket sales were attributable to non-interchangeable parts, 26% to wear parts and service kits and 40% to interchangeable parts (based on German GAAP). The most important products for the aftermarket are air disc brakes and air treatment due to the high wear and tear. From January to July 2018, these two product groups contributed more than 60% to total aftermarket revenues in the EMEA region. Between 2008 and 2017, we globally equipped approximately 3.6 million vehicles with air disc brakes and approximately 6.8 million vehicles with air treatment systems. The retention rate depends on vehicle age and the country where the vehicles are registered, as different countries have different quality requirements and servicing behaviors. On average, for the European Economic Area ("**EEA**") region, we estimate to have access to more than 60% of the air disc brake aftermarket addressable by us and to more than 80% of the air treatment aftermarket addressable by us. In general terms it can be said that in the aftermarket for commercial vehicle systems, spare parts (such as brake pads and discs or filter cartridges) show a higher intensity of competition, followed by interchangeable parts (*e.g.*, valves), while non-interchangebale parts (*e.g.*, mechatronics) are subject to a lower level of competition.

We aim to keep vehicles of virtually all types and ages operating reliably and economically throughout their entire life cycle. We supply distributors, workshops and fleets with high-quality products and service solutions for commercial vehicles of all kinds and all ages, based on our expertise as an OE manufacturer and our experience gained from more than 110 years in the commercial vehicle aftermarket. Our service concept is based on our "lifetime efficiency" principle, aiming at high-mileage performance under very demanding conditions. Our service range comprises new products for young vehicles, remanufactured "EconX" products for the repair of older vehicles, and service parts for vehicles in all stages of operation, in order to keep every vehicle on the road for a long time — cost-effectively, with the latest technology and fully geared towards safety. Our electronic product catalogue, which is accessible online via our Commercial Vehicle Systems homepage, includes comprehensive technical documentation and a secure online ordering process, supported by a commercial hotline, making procurement quick and easy.

As commercial vehicles market dynamics differ across the globe, the aftermarket business is regionally organized to offer tailored solutions for each market. There are own aftermarket organizations for EMEA, North America, South America, India, China and APAC.

11.5.2.4.1. Alltrucks Network

In order to expand our aftermarket capabilities, we have established an alliance called Alltrucks Truck & Trailer Service in conjunction with the renowned suppliers Bosch und ZF Friedrichshafen. Alltrucks is a truck and trailer workshop concept, which provides workshops with multi-brand expertise. With more than 500 partner workshops, Alltrucks is the biggest independent full service commercial vehicle workshop concept in the European market. It provides workshops with innovative all-makes diagnostics equipment, technical information, bespoke training, marketing support and a technical hotline. The network is established in Germany, Switzerland, Austria, Italy, Spain, Benelux, Norway, France, Portugal and Poland. Further regional roll-outs of the concept are planned from 2019 onwards.

11.5.2.4.2. Telematics

We expect that connectivity will increase efficiency in repair and maintenance processes. In order to address this trend, we introduced ProFleet Connect, a modular telematics system across Europe for fleet operators and drivers. This solution is also compatible with any vehicle type and comprises different packages, such as diagnostics and monitoring tools relating to the status and relevant parameters of a vehicle, among others. Our in-house development Bendix Safety Direct enables fleet customers to manage driver behavior and support accident litigation. To this end, safety data and video sequences are wirelessly collected, transferred and transformed into actionable information. In the future, we expect an automated service chain where vehicles, workshops and parts distributors are connected. The vehicle conditions are continuously monitored and, if a failure occurs, the vehicle is routed into the workshop. The workshop receives all necessary information upfront to enable an efficient repair process. By analyzing failure codes, it will be possible in many cases to identify the required part for the repair. The order process can then be automated, derived from the remote diagnostics result. Hence, ordering parts manually at the distributor will become obsolete for the workshop operator. We aim to create partnerships in order to develop technologies for automated service chains.

11.5.2.4.3. Training and Assistance

We offer advanced training and continuing education to service centers, fleet operators and distributors with a whole series of courses that contribute to efficient and safe working practices in the workshop. Our training programs provide extensive product, systems and service training. For the German market, we offer safety check (*Sicherheitsprüfung*) training that covers the requirements of national legislation for commercial vehicles. In addition, we operate dedicated service hotlines offering specialized assistance for distributors, workshops, drivers and fleet managers.

11.5.2.4.4. Workshop Equipment

Furthermore, we offer a range of special workshop tools and diagnostics solutions, such as a tool case for our disc brakes, our "NEO System Diagnosis" set and "ECUtalk".

NEO Systems Diagnosis is a modular, scalable platform comprising diagnosis software and hardware for selected systems in commercial vehicle applications. ECUtalk is a computer-based diagnosis program for our electronic brake systems in trailers.

11.6. Production

In the past few years, we expanded our global production and engineering footprint in both of our segments due to several acquisitions and joint ventures as well as due to intensive localization efforts. As a result, we have increased the geographical diversification of our production facilities. Currently, our products are manufactured at almost 70 production sites in more than 20 different countries around the world with a global balance between high-tech and best-cost countries, *i.e.*, Central and Eastern Europe, Africa, APAC, Latin America and Mexico. Our diversification efforts are linked to our efforts to constantly optimize manufacturing processes and our supply chain, and to increase the efficiency of our operations in terms of costs and reaction times. Our broad geographical diversification permits us both to better serve customers' needs and requests.

In the Rail Vehicle Systems segment, we believe our localization efforts will allow us to capitalize on positive rail infrastructure developments in China and India. In China, the number of FTEs rose from 2,756 in 2010 to 3,039 in 2017 (as of December 31, including leasing staff), whereas our revenues rose from EUR 612.9 million in 2010 to EUR 798.6 million in 2017 (based on German GAAP and third party sales). In India, the number of FTEs increased from 373 in 2010 to 918 in 2017 (allocated to the technology center India). Our revenues increased from EUR 27.7 million to EUR 125.8 million (based on German GAAP and third party sales).

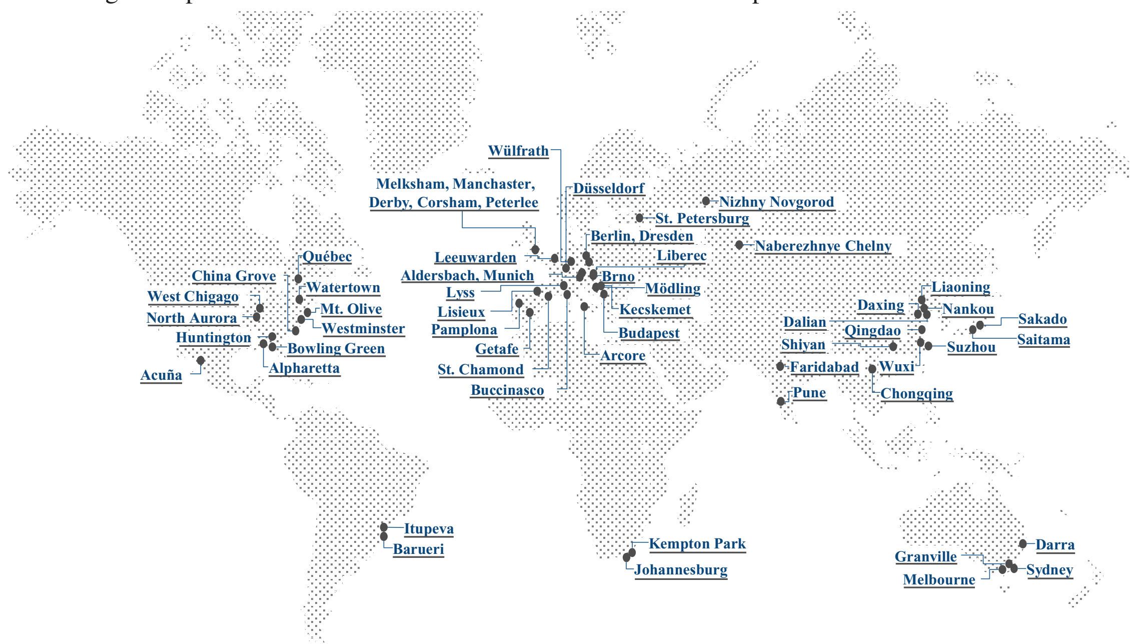
In the Commercial Vehicle Systems segment, our broad geographical diversification will, in our assessment, allow us to exploit our leading position. The number of FTEs this segment in the U.S. increased from 2,174 in

2010 to 3,364 in 2017 (as of December 31, including leasing staff). Our revenues increased from EUR 489.0 million to EUR 924.8 million (based on German GAAP and third party sales). In China, we aim to leverage our local presence in the Commercial Vehicle Systems segment. The number of FTEs rose from 225 in 2010 to 1,133 in 2017 (as of December 31, including leasing staff), whereas our revenues rose from EUR 28.4 million in 2010 to EUR 266.4 million in 2017 (based on German GAAP and third party sales). In India, we intend to expand our market share in this segment. The number of FTEs (allocated to the technology center India) increased from 281 in 2010 to 607 in 2017. Our revenues increased at a CAGR of 2% from EUR 22.3 million to EUR 26.2 million (based on German GAAP and third party sales).

Our localized set-up of production facilities also helps us to address risks related to manufacturing a product in only one country or region, such as labor costs, foreign exchange rates or trade barriers. We aim to produce in cost-efficient locations within each region. However, we are currently relocating the manufacturing of conventional products, *e.g.*, conventional valves, foot-brake modules for trucks, to best-cost countries, such as India and Hungary, including production for the European market.

Our production sites are located in Europe, North America, South America and Asia/Australia.

The following chart provides an overview of the distribution of our main production facilities:



In the Rail Vehicle Systems segment, our European plants are located in Mödling (Austria), Brno (Czech Republic), St. Chamond (France), Munich, Dresden, Berlin and Düsseldorf (Germany), Buccinasco (Italy), Leeuwarden (The Netherlands), St. Petersburg (Russia), Getafe and Pamplona (Spain), Lyss (Switzerland) and Melksham, Manchester, Derby and Corsham (U.K.). We also have plants at two locations in South Africa, three sites in Australia, seven in China (of these, six in joint ventures) and one in India. Our plants in the Americas are located in Québec (Canada), Brazil (two sites) and in the states of Georgia, Maryland, Illinois, New Jersey, New York and North Carolina (U.S.). In addition, we have service centers in most major countries relevant to our rail business, often in premises located close to our customers.

The following table shows the Group's main production sites for the Rail Vehicle Systems segment:

Production Site	Product	Market served
Europe		
Mödling, Austria	Brake control and bogie equipment	Worldwide
Brno, Czech Republic	Entrance systems	Worldwide
Munich, Germany	Brake electronics	Worldwide
Berlin, Germany	Brake control, brake discs, auxiliary power systems	Worldwide
Budapest, Hungary	Brake control, air supply, bogie equipment	Worldwide
Düsseldorf, Germany	Auxiliary power systems, electrical equipment	Europe

Production Site	Product	Market served
Buccinasco, Italy	Contactors, breakers, resistors	Worldwide
St. Petersburg, Russia	brake control, bogie equipment	Russia
Getafe, Spain	HVAC	Worldwide
Pamplona, Spain	Brake pads	Worldwide
Lyss, Switzerland	Train Control and Monitoring Systems	Worldwide
Melksham, U.K.	Brake Control	Worldwide
North America		
Maryland, U.S.	Brake equipment and HVAC for passenger vehicles	North America, South America
New Jersey, U.S.	Auxiliary power systems, switches, brakers, resistors	North America, South America
New York, U.S.	Brake equipment for locomotives and freight cars	North America, South America
South America		
Itupeva, Brazil	Brake components	South America
Asia and Australia		
Suzhou, China	Brake equipment	China and other Asian markets
Qingdao, China (Joint Venture)	Entrance systems	China
Wuxi, China (Joint Venture)	HVAC	China
Daxing, China (Joint Venture)	Brake Discs	China
Nankou, China (Joint Venture)	Air supply	China
Palwal, India	Brake equipment	India
Granville, Australia	HVAC	Australia and other Asian markets

With respect to our Rail Vehicle Systems segment, in Europe we manufacture products ranging from bogie equipment (including brake discs, actuators, magnetic track brakes and friction material) to brake control systems (*e.g.*, mechanic and mechatronic valves and systems, electronic brake control systems, integrated and sanding systems) as well as air supply products (such as compressors, air-dryers and integrated air supply units) and brake components for freight cars. Also in Europe, we produce on-board systems ranging from HVAC units to access systems (*e.g.*, doors and steps), wiper systems, converters and electronic systems. In addition, we also manufacture off-board products (such as platform screen doors, signaling and industrial converters) in Europe. In China and India, we operate manufacturing facilities for brake control components and bogie equipment as well as air supply products and HVAC units and doors. Our site in Australia focuses on the production of HVAC units. Our sites in North and South America focus on the production and/or assembly of components for brake systems for freight cars and locomotives as well as HVAC units.

In the Commercial Vehicle Systems segment, our European plants are located in Liberec (Czech Republic), Lisieux (France), Aldersbach, Berlin and Wülfrath (Germany), Kecskemét (Hungary), Arcore (Italy), Naberezhnye Chelny (Joint Venture with KAMAZ) and Nizhny Novgorod (Russia) and Peterlee (U.K.). We are currently investigating the best possible production footprint for the steering business. This might include shifting some or all of our production activities from Wülfrath to other locations. In Europe, we manufacture products ranging from foot brake or trailer control modules to dampers, valves, compressors, electronics and steering elements. Our plants in North America (*e.g.*, in the states of Illinois, Indiana and Kentucky (U.S.) and Mexico) focus on the production of valves (machining/assembly), air dryers, compressors (machining/assembly), driver control modules (assembly), actuators (assembly), air disc brakes, spring-loaded brakes (machining/fabrication/assembly), modules (assembly), brake shoe salvages (assembly), and dampers (fabrication and assembly). In Asia-Pacific, we operate several production facilities in China, India and Japan, manufacturing dampers, air compressors, air processing units, air disc brakes, compact rear axle modules, ABS valves, brake chambers and automated slack adjusters, valves, air treatment products, electronic systems, transmission assembly and electronics. We have in recent years expanded our production capacity in emerging markets, for example in China through the establishment of the production joint venture company Knorr-Bremse DETC Commercial Vehicle Braking Technology Co. Ltd., in cooperation with our partner Dongfeng Electronic and Technology Co. Ltd., for the application, development, manufacture and assembly of braking products and related parts and components for commercial vehicles in China. Our location in India is under expansion, due to the localization of products for the Indian market as well as relocation of mature products that are then supplied to the European and North American markets. Moreover, Chinese and Russia production sites are following a similar localization strategy. In addition, we have expanded our existing capacities for the production of air

treatment products, compressors, electronic and exhaust brake products in Europe (*i.e.*, in the Czech Republic, France, Germany, Hungary and the U.K.) to take account of the increasing requirements of our customers.

The following table shows the Group's main production sites for the Commercial Vehicle Systems segment:

Production Site	Product	Market served
Europe		
Liberec, Czech Republic	filter cartridge, actuators, air disk brake	Worldwide
Lisieux, France	compressors, actuators	Worldwide
Aldersbach, Germany	air disk brakes, EBS, gearshift modules	Europe
Berlin, Germany	dampers	Europe
Wülfrath, Germany	rack and pinion steering, RCB steering	Europe
Kecskemét, Hungary	valves, Trailer control modules, ABS valves	Europe
Arcore, Italy	conventional valves, actuators (aftermarket products)	Europe
Naberezhnye Chelny, Russia (Joint Venture)	Drum brakes, actuators, dampers, air disk brakes	Russia
Nizhny Novgorod, Russia	compressors	Russia
Peterlee, U.K	EGR, exhaust brakes	Europe
North America		
Illinois, U.S	Dampers	North America
Indiana,U.S	Electronics, remanufactured products	North America
Kentucky, U.S	Air disk brakes, drum brakes,	North America
Mexico	compressors, valves, actuators, ABS valves, modules	North America
South America		
Itupeva, Brazil	Dampers, Actuators, conventional valves, compressors, ABS valves, remanufactured products	South America
Asia-Pacific		
Dalian, China	Compressors, CRAM, FRAM, Air disk brake, actuator, ASA	China, Asia
Dalian, China (Joint Venture)	Dampers	China, Asia
Chong Qin, China (Joint Venture)	Conventional valves, gear control, clutch actuation, air treatment	China, Asia
Shiyan, China (Joint Venture)	Compressors, exhaust brake valves, gear control, ABS valves, conventional valves, air disc brakes	China, Asia
Pune, India	conventional valves, dampers, actuators	India, Europe
Sakado, Japan	Conventional valves, exhaust brakes	Japan, Asia

Local production at our sites is based on uniform global standards, thus allowing for flexibility and improved delivery capacity and at the same time ensuring a high and uniform quality level at each site — for example, by using the harmonized "Knorr-Bremse Production System" (KPS), our Group-wide production management system comprising key performance indicators, lean methods, shop floor management, "pull" principles and others, rolled out by experts and sustained by an internal lean training academy. In addition, our localization strategy ("region by region") allows us, among other things, to fulfill so-called "domestic content" quotas, such as in Brazil or China, for example with local assembly or local production. All of our production facilities are certified according to ISO or other comparable standards (see "*11.17. — Quality and Processes*"*).*

Typical production processes within Rail Vehicle Systems include machining, surface treatment, assembly and testing. Within Commercial Vehicle Systems, the production consists of different steps: (i) machining, surface treatment/fabrication and assembly; (ii) fabrication and assembly; or (iii) assembly only. In our production processes, we seek to integrate the best available market know-how, technology and processes to improve operational performance and optimize our cost base. We aim to enhance our operations through value stream design, the design for manufacture and assembly method (so-called "DFMA") and other methods to improve product quality and properties, delivery performance and the efficiency of our production processes. We also aim to achieve cost efficiencies through standardized processes and equipment, which allow for economies of scale. Further, we focus on the optimization of our network of facilities and production processes, supported by

so-called "VAVE" activities (Value Analysis and Value Engineering) processes, in order to constantly optimize our products. The implementation and roll-out of best practices and new technologies such as "Digital Manufacturing" (in Germany known as "Industrie 4.0") further strengthens our state-of-the-art manufacturing. The aim is to realize quick time-to-market and short throughput times in the factories. In addition, we ensure flexibility in adjusting production capacity to changes in demand for our products by increasing or decreasing the number of shifts and the use of temporary labor in our production plants to keep our costs low at times of low demand. Our close collaboration with extended workbenches and our intercompany collaboration aims to increase or decrease production when required. We thereby focus to quickly respond to changes in actual market demand and localization requirements, but also respond to low capacity utilization.

11.7. Customers

We sell our products to customers around the world and are partners of all major OEMs as well as rail and fleet operators. Europe is traditionally our strongest sales region. In 2017, we generated 50% of our revenues by destination (*i.e.*, based on the country in which the respective vehicle for which we supply systems or components is operated) in Europe, with the remainder coming from Asia/Australia (27%) and the Americas (23%; based on German GAAP). Both segments — Rail Vehicle Systems and Commercial Vehicle Systems — have a well-balanced mix of OE and aftermarket business; our aftermarket activities accounted for approximately 35% of total sales (based on German GAAP).

In 2017, we generated approximately 52% of our revenues in the Rail Vehicle Systems segment with our ten largest customers (based on German GAAP). In the Commercial Vehicle Systems segment, our ten largest customers contributed approximately 61% to the revenues of such segment in 2017 (based on German GAAP). In total, we serve more than 300 relevant rail operator customers and more than 50 relevant OEM customers in our Rail Vehicle Systems segment and many global OEM customers in our Commercial Vehicle Systems segment.

With respect to regional diversification within our Rail Vehicle Systems segment, 50% of the revenues for this segment in 2017 was generated in Europe, while 38% and 12% was generated in Asia/Australia and the Americas, respectively. In 2017, 50% of the revenues for our Commercial Vehicle Systems segment was generated in Europe, while 16% and 34% were generated in Asia/Australia and the Americas, respectively (in each case based on IFRS).

11.7.1. Rail Vehicle Systems

In the Rail Vehicle Systems segment, our customer portfolio is well-balanced between rail vehicle OEMs and rail operators across the globe. Our revenues are also well-balanced between OE revenues and aftermarket, which had a share of 58% and 42%, respectively, of our Rail Vehicle Systems revenues in the fiscal year 2017 (based on German GAAP). The vast majority of our Rail Vehicle Systems revenues in the fiscal year 2017 are attributable to OEMs in the passenger sector, whereas solely a small part of such revenues result from sales to OEMs in the freight sector. Approximately two-thirds of our Rail Vehicle Systems segment revenues are generated in the area of brake systems, leading to a growing installed base with corresponding aftermarket sales. Revenues of entrance and HVAC systems accounted for a single-digit percentage of such sales. We aim to grow our aftermarket revenues to service our customers in the best possible way. We believe we can thereby reduce cyclical fluctuations and strengthen our economics. We act as a global Tier-1 partner of many key OEMs and rail operators (*e.g.*, ordered according to revenues in 2017, CRRC, Bombardier, the Chinese Locomotive Cars Research Institute (LCRI), Alstom, Siemens Indian Railways, Deutsche Bahn, Hitachi, Stadler and CAF). At the same time, we have considerable customer diversification: our top ten customers collectively represented just over half of our Rail Vehicle Systems revenues in the fiscal year 2017. We entertain long-standing relationships with many of our customers; for example, relationships to our top five OEM customers in 2017 have been in place, on average, for more than ten years.

Our largest customers comprise rail car builders/companies operating in the rail transport markets, from manufacturers of vehicles and components to rail operators (as those named above) and owners of infrastructure, such as SNCF in France, Russian Railways (RZD) and Norfolk Southern in the U.S. We have further expanded our customer base in growing markets such as India and China with partnerships and joint ventures under our localization strategy, which also allows us to fulfill applicable "domestic content" quotas. In addition, the partnership with CRRC, China's national and the world's largest rolling stock manufacturer, and the relationship with Indian Railways provide significant export opportunities for us within the respective regions.

Sales to customers are typically based on a bidding process. The bidding process comprises different phases, including the response to the request for proposal, sub-system development and sometimes prototype deliveries, in which phase we adapt our standard products to the requirements of the OEM and the relevant specification. OEMs usually initiate supply processes when they start a new platform, or when they carry out new generation

developments on existing platforms or make major technical adaptations. Thus, a new procurement process for a given platform roughly takes place every five to ten years on average.

We often enter into long-term framework agreements based on which our customers enter into specific contracts with us using an agreed form of call-off contract or option with minor adjustments of the scope of deliveries. Prices are set either in the framework agreements, which often provide for price adjustment clauses, or in the individual project-based agreements.

In connection with our project business, we typically grant different types of guarantees, such as guarantees in connection with pre-payments received by the Group, performance guarantees granted to customers and parent company guarantees to cover potential warranty events. In some cases, we arrange for bonds to be granted. In addition, all the contracts we enter into contemplate a pre-defined liability cap.

11.7.2. Commercial Vehicle Systems

In the Commercial Vehicle Systems segment, we have a balanced customer portfolio. We sell our products predominantly to OEMs in the commercial vehicles market. OE revenues accounted for nearly three-quarters of the total revenues of the Commercial Vehicle Systems segment in 2017. Of our total revenues, 66% were generated from sales to truck and bus OEMs and 6% to trailer OEMs. Brake systems and vehicle dynamics accounted in 2017 for more than two-thirds of our Commercial Vehicle Systems revenues to OE customers; energy supply and distribution systems as well as fuel efficiency systems accounted for a low double-digit percentage of the segment's revenues in 2017, respectively.

We act as a global Tier-1 systems partner for many key truck, trailer and bus OEMs in all regions in which we operate and have well-established relationships of more than 20 years with most major OEMs around the world. For example, our relationships with our top ten OEM customers in 2017 all date back to at least 20 years, with some older than 90 years. Our top ten customers include Daimler, Paccar, Volkswagen Truck and Bus (including MAN and Scania), Volvo, Navistar, IVECO, Ford, ZF Friedrichshafen, ISUZU and Dongfeng (ordered according to revenues in 2017). Other major customers include, FAW, KAMAZ, Schmitz Cargobull, TATA and Weichai (in alphabetical order).

In 2017, 28% of the revenues of our Commercial Vehicle Systems segment pertained to the aftermarket (based on German GAAP). We believe that we can further strengthen our position in this aftermarket over the next years. In the independent aftermarket, the portfolio of our customers is very diverse and ranges from single branch distributors, wholesalers and export houses to OE manufacturers, suppliers, independent workshops to truck/trailer fleet owned, or bus/coach fleet-owned workshops and chassis converters. The main customer sales groups in the original equipment services (OES) business comprise large OES customers, trailer OES and specialist equipment services such as Daimler, MAN, Navistar, Paccar and Volvo (in alphabetical order). When taking into account both OEMs and the aftermarket, our top ten customers represented in aggregate 61% of 2017 total revenues for the Commercial Vehicle Systems segment.

We serve all major global truck and trailer markets and deliver our products to customers in more than 90 countries. We have built a particularly strong footprint in the European market, which is home to many leading global truck OEMs (such as the Daimler Group, the VW Group with its brands MAN and Scania as well as the Volvo Group with its brands Volvo and Renault), but also have an established presence in the Americas and aim to grow our market presence and share in Asia/Australia significantly. We have been able to achieve strong market penetration in key emerging markets including China, Russia and Brazil due to our localization strategy in all regions, implemented by means of joint ventures such as Knorr-Bremse DETC Commercial Vehicle Braking Systems (Shiyan) Co., Ltd. (a joint venture with Dongfeng Electronic and Technology Co., Ltd.) in China and Knorr-Bremse KAMA LLC (with KAMAZ) in Russia. We have also expanded our local footprint in North America, in particular through the acquisition of Bendix in 2002.

We mainly compete for new business at the beginning of the development of our customers' new products, and our supply of our products generally lasts for the life of our customers' products via the aftermarket (for more information, see "*11.11.2. — Commercial Vehicle Systems*"*)*. However, OEMs retain the option to switch suppliers or shift supply volumes to other suppliers during the term of an ongoing supply contract, through exit clauses. Typically, a new procurement process for a given product or sub-system takes place every three to five years.

Sales to truck and bus OEM customers are typically based on a formal process with several pre-established steps that must be closely followed. Upon receiving a quote package (request for proposal), suppliers are usually requested to quote on standard templates alongside full acceptance of the OEM's terms and conditions. After commercial and technical quote presentations and alignment, the OEMs usually initiate multi-step negotiations, often in the form of biddings, parallel negotiations or auctions.

The OEMs' sourcing processes are designed to follow strict rules and do not leave room for suppliers to divert from the OEM-designed strategy. However, it is not unusual that at any point in such process suppliers offer additional savings or commercial contributions, often to promote a specific technical solution or as leverage back based upon the supplier's complete business portfolio. Such steps may even lead to significant changes in the OEM's sourcing strategy — such as changing previously planned volume shares, considering single-source awarding, or even accepting technical solutions that are different from what was specified within the quote package.

The bidding process includes different phases, such as the response to the request for proposal, product development and sometimes first sample deliveries, in which phase we adapt our base products to the requirements of the OEM, as well as — for the truck and bus segment — further product refining and the development of the so-called "B-sample" prototype, which is the reference to test if the technical requirements are met.

Trailer OEM sales are driven by broadly similar bidding processes but in the trailer OEM market, long term supply agreements are very rare. Supply agreements typically have a duration of at most two to three years, and in many cases there are no supply agreements with a fixed term at all. This gives the trailer OEMs the freedom to switch suppliers without being bound by contractual terms with their suppliers.

In the independent aftermarket for commercial vehicle components, we mainly sell to distributors with whom we have one-year framework agreements and sometimes multi-year agreements. These agreements are not exclusive and do not set minimum purchasing volumes. Many of our customers place orders for products on an "as needed" basis.

In connection with our project business, we typically grant different types of guarantees, such as guarantees in connection with prepayments received by the Group, good performance guarantees granted to customers and parent company guarantees to cover potential warranty events until the end of the warranty period (in lieu of a portion of the price owed to us being retained by the customer).

For more information on risks relating to large customers, bidding processes, contractual arrangements and other project risks, see "*1.1.15. — Risk Factors — We depend upon a number of large key customers, and our customers tend to have strong bargaining power.*" and "*1.1.16 — Risk Factors — We face risks associated with the bidding process, in particular for larger and mid-sized OEM projects.*"

11.8. Mergers and Acquisitions, Joint Ventures and Cooperations since 2014

Since Mr. Thiele took over Knorr-Bremse in 1985, the Group has been one of the most active consolidators in the industry in line with our strategy of sustainable and profitable growth across our main business areas. Targeted acquisitions and the establishment of joint ventures create opportunities for us to (i) access adjacent fields of business and expand our system offering, *e.g.*, with the acquisition of Selectron Systems AG and tedrive Steering Systems GmbH, (ii) strengthen our technological capabilities with the target to better serve our customers, *e.g.*, with the acquisition of Icer Rail S.L., or (iii) to successfully expand into new geographies, *e.g.*, by establishing the joint venture Knorr-Bremse Dongfeng Electronic & Technology (DETC) Commercial Vehicle Braking Technology Co. Ltd. This approach of focused M&A activities has been an essential component in the implementation of our growth strategy. We continuously monitor current and future markets to identify suitable targets and potential partners. We are interested in acquiring companies with a strategic fit for the areas in which we operate or which we want to develop.

The following table provides an overview of our key acquisitions, joint ventures and other selected cooperations since 2014:

Year	Target / Joint Venture / Other Selected Cooperations	Products	Acquisition Rationale
2014	PCS Power Converter Solutions GmbH, Berlin, Germany	Auxiliary power supply systems for rail vehicles	• Extension of our Rail Vehicle Systems portfolio with onboard energy supply systems • Strengthening of expertise in the area of eco-efficient onboard power supply and strengthened our position as a leading system provider for the rail transport industry

Year	Target / Joint Venture / Other Selected Cooperations	Products	Acquisition Rationale
2014	Transtechnik GmbH & Co. KG, Holzkirchen, Germany	Auxiliary power supply systems for rail vehicles	• Extension of our Rail Vehicle Systems portfolio with onboard energy supply systems • Strengthening of expertise in the area of eco-efficient onboard power supply and strengthened our position as a leading system provider for the rail transport industry
2014/2018	Knorr-Bremse Dongfeng Electronic & Technology (DETC) Commercial Vehicle Braking Technology Co. Ltd Shiyan, China	• 2014: Production of mechanical brake components and complete air brake systems • 2015: start of operations • 2018: Extension of product portfolio with compressors and compressed air handling	• Strengthening the profile in the Chinese commercial vehicle market • Launch of adapted solutions that are safer, smarter and more environmentally friendly
2015	Selectron Systems AG, Lyss, Switzerland	Automation solutions for rail vehicles through Train Control and Monitoring Systems (TCMS, hardware and software)	• Portfolio extension to include components and solutions for the control, diagnosis and automation of rail vehicles and rail vehicle subsystems • Further development of our connected systems competence
2015	Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, China	Final assembly and service activities for brake, HVAC and entrance systems	• Strengthening the production and service network in China • Accelerating growth in the Chinese market
2016	Rail transportation segment of TMD Friction Group, Leverkusen, Germany	Friction blocks, friction pads and other friction material for the rail industry	• Strengthening the position as a systems supplier • Extension of our friction materials expertise and portfolio
2016	G.T Group Ltd., Peterlee, U.K.	Engine components for truck and industrial engines, e.g. exhaust gas recirculation valves, exhaust brakes and valves used for thermo-management	• Expansion of commercial vehicle powertrain business with engine air management solutions • Growing into new regions and strengthening the market position in Europe and North America
2016	tedrive Steering Systems GmbH, Wülfrath, Germany	Vehicle steering systems	• Adding innovative steering technologies like torque overlay steering for commercial vehicles to the product portfolio • Development to an entire systems provider for automated driving
2016	Cooperation with Microlise Ltd.	Telematics and logistic systems	• Launch of Knorr-Bremse Truck Services ProFleet Connect, offering a range of safety functions, better vehicle planning and live coaching sessions for drivers

Year	Target / Joint Venture / Other Selected Cooperations	Products	Acquisition Rationale
2016	Icer Rail S.L., Pamplona, Spain	Organic and sintered railway friction brake materials (pads and blocks)	• Expansion of position in the field of railway friction materials
2017	Vossloh Kiepe GmbH, Düsseldorf, Germany; Vossloh Kiepe, Inc., Georgia, U.S.; Vossloh Kiepe South Africa (Pty) Ltd., South Africa	Electrical systems, components and services for rail and street vehicles and metros	• Expansion of product portfolio by adding traction technologies for rail and commercial vehicles • Expansion of synergy potential between Rail Vehicle Systems and Commercial Vehicle Systems segments
2017	Bosch Transmission Systems division of Bosch Corporation Japan, Tokyo, Japan	• Systems and components for manual and automatic transmissions for on-highway commercial vehicles in Asia • Distribution and sale of components and systems for manual, automated manual and double clutch transmissions for on-highway commercial vehicles as well as exhaust brake products to the independent aftermarket (signing for transfer of independent aftermarket business in 2016; closing scheduled earliest for January 1, 2019)	• Strengthening the product offering for automatic transmissions, in particular in the fast-growing Chinese market
2018	Cooperation with FAW Jiefang Automotive Company	Strategic cooperation in commercial vehicle brake systems, AMT products, and AMT calibration, as well as in chassis components, steering systems, smart driving, and other areas	• Strengthening the market position and contributing to the development of safety, efficiency and interconnection of commercial vehicles in China
2018	Cooperation with Continental Automotive GmbH	Components or systems for HAD	• Becoming a leading Tier-1 supplier for HAD systems in the commercial vehicle systems market
2018	Acquisition of rail friction material know-how from Federal-Mogul Holdings LLC	Know-how and intellectual property rights for the development and production of friction materials for rail vehicle and industrial applications	• Strategic expansion of rail vehicle friction material portfolio • Strengthening of systems competence and market position primarily in the aftermarket sector

11.9. Procurement

Our procurement activities, both for direct and indirect materials, are focused not only on ensuring that global production locations are supplied with materials and cutting costs, but also on partnering with innovative suppliers and contributing with a modern purchasing organization to the Group's growth. Therefore, our procurement organization plays a key role in the quality of end-products.

To this end, in line with our purchasing strategy, we expressly select suppliers who can be relied on to assume responsibility for safety and environmental protection and work together with suppliers to raise awareness of

quality and satisfactory working conditions. We have developed a Supplier Code of Conduct (the "**Supplier Code of Conduct**") that is continuously being rolled out for acknowledgment by our suppliers. We also regularly scrutinize the performance, quality and competitiveness of our suppliers to achieve continuous improvement in these areas. For more information regarding quality and transparency aspects of our procurement processes, see "*11.6. — Production*" and "*11.18. — Corporate Responsibility*".

Costs for materials represent our largest cost item. We purchase a broad range of components, parts and materials in connection with our manufacturing activities. Major items include electronic components and parts containing aluminum, steel, copper, zinc, rubber and plastics. The costs of components and parts, which reflect the cost of the raw materials used therein, represent a significant portion of our total costs. We monitor on a monthly basis various raw material indexes, taken from official data sources (such as the Federal Association of the German Foundry Industry (*Bundesverband der Deutschen Gießerei-Industrie*), the Metal Bulletin and the London Metal Exchange).

In 2017, taking into account direct and indirect purchases, we sourced a single-digit percentage from our five most important suppliers and a quarter of our direct and indirect supplies from our 50 most important suppliers. We sourced a high single-digit percentage of our direct supplies from our five most important suppliers and one third of our direct supplies from our 50 most important suppliers in 2017.

In our direct procurement activities, we source from a balanced mix of material from high-tech and best-cost countries. For the Rail Vehicle Systems segment, we procured materials for more than 40 locations and over ten business units in three geographic areas — the Americas, Europe (including Africa) and Asia-Pacific — from over 5,000 suppliers in over 50 countries in the same year. The Commercial Vehicle Systems purchasing organization procured material for more than 20 locations and several Centers of Competence in six geographic areas such as North America, South America, Europe, China, India and Japan from approximately 1,400 suppliers in over 35 countries in 2017.

11.9.1. Rail Vehicle Systems

The purchasing function of the Rail Vehicle Systems segment follows the regional and local requirements of our rail business while leveraging synergies across locations, business units and regions, supported by a global purchasing management team. Our functional organization ensures that we are close to the markets and projects of the segment. At the same time, a global purchasing controlling function defines, measures and monitors standardized key performance indicators for purchasing (*e.g.*, spend per location, region and commodity, savings, delivery reliability and delivery quality), defines the respective global processes and ensures application of these processes via state-of-the-art tools and methods. In addition, a commodity management organization bundles volumes and capitalizes on synergies wherever possible, also ensuring a suitable supplier panel. Moreover, the organization is supported by central service functions such as cost engineering and a cost calculation team, a global sourcing team in best-cost countries and a project purchasing team. The individual performance of every local purchasing function is monitored by new governance teams set up in 2018, aiming to ensure proper process use and application of best-practice approaches in the area of operative and tactical purchasing.

In order to strategically manage our supplier base, we have set up a systematic supplier and risk assessment process leading to standardized supplier ratings. We continuously develop our supplier panel, assessed on the key criteria of supplier performance and competitiveness, combined with regular risk and dependency assessments. Continuous benchmarking alongside supplier long-term agreements aim to select the most competitive suppliers for the Group. In addition, we integrate our strategic partners where possible into the design and early project phases aiming to ensure feasibility and technically sound and timely solutions for our project business. We also assess our main suppliers with respect to our individual dependency and the likelihood of risk occurrence and, if required, adjust the individual commodity strategies. While we generally aim to have alternatives for each relevant production technology in order to address dependency on any single supplier, for the parts portfolio — which comprises more than 100,000 active parts per year — we do not have a qualified alternative source for all individual parts.

We have clustered our product portfolio worldwide into seven main and approximately 75 sub-commodities with electronics and castings/forgings being the largest ones. In 2017, we spent approximately EUR 1,020.1 million in procurement within our Rail Vehicle Systems segment, in particular for electrical components and electronics, followed by castings/forgings and machining. Other commodities relevant for this segment include non-cut parts (including welding), components, plastics and rubber, and standard parts.

The main sourcing regions in terms of spend are Western, Central and Eastern Europe (with more than two-thirds of global spend in 2017 on aggregate), the United States and Canada, China and India.

With respect to the contractual situation with our suppliers, we rely on general terms and conditions in the U.S., but follow a standardized contract management approach in Europe and APAC. Hence, besides some stand-alone

contracts for specific topics (such as quality assurance agreements), we have master supply agreements ("**MSA**") with our suppliers in place. These MSA are negotiated and signed individually, usually with a base duration of five years and automatic prolongation, unless terminated by one of the parties with six months' written notice. Purchasing commitments towards a supplier may have (i) strategic aspects when entering into a long-term partnership governed by a MSA, (ii) tactical aspects, *i.e.*, a project-related partnership based on a letter of intent, a frame contract or scheduling agreement on part number level and the sending of tooling orders, and/or (iii) operative aspects, through sending single orders, part numbers and call-offs. The MSAs are combined with additional supplier-specific modules dealing with items such as development, branding, logistics, consignment and tools. The specific pricing for individual part numbers is agreed upon the basis of these MSAs and usually fixed for a limited term, which varies depending on the application. We systematically assess the coverage rate with these MSAs and aim at increasing such rate continuously. As of June 30, 2018, approximately three-fourths of our purchasing volume for Europe is covered through MSAs, whereas in APAC, the rate amounts to more than half of our purchasing volume.

11.9.2. Commercial Vehicle Systems

Within our Commercial Vehicle Systems segment, purchasing is carried out by a global organization, managed along main purchasing categories with global mandates and responsibilities. The seven key purchasing categories are: (i) iron castings; (ii) aluminum castings; (iii) electronics; (iv) stamping machining and forging; (v) special components (such as fasteners, springs, fittings and surface treatment materials) and processes; (vi) rubber and plastics; and (vii) friction. For each category, our sourcing strategy aims to achieve a number of goals: (a) provide the best possible commercial and technical service towards the internal customers (*i.e.*, product lines and the locations (local sites)) for current and future needs, both globally and within the regions; (b) generate baseline cost reductions by means of negotiations, resourcing and "Value Added / Value Engineering" activities; (c) procure parts from best-cost countries using a "total cost of ownership" approach, *i.e.*, considering the landed costs which include freight, insurance, and other costs up to the place of destination (in addition to the base purchase price); (d) maintain the needed level of competition between the different suppliers; (e) create partnerships with preferred and strategic suppliers and create value beyond mere cost reductions (for instance fostering innovations from the suppliers); (f) manage proactively and reactively the risks in the supply base (such as financial risks or production capacity issues); and (g) use the synergies arising from the acquisitions of new companies.

Each key purchasing category develops its own sourcing strategy every two years in cooperation with all business stakeholders, resulting in the creation or update of a list of different groups of approved suppliers (*e.g.*, preferred, standard and phase-out suppliers).

In connection with the selection and management of our suppliers for our Commercial Vehicle Systems business, we focus on parameters such as quality and delivery flexibility. The supplier selection process is used worldwide. Each supplier selection is presented to a multi-disciplinary sourcing board (including representatives of different departments, *i.e.*, purchasing, R&D, quality, logistics and sustainability). This board's decision is based on several parameters, such as costs, contractual and financial situation, supplier performance (both in terms of quality and delivery), audit results and sustainability commitment. Three levels of sourcing boards are in place (category, regional or global) depending on the annual purchasing volume of the business to be awarded.

We estimate that our total purchasing volume in 2017 in the Commercial Vehicle Systems segment amounted to approximately EUR 1,327.6 million. While aiming at creating stable partnerships with certain strategic suppliers, we pursue — wherever possible — a dual sourcing strategy with respect to critical components and raw materials, particularly in case of supply risks due to capacity constraints affecting our current suppliers. We strive to generate cost reductions by means of negotiations, resourcing and value added/value engineering activities.

Our plants in China, India and South America have the highest share of supplied components sourced in best-cost countries, followed by our plants in Europe, North America and Japan.

Regarding the contractual situation with our suppliers, we pursue a standardized contract management approach. Purchasing commitments towards a supplier may be (i) strategic, implying a long-term partnership with the supplier through the signature of master supply agreements (MSA), (ii) tactical, i.e., a partnership for a specific project through the signature of a letter of intent and the sending of tooling orders, or (iii) operative, through the sending of call-offs and part number single orders. Hence, besides some stand-alone contracts for specific topics (such as a quality management program for procurement agreement), we have MSA with our suppliers in place. Such MSA are long-term contracts with terms typically ranging from one to five years. In most cases, such contracts are prolonged automatically for a one-year period, unless terminated by one of the parties mostly with six months' written notice. These MSA are combined with additional supplier-specific modules dealing with items such as development, logistics, risk sharing, liability, consignment and tools. The specific pricing for individual part numbers is agreed upon the basis of these contracts and usually fixed for a limited term, which

varies depending on the application. As of June 30, 2018, around three-quarters of our purchasing volume was covered through master supply agreements or long-term agreements.

In the frame of our cost reduction and best-cost country initiatives, we regularly (approximately every three years, in most cases) request our current and alternative suppliers to provide an updated quote (or original quote, for alternative suppliers) for existing components and part numbers. This allows us to negotiate with existing suppliers and potentially to decide on a new sourcing supplier instead of or in addition to the current suppliers.

The split of our purchasing volume by region roughly corresponds to the export volume by region. However, this does not apply to China, in which our export volume is much higher than our purchasing volume.

11.9.3. Indirect Purchasing

Indirect purchasing is a synergistic part of purchasing which combines our Rail Vehicle Systems and Commercial Vehicle Systems segments. Indirect material purchasing covers all goods and services the Group requires for its functioning and performance, but which are not part of products or services sold to the clients. We purchase a broad range of goods and services such as freight and logistics, IT services or energy. We are organized in several categories, including, among others, logistics, services, facility management, packaging, and office.

For indirect purchasing, we source currently from global, regional or local best-cost suppliers, providing to our locations a competitive and close-to-business support. Our global indirect material controlling function monitors, on a monthly basis and on a global scale, indicators such as cost savings, contract coverage, average payment terms and indirect spend contracted via our e-catalogues.

We estimate that our total purchasing volume in 2017 for indirect material was approximately EUR 1,030.0 million, with approximately EUR 572.7 million for our Rail Vehicle Systems segment, approximately EUR 415.4 million for the Commercial Vehicle Systems segment, and approximately EUR 41.9 million for Corporate Services. For indirect purchasing, we pursue a standardized contract management approach. We contract with our suppliers through frame contract agreements, project agreements and single contracts. As of June 30, 2018, more than half of our purchasing volume was covered through these three types of contracts.

Since the beginning of 2018, we entered into a transformation process for our indirect material purchasing. Until 2020, we aim to (i) reorganize the category management on a global level, in order to organize competitive tendering (regional or global) and create synergies, wherever possible, (ii) implement sourcing strategies, defined in cross-functional teams, to create long term partnerships and have a clear global and regional focus, (iii) increase and maintain the contribution of indirect purchasing to bottom line results and (iv) bring the processes, systems and tools to a state-of–the-art level, which includes implementing a global sourcing selection process, and spend data transparency and control.

11.10. Supply Chain Management

Our supply chain management focuses on improving our supply chain capabilities, processes and our inventory levels along the entire supply chain: inbound, cross-company within our Group, outbound and including returns. We have a supply chain financing program with more than 300 suppliers in place, whose volume amounted to approximately EUR 530.5 million as of December 31, 2017. Under this program, suppliers receive an early payment for a discount. Our supply chain management approach is further driven by factors such as integrated planning, ensuring the availability of parts, customs and foreign trade, logistics execution, transport, short delivery periods and the traceability of parts. We have a coordinated delivery cycle with a standardized process model and cross-location synchronized supply chains. Thus, we ensure delivery reliability and an adequate level of stock, a high level of logistic quality and performance by low costs.

In both segments, the primary means of logistics transportation are trucks for continental routes and ships for intercontinental routes. We do not own trucks or other means of transportation and mostly rely on third-party carriers and logistics contractors. Key reasons to outsource transport management include reduced transport costs, improved transport planning and reducing administrative tasks such as invoice checks.

In our Rail Vehicle Systems segments we have logistics agreements in place regarding transport management in Europe and the United States. Such agreements involve freight service procurement projects with the four largest European rail locations including our supply and distribution hub in Seubtendorf, Germany. In addition, we have entered into several service agreements relating to distribution, transportation and logistics.

In our Commercial Vehicle Systems segment, we have outsourced transport management in the U.S. to a leading logistics provider. The agreement with such provider aims at optimizing our U.S. truck transportation chain by

means of load-building and freight service procurement. In Europe, our Commercial Vehicle Systems segment has direct service agreements with several third-party logistics service providers in place to execute transport orders for inbound logistics. We are currently building up a proactive transport management approach internally, based on an integrated transport management system ("**iTMS**"). The iTMS-System will replace the manual transport management by a SAP-integrated system. Freight dispatchments, load as well as cargo space optimization will be supported. SAP and enterprise resource planning ("**ERP**") demand data are the integrated input for this system which will be imbedded in our IT landscape for avoiding data breaches. The main aim is to improve reliability of our transport network and transport bundling in the transport network. For outbound deliveries within our Commercial Vehicle Systems segment, we also use direct pick-ups, mostly managed directly by our customers.

Most of our plants Group-wide have one or more internal warehouses, which are in most cases located at their premises. Furthermore, we rent or lease several warehouses. In addition, in our Rail Vehicle Systems segment we keep a limited number of customer consignment stocks to fulfill warrant/guarantee purposes. In general, this consignment stock is kept close to the customers and under the control of the respective sales location.

11.11. Sales Network and Marketing

We market our products through a global sales force supported by a small, but effective marketing team. Specifically, our sales force is responsible for technical support, order processing and day-to-day contact with customers. Our staff in sales and marketing functions comprised more than 3,700 employees (on a full-time employee basis, excluding leasing staff) as of December 31, 2017, comprising more than 2,800 in our Rail Vehicle Systems segment and more than 900 in our Commercial Vehicle Systems segment, across the different regions (Europe, Asia-Pacific and the Americas). The geographical diversification roughly corresponds to our proportional revenues by region. Our sales and marketing personnel includes not only sales representatives, but also employees in other adjacent functions, such as sales field service, sales service, customer project management, sales and outbound logistics, sales order management and planning, engineering, as well as several others. The compensation of our sales force is partly performance-based. In 2018, our corporate compliance organization conducted, together with an external anti-trust counsel, a series of classroom trainings for our global sales force leadership with a focus on fair competition and corruption prevention. We intend to continue such trainings in the framework of future global sales force meetings.

Our marketing organization follows our segment structure and, within the segments, is organized by locations worldwide. The central function of marketing within the Group is represented by a marketing manager who, in the execution, is supported by our Group entity KB Media GmbH. KB Media GmbH cooperates with the local marketing specialists in the Rail Vehicle Systems and Commercial Vehicle Systems segments, who are located mainly locally in the various countries. However, certain functions, notably the strategic corporate marketing of the Company and the brand communications, are managed by KB Media GmbH which defines the uniform appearance and the corporate design of all publications and advertising materials throughout the Group. To support a corporate identity, this central unit also defines our brand strategy with respect to all brands within the Group, develops marketing concepts and carries out part of their implementation. We are currently developing a new brand strategy to better integrate the newly acquired brands into the Group and to further strengthen the "Knorr-Bremse" brand.

We aim to position all Knorr-Bremse brands as best-in-class technology partners and worldwide innovative system suppliers for the rail and the commercial vehicle industry. We use several types of marketing initiatives, including trade fairs, advertisement, product brochures and product flyers. Our two customer magazines, "Informer" and "Bremspunkt" and our Internet presence also play an important role in our marketing activities. We have also initiated the update of a specific brand-building project, the KB Forum, a space at the Group's headquarters in Munich in which we will, for example, host (according to current plans, as from April 2019) an exhibition of our latest products and systems. This space is frequently used as a location for customer visits and events.

11.11.1. Rail Vehicle Systems

We serve our rail vehicle customers through a global sales force. Our sales activities focus on both rail vehicle manufacturers and operators. Often, our sales force pursues a dual strategy addressed to both rail vehicle manufacturers, mainly relevant for our OE business, and to operators through the growing aftermarket business. Our sales and marketing strategy is therefore designed to reach all decision-makers responsible for the purchase and technical specification of sub-systems for rail vehicles, depending on the particular markets. We aim to advise and cooperate with decision-makers at an early phase of the relevant project. Our sales representatives also negotiate prices with customers, primarily on the basis of system solutions.

In the Rail Vehicle Systems segment, we sell our sub-systems throughout the world. In Europe, the Americas and Asia-Pacific, the responsibility for sales in the respective region is attributed to the region and respective Group companies. The global governance for sales lies with Knorr-Bremse Systeme für Schienenfahrzeuge GmbH ("**KB SfS GmbH**"). Our sales network itself is structured by regions and locations. Often, our sales offices are located in close proximity to our customers. Our European sales representatives are located in more than 30 sites in Europe (spread over Austria, France, Germany, Hungary, Italy, Kazakhstan, The Netherlands, Poland, Russia, Spain, Sweden, Switzerland and the U.K.), South Africa, Australia, Asia (with several offices in China, India, Japan and South Korea) and the Americas (with offices in the U.S., Canada and Brazil).

In addition to the regional sales structure, sales teams are organized on a vehicle-specific basis (*e.g.*, for urban transport and for mainline transport) for each of the major sub-system categories, namely brake systems, entrance systems and HVAC. There is a network of key account representatives who ensure a common approach across the sub-system offerings for a specific customer. Our sales staff works hand-in-hand with our systems engineering staff aiming to address both the commercial and technical requirements of our customers at a very early stage.

While we serve all major markets with our own sales staff, in individual smaller product markets we also have agency and other similar agreements in place with partners who promote our products and services, either as commission sales agents or as independent merchants.

"RailServices" is our aftermarket brand which bundles the sales of aftermarket products and services. The respective aftersales organization comprises the headquarter functions in Munich, Germany, the aftersales specialists within the different rail business units as well as the RailServices sales forces at our rail locations. The headquarter supports our global activities and enables an efficient governance worldwide. It is structured into a sales and technical solutions department, a modernization department and technical support department and inherits the business development function for friction material. The business units offer technical expertise and are responsible to provide a competitive aftersales product portfolio. The sales locations, some of which are situated at service centers, are responsible to deal with the market specific requirements and customer relationship management. Further, they acquire and manage aftersales business locally.

11.11.2. Commercial Vehicle Systems

Our global sales force is active across all regions selling our products in more than 20 countries across six continents, both in the OE and aftermarket channels in the commercial vehicles market as well as in the respective sub-segments.

Considering the increasingly growing global scope and organization of our customers, we have adapted our sales approach to the major industry trends. In this context, we rolled out our global Key Account Management, which is supported by the Sales Coordination and Strategy department located in Munich. The Key Account Management teams for the largest European and most of the global OEMs are based in Munich. The Key Account Management teams for OEMs with a regional focus are located close to the customers at a Group company in the respective region. The global Key Account Managers are responsible for a team of regional Key Account Managers from different parts of the world and are located in the region where the customer's global headquarter is. This setup allows the teams to have an overall view over the activities, structures and requirements of their customers worldwide, building one of the most important interfaces between OEM customers and the Group. Either price or contract negotiations, as well as customer care, creation of individual offers and support in quality issues are part of the diverse task portfolio.

The Sales Coordination and Strategy department has the cross-functional task to support the global and regional OE Key Account Managers in their daily business as well as to create synergies across different accounts. The tasks range from reporting and updating the processes to the execution of special projects and the organization of trade fairs, meetings and workshops. Furthermore, the Technical Sales department within each "Center of Competence" for different product lines provides technical expertise for in-depth discussions on products and solutions with our customers with the aim to define the technically and commercially best-fitting solution for our customers. Both teams operate closely together to provide the required solutions and strengthen our long-term customer relationships.

The relationships and customer proximity of our sales network are based on a regional structure with dedicated key locations close to our customers. Our sales offices in the Americas are located in Elyria (Ohio, U.S.) and Itupeva (Sao Paulo, Brazil). Further, we have sales accounts, which are supported by application engineers, close to our customers. In Asia Pacific, we are represented across all major commercial vehicle markets of the region with sales forces in China, Japan, India, South Korea, South-East Asia/Hong Kong and Australia. In Europe, the major sales office is based in our headquarters in Munich (Germany). Other sales managers are located in the proximity of customers (*e.g.*, in Italy and Russia).

Bidding processes are usually initiated by the respective OEMs. The OEMs usually initiate sourcing processes when they start new vehicle platforms, perform facelifts on existing platforms, or introduce other technical adaptations (due to legal and regulatory or strategic needs such as improved pricing or fulfillment of vehicle efficiency targets). As a rough average, suppliers will face a new procurement process every five years per product/product group. This marks the main opportunity when potential new suppliers can enter. However, it is also possible that existing contracts are renegotiated (including potential termination and award to another supplier) during the contract term and irrespective of any reasons related to the vehicle lifecycle. The process itself is based on a formalistic procedure (typically, a bidding process) with several fixed steps that are usually closely followed through. For more information on how customers source from commercial vehicle system suppliers, see "*11.7.2. — Commercial Vehicle Systems*".

"TruckServices" is our aftermarket brand which bundles the sales of aftermarket products and services. The TruckServices organization is responsible for two sales channels: the independent aftermarket and original equipment services. Central functions such as aftermarket sales strategies, product portfolio management, e-services, pricing and commercial conditions are located in Munich, Germany. Local functions dealing with customer relationship management and sales are undertaken within the individual legal entities of the Group. The regional sites also provide comprehensive support services (including a hotline, training and warranty management) for distributors, workshops and fleet operators. These locations are assigned country-specific sales responsibilities. For example, the Munich sales team is responsible for Germany and Switzerland as well as export business in the Middle East, whereas the Moscow sales team is responsible for Russia, Belarus, Kazakhstan and Kyrgyzstan. Independent aftermarket products are sold through a comprehensive global network of more than 1,100 distributors. In addition, TruckServices has an extensive network of qualified workshops ensuring that vehicle maintenance and repairs of our products and systems are carried out to exacting standards. Aftermarket sales are also carried out through the OES organizations of vehicle manufacturers throughout the world. Our sales and support services for OES customers are performed by regionally-based organizational teams worldwide.

In addition, a broad variety of established partnerships and cooperations facilitate the distribution of our products. We partner with major OEMs in key regions for the distribution of our products, for example with the sales joint venture company Knorr-Bremse DETC Commercial Vehicle Braking Systems (Shiyan) Co. Ltd., which we set up with our partner Dongfeng Electronic and Technology Co. Ltd. for the distribution of commercial vehicle products in China.

11.12. Research and Development

Our R&D efforts are a fundamental element to our corporate vision. Our goal is to continue to strive for developing and inventing products and brands which are in line with changing customer needs and which deliver the highest customer value-add, while anticipating and adopting to evolving market requirements and regulations. We believe that the reliability and high quality of our products is the result of years of laboratory testing and stringent practical tests carried out under the most demanding conditions. Our technological excellence is also underscored by the fact that we introduced, in our management's view, nine out of the ten most industry-defining innovations in the rail vehicle industry and eight out of the ten most industry-defining innovations in the commercial vehicle industry over the last decades. Our dedication to R&D was one of the factors which contributed to the outperformance of our underlying markets (see "*11.2.3. — We have consistently managed to outperform our underlying end-markets and are well positioned to capitalize on global megatrends and increasing content per vehicle*").

Our R&D activities primarily address the four megatrends of urbanization, eco-efficiency, digitization and automated driving. Of our 327 newly filed patents in 2017, the majority related to automated driving and connected systems. Our innovations are directed towards customer benefit and value-add, focusing on, for example: (i) reducing energy consumption, noise or weight; (ii) minimizing the total cost of ownership; and (iii) modernization and upgrade solutions. We also aim to offer our customers state-of-the-art electronics, hardware and software, solutions supporting connectivity and products that adapt to changes in regulatory standards and take account of the evolution of engineering methods and tools.

In our R&D activities, we profit from the high synergy potential between the Rail Vehicle Systems and Commercial Vehicle Systems segments. For more than half of our product portfolio, the underlying technology can be applied to both segments. These include for example, driver assistance (adaptive cruise control ("**ACC**"), AEBS, ASR), motion control, brake control, hydraulics, wheelend/bogie equipment and compressed air generation. The synergies between the Rail Vehicle Systems and Commercial Vehicle Systems segments translate into faster time to market, higher cost benefit and focused customer solutions. For example, we transferred the technology for air disc brakes and for the screw compressor from our Rail Vehicle Systems to our

Commercial Vehicle Systems segment. Our collision avoidance solution for rail vehicles is based on know-how within the field of sensor technology of our Commercial Vehicle Systems segment. For the development of condition monitoring and collision avoidance, for example, we set up joint development teams.

In the fiscal year 2017, on Group level, we invested EUR 358.8 million (or 5.8% of our revenue) into our R&D activities. In the fiscal year 2017, we spent EUR 207.3 million, or 6.2% of revenues in our Rail Vehicle Systems segment and EUR 151.5 million, or 5.2% of revenues in the Commercial Vehicle Systems segment on R&D. In the fiscal years 2016 and 2015, our R&D expenditures amounted to EUR 328.4 million and EUR 347.3 million on Group level, respectively (in each case based on German GAAP).

11.12.1. Our R&D Organization

Our main R&D centers are located in Munich and Schwieberdingen (Germany), Budapest (Hungary), Elyria (USA), Suzhou (China) and Pune (India), in close proximity to key customers. These centers are also responsible for supporting homologation processes for customers.

Our R&D center at our headquarters in Munich was opened in 2016, with a total investment of approximately EUR 90 million, and comprises 100 state-of-the-art testing rigs in a total floor space of approximately 17,000 sqm. This enables around 650 highly specialized engineers and technicians from both our segments to work together with interdisciplinary collaboration at the site. A sophisticated dynamometer permits wheel/rail adhesion characteristics to be studied using original components. We are using this test rig to substantially simplify the type approval process for brake systems. We believe that the shared use of labor and testing rigs will further reinforce know-how transfer and the effective utilization of R&D infrastructure, creating substantial synergies within the Group.

Examples of recent and current joint development efforts of both segments include fundamental research in friction combination, new developments in friction material and intelligent air supply innovations and screw compressor technology from Rail Vehicle Systems which is now being applied within the Commercial Vehicle Systems segment. We are also working on collision avoidance for rail vehicles based on our know-how for Commercial Vehicle Systems in the field of sensor technology, common sensor technologies and component platforms as well as sharing functional safety expertise. Further examples of cross-segmental R&D activities include computer-controlled brake technology, which has been field-tested in trucks and is now applicable for modular use in rail vehicles, developments in remote diagnostics and predictive maintenance, which is now also applied to commercial vehicles, and research in e-mobility, which we apply to both electric buses and rail vehicles.

Our R&D center in Schwieberdingen opened in 1997 and is dedicated to R&D activities of our Commercial Vehicle Systems segment. With approximately 160 employees in R&D functions, this center focuses on the development of electronic systems for commercial vehicles, such as ABS, ASR, EBS, ESP and AEBS. In addition, this center is responsible for the development of the electronic platforms for all electronic products of the Group for commercial vehicles, including transmission applications. A further focus of the R&D center in Schwieberdingen is on the R&D activities around driver assistance systems and the development of future solutions for highly automated driving, including test and simulation facilities.

There is an engineering center for commercial vehicles in Budapest employing approximately 190 employees in R&D functions. In addition, there is an engineering center for rail vehicles in Budapest, employing about 230 engineers with a 3,500 sqm test facility. These test centers are responsible for customer projects as well as maintaining and developing our product portfolio in all major product lines. Since the Group's largest European production facility is located at the same site, this allows engineering to get direct feedback from production. The test center is equipped with different test benches for environmental, shock and vibration, functional and endurance tests. For example, the field measurement results (in cooperation with the Hungarian State Railways) regarding wheel-rail contacts are built into the wheel slide protection test bench in order to simulate the braking process and qualify their components and algorithms.

In 2013, we established our technology center in Pune mainly to provide engineering support for both our segments at an off-shore location. However, the engineering support function provided there, quickly expanded to service most other Group locations worldwide. This technology center currently employs around 350 engineers. Their activities include not only electronics hardware and software, but also software tools development, "hardware-in-the-loop" and "software-in-the-loop" testing, pre-compliance testing, obsolescence management and mechanical design, among others. In addition, Pune hosts the largest group of Knorr-Bremse simulation experts, performing a broad range of static and dynamic simulations to support modern and effective product development. Some projects, such as electronics hardware development for trailers or obsolescence management for certain rail services components, are exclusively carried out at this center. More recently,

equipment for climate, electromagnetic interference/electromagnetic compatibility and durability testing has been installed at the center.

The North American headquarters for Bendix Commercial Vehicle Systems LLC opened in Elyria/Ohio, U.S., in the 1940s. Today it is the Company's engineering and R&D leadership hub with approximately 180 employees in R&D functions only at the Elyria location. From Elyria, however, we are coordinating all the R&D locations of our U.S. Group Company Bendix with over 250 engineers across all of North America. We focus on innovative safety solutions for our customers, such as electronic systems, ADAS and HAD, steering systems, compressors, air dryers, valves, integrated modules, actuation, air disc brakes and more. Among the equipment to support our efforts, the North American R&D locations have a complete compliment of test cells, brake dynamometers, hardware-in-the-loop and software-in-the-loop.

In 2009, we opened our R&D center in Suzhou, China. As of year-end 2017, we employed approximately 130 employees in R&D functions. The Suzhou R&D center is globally responsible for VV120 air compressor and further for application engineering of all our brake products in China *e.g.*, conventional and compact calipers, axle-mounted and wheel-mounted brake discs, air supplier units and brake control units. The R&D center is equipped with a software test center, dynamometer test bench, shock/vibration test bench, environmental test bench, functional and endurance test equipment for caliper/treat brake units, air supply units, brake control units and the related components.

Our main R&D centers are globally complemented by local engineering entities with customer proximity. We also have R&D centers or joint production and development sites in Watertown/New York (U.S.), Melksham (U.K.), Lyss (Switzerland), Pamplona and Getafe (Spain), Buccinasco (Italy), Holzkirchen, Berlin and Düsseldorf (Germany), Brno (Czech Republic), Vienna and Kematen (Austria), Pune and Faridabad (India), Shanghai and Wuxi (China) and Sydney (Australia). In the Americas, approximately 400 FTE worked in R&D functions, in comparison to approximately 2,300 in Europe and 900 in Asia as of December 2017. Many of our R&D sites join their R&D efforts across regions for specific projects: for example, the new modular CCB-3 locomotive brake control unit was developed jointly by our R&D teams in the United States, Germany, Hungary, the U.K. and India.

We also cooperate with third parties, such as customers, universities and technical institutes on several joint R&D projects. Examples of such cooperations include research cooperations with the Technical University of Berlin and the Technical University of Munich which help us to access future talent and to scout new technologies at minimal cost. We are involved in partnerships with startups such as Techfest Munich or senvisys, for example, in order to get technology access and accelerate our R&D. By entering into joint ventures with OEMs and other technology partners, for example, Microlise Ltd., we expand our local presence and develop flexible solutions for our customers. In total, our external R&D network consists of over 15 partnerships. Further, we also entered into government partnerships and are, for example, involved in the EU-funded "Shift2Rail" program. Such partnerships allow us to participate in the design of norms and standards and to anticipate industry trends.

Our R&D processes are aimed to be as structured and effective as possible to drive innovation results in our R&D activities. After the generation and screening of an idea, our Executive Board authorizes the development of the whole project or of a proof of concept, *i.e.*, a proof that a technical concept can successfully be realized. If such proof of concept was successfully developed, the Executive Board grants the authorization for development and testing of the product. The last step of our R&D process is the release for application in series.

Our R&D process is clearly oriented on creating customer impact. With our innovations, we strive to optimize the total cost of ownership or to reduce energy consumption, noise or weight. We also focus on connectivity, wireless or Ethernet solutions and the increase of safety and reliability. Simultaneously, we assess all projects on the basis of their net present value and prioritize according to their internal rate of return, in order to maximize the economic benefit for us.

11.12.2. R&D in our Rail Vehicle Systems Segment

Our product development in the Rail Vehicle Systems segment addresses the megatrends, which, for this segment, translate into urbanization, automated train operations, eco-efficiency, digitization and certification. To this end, we created a unique eco-system of products. R&D in our Rail Vehicle Systems segment largely benefits from the synergies with our Commercial Vehicle Systems segment. Know-how gained in the Commercial Vehicle Systems segment in connection with driver assistance, trailer control valves and electronic air supply, for example, helped us advance our products in the Rail Vehicle Systems segment. In 2017, we estimate we invested nearly two-thirds of our R&D budget in the Rail Vehicle Systems segment into mechatronic/electronic, software and digital products. We further estimate that almost half of our R&D efforts in 2017 was allocated to specific customer projects, while the rest is invested into future product development.

In order to address the megatrend of automated train operations, our newly developed brake systems with mechatronic units deliver new functionalities through software deployment. The brake controls offer an attractive combination of improved functionality and reduced total cost of ownership for metros, locomotives, trams and all other vehicles. The mechatronic units incorporate sensors and high-power computing. Our customers benefit from sufficient processing power for continuous feature additions, a simple interface and easy maintenance options. As regards the megatrends of automated train operations and digitization, we are active in the development of collision avoidance systems, a product category requested in the LRV market. We provide a tailored offering complemented with various competences to reduce collisions, repair and maintenance costs as well as insurance costs. Further, our collision avoidance systems allow our customers to be compliant with expected regulation. Joint teams from our Rail Vehicle Systems and Commercial Vehicle Systems segments are engaged in the development of collision avoidance systems and in this area, we also use components which are common to both of our segments.

With Selectron TCMS, we have developed a global digital solution for the rail vehicle of the future, also addressing the megatrend of automated train operations. The Selectron TCMS system is designed to provide vehicle builders with the hardware and software tooling they need to realize lower cost, cyber-secure train control systems.

Integrated Brake Control, currently being introduced in the market, sets the standard for train-wide brake control. In addition, innovative mechatronic products are being deployed for hydraulic brake systems and for track brakes, offering advantages with regard to weight, functionality, cost and space.

To meet the requirements of today's automated train operation systems, we have developed a suite of functions which provide reliable and predictable braking performance for brake distance management, including deceleration control, among others. Our new MGS3 wheel slide protection system ("**WSP**") has a control adapting to the degree of adhesion between wheel and rail. Thus, the WSP achieves reduced braking distances weather conditions with extremely low adhesion. Our latest brake control system EP2002 3.0 incorporates both functions.

Our Rail Vehicle Systems segment aims to maintain its leading position for all rail vehicle systems in our product portfolio. With regard to entrance systems, we introduced a new product generation for plug-siding doors and entrance assistance systems, and we aim to extend our lead with a new generation of linear door drives. For regional multiple units and commuter trains, we have recently introduced our fourth-generation entrance system (E4) which improves sound and thermal insulation and increases passenger comfort by an innovative sealing system. Furthermore, we promote eco-efficiency by adding a new FLEX nano module to our product portfolio, which can be used as an individual control unit for the modernization of entrance systems or integrated as an extension into the FLEX control system. Further, we are leading the way in providing next generation HVAC systems that use only natural refrigerants.

The digitization of the rail industry is leading to solutions designed to save energy and enable condition-based maintenance. Our innovative digital 4.0 iCOM platform bundles a number of functions offering efficient, low-wear driving, a driver advisory system, real-time energy consumption measurement and diagnostics. For example, "iCOM Monitor" supports the improvement of maintenance processes by offering operators immediate information about the condition status of vehicles. Its open architecture allows for the easy integration of supplier or partner solutions. Based on the same platform, further applications such as "iCOM Meter", which measures and records energy consumption in real time, and the driver assistance system "iCOM Assist", offer rail operators significant potential synergies and savings.

The new generation of our core brake control for freight cars, the "Knorr-Bremse Einheitsventil (KEf)" enables telematics for the digitization of rail freight traffic. "Knorr Safety Net", a new software platform deploying a bus communications system, is also addressing the megatrend of digitization by fulfilling safety requirements and accommodating high-bandwidth Ethernet communications which support all vehicle builder protocols. The same platform also provides systems engineers with an easy-to-use development environment for application engineering.

The recently acquired business of Kiepe Electric and our Intelligent Air Control are examples for our R&D activities in the area of eco-efficiency and digitization. Going forward, we expect that the integration of Kiepe Electric will open up additional opportunities to optimize the transmission of forces between wheel and rail across our entire control range. In this area, we focus on achieving lower energy consumption and more reliable braking distances, thus contributing to eco-efficiency and urbanization by allowing a closer packing of trains on existing infrastructure. Hence, we believe the integration of Kiepe Electric will increase the systems value we are able to offer, from 15% of the vehicle value without Kiepe Electric to approximately 35% to 40% (for LRV only). In this context, our Advanced Test Laboratory for Adhesion-based Systems, commissioned in 2016, is

expected to provide support for the development of advanced brake and traction control systems. Our Intelligent Air Control system which we developed in 2016 adjusts the volume of air it supplies according to the vehicle's operating status. This system reduces costs and noise emissions for passengers and the surrounding environment.

Our new light weight caliper is a another example for addressing the megatrend eco-efficiency with its significantly reduced CO2 footprint and energy savings for our customers.

We are actively involved in the EU-funded "Shift2Rail" program, with a framework value for rail transportation projects of almost EUR 1 billion in aggregate. Our first projects with the program began in September 2016 in the areas of brakes, doors and freight traffic applications; a second batch of innovation projects was launched in October 2017. The program is supporting research in the area of adhesion management for brakes in order to further improve braking performance, the development of an electromechanical brake system, a next generation eddy current brake, and highly reliable electronic systems.

11.12.3. R&D in our Commercial Vehicle Systems Segment

With respect to Commercial Vehicle Systems segment, R&D activities in the past three years focused in particular on the megatrends, which, for this segment, translate into traffic safety, automated driving, emission reduction and e-mobility as well as connectivity. R&D in our Commercial Vehicle Systems segment also benefits from our experience in the Rail Vehicle Systems segment. For example, we applied know-how regarding electric compressors, friction material, friction pairing and air disc brakes acquired in the Rail Vehicle Systems segment to the Commercial Vehicle Systems segment. In 2017, we estimate we invested more than two-thirds of our R&D budget in the Commercial Vehicle Systems segment to brake control and automated driving, energy supply and distribution as well as steering. We further estimate that around half of our R&D budget in 2017 (based on hours spent) was allocated to future product development.

Growing population and urbanization call for fast, safe and reliable transportation modes. Hence, in 2015, our U.S. Group company Bendix presented Wingman Fusion, a new driver assistance system combining camera and radar. Its false warning rate is the lowest reported, which makes the system currently, according to direct measurements, the most advanced collision mitigation system in series production in comparison to systems of our competitors, and to systems developed by some of our customers. Our main development focus in the key area of traffic safety is on advanced safety systems with high reliability for the vision zero accident, *i.e.*, for the avoidance of any traffic accidents, such as the performance increase of the AEBS and "Lane Departure Prevent". In addition, we aim to improve traffic safety in the cities by developing an active turning assist function.

With respect to automated driving functions, our activities in this field have been combined in a new "Center of Competence" which focuses on the development of ADAS (Safety Integrity Levels ("**SIL**") 0, 1 and 2) as well as complete systems for highly automated driving (HAD) (SIL 3, 4 and 5) for commercial vehicles. ADAS have become standard features in today's commercial vehicles due to a variety of electronic assistance systems. We are continuously working to improve these functions, especially regarding traffic safety. These innovations rely on a combination of video cameras and radar sensors linked to the braking and drive systems. We focus on the introduction of the upcoming ADAS level 2 functions such as adaptive cruise control (ACC) stop-and-go without driver intervention.

The technology is by now capable of conditional automated driving (HAD, SIL level 3), while the first fully-automated functions (SIL Level 4) have already been tested on public roads. Examples include the Autonomous Yard Maneuvering system for commercial vehicles. The basis for HAD is the full lateral and longitudinal control of the vehicle. We bundle the various vehicle control mechanisms by developing an integrated Truck Motion Controller (TMC). This connects the different ADAS sub-systems and synchronizes braking and steering maneuvers.

In addition to the TMC, we are developing the necessary testing infrastructure to release a HAD system parallel to the required HAD functions. Thus, the "Highway Pilot" is the Group's major milestone for HAD for commercial vehicles within the next eight years, enabling a truck to follow a pre-set route without the intervention of the driver. As a major step towards the Highway Pilot, the "Platooning Pilot" (SIL Level 4) is expected to be one of the first HAD Level functions on public roads. In a platoon, several vehicles communicate and drive close behind one another, which not only allows for considerable fuel savings and reductions in carbon-dioxide emissions as well as less wear and tear (due to less braking and acceleration), but also allows the entire convoy to brake instantly. At the IAA 2018, we plan to showcase our prototype of the Platooning Pilot as well as the Highway Pilot.

With respect to HAD functions on non-public roads, we showcased our Automated Yard Maneuvering System in 2016. It is a pilot system that enables a truck to operate completely independently. When the yard manager transfers the order details, the system selects the route and drives the vehicle to the appropriate loading bay.

Video cameras, radar, and other chassis sensors around the vehicle continuously monitor the vehicle's surroundings for possible obstacles.

In order to gain the necessary steering competence, we have acquired the steering specialist tedrive Steering Systems GmbH. As a result, we believe we are now a leading supplier of connected chassis and safety systems that integrate brake system, steering system and driving dynamics interfaces. Paving the way for fully automated functionality, the Global Scalable Brake Control (GSBC) and the intelligent Hydraulic Steering Assist (iHSA) form a reliable control network for coordinated longitudinal and lateral control of automated vehicles. In addition, we are developing the needed redundant vehicle architecture which is required for automated driving (SIL Level 3+). This includes an intelligent interaction between the different relevant actuators as well as the relevant commitments to two different power sources. As an example, in an emergency, the brake system, as a back-up, can take over the steering of the vehicle. We see this as a key feature for realizing fully automated functionalities in the commercial vehicle sector.

To address the requirements associated with HAD and connectivity, we are also adapting our trailer systems, developing concepts for a new electronic trailer architecture that is able to read the necessary HAD sensors (*e.g.*, radar and camera), process the corresponding data and transmit it to the towing vehicle. Within this new architecture, we are working on a new trailer emergency brake system.

Other major R&D focus areas include digitization and connectivity. In this context, in 2016, the Group announced its entry into the field of telematics in Europe. This includes solutions such as ProFleet Connect, a modular telematics system for fleet operators and drivers across Europe. This solution is compatible with any vehicle type and comprises different packages, such as: basic tools allowing a vehicle operator to track their trucks and their route. Due to its different functions, ProFleet Connect provides a significant reduction in logistical costs and emissions.

Against the backdrop of climate change and continuously increasing transport volumes, the aim of reducing fuel and noise emissions will lead, in our view, to electric drive and also electrification of other vehicle components. For such electrified vehicles, we are, for example, working on developing high-precision electric actuators (*e.g.*, exhaust gas recirculation valves) that will help optimize internal combustion engines and powertrains, new electric-driven compressors and new concepts of brake blending as well as wheelends for fully-electrified commercial vehicles.

To address the trend towards eco-efficiency within our existing product portfolio, the Commercial Vehicle Systems segment concentrates its R&D activities on improving fuel- and cost-efficiency as well as performance. The focus of the recent development activities in the powertrain sector has been the improvement of the efficiency of diesel engines. In addition, a cost-improved transmission control for the Asian market is expected to improve to fuel efficiency and thus contribute to the substantial increase in our automated manual transmission market share in Asia.

Another recent development focus has been on compressors with optimized thermal management, thus increasing the reliability of the brake system as a whole. In the air treatment field, the focus has been on additional applications for the integrated parking brake within the Electronic Air Control (EAC) system. In the wheelend product area, development activities for trucks have in the past few years focused on the new SYNACT disc brake, a generation of brake systems that weighs less but delivers more torque than the previous generation, even during long periods of braking. Furthermore, due to optional features such as Active Caliper Release (ACR), SYNACT provides measurable fuel and CO2 savings by minimizing drag losses.

We also concentrated on the further development of the new NexTT truck and trailer brake. As a result of the lower brake torque requirements, NexTT is also the basis for the next generation of air disc brakes for trucks in North America.

11.13. Information Technology

Information technology ("**IT**") is an important part of our operations, in particular with respect to Group-wide reporting, the monitoring of our production processes, product design and quality management, support of our supply chain (including procurement and logistics). Further, we use IT for planning, controlling and human resources purposes, applications for the independent aftermarket and customer relationship management, among other functions.

Our IT structure is organized as a global function, with specific responsibilities for applications and regions (Americas, EMEA and Asia-Pacific). Our main applications include SAP software solutions for resource planning throughout the Group, Product-Lifecycle-Management ("**PLM**") systems, Customer Relationship Management ("**CRM**") systems as well as standard workplace systems. We also use back-office systems

(hosting) for our digital 4.0 iCOM platform. Our IT infrastructure consists of relevant, application-based technologies as well as technologies for general office communication and collaboration purposes, several databases, different types of servers (physical and virtual servers, Windows- and Linux-based), storage systems and networks, core IT services (for example, remote access), etc. Our IT systems are designed and organized both to support the daily logistical and financial management of our business and to provide our management with the financial and other information necessary to guide the strategic vision and long-range development of the Group, as well as to ensure controls and compliance across the Group and allow for uniform and timely reporting. Our IT governance function bundles IT security (*e.g.*, firewalls), data storage and protection, traceability and asset and license management, with the aim of effectively supporting the different business processes and business areas.

The technical backbone for our IT system comprises different central data centers within the Group, located in the wider Munich area (Germany), in Hong Kong and in Elyria/Ohio (U.S.). These centers provide global IT applications to the connected production, development and corporate center locations. Centrally-hosted IT applications include, for example, ERP, product data management tools such as PLM, computer-aided design, central engineering servers to help in the creation, modification, analysis or optimization of a design, and other system applications. Two redundant data centers are physically located at third-party locations in and around Munich, but administered by Knorr-Bremse. The data for business-critical applications are protected by synchronously mirrored disk systems between two data centers and a multi-level back-up system. Group-wide IT systems co-exist, to a certain extent, with local IT systems.

In addition, the Group-wide information security management system consists of: (i) a separate "information security governance organization", including a corporate, three regional and several local security officers; (ii) security guidelines; (iii) a long-term security program consisting of several security projects; (iv) security services such as server back-ups, protection against malicious codes, firewalls, encryption, intrusion detection/prevention, advanced threat defense and several monitoring programs provided by security operation teams within the Group in alignment with the Group's information security governance organization, (v) regular internal security audits; (vi) security awareness controls and (vii) a "cyber monitoring and defense center" to identify vulnerabilities and potential IT network intrusions.

The IT organization within the Group has a clear focus on data security, the standardization of processes and applications, and digitization. In 2017, we worked intensively on IT governance topics to make this remodeling possible. Apart from a "corporate IT service catalogue", there are clearly defined processes in place to identify, assess, release and govern IT initiatives. To address the challenges of the fast-paced IT transformation, dedicated competence centers with global responsibility have been set up for business application services, client and infrastructure services and IT governance. The IT project management office is in charge of implementing major programs and projects. Clear procedures are in place to not only ensure business continuity and data security, but also to identify major IT threats and assess their impact at an early stage.

As part of our "Knorr Excellence" management system, we have implemented standardized processes and systems at Group-level over the past ten years. Our previous focus on setting up global standard systems per segment to streamline processes and to enable global planning and supply chain integration has been recently supplemented by additional digitization initiatives to further improve productivity and efficiency. Pilot projects included the direct connection of production lines with the existing ERP and PLM systems. In 2018, these pilot projects have been extended and implemented in our production processes. Beyond important issues such as digitization, other major IT programs are currently ongoing, for example the migration of the global engineering backbone (PLM) of the Rail Vehicle Systems segment to modern standard platforms or the establishment of a new cloud technology-based e-commerce platform for the Commercial Vehicle Systems segment.

In addition, a newly established expert PMI team supports the swift IT integration of newly-acquired companies, added to which the Group is also progressively standardizing the processes involved in integration. The speed of the remodeling process has been enhanced by the fact that security and data management systems are centralized. The further integration of partners in shared process chains and the optimization of these chains are being driven forward by the reduction of IT complexity and by clear alignment with standard software. In 2017, acting as a shared services center, a new Business Services Center in Liberec, Czech Republic, assumed responsibility for process support and process harmonization for accounting, human resources, indirect purchasing and IT for the European sites. Along with efficiency gains through standardized processes, this also enables best practices to be applied at all of our companies. The Asia and America regions are to be integrated at a later stage.

11.14. Intellectual Property

Our intellectual property strategy aims to protect and enhance our competitive position in the various geographic locations in which we operate. This is achieved by the effective management of our intellectual property rights,

including patents, utility models, trademarks and know-how. Intellectual property rights are mainly managed and coordinated by the intellectual property teams based in Munich, Elyria and Hong Kong, which have access to the relevant information within the our Group companies.

11.14.1. Trademarks

We own several trademarks, in particular "KNORR-BREMSE" and "KNORR" as word trademarks and "K in a circle" as a picture trademark:

In addition to these main trademarks, our Rail Vehicle Systems segment sells its products and services under additional trademarks and product trademarks on the market.

Product brands used in the Rail Vehicle Systems segment include the following (in alphabetical order):

Brands	Product
ESRA	Communication modules
IFE	Entrance systems
KE	Standard valve
Word/picture trademark combining the "K in a circle" picture and the words "Kiepe Electric"	Products and services for public transportation services
Merak	HVAC equipment for railway vehicles
Microelettrica Scientifica	Electromechanical and electronic components and systems for rail vehicles, traction power, energy and industry applications
Word/picture trademark combining the "K in a circle" picture and the words "PowerTech"	Power supply systems
Word/picture trademark combining the "K in a circle" picture and the words "RailServices"	Railway aftermarket services
Selectron (automation solutions)	Trailer control modules
Zelisko	Medium-voltage instrument transformers, signaling systems for roads and railways, and traffic management systems

Our Commercial Vehicle Systems segment sells its products and services under the "KNORR-BREMSE" trademark and "K in a circle" picture trademark, as well as under the following additional product brands (in alphabetical order):

Brand	Product
Bendix	Products of our U.S. Group company Bendix Commercial Vehicle Systems LLC (US)
Hasse & Wrede	Viscosity torsional vibration dampers
ProtecS	Brake pads
Word/picture trademark consisting of a combination of the "K in circle" picture trademark and the words "SteeringSystems"	Aftermarket and other services for commercial vehicle Systems

The "Bendix" trademark is licensed royalty-free by Honeywell for the air brake component market for commercial vehicles. The trademark "ProtecS" is registered in different jurisdictions.

11.14.2. Patents

It is particularly important with regard to new products and business fields that our innovation activities and the results of our research and development are protected against unauthorized use. We therefore place high priority on the patent protection of our own inventions. Throughout our history, we have patented a large number of innovations, including both products and processes. Our patent portfolio includes a large number of patents that are necessary for our business activities, which we obtain by exercising our rights regarding employee inventions and submitting them for registration. We currently hold or have applied for in total over 10,000 patents worldwide, whereby our portfolio is split into approximately 2,800 patent families. In our Commercial Vehicle Systems segment, the number of patents amounts to approximately 7,600 (active and requested). Patents include utility models, such as those relating to brake systems for commercial and rail vehicles, in Germany and other jurisdictions as well, among them a few patents and utility models registered for foreign Group companies in

foreign jurisdictions only. However, with respect to specific secret process technologies, we may elect not to pursue protection through patent registration, as this would require the disclosure of secret know-how.

11.14.3. Internet Domains

We own a large number of Internet domains (over 400), in particular containing variations of our key brands and important operational subsidiaries, for several countries in which we operate. The most relevant domains of the Group include, among others, www.knorr-bremse.com, www.knorr-bremse.de, www.knorr-bremse.cn, www.knorr-bremsecvs.com, www.bendix.com, www.microelettrica.com, www.hassewrede.de, and www.sydac.com.

11.15. Employees

The following table shows the average number of our employees on a headcount basis. Such number includes temporary employees, apprentices and leasing staff for the six-month period ended June 30, 2018 and for the fiscal years 2017, 2016 and 2015, broken down by segment:

Headcount[1] by segment	Average number for the six-month period ended June 30, 2018	Average number for the fiscal year		
	2018	2017	2016	2015
	(unaudited)	(unaudited, unless otherwise indicated)		
Rail Vehicle Systems	16.593	15,808	14,736	14,755
Commercial Vehicle Systems	11.711	10,582	9,473	9,683
Others[2]	632	521	456	440
Total	**28,936**[*]	**26,910**[*]	**24,664**[*]	**24,879**[*]

[*] Audited

[1] Headcount means that employees with a working time of $\geq$ 60% account for one employee (which the Company also refers to as one FTE), whereas employees working $<$ 60% account for 0.5 employees (which the Company also refers to as 0.5 FTE).

[2] "Others" relates to employees in corporate or shared service functions.

As of June 30, 2018, more than half of our employees (excluding leasing staff) in the Rail Vehicle Systems segment are employed in manufacturing, whereas one-fifth works in R&D and more than one-tenth in sales and marketing. A single-digit percentage is employed in administrative functions. As of June 30, 2018, two-thirds of our employees (excluding leasing staff) in the Commercial Vehicle Systems segment are employed in manufacturing, whereas more than one-tenth works in R&D. A single-digit percentage is employed in sales and marketing as well as administrative functions, respectively. Employees attributed to the segment "Others" mainly fulfill administrative functions.

Temporary employees have contracts with a fixed term, *e.g.*, for two years. Leasing staff refers to agency workers.

The following table shows the average number of our employees on a headcount basis. Such number includes temporary employees, apprentices and leasing staff for the six-month period ended June 30, 2018 and for the fiscal years 2017, 2016 and 2015, broken down by geographical area. The allocation of employees to the different regions is undertaken at an entity level, *i.e.*, all employees of a given Group entity are attributed to the country in which such entity has its registered seat.

Headcount[1] by region	Average number for the six-month period ended June 30, 2018	Average number for the fiscal year		
	2018	2017	2016	2015
	(unaudited)	(unaudited, unless otherwise indicated)		
Europe	16,210	15,493	13,773	12,960
Americas	5,523	5,022	4,622	5,175
Asia/Australia	7,203	6,395	6,269	6,744
Total	**28,936**[*]	**26,910**[*]	**24,664**[*]	**24,879**[*]

[*] Audited

[1] Headcount means that employees with a working time of $\geq$ 60% account for one employee (which the Company also refers to as one FTE), whereas employees working $<$ 60% account for 0.5 employees (which the Company also refers to as 0.5 FTE).

The vast majority of our workforce is employed outside of Germany. As of December 31, 2017, the workforce in Germany totaled 5,238.0 employees (or 5,663.0 including leasing staff).

The increase of 7.5% in the average number of employees for the six-month period ended June 30, 2018 compared to the fiscal year 2017 was due to organic growth (in each case including leasing staff). The increase of 9.1% in the average number of employees during the fiscal year 2017 compared to the fiscal year 2016 was due to the growth of the Knorr-Bremse Group, in particular to the acquisition of Kiepe Electric with 804.0 FTE as of December 31, 2017 (in each case including leasing staff). Since the end of the six-month period ended June 30, 2018 and as of the date of the Prospectus, there were no material changes in the average number of our employees. The number of employees grew by close to 4,000 new FTE from approximately 24,000 FTE in 2014; and since 2012, the number of our employees grew by close to 10,000 new FTE.

As of December 31, 2017 the Knorr-Bremse Group employed 1,075.5 temporary employees, which represented approximately 4.3% of total employees (excluding leasing staff). Temporary staff is usually hired to increase flexibility in general as well as for specific project needs and replacements for limited leaves such as parental leaves.

In the Rail Vehicle Systems segment, the average number of employees rose from 14,755 for the fiscal year of 2015 and 14,736 for the fiscal year of 2016 to 15,808 for the fiscal year of 2017 and 16,593 for the six-month period ended June 30, 2018 (in each case including leasing staff). In the Commercial Vehicle Systems segment, the average headcount rose from 9,683 for the fiscal year of 2015 and 9,473 employees for the fiscal year of 2016 to 10,582 for the fiscal year of 2017 and to 11,711 for the six-month period ended June 30, 2018 (in each case including leasing staff). The holding companies employed an average number of 632 employees during the six-month period ended June 30, 2018, compared to 521 employees during the fiscal year 2017, 456 employees during the fiscal year 2016 and 440 during the fiscal year 2015 (in each case including leasing staff).

We are subject to collective bargaining agreements in certain locations including individual ones in Germany, Austria, Switzerland, the Czech Republic, Brazil, Italy, Spain, Sweden and France, as well as the U.S., among others. In some cases, for example, in Spain, with respect to the operations of our subsidiary Icer Rail S.L. or in Brazil, with respect to Knorr-Bremse Sistemas para Veículos Ferroviários Ltda., we are subject to collective bargaining agreements applicable to employees of a certain industry (such as the chemical industry including its subsectors, or the industry related to materials and equipment for rail vehicles, among others, depending on the jurisdiction). Collective bargaining agreements typically regulate issues such as minimum guaranteed salaries, maximum annual working hours, dismissal protection and professional classification. In individual cases (*e.g.*, with respect to some German companies), following the shift from a membership in an employers' association bound by collective bargaining agreements to an employers' association that is not bound by collective bargaining agreements, only a portion of the employees at such companies who were employed prior to such shift are covered by the older agreements. For example, effective as from December 31, 2017, Knorr-Bremse PowerTech stepped down from the Berlin-Brandenburg Metal and Electrical Industry Employers' Association, which is bound by collective bargaining agreements, and instead joined the General Business Association for Berlin and Brandenburg, which is not bound by such agreements.

Some of our subsidiaries are members of employers' associations. For example, in Germany, Knorr-Bremse AG, Knorr-Bremse Services GmbH, KB SfN GmbH, Knorr-Bremse Powertech GmbH & Co. KG, KB SfS GmbH and KB-Media GmbH are members of the association "bayme — Bayerischer Unternehmensverband Metall und Elektro e.V". Kiepe Electric GmbH, Düsseldorf, Germany is a member of "Düsseldorf Metall, Arbeitgeberverband Metall- und Elektroindustrie, Düsseldorf und Umgebung e.V." and of "vbm — Verband der Bayerischen Metall- und Elektroindustrie e.V.". Knorr-Bremse SteeringSystems GmbH, Wülfrath, Germany, is a member of the association "Verband der Automobilindustrie und Vereinigung Bergischer Unternehmerverbände e.V. (VBU)". Wuppertal. Kiepe Electric Ges. m. b. H., Vienna, Austria, is a member of the "Wirtschaftskammer Österreich".

Furthermore, we have various shop agreements at company level in place for the German companies of the Group, which deal with issues such as working conditions and working hours. For example, there are shop agreements with respect to KB SfS GmbH regarding general working conditions and a social plan regarding the transition of defined functions to Liberec, flexi-time, shift-overlap, holiday planning and other issues such as bonus schemes and additional employer-contribution to pension schemes. With respect to KB SfN GmbH, we have shop agreements in place regarding, inter alia, working hours. Operational changes regarding the reorganization of the Transtechnik business at the Holzkirchen plant are also governed by shop agreement. In relation to Group companies outside Germany, the situation varies from country to country.

At some of the Group's locations, there are currently smaller reorganizations or projects to adjust our footprint or harmonize working conditions throughout the German Group companies. In March 2018, Knorr-Bremse

announced for approximately 4,500 employees at almost all Group companies in Germany that are not covered by a collective bargaining agreement a wage increase of 10%, staggered over the next three years, a one-off payment in April 2018 and planned negotiations concerning flexible working time arrangements.

11.16. Properties, Plants and Equipment

We own a large portion of the real estate that we use for our production sites in Europe and North America. For the remaining production sites in these regions, we lease or rent real estate, which is sometimes located within industrial parks. The production sites located in Asia-Pacific are predominantly leased (for both segments, Rail Vehicle Systems and Commercial Vehicle Systems). See also "*11.6. — Production*" for more information on our production facilities. We own the major part of the real estate where our German headquarters in Munich, Germany, are located. The size of the owned land plot amounts to 94,445 sqm. A smaller part of the real estate (approximately 53,943 sqm) is leased. The Munich properties include in total 90,663 sqm of buildings for production, administrative, technical, sales and distribution, of which 72,176 sqm are owned and 18,487 sqm are leased. Other material owned properties of the Group include our site in Aldersbach, Germany (in a plot of roughly 140,000 sqm and with approximately 39,000 sqm of buildings, including production, logistic and other support functions as well as office space), the site used by our Bendix subsidiary in Elyria/Ohio, U.S. (with a land plot of 153,781 sqm and approximately 43,200 sqm of buildings). Our site in Berlin (with a land plot of approximately 181,000 sqm and approximately 56,000 sqm of buildings, including production, office, logistic, warehouse and administrative functions) is also owned. The Company leases certain portions of the Berlin site to two Group companies.

In addition to production-related properties, we use a number of locations for administrative, technical and sales and distribution purposes, such as several warehouses and logistic centers. In North America and Asia-Pacific, most of the non-production-related facilities are leased. Lease terms vary typically between five and twenty years and generally have renewal options.

Our main lease agreements relate to office spaces, production sites, workshops, storage space, industrial and logistic parks as well as warehouses in Germany, England, Scotland, Poland, the Czech Republic, Taiwan, Hong Kong, China and Singapore. Material leased properties used by the Group include the site in Suzhou, China, with a land plot of approximately 43,000 sqm with approximately 29,000 sqm of buildings, including production, office, recreational and R&D-related buildings (figure excludes underground parking areas) Where Group companies enter into lease agreements as tenant, Knorr-Bremse AG sometimes acts as guarantor with respect to the obligations arising for the tenant. Such lease agreements are typically entered into for terms ranging between three and twenty years and often contemplate renewal options. We also lease back production and administrative buildings and warehouses built on a property in Munich and Berlin with respect to which we granted a repurchase right (*Rückkaufsrecht*) and a heritable building right (*Erbbaurecht*) to the lessor.

Between 2014 and 2016, a Group company leased several buildings in Russia under lease agreements without ordinary termination rights. The lease agreements have a term of 20 years and provide for a total annual lease of EUR 2.0 million. After having terminated the agreements due to considerable defects of the buildings in 2018, the validity of such termination was questioned by the landlord. Based on these circumstances, we have built provisions covering the risk that the lease agreements may have to be fulfilled although we have to lease other buildings for our business operations there.

We use major machinery in our manufacturing plants for the production of our products, such as test benches for quality inspection, 3D measuring tables, installations for surface treatment, assembly lines, machining equipment and turning equipment. We have operating leases in place in connection with real property, land parcels, vehicles, office and plant equipment, as well as production machinery. In both of our operating segments, we own the majority of our production equipment. With respect to leased equipment, we typically have an option to acquire the leased objects after the end of the leasing term. In certain other cases (for example with respect to forklifts), we have the option to exchange the equipment after the end of the leasing term for new equipment under a new contract. Group companies have entered into credit agreements that provide for pledges on inventory, including machinery and movable goods, among other collateral.

11.17. Quality and Processes

With all of our products, we make a decisive contribution to safety and energy efficiency on road and rail around the world. As many of our products are safety-critical, a high level of operational availability and product reliability is one of the main reasons for our customers' purchase decision. For this reason, we have a very high focus on quality. We have implemented specific integrated management systems throughout the Rail Vehicle Systems and the Commercial Vehicle Systems segments, including established procedures related to quality, environmental, health and safety requirements. In 2002, we launched the worldwide initiative "Knorr

Excellence" to further increase customer satisfaction and process reliability. The focus is on IT-assisted process organization and execution. This digitization enables more effective and efficient development collaboration between the various sites around the world. It also contributes to the continuous improvement of production processes. We use pilot projects to study the efficiency potential that can result from data connectivity and analytics, for example when using augmented-reality technologies to optimize the supply of media and materials to production lines.

We focus to ensure a high level of quality throughout the Group. Many years ago, we introduced different quality initiatives in our Commercial Vehicle Systems segment to increase the quality awareness and a quality-oriented mindset. These sustainable programs lead to robustness of our products at delivery and during use in the field. In monthly quality reviews, the relevant quality key performance indicators are reported to the Executive Board. To our experience, this high management attention ensures our expectations of a high standard in product quality and processes. Furthermore, our quality standards provide for a continual improvement, which supports fulfillment of our customers' requirements leading to higher customer satisfaction.

We also examine and enhance the implementation of our quality management system through regular internal quality audits and assessments conducted worldwide. Previously, this was confirmed by external IRIS (International Railway Industry Standard) certification audits for our Rail Vehicle Systems segment and/or ISO/TS 16949 certification audits for our Commercial Vehicle Systems segment. In September 2017, the Rail Vehicle Systems segment began its migration to the new ISO TS 22163 standard — a process due for completion by December 2018. In 2017, various sites in countries including Germany, Turkey, Russia, the U.K. and Sweden were additionally certified in line with different standards (ISO 9001, ISO TS 22163, ISO 14001, OHSAS 18001, and ISO 50001). The Commercial Vehicle Systems segment has already migrated to the new IATF (International Automotive Task Force) 16949 standard including various more rigorous requirements. 24 sites have been certified according to such standard. In 2017, one focus of our activities was on reducing the cost of poor quality. In the Rail Vehicle Systems segment, the relative cost of poor quality was again reduced in 2017. Factors contributing to this achievement included a range of improvement measures along the entire value chain, as well as even stricter cost control and quality management. The cost of poor quality we achieved in our Commercial Vehicle Systems segment in 2016 and 2017 is considered as a benchmark in the automotive supplier business. Further, the Commercial Vehicle Systems segment has introduced an IT-tool for the improvement of the product creation process. The Liberec plant in the Czech Republic has implemented and expanded processes for industrial-scale product remanufacturing.

Product safety is one of our core competencies and is assured through regular audits (*e.g.*, product safety audits in our Commercial Vehicle Systems segment), as well as training and coaching sessions. To support the continuous improvement of our processes and products, the scientific and data driven Six Sigma improvement methodology is applied throughout the product life cycle from development across testing and production to monitoring of our products in the field. To empower the teams, again in 2017 numerous employees around the world benefited from Green Belt and Black Belt trainingcourses, as well as additional specific training sessions on quality methods. Green Belt and Black Belt are the main qualification levels of the Six Sigma quality management method. Systematic improvement of warranty processes and the application of a field evaluation tool were introduced for greater transparency.

In the context of ongoing process improvement, in 2016 and 2017 we made our Purchasing and HR processes more transparent and more efficient. We work to raise awareness of quality among our partners and suppliers.

11.18. Corporate Responsibility

As a responsible corporate citizen, the Group has committed to the following five corporate values: entrepreneurship, technological excellence, reliability (*e.g.*, safety of products), passion and responsibility (*e.g.*, promoting diversity and fairness, and fostering personal development). In this context, corporate responsibility represents an important component of our business model. We combine the creation of long-term economic value with ecological and social responsibility, which together build one of the main contents of our corporate vision. That is why we have been committed to the principles of the United Nations Global Compact since 2010. Our own Corporate Responsibility ("**CR**") Policy and our Code of Conduct are based on these principles. In addition, a CR Roadmap establishes annual areas of focus, which in 2016 included the implementation of social commitment through the "Get Involved" Initiative, besides a more general focus on energy and vehicle efficiency, emission reduction and safety. In 2017, we focused on improving the compliance organization, creating an Eco-Design working group, enhancing CR customer dialogue and establishing a Supplier Code of Conduct. In 2018, our CR initiative will support the Group in the presentations held at large trade fairs, perform an analysis of the compliance of the Group companies with human rights regulations in the different countries, design a long-term climate strategy and work on our contribution to the Sustainable

Development Goals issued by the United Nations. We systematically integrate aspects relating to corporate responsibility and sustainability into all our processes — from the initial vision and strategic planning, via product development and manufacturing, right down to sales and logistics, product maintenance and remanufacturing. Even in the early stages of development, we apply sustainability and corporate responsibility criteria when evaluating product ideas; these criteria also take the results of life cycle analyses into account, so that negative environmental impacts can be avoided as far as possible. The Eco-Design cross-divisional working group formed in 2017 aims to integrate environmentally relevant aspects into the product creation process at an early stage.

We subject our production-related health and safety and environmental performance to a process of continuous improvement, submitting it for external certification in line with the international ISO 14001 environmental management standard where possible. At the end of 2017, 40 Rail Vehicle Systems production sites and 19 Commercial Vehicle Systems production sites had achieved such certification. In addition, at our energy-intensive production sites, we aim to implement energy management systems in line with the international ISO 50001 standard: 25 Rail Vehicle Systems production sites and 9 Commercial Vehicle Systems production sites are already certified to this standard. Furthermore, our occupational health and safety management system meets the requirements of the international standard OHSAS 18001, which also shapes our health, safety and environmental processes, with internal audits being conducted at regular intervals. Within our Rail Vehicle Systems segment, 39 production and service sites worldwide are already certified according to OHSAS 18001. Other external documents of significance for the Group (besides the aforementioned United Nations Global Compact) include the Guiding Principles on Business and Human Rights of the United Nations Human Rights Council and the Charter on Sustainable Development of the International Association of Public Transport (UITP). We also have Group-level quality standards for purchasing, principles for our health, safety and environmental policy, human resources management guidelines and a guideline for social commitment, building issues and on the topic of renewable energies. Such measures also help to realize the corporate climate action goal pursued through the initiative Efficient Cut of carbon dioxide ($ECCO_2$). In line with this initiative, by 2020 production-related carbon dioxide emissions from the current production sites should be no higher than their 2015 levels, despite a marked increase in production capacities. In an annual analysis, the Group's largest sources of carbon dioxide emissions are identified and a catalogue of short-, mid- and long-term measures is drawn up to reduce their carbon footprint.

In the context of our CR strategy, we aim to live up to our responsibility in procurement and supplier management as well. A new Supplier Code of Conduct, rolled out in 2017, is intended to ensure that the same environmental and social standards are met by suppliers in all countries of the world. For example, we are a member of "Railsponsible", an initiative launched by manufacturers and operators in the rail sector such as Deutsche Bahn, SNCF, Alstom, Bombardier and Nederlandse Spoorwegen. In addition, we give due recognition to suppliers' commitment to sustainability, for example by providing awards to suppliers in the 'Sustainability' category. Along with the Supplier Code of Conduct, we have a program in place to survey and assess the sustainability performance of our strategic and preferred suppliers. The findings flow into the supplier selection process. In addition, the Group has conducted independent sustainability audits initially at two high-risk suppliers, with further audits planned at other high-risk suppliers.

We are also pursuing a strategy of conserving resources with our EconX portfolio, which regenerates a large proportion of existing materials. The industrially remanufactured components are subjected to the same end-of-line test criteria as new ones.

We assume responsibility for solving social tasks. Our social commitment is based on two pillars: Knorr-Bremse Global Care e.V. and Knorr-Bremse Local Care. Knorr-Bremse Global Care was founded at the beginning of 2005 in response to the tsunami disaster in Southeast Asia to provide efficient and effective help to the victims. The Group promotes Knorr-Bremse Global Care and its activities since then. As an independent charitable organization, Knorr-Bremse Global Care continues to support people all over the world who are in need through no fault of their own. The organization's projects are based on the principle of strengthening people's independence and responsibility for themselves. For example, in 2016 and 2017, 63 and 60 aid projects, respectively, were realized in 28 countries (for each year) on four continents. In most cases the projects are implemented in countries where there are Knorr-Bremse sites, and are supervised with great dedication by Knorr-Bremse employees; some projects are implemented in other developing countries. Funding of approximately EUR 1.92 million and EUR 2 million provided by Knorr-Bremse Global Care in 2016 and 2017, respectively, reached almost 52,000 people and more than 36,000 people, respectively. The organization's key project areas are education and WASH (water, sanitation and hygiene), but it also continues to provide global emergency disaster relief. Furthermore, Knorr-Bremse Local Care covers all the local social activities of employees at Knorr-Bremse sites around the world. This includes donations and projects that the individual sites select, fund and supervise autonomously in key support categories such as education, health, the environment,

and social cohesion. In 2017, more than 600 Local Care projects were implemented on all continents, with the emphasis on education and social cohesion.

11.19. Legal and Administrative Proceedings

Various companies of the Group are currently involved in legal disputes and administrative proceedings as a result of their ordinary business activities and this will likely continue to be the case in the future. Proceedings relating to the Group's operative business have in the past and will likely in the future include, among others, disputes relating to: labor, real estate, intellectual property rights, warranty and other civil damage claims, including (alleged) product and service liability claims and other (alleged) violations of law. It is impossible to determine or predict the outcome of cases pending or threatened. The Company believes that, other than the proceedings described below, there have been no governmental, legal or arbitral proceedings (including any proceedings which are pending or threatened of which the Company is aware), during the twelve months preceding the date of the Prospectus, that may have or have had in the recent past significant effects on the Company's and the Group's financial position or profitability. Legal proceedings and administrative proceedings in which the companies of the Group have been involved during the previous twelve months particularly include the following:

11.19.1. U.S. Antitrust Enforcement Litigation and Class Actions

On April 3, 2018, the U.S. Department of Justice Antitrust Division ("**DOJ**") filed a civil antitrust lawsuit in the U.S. District Court for the District of Columbia against Knorr-Bremse AG, certain of its U.S.-subsidiaries and Wabtec alleging that the companies had entered into agreements to restrain cold calling, recruiting, hiring, or otherwise competing for employees (so-called "no-poach agreements"). Simultaneously with the filing of the complaint, the DOJ filed, by consent of the parties, a proposed final judgment to implement a settlement with the DOJ to resolve the DOJ's litigation. Such final judgment was issued by the court on July 11, 2018. Under the terms of the final judgment, the parties are prohibited from entering, maintaining, or enforcing no-poach agreements with any other companies, subject to limited exceptions. The settlement also requires the parties to implement certain notification and compliance measures. After the announcement of the proposed no-poach settlement with the DOJ in April 2018, several private litigants filed class actions for damages based on factual allegations similar to those alleged in the DOJ complaint. Knorr-Bremse intends to defend the class actions vigorously even if it is not yet possible to estimate potential damages, these could be material.

In addition, in the fiscal year 2016, the DOJ initiated a non-public civil law investigation against an U.S.-subsidiary of Knorr-Bremse and New York Air Brake LLC, Watertown, New York/USA and one competitor, which has not yet been completed.

11.19.2. Administrative Proceedings in Brazil

On September 27, 2016, administrative proceedings were initiated by the Brazilian Administrative Council for Economic Defense against the Group company Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda. ("**KBB**") and several of its competitors in Brazil. According to leniency applicants, the aforementioned parties have organized themselves in order to exchange nonpublic competitively sensitive information. The allegations against KBB are confined to the exchange of information and do not address any kind of cartel behavior. Since the proceedings are still in their early stages, no reliable statement can be made at this time with regard to the likelihood of success or the possible consequences of an adverse outcome of the proceedings.

11.19.3. Criminal Investigation against Microelettrica Scientifica S.p.A.

Italian law enforcement authorities have initiated investigations regarding international corruption against our Group company Microelettrica, former members of its board of directors and a management member of three Russian Group companies in connection with commission payments to an agent regarding the conclusion of a contract with a Russian company. Knorr-Bremse believes that Microelettrica had appropriate prevention measures against corruption in place and therefore believes it complied with Italian law. Nevertheless, an unfavorable outcome of the proceedings cannot be ruled out.

11.19.4. Arbitral Proceedings with Bosch

Bosch initiated arbitral proceedings against the Company on September 17, 2018, in order to enforce, among others, certain non-compete undertakings in the area of steering systems and the fulfillment of a put option relating to Bosch's 20% shareholding in each of KB SfN GmbH and (indirectly) of KB CVS Japan. For more details, see "*13.2. — Material Contracts — Joint Venture with Robert Bosch GmbH*". Knorr-Bremse intends to defend against such claims vigorously.

11.20. Insurance

We have taken out insurance policies in relation to a number of risks associated with our business activities. We have both Group-wide and local insurance policies. Our Group-wide insurance policies mainly comprise: (i) property and business interruption insurance covering the risks of certain property damages to buildings, equipment and supplies — *e.g.*, in case of fire, floods and other natural hazards as well as theft or malicious damage — and several events of business interruption including loss of income; (ii) business and product liability insurance covering the risks of product liability, product recall, environmental damages and environmental remediation; (iii) transportation insurance covering the risks of loss of, or damage to, transported goods; and (iv) D&O insurance. With respect to the local insurance policies, these vary from country to country. In Germany, for example, we have taken out insurance in relation to occupational and other accidents suffered by employees causing death or serious injuries, motor insurance, travel-related insurance and insurance of electronic devices.

Our insurance policies are subject to customary exclusions, limits and deductibles. At the same time, we have identified several risks that cannot be insured on economically feasible terms and for which, therefore, no insurance cover has been purchased. These risks include, inter alia, business interruptions caused by acts of terror, acts of war or nuclear catastrophes.

We believe our liability insurance is sufficient to meet our needs in light of potential future litigation and claims asserted against us. We regularly review our insurance program together with our insurance broker. We cannot guarantee, however, that we will not incur losses or be subject to claims that exceed the type, scope or amount of our existing insurance coverage. Furthermore, there can be no assurance that we will be able to maintain adequate insurance coverage at appropriate premiums in the future. See *also* "*1.1.28. — Risk Factors — Our insurance coverage may not be sufficient to cover all risks associated with the operation of our business.*"

12. REGULATORY ENVIRONMENT

12.1. Overview

In all of the jurisdictions in which we operate, our operations and the products that we use and manufacture are subject to numerous laws, rules and regulations at international, EU, national, state and municipal levels, particularly building, environmental and occupational health and safety laws, rules and regulations, as well as technical standards and licensing requirements. At the European level, for example, the regulatory environment of our business includes several EU directives and regulations, which are either implemented in the individual member states through national legislation or apply directly. Our business primarily comprises the manufacturing of brake systems and additional sub-systems for rail and commercial vehicles. Our Rail Vehicle Systems segment equips mass transit vehicles such as metro cars and light rail vehicles, as well as freight trains, locomotives, mainline passenger trains and high-speed trains with highly advanced products. Along with brake systems these include intelligent entrance systems, HVAC systems, auxiliary power supply systems, control components and windscreen wiper systems, platform screen doors, friction material, driver assistance systems, and control technology. In addition, we supply e-learning systems for optimum train crew training. Our Commercial Vehicle Systems segment supplies brake systems for trucks, buses, trailers and agricultural machinery. In the chassis systems sector, we are a leading player in electronic controls and driver assistance systems as well as in air supply systems. Other product fields include powertrain-related systems and torsional vibration dampers for diesel engines. Against this background, laws, rules and regulations and technical standards that affect our operations among others relate to product certification and homologation, as well as product safety (Directive 2001/95/EC of the European Parliament and the Council of December 3, 2001, as last amended by Regulation (EC) No 596/2009 of the European Parliament and of the Council of June 18, 2009).

In addition, in connection with our operations, properties and products, we have to comply with various environmental regulations, for example domestic and foreign environmental laws and other regulatory requirements regarding, among others, protection of the environment and natural resources, air emissions, waste and water discharges and disposal, transportation, remediation of contamination as well as the use, handling, disposal and remediation of chemical substances (for example Regulation (EU) No 1907/2006 of December 18, 2006 on Registration, Evaluation and Authorization of Chemicals) and hazardous substances. Under certain environmental laws, we could be held solely or jointly and severally responsible, regardless of fault, for the remediation of any hazardous substance contamination at our past and present facilities and could also be held liable for damages to natural resources and any consequences arising out of human exposure to such substances or other environmental damage. In addition, our plants must meet increasingly tighter requirements and stricter supervision, for example regarding the reduction of environmental impacts in the areas in which the plants are located. See also "*1.2.2. — Risk Factors — We are subject to environmental requirements and risks, as a result of which we may have to incur significant costs, liabilities and obligations.*"

For example, in Germany we are subject to a number of federal and state environmental laws and regulations which include the German Federal Emissions Control Act (*Bundes-Immissionsschutzgesetz*) and related ordinances, the German Water Resources Act (*Wasserhaushaltsgesetz*), the German Chemicals Act (*Chemikaliengesetz*), the German Federal Soil Protection Act (*Bundes-Bodenschutzgesetz*), and the German Closed Substance Cycle Waste Management Act (*Kreislaufwirtschaftsgesetz*). We must also comply with numerous workplace safety and accident prevention statutes, such as the German Occupational Safety and Health Act (*Arbeitsschutzgesetz*), hygiene regulations, and labeling regulations (including, *e.g.*, the Chinese CCC certificate or the certification regime in Russia) for certain products placed on the market or put into service within the EEA. This also applies to other jurisdictions in which we operate in.

We expect that in almost all of the countries in which we do or intend to do business laws, rules and regulations, including environmental laws and regulations, will over time become more comprehensive and stringent. We further expect that many environmental laws and regulations will be harmonized at the EU level over the near to medium term. Member States will, however, remain free to adopt laws and regulations that are more stringent than those required by the European Union. At Knorr-Bremse, we believe that many of our products contribute to road safety and a more environmentally-sound use of systems and goods, energy efficiency and increased safety standards.

12.2. Permits and Compliance

We are required to obtain and maintain permits from governmental authorities for many of our operations, including the construction, operation and alteration of individual facilities, for example emission control permits, building permits or permits under water laws with respect to manufacturing plants. Application of the various regulations depends on the specific circumstances at the different business locations and is managed locally

within the Group. For example, whether a facility requires a certain authorization, permit or approval depends on many individual factors, including the specific purpose of the facility, its capacity and physical structure, the emissions produced by the facility, and the existence of any auxiliary facilities. As the regulatory framework applicable to us in the different jurisdictions is subject to revision and continuous development, it is very difficult to accurately predict the future cost of compliance with applicable regulatory requirements and technical standards.

In the application process for such permits, the competent authority assesses whether the specific facility permit applied for will be in compliance with applicable provisions of environmental and regulatory law, in particular, with regard to emissions, building planning and building regulations law, waste disposal, environmental protection and occupational health and safety (which are further described in the sections below). For example, in the case of permits under water law, use and disposal of water are examined. As a general rule, the emission control or building permits and permits under water law required for a specific facility cover most additional environmental and regulatory requirements that have to be met by that facility (for example with respect to emission and occupational health and safety). Some application procedures include public participation, for example, the application procedure for an emission control permit may include a public participation not limited to specific stakeholders. As a result of the public participation, objections may be raised and thereby complicate and delay procedures. Moreover, permits may be subject to legal proceedings initiated by third parties, namely neighbors and environmental non-governmental organizations whose participation rights have been expanded by the EU public participation directive (Directive 2003/35/EC of the European Parliament and of the Council, as last amended by Directive (EU) 2016/2284 of the European Parliament and of the Council of December 14, 2016) and its interpretation by the European Court of Justice, which have to be implemented into national law by the EU Member States. Outside the scope of harmonized EU legislation, the current legislative provisions in the Member States on the standing of third parties to judicially challenge decisions in environmental matters differ considerably.

Non-compliance with the requirements set out in specific permits and their ancillary conditions may trigger administrative fines, and the individuals responsible may also be subject to criminal prosecution. Furthermore, as a worst case scenario the authority may order a (partial) shutdown of the facility and, under certain circumstances, revoke the permit.

In addition, we are also affected by laws and regulations regarding our customers' end-markets, which may result in changes to our product and service portfolio and in some cases, additional business opportunities for us. For example, Germany changed its Road Transport Law (*Straßenverkehrsgesetz*) in June 2017 to authorize the operation of vehicles with certain automated driving functions, provided these fulfill certain requirements (see below "*12.11. — Rules and Regulations Relating to Automated and Autonomous Driving*"). In addition, the rising stringency of rules and regulations on vehicles' and engines' emissions requires OEMs to use emissions-related components which can adapt accurately and fast to specific engine operating conditions. We are in a position to manufacture technology, for example in the area of exhaust gas recirculation valves, which helps our customers fulfill such regulations.

Additional or more stringent laws, rules, regulations and technical standards as well as the rising stringency of rules and regulations on vehicles' safety requirements could, however, also increase our cost or limit our ability to continue our business operations in the same manner as we did in the past. See also "*1.2.1. — Risk Factors — Legal, Regulatory and Tax Risks — We are subject to several regulations, technical standards and governmental policies, and our business, results of operations, cash flows and financial position could be affected by the regulatory frameworks in different ways.*"

12.3. Pollution Prevention and Control in Soil and Water

We are subject to several laws relating to the use and contamination of soil as well as ground and surface water in the jurisdictions in which we operate. In most of these jurisdictions, the use of water requires a permit and is strictly regulated to avoid any contamination of ground or surface water, such as through the disposal of sewage or waste water and the handling of potentially dangerous materials. For example, the discharge of any pollutant substances into the surface water may be subject to a permit whereas the discharge of any such substances into the ground water may generally be impermissible. Under German law, as well as in other European jurisdictions, water permits are generally granted for specific periods of time and must be renewed frequently. In certain circumstances such water permits may be revoked without compensation. If a contamination of ground or surface water occurs or is discovered, primarily the land owner or the party who caused such contamination usually is subject to a comprehensive range of remediation obligations, which can be costly. Non-compliance with such obligations may result in administrative fines or, in certain cases, criminal liability.

In addition, under the German Federal Soil Protection Act (*Bundes-Bodenschutzgesetz*) and several regulations promulgated thereunder, owners of land and operators of facilities are required to prevent any contamination of the soil by taking necessary precautions. If any soil contamination (*schädliche Bodenveränderung*) has occurred, or where pollution was caused in the past (*Altlasten*, "**past pollution**"), owners of land, operators of facilities, the party having caused the pollution or its universal legal successor (*Gesamtrechtsnachfolger*) and the previous owner if such owner transferred title to the land after March 1, 1999 and knew, or should have known, of the contamination or past pollution, may be held responsible for investigation and remediation measures and the cost thereof. In certain cases, a party may even be held liable for the entire cost of remediation, irrespective of its fault, the lawfulness of disposal or the actions of other parties. In choosing the responsible party, environmental authorities are not bound to existing civil law agreements, but only by the principle of effective hazard prevention and remediations. Thus, solvency is frequently a key factor considered by authorities. Typically, environmental authorities may issue investigation and remediation orders against the owner of the land, potentially also against a lessee, if the lessee is the operator of facilities on the premises. Environmental authorities increasingly tend to choose the owner of the land if the question of who caused any pollution is unclear, for example due to many changes in ownership, or if the pollution appears to have been caused over many years. Non-compliance with the obligations under applicable laws and regulations may result in administrative fines or, in certain cases, criminal liability.

Our historical and current operations involve the use of hazardous substances and we operate or have operated production plants that are or have been located on sites with a history of industrial use by third parties. Although we believe that we are in material compliance with our legal obligations at such sites, we have had, in the past, small remediations in connection with the past use at some of our sites. For example, in Brazil, we are facing claims as a co-defendant for the remediation of a site we sold to a third party. The potential remediation was contemplated in the purchase and sale agreement for the property. However, it cannot be excluded that we will face clean-up costs and that the buyer may rescind the contract and claim damages if he is unable to fully use the site. In addition, in connection with the refurbishment of buildings at our Munich headquarters, a contamination of the soil, which originated in the time prior to our acquisition of the property, was identified and remediated in coordination with the local competent authorities. Moreover, there are certain other known or suspected contaminations on sites that we currently use. Some of them, for example, related to the presence of asbestos as a building material. We are subject to different legal requirements in regard to these contaminations, which include monitoring, containment and/or remediation. Costs in relation to these contaminations could be significant.

Additional contaminations of soil and groundwater may be discovered at these or other sites in the future. Such discovery of previously unknown contamination or the imposition of new obligations to investigate or remediate soil or groundwater contaminations, at our facilities could result in substantial unanticipated cost to us.

12.4. Emissions

In many countries, the emission of air pollutants, noise, odors and vibrations as well as greenhouse gases (primarily CO2) is governed by specific laws and regulations. The operation of industrial facilities is typically subject to permits, and operators of these facilities are required to prevent impermissible emissions. Operators of facilities are required to maintain all installations in compliance with the respective permits in terms of the reduction of certain emissions and implementation of safety measures. In some cases, a continuous improvement or retrofitting of installations to maintain facilities at "state-of-the-art" safety standards may be required. Compliance with these requirements is monitored by local authorities and operators may be required to submit emission reports on a regular basis. Non-compliance with maximum emission levels may result in administrative fines.

In January 2011, the European Directive 2010/75/EC on industrial emissions ("**IED Directive**") came into force. It sets out rules on the prevention and control of pollution from industrial activities and includes rules aimed at reducing emissions into air, water and land, as well as preventing the generation of waste in order to achieve a high level of overall environmental protection. As of January 2013, Germany must comply with the emissions limits for certain industries. Under the IED Directive and its implementing law, *inter alia*, the production of copper, aluminum and ferroalloys, among other industries, must consider thresholds regarding various polluting substances, such as carbon monoxide and dust including fine particulate matter. Furthermore, the IED Directive repealed the European Directive 2008/1/EC on Integrated Pollution Prevention and Control ("**IPPC Directive**") and amended its provisions which aim to define best available techniques ("**BAT**") as binding standards.

By way of amendments to the German Federal Emissions Control Act, the Federal Water Act, and the German Closed Substance Cycle Waste Management Act, the IED Directive has been implemented in Germany, resulting in thresholds, authorization requirements and supervisory obligations for new and existing facilities. Although the IED Directive and its implementation provide transitional provisions, once a new industry standard becomes

binding, existing permits, which are not in compliance with such standard, will not be grandfathered but will be adjusted with respect to the new (binding) standard. In 2013, the BAT conclusions have been adapted and authorities must implement the new and stricter limits within four years.

Several of our production plants have in the past emitted and will continue to emit dust, odors, and hazardous and non-hazardous substances into the air. Although we believe that we are in material compliance with our legal obligations with regards to such emissions, we may, however, be required to incur significant capital expenditures to upgrade production plants by installing or improving technical equipment to comply with maximum emission levels that may become applicable in the future.

At the European level, the European Commission promulgated new maximum levels for emissions from combustion and dust. In Germany, these new maximum levels have been implemented by domestic legislation, enforcement recommendations and the 17th Ordinance on the Implementation of the German Federal Emissions Control Act. The provisions of the enforcement recommendations are expected to be replaced by an amendment of the Technical Instructions on Air Quality Control (*TA Luft*). A first draft of an amendment, which eventually was not passed, was published in 2017. The coalition agreement of March 28, 2018 states that the parties aim at expeditiously updating the existing Technical Instructions. In July 2018, a new draft by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (*Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit*) has been published, is expected to be presented to the cabinet (*Bundesregierung*) in September 2018. Our carbon-dioxide emissions are relatively low, since our production processes are not particularly energy-intensive and we have a corporate climate action goal pursued through the initiative Efficient Cut of carbon dioxide. See also "*11.18. — Business — Corporate Responsibility*".

12.5. Waste

In some jurisdictions, we are subject to statutory provisions regarding waste management. These provisions may govern permissible methods of, and responsibility for, the generation, handling, possession, discharge and recycling of waste depending, among other things, on the dangers posed by the waste. In particular, the discharge of waste is often restricted to licensed facilities. For example, under the German Closed Substance Cycle Waste Management Act, generators, owners, collectors and transporters of waste must demonstrate to the competent authority and to other parties that they have properly disposed of hazardous waste (*gefährliche Abfälle*) by proof of waste disposal (*Entsorgungsnachweis*). Documentation requirements include certain details regarding the handling, type, amount and origin of hazardous waste. In many European jurisdictions, plants must use licensed contractors for the disposal of hazardous or non-hazardous waste. In addition, a "taking back' obligation may be introduced.

Waste generated at Knorr-Bremse consists primarily of scrap metal, paper, and packaging as well as residual waste. In addition, surface treatment of our products results in electro-plating sludge. Measures are being taken to steadily reduce waste and improve material cycles. Smart utilization of waste offers considerable potential for reducing the use of resources. Our subsidiary Bendix (U.S.) has launched a comprehensive waste management program that aims to reduce landfill waste to zero by 2020. Such subsidiary has already achieved almost 84% of its target. Waste audits help Knorr-Bremse identify the scope for waste reduction. A solvent recycling plant has been in operation in Palwal/India since 2017 and already recycles some 60% of solvents, significantly reducing the amount of toxic waste generated.

12.6. Hazardous Substances

At our sites and facilities, we frequently handle and use hazardous substances, such as lead in small quantities. In many jurisdictions, the handling and storage of hazardous substances is governed by laws and regulations. For example, in Germany, substances are rated by risk with different resulting requirements relating to storage and handling in order to prevent accidents or injury and ensure a high degree of safety. Certain hazardous substances must not be produced or used at all.

In addition, operators of facilities storing hazardous goods in larger quantities are required to comply with certain safety standards. These are set forth in Directive 2012/18/EU on the control of major accident hazards involving dangerous substances ("**Seveso III Directive**"), which replaced the former Council Directive 96/82/EC ("**Seveso II Directive**"). Member States had to transpose the Seveso III Directive into national law by June 2015. In January 2017, Germany transposed the Seveso III Directive by amending the 12th Ordinance on the Implementation of the German Federal Emissions Control Act (German Hazardous Incidents Ordinance, *Störfall-Verordnung)* as well as the German Environmental Impact Assessment Act *(Umweltverträglichkeitsprüfungsgesetz).* The provisions of the German Hazardous Incidents Ordinance are designed to prevent major accidents involving dangerous substances (such as emissions, fires and larger explosions), and to limit detrimental consequences in the event of an accident. The degree of additional safety

requirements depends on the amounts of various classes of hazardous substances stored in the relevant facility. Under the German Environmental Impact Assessment Act, the effects of certain public and private projects on the environment are to be determined, described and evaluated. The competent authorities shall take the results into account when they decide whether certain projects can be approved. The 2017 amendments include, *inter alia*, a notification procedure for the construction or modification of certain facilities, regulations regarding safety distance and an environmental impact assessment and information duties of the operator.

Directive 2004/35/EC of the European Parliament and of the Council of April 21, 2004 on environmental liability with regard to the prevention and remediation of environmental damage, as last amended by Directive 2013/30/EU of the European Parliament and of the Council of June 12, 2013, establishes a framework of environmental liability based on the "polluter pays" principle. Directive 2004/35/EC provides, in particular, that operators carrying out dangerous activities or specific activities listed in the directive's annexes are liable for fault-based damage (restricted to damages to protected species and natural habitats, damage to water and damage to soil). This responsibility extends to individuals active within such company (such as managers with decision-making power). Directive 2004/35/EC has been transposed into German law, inter alia, by the Environmental Damage Act (*Umweltschadensgesetz*).

We are also involved in the carriage of hazardous goods, *e.g.*, as loader and unloader of such goods and are therefore subject to specific requirements related to such carriage. For example, at the international level the European Agreement concerning the International Carriage of Dangerous Goods by Road of September 30, 1957 (*Accord européen relatif au transport international des marchandises dangereuses par route*, "**ADR**"), as applicable from January 1, 2017 (ECE/TRANS/257 Vol. I and Vol. II), includes provisions applicable to the carriage of dangerous goods on roads. Pursuant to ADR, dangerous goods, as a general rule, may be carried internationally in road vehicles subject to compliance with a number of conditions, such as packaging and labeling requirements. Specific dangerous goods (*e.g.*, goods which are poisonous and explosive at the same time) are excluded from carriage on the road. The ADR has been implemented and supplemented by many EU member states (such as Germany). With regard to the carriage by rail, Appendix C to the Convention concerning International Carriage by Rail of May 9, 1980, as amended by the Protocol of Modification of June 3, 1999 (*Convention relative aux transports internationaux ferroviaires*) comprises regulations concerning the international carriage of dangerous goods by rail ("**RID**"). The latest amendments of the RID became effective on January 1, 2017. For example, the RID stipulates, that, in general, dangerous goods may only be carried in freight cars. With regard to inland waterways, the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways of May 26, 2000 (*Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure*, ("**ADN**"), which was last amendment with effect as of January 1, 2011, contains provisions concerning dangerous substances and articles, their carriage in packages and in bulk on board inland navigation vessels or tank vessels (even concerning the construction and operation of such vessels). By these documents, the "UN Recommendations on the Transport of Dangerous Goods — Model Regulations", 14th revised edition, are put into effect. At the level of EU law, Directive 2008/68/EC of the European Parliament and of the Council of September 24, 2008 on the inland transport of dangerous goods, as last amended by Commission Implementing Decision (EU) 2017/695 notified under document C(2017) 2198 of April 7, 2017, establishes a common regime for all aspects of the inland transport of dangerous goods, by road, rail and inland waterways within the EU and incorporates, in particular, the ADR, the RID and the ADN into European law.

12.7. Regulation of Chemicals

The European Union requires control of the use of chemical products within the European Union, requiring all affected industries to ensure and demonstrate the safe manufacture, use and disposal of chemicals. The REACh Regulation (Regulation (EC) No. 1907/2006 on Registration, Evaluation, Authorization and Restriction of Chemicals), which came into effect in 2007 and which was last amended by Commission Regulation (EU) 2017/1000 of June 13, 2017, requires the registration of all chemical substances manufactured in, or imported into, the European Union, in quantities of more than one ton per annum with the European Chemicals Agency ("**ECHA**"). The import, manufacture and use of certain chemical substances must be authorized by ECHA. The REACh Regulation requires formal documentation of the relevant data required for hazard assessments for each substance registered as well as development of risk assessments for their registered uses. Under certain circumstances, the performance of a chemical safety assessment (CSA) is mandatory and a chemical safety report (CSR) assuring the safe use of the substance must be submitted. If there is no (pre) registration of the substance, it is impermissible to produce this chemical in the European Union, to import or to use it (*i.e.*, "no data no market" principle). Therefore, registration is vital for the future use of any substance used in technically important processes by manufacturers or importers. The data by importers or manufacturers is collected in substance information exchange forums (SIEF), to allow a vital exchange among producers and users of

chemicals. Therefore, purchasers of registered chemicals must inform their sellers about the intended use of the chemicals, as the importer or producer must add this information to its documentation.

Registration of certain chemicals with ECHA has been mandatory since June 1, 2008. For preregistered substances three registration deadlines are applicable, depending on the tonnage of the relevant substance. Substances manufactured or imported into the European Union exceeding 1,000 metric tons per year had to be registered before December 1, 2010. The second period regarding substances in quantities of 100 to 1,000 metric tons per year ended on May 31, 2013. The last deadline for substances of more than 1 metric ton per year will be May 31, 2018.

Furthermore, the REACh Regulation contains restrictions on bringing substances to market for defined applications or under certain circumstances (Annex XVII of the regulation). If necessary, substances will be listed on the so-called candidate list (SVHC list) or on Annex XIV to the REACh Regulation. For substances that have been identified as substances of very high concern (SVHC) and which are contained in articles with a concentration of ≥0.1% (w/w), recipients of the articles must be informed pro-actively of safe use of the substance/article. Under certain circumstances, a notification to the ECHA is required. Furthermore, these substances may be subject of a full ban or requirement for authorization in the future, which may or may not be granted by the European Commission. For substances, that have been added to Annex XIV of the REACh-Regulation, an authorization is required to continuously use them after the so-called sunset date. Also the use of substances listed in Annex XIV may be restricted in the future by inclusion of these substances in Annex XVII of the Regulation. In addition, the REACh-Regulation was accompanied by legislation providing for a comprehensive system on the classification, labeling and packaging of substances and mixtures (CLP Regulation and related European legislation).

National regulations on chemicals may impose further obligations on producers, processors, and handlers of chemical agents. We are subject to various information, notification and labeling requirements and must comply with certain safety obligations arising for example under the German Chemicals Act, which mainly reflects and accompanies the REACh-Regulation at the national level, but also establishes additional national requirements.

Substances used in our manufacturing processes may be classified under the REACh-Regulation, which potentially affects our European production sites. Other countries have similar rules in place, for example, China.

We use chemical substances in connection with surface treatment processes (e.g., galvanization and coloring) in our production sites in India, Brazil and South Africa. Furthermore, we use adhesives, which are also categorized as chemical substances. However, we do not use chemical substances specifically for the manufacturing of products, but rather procure materials, parts and components in which chemical substances are already bound. We regularly analyze purchased materials, parts and components with respect to their constituent substances.

12.8. Health and Safety

In all jurisdictions in which we operate, we must comply with applicable laws and regulations to protect employees against occupational injuries and with fire protection regulations. Under such laws and regulations, employers typically must establish the conditions and the flow of work in a manner that effectively prevents dangers to employees. In particular, employers must observe certain medical and hygienic standards and comply with certain occupational health and safety requirements, such as permissible maximum levels for noise at the work place, the use of personal protective equipment (such as goggles and face shield versus safety glasses for sandblasting activities, or cut-resistant gloves when cutting tools with sharp edges) and requirements relating to maximum temperatures and air ventilation.

In order to comply with the applicable requirements, we regularly conduct trainings and medical examinations and implement and monitor safety measures (for example, with safety manuals) in accordance with the international occupational safety management standards, such as OHSAS18001. Furthermore, we regularly aim at improving the relevant workplace conditions and operations to reduce the risks of injuries to a minimum. If we detect any unsafe condition in one of our sites, local management is responsible to handle any issues. Despite these measures, our operations involve the handling of large, complex and dangerous machines as well as combustible or otherwise dangerous substances, and workplace accidents and individual (until now, non-material) violations of certain safety regulations have occurred from time to time at our sites and cannot be fully excluded for the future.

In Europe, the applicable workplace regulations concerning dust exposure maximum levels have been further tightened. New limits for workplaces have become applicable under the amended Ordinance on Hazardous Substances (*Gefahrstoffverordnung*) and the Technical Rules for Hazardous Substances (*Technische Regel für Gefahrstoffe 900* — TRGS 900) as of June 1, 2017.

12.9. Technical Standards for Road and Rail Safety

Our products for the rail vehicle and commercial vehicle sectors must comply with various international and local technical standards, certifications and homologation procedures and other technical requirements as well as with requirements relating to road and rail safety, selected examples of which are set out below.

12.9.1. Vehicle/Engine Type Approval, Declaration of Verification, Acceptance Report

Most of our products are used in road and/or rail vehicles and/or engines which require approval by the competent authorities before they can be introduced into the market and used on public roads and railways:

For the purpose of ensuring safety for all road users and the proper functioning of the internal market of the EU, vehicle components and technical units must comply with various requirements stipulated in a large number of European legal acts. In particular, Directive 2007/46/EC of the European Parliament and of the Council of September 5, 2007 (last amended by Commission Regulation (EU) 2017/2400 of December 12, 2017) establishes a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles. In Annex IV, this directive lists about 70 separate regulatory requirements for the purpose of EU type-approval of various models of vehicles, including in relation to, amongst others, braking, emissions, steering and mechanical coupling components.

On June 14, 2018, the new Regulation (EU) 2018/858 on the approval and market surveillance of motor vehicles and their trailers, and of systems components and separate technical units intended for such vehicles was published in the Official Journal of the EU. This Regulation will repeal Directive 2007/46/EC with effect from September 1, 2020. As part of "CARS 2020", an action plan of the European Commission for a competitive and sustainable automotive industry in Europe of November 8, 2012 (COM (2012) 636 final), the Commission had carried out an extensive in-depth-evaluation of the vehicle type-approval framework. In response to the observations made in that evaluation, the European Commission proposed a revision of Directive 2007/46/EC. In particular, the Commission proposed to replace the Directive with a Regulation. Thereby, the Commission intends to overcome the differences in interpretation and strictness in application of the requirements of the present Directive in the different Member States. The Regulation will be directly binding in all EU Member States and will not need transposition into national laws. The Regulation contains several measures, *e.g.,* market surveillance to complement type-approval requirements, and clarification of recall and safeguard procedures. The text will become mandatory from September 1, 2020 and several implementing legislation shall be adopted by then.

Regulation (EU) No 167/2013 of the European Parliament and of the Council of February 5, 2013 on type approval and market surveillance of agricultural and forestry vehicles, as last amended by Commission Delegated Regulation (EU) 2016/1788 of July 14, 2016, of the European Parliament and of the Council as regards the list of requirements for vehicle EU type-approval, and amending and correcting Commission Delegated Regulations (EU) No 1322/2014, (EU) 2015/96, (EU) 2015/68 and (EU) 2015/208 with regard to vehicle construction and general requirements, to environmental and propulsion unit performance requirements, to vehicle braking requirements and to vehicle functional safety requirements. Type approval and market surveillance of agricultural and forestry vehicles is covered by Regulation (EU) No 167/2013 of the European Parliament and of the Council of February 5, 2013, as last amended by Commission Delegated Regulation (EU) 2016/1788. This regulation covers agricultural and forestry vehicles, as well as systems, components, separate technical units, parts and equipment designed and constructed for such vehicles. It aims at replacing the approval system of the Member States with a Union-type approval procedure which is based on the principle of total harmonization.

For railway vehicles there are several different approval processes. For Europe and in particular Germany, the following applies: In Europe each country has its own National Safety Authority (NSA) to grant approval in the respective country, the Federal Office for Railways (*Eisenbahnbundesamt*) is competent to grant approval for Germany. The required approval in Europe depends on the envisaged usage of the vehicles. If vehicles are to be used within the Trans-European railway system, they need to be authorized before they are put into service still in accordance with Directive 2008/57/EC (for application of new Directive 2016/797 of the European Parliament and of the Council of May 11, 2016 see below). For example, Germany has transposed this Directive into the German Ordinance on the Interoperability of the Transeuropean Railway System (*Verordnung über die Interoperabilität des transeuropäischen Eisenbahnsystems*). Authorization is granted if the vehicles comply *inter alia* with so-called technical specifications for interoperability ("**TSI**") and the relevant Notified National Technical Rules ("**NNTR**") for the intended area of use. TSIs are drafted by the European Union Agency for Railways and adopted by the European Commission. They set certain technical standards for subsystems of railway vehicles. For example, Commission Regulation (EU) No. 321/2013 of March 13, 2013 concerning the technical specification for interoperability relating to the subsystem "rolling stock — freight wagons" of the rail

system in the European Union and repealing Decision 2006/861/EC, as last amended by Commission Regulation (EU) 2015/924, sets — among others — certain standards concerning the brakes of certain freight wagons. Furthermore, Commission Regulation (EU) No. 1304/2014 of November 26, 2014 on the technical specification for interoperability relating to the subsystem "rolling stock — noise" amending Decision 2008/232/EC and repealing Decision 2011/229/EU, lays down certain noise limits for among others locomotives, coaches, and wagons (see "12.12. — *Vehicle Noise Emissions Legislation*"). Commission Regulation (EU) No. 1302/2014 of November 18, 2014 concerning a technical specification for interoperability relating to the "rolling stock — locomotives and passenger rolling stock" subsystem of the rail system in the European Union sets requirements for braking and other systems of certain locomotives and passenger carriages.

Directive 2016/797 of the European Parliament and of the Council of May 11, 2016 on the interoperability of the rail system within the European Union has replaced the former Directive 2008/57/EC. Member States have to transpose the Directive until June 16, 2019 but can extend that period until June 16, 2020 if they notify this to the European Commission prior to December 16, 2018. To date, Germany has not yet notified any extension but is still under pressure to completely transpose 2008/57/EC into German law. Also the new Directive states that vehicles need an authorization before they are placed on the market. Fulfilling the TSIs and the respective NNTRs is still a prerequisite to receiving authorization. However, in contrast to the current system, the European Union Agency for Railways will become competent to grant authorization for vehicles having an area of use in one or more Member States, while the national authorities may (at the choice of the applicant) remain competent for vehicles with an area of use limited to a network or networks within one Member State only. Before putting a vehicle into service, the railway undertaking needs to perform a so-called check of the route compatibility for the intended area of use.

With regard to vehicle authorization, the European Commission most recently has issued the Commission Implementing Regulation EU/2018/545 on April 4, 2018 establishing practical arrangements for the railway vehicle authorization and railway vehicle type authorization process pursuant to Directive 2016/797.

In Germany, vehicles that are used on public railways and which operate purely in national territory require acceptance (*Abnahme*) by the Federal Office for Railways (*Eisenbahnbundesamt*) (Sec. 32 para 1 of the German Ordinance on the Construction and Operation of Railways (*Eisenbahnbau-und Betriebsordnung*)). During the acceptance procedure, the Federal Office for Railways ascertains whether railway vehicles comply with the general requirements of the Ordinance on the Construction and Operation of Railways. This Ordinance sets out a general requirement, that railway vehicles must be in safe condition. Fulfillment of this general requirement is presumed if the vehicle complies with the rules laid down in the Ordinance or — if the Ordinance does not lay down specific rules — with generally recognized engineering standards. In particular, Sec. 23 of the Ordinance lays down requirements for the brake system.

Similar and sometimes even more stringent regulations exist in the other jurisdictions in which our products are put into operation, including the U.S., Russia, India and China.

In China, for example, the "Administration Measures for Certification of Railway Special-use Products" issued by China Railway Corporation (Tie Zong Ke Ji (2014) No. 135) establishes the framework for the certification of certain railway special-use products, which certification is performed by the China Railway Test & Certification Center ("**CRCC Certification**"). China Railway Corporation publishes and updates, as needs arise, catalogues listing the railway special-use products which are subject to the CRCC Certification. Many of our railway products, in particular certain key components of bogie and brake system, fall within the catalogue (Tie Zong Ke Ji (2014) No. 201) and must fulfill the certification requirement before they can be sold or put into use in the railway system of China Railway Corporation.

In addition, under an official document jointly issued by the Chinese National Development and Reform Commission ("**NDRC**") and the Chinese Certification and Accreditation Administration ("**CNCA**") (Guo Ren Zheng Lian (2017) No. 142), the CNCA, together with the NDRC, issue catalogues for the certification of urban railway transportation equipment ("**CURC Certification**"). Many of our products relating to brake systems for urban railway equipment fall within the first batch of the certification catalogue issued by CNCA and NDRC. At present, CURC Certification is a voluntary certification, the implementation of which depends on the operators. However, some of our customers in the Chinese mass transit industry have started the implementation of the CURC Certification.

On November 17, 2008, the Chinese Ministry of Industry and Information Technology ("**MIIT**") and the Ministry of Public Security jointly promulgated the "Circular on Further Strengthening the Administration of Motor Vehicle Manufacturing Enterprises and Product Announcement and Registration Work". Pursuant to this circular, the scope of products within the list applicable to product announcements administered by the MIIT includes automobiles (including three-wheeled autos and low-speed trucks) and relevant chassis, semi-trailers,

motorcycles, which are manufactured and sold domestically and driven on roads. Many of our commercial vehicle products are used in those vehicles and, therefore, such products are subject to the announcement rules administered by the MIIT.

12.9.2. Technical Standards Relating to Vehicle Safety

In order to receive type approval (see "*12.9.1. — Vehicle/Engine Type Approval, Declaration of Verification, Acceptance Report*"), the vehicles must fulfill certain technical requirements relating a number of aspects, including safety.

Most dominant is Regulation (EC) No 661/2009 of the European Parliament and of the Council of July 13, 2009 (last amended by Regulation (EU) 2016/1004 of June 22, 2016), which establishes requirements for the type-approval of motor vehicles (incl. heavy goods vehicles), their trailers including systems, components and separate technical units intended with regard to their safety. It includes, inter alia, requirements related to steering, braking, replacement brake lining assemblies, replacement brake discs and replacement brake drums and mechanical coupling components.

With regards to the aforementioned examples, Annex IV Regulation (EC) No 661/2009 ("List of UNECE Regulations which apply on a compulsory basis") refers to UNECE-Regulations with regards to type-approval requirements, *e.g.*, UNECE R.79 for Steering Equipment (for further information on UNECE R.79, see "*12.11. — Rules and Regulations Relating to Automated and Autonomous Driving*").

In addition, the two Commission Implementing Regulations for Regulation (EC) No 661/2009 (No 347/2012 of April 16, 2012 and No 351/2012 of April 23, 2012) define type-approval requirements for certain categories of motor vehicles with regard to advanced emergency brake systems and for the installation of lane departure warning systems in motor vehicles.

Currently, the European Commission is revising Regulation (EC) No 661/2009 and will propose 17 new measures for general- and pedestrian safety. Target date for adoption is Q4 2019.

With respect to rail safety, numerous regulations exist in most jurisdictions we operate in, such as the General Railways Act (*Allgemeines Eisenbahngesetz* (AEG)) and the Ordinance on the Construction and Operation of Railways (*Eisenbahn-Bau und Betriebsordnung*) in Germany and corresponding regulations in the Member States of the European Union. These are based on the Directive 2008/57/EC, which will be repealed and replaced by Directive (EU) 2016/797 of May 11, 2016 on the interoperability of the rail system within the European Union with effect as of June 16, 2020, and Directive 2004/49/EU, which will be repealed and replaced with effect as of the same date by Directive (EU) 2016/798 of May 11, 2016 on railway safety.

In China, customers require that our railway products fulfill a number of technical standards, such as those relating to reliability, availability, maintainability and safety (so-called "RAMS" standards), fire safety, electrical safety and grounding, environmental protection and material; whereas relevant technical standards applicable to our commercial vehicle products in China mainly include GB 7258-2017 (standards for Technical Specifications for Safety of Power-driven Vehicles Operating on Roads), GB 12676-2014 (standards for Technical Requirements and Testing Methods for Commercial Vehicle and Trailer Braking Systems) and GB 13594-2003 (standards for Antilock Braking Performance and Testing Procedure for Motor Vehicles and Their Trailers).

12.9.3. Technical Standards Relating to Vehicle Emissions

There are also requirements concerning vehicle emissions that must be fulfilled in order to receive type approval, some of which are outlined below.

Regulation (EC) No 595/2009 of the European Parliament and of the Council of June 18, 2009 (last amended by Commission Regulation (EU) No 133/2014 of January 31, 2014) sets out requirements for the type approval of certain motor vehicles and engines with respect to emissions from heavy-duty vehicles.

As outlined in this regulation in recital (19), in order to monitor the contribution of this sector, as a whole, to the global emissions of greenhouse gases, the Commission should introduce the measuring of fuel consumption and carbon dioxide (CO2) emissions of heavy duty vehicles. In this context, the Commission instructed the development of a VECTO simulation tool to calculate fuel consumption and carbon-dioxide emissions from new heavy-duty vehicles placed on the EU market as a first step. In 2017, Commission Regulation (EU) 2017/2400 of December 12, 2017 implementing Regulation (EC) No 595/2009 of the European Parliament and of the Council as regards the determination of the carbon-dioxide emissions and fuel consumption of heavy-duty vehicles was issued as a second step. As a third step, Regulation 2018/956 of the European Parliament and of the Council of June 28, 2018 on the monitoring and reporting of CO2 emissions from and fuel consumption of new heavy-duty vehicles requires manufacturers of heavy duty vehicles and Member States to monitor and report annually to the

European Commission CO2 emissions and fuel consumption of new vehicles as of January 1, 2019. Monitoring and reporting will be the basis for the implementation of the new CO2 emission reduction targets for manufacturers of heavy duty vehicles, which the European Commission proposed on May 17, 2018 (COM(2018) 284 final. In particular, the European Commission proposed a regulation setting mandatory carbon-dioxide emission reduction targets for new heavy-duty vehicles. According to that proposal, the carbon-dioxide emissions of new heavy-duty vehicles shall be reduced by 15% from January 1, 2025 to December 31, 2029 and by January 1, 2030 onwards by at least 30% compared to reference carbon-dioxide emissions established using 2019 monitoring data.

12.9.4. Vehicle Roadworthiness

Our products are also subject to roadworthiness tests under Directive 2009/40/EC of the European Parliament and of the Council of May 6, 2009, which sets out which component parts of, inter alia, motor vehicles used for the carriage of goods and having a maximum permissible mass exceeding 3.5 metric tons and trailers and semi-trailers with a maximum permissible mass exceeding 3.5 metric tons must be compulsorily tested on a regular basis. In May 2018, this directive will be repealed and replaced by Directive 2014/45/EU of the European Parliament and of the Council of April 3, 2014, which aims to improve the quality of vehicle tests. This new directive will also apply to motor vehicles designed and constructed primarily for the carriage of goods, having a maximum mass exceeding 3.5 metric tons and to trailers designed and constructed for the carriage of goods or persons, as well as for the accommodation of persons, having a maximum mass exceeding 3.5 metric tons. These heavy-duty vehicles ("**HDVs**") and heavy trailers will have to be tested on an annual basis. Germany has transposed Directive 2014/45/EU, among others, into its Road Transport Law (*Straßenverkehrsgesetz*), and its Road Traffic Licensing Regulations (*Straßenverkehrszulassungsordnung*).

Moreover, Directive 2014/47/EU of the European Parliament and of the Council of April 3, 2014 on the technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union seeks to improve road safety and to reduce the negative environmental impacts of commercial vehicles. It relates to buses and coaches, HDVs and trailers of over 3.5 metric tons, as well as tractors used for commercial road haulage and capable of over 40 km/h. This directive sets out minimum requirements and harmonized rules for the technical roadside inspection of these vehicles within the EU. In particular, these comprise initial and, if needed, more detailed inspections that will focus on brakes, tires, wheels and chassis, as well as nuisances (noise, exhaust emissions, etc.).

The requirements of Directive 2014/47/EU had to be transposed into national laws by May 20, 2017. Germany has transposed the Directive into its Ordinance on Technical Inspections of Commercial vehicles on the Road (*Verordnung über technische Kontrollen von Nutzfahrzeugen auf der Straße*).Disposal, Reuse, Recycling and Recovery of Motor Vehicles.

Regulatory requirements related to disposal, reuse, recycling and recovery of motor vehicles, selected examples of which are set out below, apply to our customers in the commercial vehicle industry. Furthermore, we are legally obliged to support our customers in fulfilling such requirements. We therefore assist our customers by continuously developing our products according to the needs of our customers.

Directive 2000/53/EC of the European Parliament and of the Council of September 18, 2000, last amended by Commission Directive (EU) 2016/774 of May 18, 2016, stipulates measures to prevent waste arising from end-of-life vehicles and to promote the collection, re-use and recycling of vehicle components. Waste prevention is the priority objective of the directive. To this end, it stipulates that vehicle manufacturers supported by material and equipment manufacturers like us must (i) endeavor to reduce the use of hazardous substances when designing vehicles, (ii) design and produce vehicles which facilitate the dismantling, re-use, recovery and recycling of end-of-life vehicles, (iii) increase the use of recycled materials in vehicle manufacture, and (iv) ensure that components of vehicles placed on the market after July 1, 2003, do not contain mercury, hexavalent chromium, cadmium or lead, except in a limited number of applications.

12.10. Product Safety and Liability

We must comply with general requirements on product safety unless specific provisions apply *(e.g.,* as regards railway and automotive products. See also, for example, "*12.9.2. — Technical Standards Relating to Vehicle Safety*" as well as the IEC 61508 with its application specific derivatives).

For example, Directive 2001/95/EC of the European Parliament and the Council of December 3, 2001, as last amended by Regulation (EC) No 596/2009 of the European Parliament and of the Council of June 18, 2009, on general product safety applies in the absence of specific provisions among the EU regulations governing the safety of products concerned, or if sectoral legislation is insufficient. Under this Directive, manufacturers must put on the market only products which comply with the general safety requirement. A product can be considered

safe if it does not present any risk or only the minimum risks compatible with the product's use considered to be acceptable and consistent with a high level of protection for the safety and health of persons. In addition to compliance with the safety requirement, manufacturers must provide consumers with the necessary information in order to assess a product's inherent risks, particularly when this is not directly obvious, and take the necessary measures to avoid such threats (for example, withdraw products from the market, inform consumers, recall products which have already been made available on the market).

Distributors are also obliged to supply products that comply with the general safety requirement, to monitor the safety of products on the market and to provide the necessary documentation ensuring the traceability of the products. If potential safety concerns occur in the field, the competent authorities have to be notified and, if necessary, distributors must cooperate with them. Unsafe products must be listed in an EU-wide publicly-accessible database.

As part of the Product Safety and Market Surveillance Package of the Commission, a draft regulation intended to replace Directive 2001/95/EC and imposing more obligations on manufacturers (*e.g.*, as regards documentation) is currently in the legislative process. Moreover, a regulation on market surveillance of products amending, *inter alia*, Directive 2001/95/EC and closing gaps in market surveillance is in the process of being adopted. The European Parliament approved the two proposals with amendments on April 15, 2014. The European Commission expressed partial agreement on July 9, 2014 and the European Council has held two discussions on the topic on May 28, 2015 and May 9, 2016 but has not approved the draft regulation yet.

We are also subject to provisions on product liability and will therefore be held liable in cases concerning damage caused by a defective product manufactured by us.

For example, Council Directive 85/374/EEC of July 25, 1985, as amended by Directive 1999/34/EC of the European Parliament and of the Council of May 10, 1999 (the "Product Liability Directive"), applies to movables which have been industrially produced, whether or not incorporated into another movable or into an immovable. It establishes the principle of strict liability, *i.e.*, liability without fault of the producer, in cases of damage caused by a defective product. "Producer" means any participant in the production process, the importer of the defective product, any person putting the name, trade mark or other distinguishing feature on the product, and any person supplying a product the actual producer of which cannot be identified.

"Defectiveness" means lack of the safety which the general public is entitled to expect, taking into account, *inter alia*, the presentation of the product and the use to which it could reasonably be put. The Product Liability Directive applies to damage caused by death or by personal injuries and damage to an item of property intended for private use or consumption other than the defective product, with a lower threshold of a EUR 500 damage caused by defective products. The Product Liability Directive does not in any way restrict compensation for non-material damage under national legislation.

Furthermore, the German Civil Code (*Bürgerliches Gesetzbuch*) obliges the manufacturer of a product to observe and put in place adequate safety precautions. Thereby, it shall be prevented that defective products cause personal injury or damage. In particular, the manufacturer must avoid faults relating to the design and/or manufacture of the product. Furthermore, the manufacturer must instruct the users on how the product is intended to be used. For products that are already on the market, the manufacturer must monitor how its products are used and must inform the users about potential harmful uses which the manufacturer originally did not anticipate. According to the legal definition, "manufacturer" is anyone who produces a product, including suppliers and sub suppliers. If the manufacturer fails to comply with its obligations, it shall be liable for the occurred damage. While potential claimants must prove that a product is defective and that this caused personal injury or damage, the manufacturer is obliged to prove with evidence that it has fulfilled its duties relating to design, manufacture and monitoring of the products as well as regarding information of the users.

The German Public Liability Act establishes the principle of strict liability for railway operators, *i.e.*, liability without fault of the operator, in cases of damage caused by the operation of the railway. The operator might seek reimbursement of its liability payments from Knorr-Bremse if the damage was caused by a component supplied by the Group. Similar regulations exist in other jurisdictions.

12.11. Rules and Regulations Relating to Automated and Autonomous Driving

The United Nations Convention on Road Traffic (Vienna, November 8, 1968) is the basis for the national regulatory law on Road Transport of each ratifying UN Contracting Party. Regarding autonomous driving, Art. 8(5) and Art. 13(1) of that convention are relevant. Art. 8(5) stipulates, in particular, that every driver shall at all times be able to control his vehicle. Art. 13(1) states, in particular, that every driver of a vehicle shall in all circumstances have his vehicle under control so as to be able to exercise due and proper care and to be at all times in a position to perform all maneuvers required of him. Art. 39(1) states that every motor vehicle shall satisfy the provisions of Annex 5 to the Convention on Road Traffic.

The Secretary-General of the United Nations on October 1, 2015 has accepted amendments to Articles 8 and 39 of the Convention enabling the development of UN Technical Regulations for automated driving functions and its use in road traffic. The proposed amendments entered into force for all Contracting Parties on April 23, 2016, including, among other countries, Germany.

In order for the changes to become effective, they needed to be transposed into national law. In this context, Germany amended its Code on Road Transport (*Straßenverkehrsgesetz*) with effect as of June 21, 2017 with a view to regulating the use of automated driving functions. In particular, the new Code on Road Transport states that drivers may use automated driving functions on public roads, provided the driver can promptly regain control over the vehicle if the function requests the driver to do so, or if the driver recognizes or must recognize that the conditions for proper use of automated driving functions have ceased to exist.

The Code on Road Transport stipulates certain requirements which automated driving functions must fulfill in order to be legally used on public roads. In particular, automated driving functions must enable compliance with any applicable transportation laws and they must be able to recognize when it is necessary that the driver himself operates his vehicle. Overall, the legal situation regarding autonomous driving is changing and the legal community is discussing several questions in this context. In particular, there is a discussion on liability for accidents that occur when functions for autonomous driving are active.

The latest amendment of the German Code on Road Transport has highlighted that, in principle, the driver of a car remains liable to compensate any damages caused with a vehicle, even when the driver uses automated driving functions. Moreover, also the vehicle owner can be liable for damages caused with the vehicle. The legal community is discussing to what extent the vehicle manufacturer and/or its suppliers can be held liable if the damage has been caused by an automated driving function.

In the context of development of technical requirements for vehicles, the amended United Nations Convention on Road Traffic defines the following: Vehicle systems which influence the way vehicles are driven shall be deemed to be in conformity with the requirement of Art. 8(5) and Art. 13(1) of the Convention on Road Traffic, when they are in conformity with the conditions of construction, fitting and utilization according to international legal instruments concerning wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles. These instruments are either the UN Regulations annexed to the "Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions" done at the UN Geneva conference on March 20, 1958 (known as "**58-Agreement**") or the UN Global Technical Regulations developed in the framework of the "Agreement concerning the establishing of global technical regulations for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles" done at the UN Geneva conference on June 25, 1998 (known as "**98-Agreement**"). According to the amended Art. 39(1), vehicles fitted with systems referred to in Art. 8(5) shall be deemed to be in conformity with Annex 5.

In accordance with this definition, the Working Party on Braking and Running Gear ("**GRRF**"), a subsidiary body of the United Nations World Forum for Harmonization of Vehicle Regulations (WP.29), prepares regulatory proposals on vehicle automation. Two proposals have been adopted as 02 and 03 series of amendments to ECE Regulation No. 79 "Uniform provisions concerning the approval of vehicles with regard to steering equipment", annexed to the 58-Agreement. Further proposals are currently being developed at the UN Informal Working Group Automatically Commanded Steering Functions (ACSF), a temporary subsidiary body of GRRF.

12.12. Vehicle Noise Emissions Legislation

In July 2017, the German Act Prohibiting the Operation of Loud Freight Wagons (*Gesetz zum Verbot des Betriebs lauter Güterwagen*) entered into force. This Act prohibits the operation of certain loud freight wagons as from December 13, 2020. The Act aims at creating incentives to retrofit existing wagons with state-of-the-art noise reducing components. The Act lists certain exceptions for those wagons for which such noise reducing components are not available. Freight trains with loud wagons must ride with limited speed. According to the Act, a loud freight wagon is a wagon which did not fulfill the requirements of Commission Regulation (EU) No. 1304/2014 on noise limits (see "*12.9.1. — Vehicle/Engine Type Approval, Declaration of Verification, Acceptance Report*") when the wagon was put into operation.

The German Federal Ministry of Transport and Infrastructure (*Bundesministerium für Verkehr und Infrastruktur*) has set up a program to promote procurement of freight wagons with noise emissions below the maximum noise emissions permissible under the current TSIs (see "*12.9.1. — Vehicle/Engine Type Approval, Declaration of Verification, Acceptance Report*"*).* Wagon keepers who replace existing wagons with new ones can receive

certain financial aid if they fulfill certain requirements. The competent authority to approve the grant is the Federal Office for Railways.

Regulation (EU) No 540/2014 of the European Parliament and of the Council of April 16, 2014 on the sound level of motor vehicles and of replacement silencing systems, and amending Directive 2007/46/EC, establishes the administrative and technical requirements for the EU type-approval of new vehicles with regard to their sound level, including among other things the sound level of compressed air, generated by the service brake and parking brake.

12.13. Export Control and Sanctions Regulations

We may manufacture products which may be subject to export control and sanction regulations in different jurisdictions, including, among others, the EU and the United States. In addition, the EU and the United States sanctions and embargo laws and regulations vary in their application, as they do not all apply to the same covered persons or proscribe the same activities, and such sanctions and embargo laws and regulations may be amended or strengthened over time.

Some of our products can be used for both civil and military purposes. Some products are defined as dual use goods under EU regulations, which set forth an EU wide regime for the control of exports, transfer, brokering and transit of dual-use items. The export of such goods to destinations outside the European Union requires a permit. The competent national authority may exercise a certain degree of discretion as regards the granting of such permit. Export controls regulations may also limit or prohibit the export of our products if specific countries, entities or individuals are the destination of such exports. On the EU level, such restrictions are set out in specific regulations on sanctioned countries or individuals. In addition, specific domestic export controls and sanctions regulations may have an impact on our customer or supply relationships even if these relationships do not relate directly to the relevant countries.

In the United States, the U.S. Departments of Justice, Commerce, State and Treasury and other federal agencies and authorities have a broad range of civil and criminal penalties they may seek to impose against corporations and individuals for violations of economic sanctions laws, export controls laws and other federal statutes and regulations, including those established by the U.S. Department of Treasury's Office of Foreign Assets Control. Under these laws and regulations, as well as other anti-corruption laws, anti-money-laundering laws, export controls laws, customs laws, sanctions laws and other laws governing our operations, various government agencies may require export licenses, may seek to impose modifications to business practices, including cessation of business activities in sanctioned countries or with sanctioned persons or entities and modifications to compliance programs, which may increase compliance costs, and may subject us to fines, penalties and other sanctions. A violation of these laws or regulations could adversely impact our business, results of operations and financial condition. With respect to certain dual-use products of U.S.-origin that are exported to certain restricted users or countries, exporters are required to obtain a license from the U.S. Department of Commerce, unless an exception from the licensing requirements applies.

Our business in Russia and Iran is subject to an extensive, complex and evolving regulatory framework of U.S. secondary sanctions. The U.S. has imposed primary sanctions on certain Russian individuals and companies and sectors of the Russia economy. As a result of the Countering America's Adversaries Through Sanctions Act of 2017, non-U.S. persons must comply with certain secondary sanctions against Russia even if such activities have no connection to the U.S. Among other things, non-U.S. persons may face penalties for knowingly facilitating significant transactions or significant financial transactions for or on behalf of a party subject to the U.S. sanctions against Russia.

In May 2018, the U.S. announced that certain sanctions against Iran that had been eased in January 2016 as a result of the Joint Comprehensive Plan of Action ("**JCPOA**") would be reimposed. In broad terms, the U.S. will reimpose U.S. extraterritorial sanctions measures against Iran in connection with activity related to Iran's energy, petrochemical, automotive, shipping, shipbuilding, port operating, and financial sectors. Depending on the particular sanctions measure, the U.S. has provided for either a 90-day or 180-day period from May 8, 2018 in which activities permitted under or consistent with the JCPOA may be wound down. Following the conclusion of the applicable wind down period, persons engaged in such activities involving Iran will face exposure to secondary sanctions or enforcement actions under U.S. law. Additionally, the U.S. government has indicated that no later than November 5, 2018, the U.S. government will reimpose, as appropriate, sanctions on Iranian persons removed on Implementation Day from the Specially Designated Nationals And Blocked Persons List (SDN List) or other sanctions lists.

As a result, U.S. secondary sanctions have already or are expected to return to the status quo prior to the JCPOA, including secondary sanctions targeting financial and banking transactions with Iranian banks and financial

institutions, the Iranian automotive sector, the Iranian energy sector, and transactions with an expanded list of Iranian specially designated nationals. Prior to the implementation of the JCPOA, the United States maintained secondary sanctions under the authority of, among others, the Iran Sanctions Act, the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010, the National Defense Authorization Act for Fiscal Year 2012, the Iran Threat Reduction and Syria Human Rights Act of 2012, various Executive Orders, and the Iran Freedom and Counter-Proliferation Act of 2012. Such laws and regulations provide authority for the imposition of U.S. sanctions on non-U.S. parties that provide certain services (including banking services and financing) in support of certain Iranian activities in the energy, shipping and military sectors, among others.

12.14. Competition and Other Laws and Regulations

We are also subject to applicable competition and antitrust laws, rules and regulations. In general, such competition and antitrust laws are designed to preserve free and open competition in the marketplace in order to enhance competitiveness and economic efficiency. National and supranational competition and antitrust authorities may initiate investigations and proceedings for alleged infringements of competition or antitrust laws, which may result in fines or other forms of liability or impose certain limitations or conditions regarding acquisitions and certain business practices if we were found to have obtained a dominant position in certain markets or to be otherwise non-compliant with such regulation. For example, we have been involved in a civil antitrust lawsuit in the U.S. District Court for the District of Columbia filed in April 2018 by the DOJ against Knorr-Bremse AG, certain of its U.S. subsidiaries and Wabtec, alleging that the companies had entered into agreements to restrain cold calling, recruiting, hiring, or otherwise competing for employees (so-called "no-poach agreements"). For more information, see "*11.19. — Business — Legal and Administrative Proceedings*".

Moreover, in the countries in which we are present, we are subject to labor and social security laws, including, for example, anti-discrimination laws.

In addition, the new EU General Data Protection Regulation (GDPR) entered into force on May 25, 2018, together with corresponding amendments to national regulations. This new regime represents a significant increase in the stringency of data protection rules (including potentially high penalties in case of lack of compliance). We have incurred and expect to continue to incur costs and implemented different measures within our organization in order to achieve compliance (including appropriate training of data protection officers, adjustments of processes, monitoring by our legal and compliance team, among others).

13. MATERIAL CONTRACTS

13.1. Financing Agreements

Alongside two bonds issued by the Company in 2016 and 2017 (see "*9. — Management's Discussion and Analysis of Net Assets, Financial Position and Results of Operations*"*),* the Group has committed credit facilities in place for a total of up to EUR 1,954.4 million, of which EUR 790.0 million had been drawn at December 31, 2017. The main financing agreements of the Group in effect during the period running from January 1, 2015 until the date of the Prospectus include those mentioned below. Credit facilities are typically renewed from time to time.

13.1.1. Financing Agreements with the European Investment Bank

On July 9, 2007, the Company had entered into a financing agreement of up to EUR 200 million with the European Investment Bank (EIB and the "**EIB 2007 Financing Agreement**" respectively) in connection with R&D projects in Germany and other R&D centers in the European Union. These R&D projects involved the development and improvement of technologies related to brake systems for rail and commercial vehicles as well as door systems, HVAC, clutches and windshield wipers and other systems for rail systems. The R&D projects were to be financed in part with the Group's own funds (including state subsidies) and in part with other funds. In the EIB 2007 Financing Agreement, the EIB granted the Company a loan of EUR 100 million exclusively for purposes of financing the R&D projects, which was paid out by the EIB in July 2007. The loan had a maturity date of July 17, 2014.

In order to refinance the EIB 2007 Financing Agreement, on July 11, 2014, the EIB and the Company entered into a new financing agreement (the "**EIB 2014 Financing Agreement**") replacing the EIB 2007 Financing Agreement. Under the EIB 2014 Financing Agreement, the EIB granted the Company a loan with a framework amount of up to EUR 188 million, primarily in connection with further R&D projects in the rail and commercial vehicle businesses as well as the construction of the main R&D center of the Group in Munich and training measures in the production departments of the Group. The financed projects relate to R&D in several of our European R&D centers (together the "**Project**"). From the EUR 188 million, under the EIB 2014 Financing Agreement, EUR 100 million was used to repay the EIB 2007 Financing Agreement. On July 14, 2014, the EIB sent to the Company, upon its application, a payment proposal, which was accepted by the Company on the same day, for the payment of a tranche in the amount of EUR 100 million (upon deduction of the corresponding valuation fee) with fixed-spread floating rate interest (six-month EURIBOR plus 0.257% per annum), payable on December 30 and June 30 of a given year, beginning on December 30, 2014. The loan amount of EUR 100 million is to be repaid at the end of the loan term, on June 30, 2020. Since the payment of the loan tranches by the EIB to the Company was limited until July 2015, the Company may no longer apply for any further loan amounts under the EIB 2014 Financing Agreement.

In addition, the EIB 2014 Financing Agreement contemplates the Company's right to early repayment of each of the tranches in full or in part (subject, in the case of fixed-interest tranches and in certain other circumstances, to the payment of a fee). In addition, the EIB may trigger a mandatory early repayment, for example: (i) if a third party or several third parties acting together were to exercise control over the Company (as further defined in the EIB 2014 Financing Agreement; whereby the EIB may in such case also request further information from the Company); (ii) if the Project costs were to be reduced; (iii) if the Company or one of its material subsidiaries were to repay a non-EIB financing agreement prior to its due date; or (iv) in case of a change in a law or regulation (as further described in the EIB 2014 Financing Agreement) which in the EIB's reasonable opinion would materially hinder the Company's fulfillment of its obligations under the EIB 2014 Financing Agreement. In addition, in case of a downgrading of the Company's credit rating to BBB- or lower (according to Standard & Poor's Credit Market Services Europe Ltd. ("**Standard & Poor's**")or Fitch) or Baa3 or lower (according Moody's Deutschland GmbH ("**Moody's**")), or if two or more of these rating agencies stop rating the Company or publishing a rating for the Company, the EIB could require that the Company provide acceptable sureties. Should the Company fail to provide such sureties within 30 days after the downgrading, the EIB may request immediate early repayment of the outstanding loan amount plus interest. The EIB 2014 Financing Agreement further contains provisions typical for this type of contract, including several Project-related commitments of the Company (in particular the allocation of any paid-out amounts to the realization of the Project, the observation of certain criteria during the realization of the Project and in connection with tenders, and covenants such as restrictions on the transfer, lease or other form of disposal of a material portion of the assets of the Company and its material subsidiaries, and the maintenance of a rating by at least one rating agency (in addition to the other ratings requirements already described)). Moreover, the EIB 2014 Financing Agreement contains information and inspection rights for the EIB and provisions regarding the early termination of the loan by the EIB.

The EIB 2014 Financing Agreement also requires a *pari passu* ranking of the Company's obligations towards the EIB's with any other present and future unsubordinated and unsecured obligations of the Company (except for

obligations that are to be treated as senior by mandatory law). Moreover, the Company must inform the EIB of any commitment of the Company or a subsidiary vis-à-vis a third-party lender regarding a loss of rating, or otherwise relating to its financial key figures or its creditworthiness, which is not included in the EIB 2014 Financing Agreement or is more favorable than the commitments vis-à-vis the EIB; in this case, the EIB may require that the EIB 2014 Financing Agreement be promptly amended to include an equivalent clause.

13.1.2. Other Financing Agreements

We have entered into a considerable number of agreements in the ordinary course of business with several financial institutions, such as 364-day-credit lines and mid-term credit lines (which include financial liabilities incurred in connection with project-related guarantees offered to customers), loans for the financing of real estate and loans in connection with the financing of our new R&D center in Munich (which represented an overall investment of approximately EUR 90 million). Although we believe that none of the individual loan agreements as such is material for the Group as a whole, we provide a summary of the main terms of most relevant loan and similar agreements below.

With respect to credit lines, we have entered into several guarantee facilities which we utilize in our business operations, *e.g.*, for the issuance of bank guarantees or letters of credits required for many of our projects. For example, in January 2017, the Company entered into a guarantee framework agreement with Bayerische Landesbank, Munich, Germany ("**BayernLB**") under which BayernLB grants the Company a guarantee facility in the amount of EUR 130 million. The transactions entered into by BayernLB on behalf of Vossloh Kiepe (which we acquired in December 2016) under prior similar agreements of Vossloh Kiepe with BayernLB in the amount of approximately EUR 88.3 million as of January 31, 2017 were imputed as part of the current facility. This credit facility can be claimed by the Company (or by Vossloh Kiepe GmbH as additional borrower) by requesting the issuance of guarantees and letters of credit (with the exception of loan collaterals) in Euros or in a freely available, tradable and convertible currency within the European interbank market. The issuance of guarantees and letters of credit is subject to customary conditions, as well as fees and expenses (*e.g.*, for utilization or assignment of the facility).

In addition, the BayernLB guarantee framework agreement's original term has been extended and now runs until January 31, 2019, unless earlier terminated by either party, whereby termination may occur at any time and without observation of a notice period. However, in case of termination by BayernLB, the agreement states that it shall adequately consider the interests of the Group; in particular, BayernLBshall not terminate the agreement at an inappropriate time (except in case of termination for good cause).

Typically, such agreements are 364-day-lines and may be renewed substantially on the same terms. We regularly pursue a renewal of such lines, as long as the business need for the facility is still relevant for the Group. In the external relationship with the beneficiary of the guarantee or letter of credit, such guarantees or letters of credit may be granted for a fixed or an indefinite period. The duration of the guarantees or letters of credit may exceed the term of the agreement with the external beneficiary. In the internal relationship between the bank and the Company, the Company must indemnify the bank for any liabilities arising from the guarantees or letters of credit upon termination of the agreement with the external beneficiary.

In addition, the Company has entered into a bonding credit facility with the Euler Hermes German branch of Euler Hermes SA, based in Hamburg ("**Euler Hermes**"), for up to EUR 150 million, which entered into effect upon the closing of the Vossloh Kiepe acquisition by the Group on January 31, 2017 and is for an indefinite term (the "**Bonding Credit Facility**"). Existing liabilities under former agreements between Euler Hermes and (i) Vossloh Kiepe GmbH and (ii) one of its U.S. subsidiaries, in the amount of approximately EUR 119.9 million respectively and approximately USD 0.3 million were assumed under the Bonding Credit Facility. The guarantees under the Bonding Credit Facility may be issued vis-à-vis beneficiaries worldwide, in Euros, U.S. Dollars or other freely available, convertible and tradable currencies; the issuance is subject to a premium and certain fees. The (remaining) duration of fixed-term guarantees under the agreement may not exceed seven years from the issuance, and in the case of open-end guarantees, the economic duration may not exceed seven years, in each case unless otherwise agreed upon by Euler Hermes in its discretion.

13.2. Joint Venture with Robert Bosch GmbH

KB SfN GmbH is a joint venture company held by the Company, and Robert Bosch GmbH, Germany ("**Bosch**").

Bosch became a shareholder of KB SfN GmbH in 1998 through the contribution of its truck air brake activities to KB SfN GmbH. On October 12, 1998 the Company, Bosch and AlliedSignal Inc., a former party to the joint venture, entered into a shareholders' agreement governing, *inter alia*, the principles for the governance and the relationship between the parties to the joint venture and potential future projects ("**CVS Shareholders' Agreement**").

AlliedSignal Inc. sold its remaining shares in KB SfN GmbH to the Company in 2001. Today, 80% of the shares in KB SfN GmbH are directly held by the Company; the remainder of the shares is held by Bosch. KB SfN GmbH and its subsidiaries comprise the Company's European commercial vehicles business (Commercial Vehicles Systems) and offer brake systems for trucks, buses, trailers and agricultural machines. Further product fields are systems for power trains, which also includes vibration dampers for diesel engines. In addition, KB SteeringSystems (formerly tedrive Steering Systems GmbH), a subsidiary of KB SfN GmbH, is active in engineering, application, testing, production and assembly of steering systems and their components for truck platforms, high volume passenger cars and high performance applications.

In addition to certain board nomination rights, the CVS Shareholders' Agreement provides for other minority and participation rights of Bosch, including, among others, information and audit rights (also with respect to budget), and the right to approve certain transactions. In addition, Bosch's consent is required for certain matters relating to shareholdings, undertakings, sites, strategy changes, material investments and other transactions, as well as certain cooperations with third parties, and the appointment and removal of managing directors. Bosch's prior approval is required for engaging in the manufacturing or distribution of steering systems. With respect to selected minority and participation rights, the CVS Shareholders' Agreement provides for dispute mediation. Such mediation may also result in certain call/put option rights of the parties.

Moreover, the CVS Shareholders' Agreement includes reciprocal rights of first refusal as well as non-compete clauses. For the duration of the joint venture and for a period of three years thereafter, the joint venture partners shall in principle not enter into or engage in certain businesses such as (in each case including components (other than certain standardized components) for, and certain functions of, respective systems but excluding interfaces): (i) air brake systems and ABS/ASR/EBS or ESP for such systems; (ii) the pneumatic part of air over hydraulic systems and ABS/ASR/EBS or ESP for such systems; (iii) foundation brakes for air brake systems (other than S-Cam Brake, Wedge Brake); and (iv) pneumatic and electronic air suspension control systems and electronic damping systems for vehicles equipped with systems mentioned under (i) and (ii). Furthermore, for the duration of the joint venture and for the period of three years thereafter, KB SfN GmbH shall in principle not engage in (in each case including components (other than certain standardized components) for, and certain functions of, respective systems but excluding interfaces): (i) hydraulic brake systems and ABS/ASR/EHB or ESP for such systems; (ii) the hydraulic part of air over hydraulic systems and ABS/ASR/EHB or ESP for the hydraulic part of such systems; (iii) foundation brakes for hydraulic brake systems (excluding foundation brakes for air over hydraulic systems); (iv) electronic damping systems and ACC for vehicles equipped with systems according to (i) and (ii); and (v) steering systems. This non-compete undertaking only applies to KB SfN GmbH and its subsidiaries, not to the Company and its subsidiaries other than KB SfN GmbH and its subsidiaries.

The Company and Bosch are parties to a call/put option agreement (the "**CVS-CPOA**") granting Bosch a put option and the Company a call option with respect to Bosch's participation in all joint venture companies governed by the CVS Shareholders' Agreement. The put option can, inter alia, be exercised by Bosch in case the Company or certain of its affiliates engage in business activities covered by the non-compete clauses under the CVS Shareholders' Agreement. If a put or call option is exercised, the purchase price is to be calculated based on adjusted EBIT figures for a three-year period multiplied by a an EBIT multiple of 11 that is to be validated through (and potentially adjusted on the basis of) certain industry and transaction multiples.

KB SfN GmbH and Bosch furthermore entered into a framework license agreement pursuant to which Bosch agreed to grant to KB SfN GmbH, by virtue of separate individual agreements for the production and manufacturing of components and products in the areas of breaking-systems, breaking-functions, cartronic and further specific car components, worldwide, non-exclusive, non-assignable license to certain patents and utility models (including applications) as well as know-how of Bosch relevant for chassis-management systems. The framework license agreement provides for a right of Bosch to terminate in case KB SfN GmbH (or its affiliates) engages in business activities covered by the non-compete undertakings as provided for in the CVS Shareholders' Agreement.

In addition, during the lifetime of the cooperation of the Company and Bosch, a long-standing supply relationship was established under which KB SfN GmbH sources certain goods from Bosch. The long term supply agreement provides for a fixed contract term until the end of the year 2020 and for specific rules for the adjustment of product prices.

On May 24, 2016, KB SfN GmbH, as purchaser, entered into an agreement on the acquisition of the entire share capital in KB SteeringSystems. The transaction was closed in September 2016. In addition, on February 7, 2018, Knorr-Bremse Asia Pacific (Holding) Limited, a wholly-owned subsidiary of the Company, and Chinese FAW Jiefang Automobile Co. Ltd. signed a non-binding letter of intent on a potential strategic cooperation which, if implemented, might eventually also extend to steering systems.

Bosch is of the opinion that the acquisition of KB SteeringSystems has triggered a put option under the CVS-CPOA. Subsequently, while the Company does not share this opinion, the Company and Bosch entered into negotiations on a mutually agreed exit (instead of an exercise of a put option) of Bosch as shareholder in KB SfN GmbH and KB CVS Japan, a company in which Bosch also holds a minority interest of 20% and which is also subject to the provisions of the CVS-CPOA. These negotiations have — so far — not led to mutually acceptable terms for an exit procedure.

By letter dated June 21, 2018, Bosch declared with reference to the acquisition of KB SteeringSystems in 2016 the exercise of a put option. The Company has contested Bosch's right to exercise a put option in the present case. Bosch has requested the acquisition of its shareholdings in KB SfN GmbH and KB CVS Japan by the Company for an overall consideration of EUR 379.6 million, of which EUR 358 million are to be allocated to KB SfN GmbH. Furthermore, by letter dated August 7, 2018, Bosch also declared with reference to the letter of intent with FAW Jiefang Automobile Co. Ltd. the exercise of a put option.

On August 2, 2018 Bosch publicly announced the introduction of a number of driver assistance systems to be presented at IAA. We are currently assessing if such activities are an infringement of applicable non-compete obligations. Bosch denied any infringement upon request.

On September 17, 2018, Bosch initiated arbitral proceedings against the Company, among others requesting a declaratory judgement that Bosch is entitled to exercise a put option due to the acquisition of KB SteeringSystems and the framework document entered into with FAW Jiefang Automobile Co. Ltd. Bosch also claims payment of a consideration of EUR 379.6 million against transfer of its stake in KB SfN GmbH and KB CVS Japan. Furthermore, Bosch requests the arbitral tribunal to prohibit KB SfN GmbH to directly or indirectly conduct or commence activities in the area of steering systems as long as Bosch is a shareholder in KB SfN GmbH, as well as for three years thereafter. As a consequence, Bosch requests that activities in the area of steering systems are either acquired by the Company in connection with a group-internal reorganization, divested by KB SfN GmbH to a third party, or liquidated. We intend to defend ourselves against such claims vigorously taking into account all available procedural measures.

By letter dated July 5, 2018, Bosch declared an immediate termination of the framework license agreement with KB SfN GmbH and any potentially existing individual agreements thereunder. KB SfN GmbH contested the validity of the termination. KB SfN GmbH is currently analyzing whether its business operations rely on any intellectual property rights (including know-how) of Bosch or its affiliates, also taking into account maximum protection periods applicable to certain kinds of intellectual property rights.

In addition, by letter dated May 30, 2018, following a pricing revision request by Bosch, Bosch declared that the supply of three electronic control unit ("**ECU**") product families to KB SfN GmbH will end on December 31, 2018. KB SfN GmbH has contested Bosch's right to terminate the supply of the three ECU product families.

Regarding the risks associated with an exit (*e.g.*, by way of exercise of the put option) of Bosch as shareholder in KB SfN GmbH, please see also "*1.1.8 — Risk Factors — The industries in which we operate are increasingly competitive and characterized by downward pressure on prices, which could result in a decline in our revenues and margins and could have a material adverse effect on our business, results of operations, cash flows and financial position.*"; "*1.1.11 — Risk Factors — We face risks relating to joint ventures, cooperations and partnerships, including our potential limited influence on the organization and business success of such ventures, and the interests of our partners may conflict with our own.*"; "*1.1.23 — Risk Factors — The loss of certain key suppliers on which we depend could have an adverse effect on our business, results of operations, cash flows and financial position.*"; "*1.2.3 — Risk Factors — We are subject to risks from disputes and administrative, legal and arbitral proceedings, including antitrust proceedings*"; "*1.2.7 — Risk Factors — Any threat to, or impairment of, our intellectual property rights and know-how could cause us to incur costs to defend these rights, and impair our ability to compete effectively.*"; "*1.2.8 — Risk Factors — We may violate intellectual property rights of third parties and be liable for damages and litigation costs*.".

14. GENERAL INFORMATION ON THE COMPANY AND THE KNORR-BREMSE GROUP

14.1. Incorporation, Entry in the Commercial Register, Name

The Company was founded by Georg Knorr in 1905 in Berlin, Germany, as Knorr-Bremse GmbH, a limited liability company under German law (*Gesellschaft mit beschränkter Haftung*). After the Second World War Knorr-Bremse relocated its headquarters to Munich in 1953, and in 1985 the company changed its legal form to a stock corporation under the legal name "Knorr-Bremse Aktiengesellschaft" (Knorr-Bremse AG).

As of the date of the Prospectus, the Company, with its registered seat in Munich, Germany, is registered with the commercial register maintained by the local court (*Amtsgericht*) of Munich, Germany, under the registration number HRB 42031.

The commercial name of the Company and the Group is "Knorr-Bremse". In addition to the main Knorr-Bremse brand, the Group sells its products under the picture trademark "K in a circle", under a combination of both brands, or under additional brands on the market, *e.g*., "ESRA" and "KE" used in combination with the main brands. For further information on the Group's brands, see the "*11.14. — Business — Intellectual Property*".

14.2. History and Development of the Business

The Company was founded by Georg Knorr in 1905 in Berlin (at the time as Knorr-Bremse GmbH), who developed the Knorr rapid release brake. From 1918 to 1926, the company developed to become the largest brake manufacturer for rail vehicles in Europe at the time. In 1922, the first air brakes for commercial vehicles were patented. In 1923, Knorr-Bremse became the first company in Europe to equip trucks with air brakes that simultaneously brake all four wheels directly — and at the same time indirectly brake the four wheels of the trailer. In 1931, the Hildebrand-Knorr brake ("**HiK brake**") was introduced, followed in 1933 by the passenger train brake, and in 1934 by the express train brake. The HiK brake became standard in 17 countries and by 1955 there were approximately 280,000 systems in operation.

Following the end of the Second World War, the Group's operations were relocated to West Germany. In 1946 Knorr-Bremse GmbH was re-established in Volmarstein, North Rhine-Westphalia, and from 1953 onwards, its headquarters were based in Munich. By the mid-1950s, traffic volumes had considerably increased compared to the 1930s, and trucks became bigger, heavier and faster. The automatic load-dependent brake system ("**ALB**") was designed to cope with these new conditions and represented a new milestone for trucks. In 1969, Knorr-Bremse presented the first disc brake for heavy-duty trucks in the form of a hydraulically operated hinged caliper brake at the IAA trade fair in Frankfurt. In the 1970s and 1980s, Knorr-Bremse worked on the development of ABS and ASR, two innovations addressing the complex problem of vehicle dynamics. In 1981, ABS was first installed as standard equipment in trucks built by Knorr-Bremse's development partner MAN. In 1973, Knorr-Bremse entered the U.S. market with the AAR DB-60 valve for rail vehicles. This valve was used from 1985 onwards in the U.S. for exceptionally long freight cars with several locomotives.

In 1985, Knorr-Bremse GmbH merged with Süddeutsche Bremsen AG to form Knorr-Bremse AG. Heinz Hermann Thiele, as Chairman of the Executive Board and following a management buyout of the Company, introduced far-reaching structural changes and concentrated the business on its core activities, *i.e.*, braking technology for rail and commercial vehicles. Since 1989 and prior to the Offering, the Thiele family has held, directly and indirectly 100% of the shares in Knorr-Bremse AG. Today, Heinz Hermann Thiele is Honorary Chairman of the Supervisory Board.

In 1989, Knorr-Bremse developed the EBS electronic brake system, which integrates brake control, ABS and ASR into a single electronic system. The beginning of the 1990s marked the dawn of the ICE era in Germany — with high-speed brake systems. The electro-pneumatic independent brake was further improved and installed in the ICE 1 high-speed train. To provide further focus, in 1993/94, the organizations relating to rail and commercial vehicles were separated and transferred into two independent legal entities. This reorganization marked the start of a rapid process of international expansion and strong growth that has continued ever since. The 1990-2000 period saw the creation of an increasingly global group, with multiple manufacturing sites, through subsidiaries and acquisitions. Milestones include the joint venture with Bosch in 1999 in the area of electronics (for commercial vehicle brakes) and the acquisition of Bendix in 2002, a major U.S. manufacturer of air brakes and ABS systems, which provided for a significantly stronger foothold in the U.S. market. In 2005 Global Care was started, a foundation which supports people in need as a result of environmental disasters, war, poverty or disease. In 2007, the EP (electro-pneumatic (brakes)) 60 electronic freight car brake represented another significant technological breakthrough. This brake is used mainly for extremely long freight cars in the U.S. and South Africa. In 2010, the Icer Rail joint venture was formed in order to develop proprietary brake pads, including high-performance sintered pads for high-speed trains. Further innovations in the past few years include

a new generation of disc brakes, a new, lightweight compressor casing made of aluminum, a mechatronic transmission control system, a smartphone-controlled system for raising and lowering trailers and a new high-performance driver assistance system. In addition, under the new brand name of Knorr-Bremse PowerTech, a wide-ranging portfolio of on-board auxiliary power converters for all types of rail vehicle was commenced to being offered, drawing on the expertise of two leading medium-sized specialists in the field (Transtechnik und PCS Power Converter Solutions) that Knorr-Bremse had acquired. For more information on our latest major acquisitions since 2014, see "*11.8. — Business — Mergers and Acquisitions, Joint Ventures and Cooperations since 2014*".

14.3. Domicile, Legal Form, Legislation, Fiscal Year, Registered Office, Duration, Corporate Purpose

The Company is a German stock corporation (*Aktiengesellschaft*) domiciled in Germany. It was incorporated in Germany and is governed by the laws of Germany. The fiscal year of the Company runs from January 1 until December 31 of each calendar year.

The registered office and business address of the Company is located at Moosacher Str. 80, 80809 Munich, Germany; Telephone (+49) (0) 89 3547-0, Internet address: www.knorr-bremse.com.

The Company is established for an indefinite period of time. Section 2 of the Company's Articles of Association defines the corporate purpose of the Company as follows:

(i) The corporate purpose of the Company is the management of a group of companies that operate in the engineering, electrics, electronic and hydraulic industries and in fields related thereto. This includes, in particular, research and development, production and sale of brake and other controlling systems for rail, commercial and other vehicles, train door and platform door systems, air conditioning systems, power converters, additional electrical components, rotary oscillation dampers for combustion engines of vehicles and ships and other items of equipment for the rail and commercial vehicle traffic and parts, complements and accessories for the above mentioned products.

(ii) The Company may also engage itself in the activities stated in (i) above.

(iii) The Company is entitled to take all actions and measures and may conduct all business transactions which are related to the corporate purpose of the Company as stated in (i) and (ii) or which appear appropriate to serve the corporate purpose of the Company directly or indirectly.

(iv) The Company may establish, operate and acquire other companies in Germany and abroad, in particular such who are engaged, in whole or in part, in the fields mentioned under (i); it may also participate in such companies, manage them or restrict itself to the administration of its holdings. The Company may, in whole or in part, operate its business and its holdings through affiliated companies; it may transfer or outsource its operations to affiliated companies and conclude intercompany agreements. The Company may also establish branch offices and production facilities in Germany and abroad.

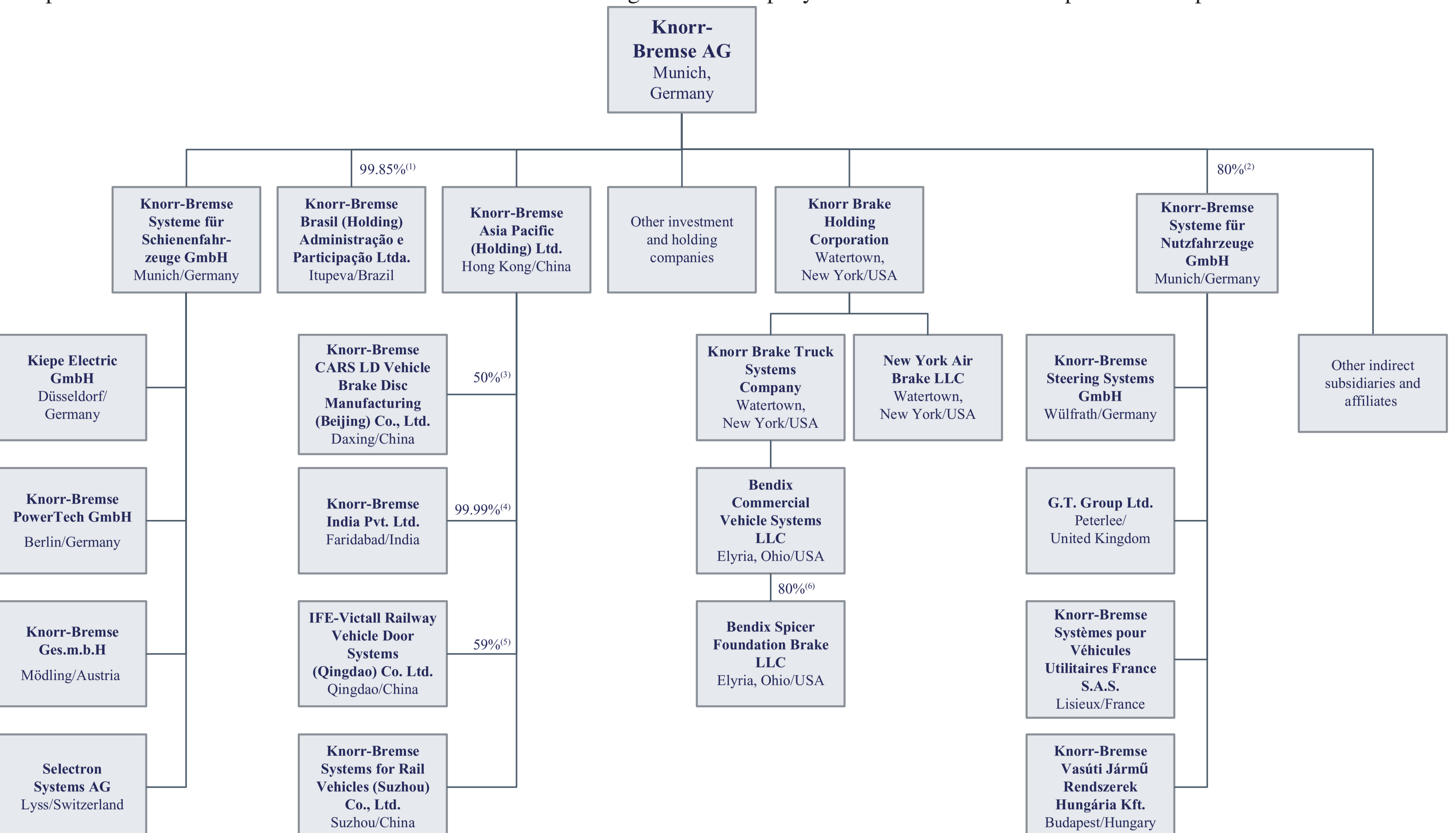
(v) The Company may also restrict its operations to a part of the activities stated in (i) and (ii).

14.4. Group Structure

The Knorr-Bremse Group is headed by the Company with its registered seat in Munich, Germany. As of December 31, 2017, the Group had nearly 150 consolidated (German and foreign) subsidiaries over which the Company can exert a direct or indirect controlling influence, and which were included in the Audited Consolidated Financial Statements for the fiscal year 2017. The Group is represented with over 100 locations in more than 30 countries, of which almost 70 are production sites. Knorr-Bremse AG performs Group-wide functions as a management holding company. Such group-wide functions are overseen by the CEO and CFO. They include corporate communications, corporate development (including M&A), corporate human resources, corporate legal, patents and compliance, corporate responsibility, corporate accounting, controlling and treasury, corporate information technology, corporate real estate management, corporate internal audit, KB Media which is, *inter alia*, responsible for trade fairs and events, print and online, photo and video marketing and promotion articles. Further functions include Knorr Excellence (business processes and management systems), corporate security and corporate investor relations.

The structure of the Group is based on two segments that also form the reporting segments according to IFRS: Rail Vehicle Systems and Commercial Vehicle Systems. Each segment is overseen by a member of the Executive Board. The segments, in turn, are themselves organized along regions (Europe/Africa/Middle East, North/South America, and Asia/Australia). Further, competences are clustered according to global product lines in so-called centers of competence), for example for brake control or hydraulics in the Rail Vehicle Systems segment. In the Commercial Vehicle Systems segment, several centers of competence, *e.g.*, for valves and steering, form a business unit.

The following chart provides an overview of the direct and indirect shareholdings of the Company as of the date of the Prospectus in simplified form:



(1) Remaining 0.15% held by Knorr-Bremse Investment GmbH, Munich, Germany.

(2) Remaining 20% held by Robert Bosch GmbH, Gerlingen, Germany (a third-party entity).

(3) Remaining 50% held by the Locomotive and Cars Research Institute (LCRI), a division of the Chinese Academy of Railway Sciences (CARS).

(4) Remaining 0.01% held by Knorr-Bremse Systeme für Schienenfahrzeuge GmbH.

(5) Remaining 41% held by Qingdao Victall Railway Co., Ltd. (a third-party entity).

(6) Remaining 20% held by Dana Commercial Vehicle Products, LLC., USA (a third-party entity)

Note: All participations in the entities included in the chart for which no percentage is shown amount to 100%.

14.5. Auditors

The Company has appointed KPMG AG Wirtschaftsprüfungsgesellschaft, with registered seat in Berlin, Germany, (KPMG), as its auditor for the fiscal years ended December 31, 2017, 2016 and 2015. KPMG has also been appointed as auditor for the fiscal year 2018. KPMG has audited the Company's Audited Unconsolidated Financial Statements as of and for the fiscal year ended December 31, 2017, that were prepared in accordance with the German Commercial Code (*Handelsgesetzbuch*) as well as the Company's Audited Consolidated Financial Statements as of and for the fiscal years and ended December 31, 2017, 2016 and 2015, that were prepared in accordance with IFRS and the additional requirements of German commercial law pursuant to Section 315e German Commercial Code. In each case, KPMG, through its Munich office, Ganghoferstrasse 29, 80339 Munich, Germany, conducted its audits in accordance with Section 317 of the German Commercial Code and German generally accepted standards for the audit of financial statements promulgated by the Institute of Public Auditors in Germany (*Institut der Wirtschaftsprüfer*). KPMG is a member of the German Chamber of Public Accountants (*deutsche Wirtschaftsprüferkammer*) and a member of the Institute of Public Auditors in Germany. See also "*2.7. — General Information — Note Regarding the Presentation of Certain Financial Information*".

14.6. Publications, Paying Agent

In accordance with its Articles of Association, announcements of the Company are published in the German Federal Gazette (*Bundesanzeiger*). Information directed at the shareholders and other holders of securities issued by the Company may, as far as legally permissible, also be provided to them via remote data transmission (*Datenfernübertragung*).

Announcements in connection with the approval of the Prospectus or any supplements thereto are to be made in accordance with the regulations of the German Securities Prospectus Act (*Wertpapierprospektgesetz*) and in the form of publication stipulated for the Prospectus, in particular through publication on the Company's website (https://ir.knorr-bremse.com). Printed copies of the prospectus are available at the offices of the Company during regular business hours (Moosacher Str. 80, 80809 Munich, Germany).

The paying agent is COMMERZBANK. The mailing address of the paying agent is: COMMERZBANK Aktiengesellschaft, Kaiserplatz, 60311 Frankfurt am Main.

14.7. Ratings

Two external agencies have rated Knorr-Bremse AG since 2002. The ratings have been of investment grade status from the outset and they have improved continuously over time.

Based on the Group's results for the fiscal year 2015, Standard & Poor's raised its creditworthiness rating for Knorr-Bremse AG from "A-/ Outlook positive" to "A flat/Outlook stable" in June 2016, followed by a long-term rating upgrade of Moody's for Knorr-Bremse AG in July 2016 from A3/Outlook positive to A2/Outlook stable. With this upgrade, the rating agency honored the continuity of the Group's performance, the strengthening of its competitive position and the substantial growth of the Group through acquisitions and joint ventures. Based on the results of fiscal year 2017, Moody's confirmed such A2/Outlook stable rating in January 2018.

Standard & Poor's is established in the European Community and is registered under Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies, as amended (the "**CRA Regulation**"). Moody's is established in the European Community and is registered under the CRA Regulation. The European Securities and Markets Authority publishes on its website (www.esma.europa.eu/page/List-registered-andcertified-CRAs) a list of credit rating agencies registered in accordance with the CRA Regulation. That list is updated within five working days following the adoption of a decision under Article 16, 17 or 20 CRA Regulation. The European Commission shall publish that updated list in the Official Journal of the European Union within 30 days following such update.

A credit rating assesses the creditworthiness of an entity and therefore informs potential investors about the probability of the entity being able to redeem invested capital. It is not a recommendation to buy, sell or hold securities and may be revised or withdrawn by the rating agency at any time.

An "A" flat rating assigned by Standard & Poor's means that the Company has a strong capacity to meet its financial commitments but is somewhat more susceptible to the adverse effects of changes in circumstances. The ratings from "AA" to "CCC" by Standard & Poor's may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the major rating categories.

Obligations rated A by Moody's are considered upper-medium grade and are subject to low credit risk. Moody's appends numerical modifiers 1, 2, and 3 to each generic rating classification from Aa through Caa. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category.

15. SHAREHOLDER STRUCTURE

15.1. Current Shareholders

The following table shows the Company's shareholder structure immediately prior to the Offering as well as upon completion of the Offering (both without exercise of the Greenshoe Option and Upsize Option as well as assuming full exercise of the Greenshoe Option and Upsize Option (in both cases assuming full placement of the Base Shares)):

	Shareholding									
	Prior to the Offering		Upon completion of the Offering with placement of the Base Shares (without exercise of the Greenshoe Option)[1]		Upon completion of the Offering with placement of the Base Shares and the Additional Base Shares (with full exercise of the Upsize Option and without exercise of the Greenshoe Option)[1]		Upon completion of the Offering with placement of the Base Shares (assuming full exercise of the Greenshoe Option)[1]		Upon completion of the Offering with placement of the Base Shares and the Additional Base Shares (assuming full exercise of the Upsize Option and the Greenshoe Option)[1]	
Name of Shareholder	No. of shares	As a %	No. of shares	As a%	No. of shares	As a %	No. of shares	As a %	No. of shares	As a%
KB Holding GmbH[1]	153,139,938	95.00	118,096,459	73.26	110,036,459	68.26	112,839,938	70.00	104,779,938	65.0
Ursus Vermögensverwaltungs GmbH[2]	8,060,062	5.00	8,060,062	5.00	8,060,062	5.00	8,060,062	5.00	8,060,062	5.00
Free Float	0	0	35,043,479	21.74	43,103,479	26.74	40,300,000	25.0	48,360,000	30.00
Total	**161,200,000**	**100.00**	**161,200,000**	**100.00**	**161,200,000**	**100.00**	**161,200,000**	**100.00**	**161,200,000**	**100.00**

(1) KB Holding GmbH (KB Holding) is a wholly owned subsidiary of TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Germany ("**TIB**"). 80.7% of the shares and voting rights in TIB are held by Stella Vermögensverwaltungs GmbH, Grünwald, Germany ("**Stella**") and the remaining 19.3% of shares and voting rights are held by Mr. Heinz Hermann Thiele. Mr. Heinz Hermann Thiele also holds 63.4049% of the share capital and 87.4975% of the voting rights in Stella, while Mrs. Julia Thiele-Schürhoff (a member of the Supervisory Board of the Company) holds 36.5805% of the share capital and 12.4975% of the voting rights, and the foundation Stella Beteiligungs-Stiftung holds 0.0146% in the share capital and 0.005% of the voting rights in Stella.

(2) Ursus Vermögensverwaltungs GmbH (Ursus) is controlled by its sole shareholder Mr. Heinz Hermann Thiele.

15.2. Pooling Agreements and Controlling Interest

KB Holding and Ursus are parties to a pooling agreement pursuant to which (i) both parties to the pooling agreement are obligated to vote uniformly as determined by the meeting of the parties to the pooling agreement by simple majority (the voting rights in such meeting corresponding to the ratio of the shares held by each party to the pooling agreement) and (ii) both parties are obligated to only dispose of shares in the Company (x) if the transferee of such shares is a member of the family of Mr. Heinz Hermann Thiele or an entity directly or indirectly owned by a member of the family of Mr. Heinz Hermann Thiele and if the transferee is or becomes a party to the pooling agreement or (y) upon a resolution taken by 75% of the shares in the Company held by the parties to the pooling agreement. In addition, shares in the Company may be used without a majority vote of the parties to the pooling agreement only as conventional security for liabilities incurred or to be incurred by entities owned exclusively by members of the family of Mr. Heinz Hermann Thiele. The pooling agreement ends automatically if either of the parties no longer holds any shares in the Company.

Mr. Heinz Hermann Thiele and Stella are parties to a further pooling agreement pursuant to which (i) both parties to the pooling agreement are obligated to vote uniformly with yes or no as determined by the meeting of the parties to the pooling agreement, in general by simple majority except for resolutions on subject-matters relating to an agenda of a shareholder's meeting of TIB, which are taken with the same majority as is necessary in the shareholder's meeting of TIB (the voting rights corresponding to the ratio of the shares in TIB held by each party to the pooling agreement to the sum of shares in TIB held by both parties to the pooling agreement) and (ii) both parties are obligated to only dispose of shares in TIB (x) if the transferee of such shares in TIB is a member of the family of Mr. Heinz Hermann Thiele or an entity directly or indirectly owned by a member of the family of Mr. Heinz Hermann Thiele and if the transferee is or becomes a party to the pooling agreement or (y) upon a resolution taken by 75% of the shares held by the parties to the pooling agreement and, in any such case, the transferee agreeing to be bound by the provisions of the pooling agreement. In addition, tied shares in TIB may only be used as security for liabilities in the event of a majority decision of the members of the pooling agreement.

For the purposes of the German Securities Acquisition and Takeover Act (*Wertpapiererwerbs- und Übernahmegesetz*), Mr. Heinz Hermann Thiele is considered to currently hold, by attribution pursuant to

Section 30(1) no.1 and Section 30(2) German Securities Acquisition and Takeover Act, 100% of the voting rights in the Company. Assuming (i) a placement of all Base Shares, (ii) a full exercise of the Upsize Option and (iii) full exercise of the Greenshoe Option, Mr. Heinz Hermann Thiele will continue to be considered to hold 70.0% of the voting rights in the Company. As a result, Mr. Heinz Hermann Thiele will continue to hold a controlling interest in the Company pursuant to the German Securities Acquisition and Takeover Act directly after completion of the Offering.

Furthermore, for the purposes of the German Securities Acquisition and Takeover Act, each of KB Holding, Ursus, TIB and Stella are considered to currently hold, directly and/or by attribution pursuant to Section 30(1) no.1 and Section 30(2) German Securities Acquisition and Takeover Act 100% of the voting rights in the Company. Assuming (i) a placement of all Base Shares, (ii) a full exercise of the Upsize Option (iii) full exercise of the Greenshoe Option, each of KB Holding, Ursus, TIB and Stella will continue to hold, directly and/or by attribution pursuant to Section 30(1) no.1 and Section 30(2) of the German Securities Acquisition and Takeover Act 70.0% of the voting rights in the Company and will therefore continue to hold a controlling interest in the Company pursuant to the German Securities Acquisition and Takeover Act directly after completion of the Offering.

16. INFORMATION ON THE SHARE CAPITAL OF THE COMPANY AND APPLICABLE REGULATIONS

16.1. Share Capital and Shares

The Company's share capital amounts to EUR 161,200,000.00. It is currently divided into 161,200,000 bearer shares with no par value (*Stückaktien*) and a notional value of EUR 1.00 each in the share capital. The share capital is fully paid up.

Each share entitles the shareholder to one vote at the general shareholders' meeting of the Company. There are no restrictions on voting rights. Voting rights are the same for all of the Company's shareholders. The shares carry full dividend rights as from the commencement of the fiscal year in which they are created and for all subsequent fiscal years. In the event of the Company's liquidation, the Company's assets remaining after satisfaction of all liabilities of the Company will be distributed to the shareholders in proportion to their interest in the Company's share capital.

As of the date of the Prospectus, the Company and its subsidiaries hold no shares in the Company.

16.2. Certification and Transferability of the Shares

The form and the content of the share certificates, the dividend warrants and renewal coupons, if any, are determined by the Company's Executive Board. The Company is entitled to issue share certificates embodying individual (*Einzelurkunden*) shares or multiples (*Sammelurkunden*) of shares. Section 5(3) of the Company's current Articles of Association stipulates that the shareholders' right to the issuance of share certificates representing their respective shares is excluded to the extent legally permissible and unless such issuance is required in accordance with regulations applicable at a stock exchange to which the shares are admitted to trading.

The shares of the Company will be represented by one or several global share certificates without dividend coupons which will be deposited with Clearstream Banking AG subsequently to the approval of the Prospectus.

Except for the restrictions described under "*3.10. — The Offering — Lock-Up Agreements*" and "*20.5. — Underwriting — Selling Restrictions*", there are no prohibitions on disposals or restrictions with respect to the transferability of the Company's shares.

16.3. Development of the Share Capital over the Last Three Years

From 2001 and until the new Articles of Association of the Company were registered with the commercial register of the Company on July 10, 2018, the share capital of the Company amounted to EUR 67,600,000.00 and was divided into 2,600,000 bearer shares (*Stückaktien*), each with a par value of EUR 26.00 and fully paid up.

On May 29, 2018, an extraordinary general shareholders' meeting of the Company resolved to redivide the share capital into 67,600,000.00 bearer shares, each with a par value of EUR 1.00, and to convert these shares into bearer shares with no par value (*Stückaktien*).

By resolution of the extraordinary shareholders' meeting of the Company held on May 29, 2018 the Company's registered share capital was then increased by EUR 93,600.000 from EUR 67,600,000.00 to EUR 161,200,000.00 out of the Company's reserves (*Kapitalerhöhung aus Gesellschaftsmitteln*).

16.4. Authorized Share Capital

As of the date of the Prospectus, the Company has an authorized capital pursuant to Section 6 of the Articles of Association in conjunction with Section 202 of the German Stock Corporation Act (*Aktiengesetz*). Pursuant to Section 6(1) of the Articles of Association, the Executive Board is authorized, subject to the consent of the Supervisory Board, to increase the registered capital of the Company until May 28, 2023, once or repeatedly, by up to a total of EUR 40,300,000.00 by the issuance of up to 40,300,000 new bearer shares with no par value (*Stückaktien*) against contributions in cash or in kind (the "**Authorized Capital 2018**").

Pursuant to Section 6(2) of the Articles of Association, the shareholders, in principle, are to be offered pre-emption rights. The Company's new shares may also be subscribed by credit institutions or companies within the meaning of Section 186(5) Sentence 1 of the German Stock Corporation Act with the obligation to offer them to the shareholders for subscription.

Section 6(3) of the Articles of Association stipulates that the Executive Board may exclude the pre-emption rights of the shareholders with the consent of the Supervisory Board

(i) in order to make use of fractional amounts excluding pre-emption rights of shareholders;

(ii) in the event of a capital increase against contributions in kind, in particular, in connection with business combinations or for the purpose of the (indirect) acquisition of businesses, parts of businesses, investments in businesses or other assets or rights to acquire assets or claims;

(iii) in the event of a capital increase against cash contributions pursuant to Section 186(3) Sentence 4 of the German Stock Corporation Act, provided that the issue price of the Company's new shares is not significantly below the prevailing stock exchange price of the Company's listed shares at the time of the final determination of the issue price, which should take place as close as possible to the time of placement of the shares and provided that the notional amount of the capital stock attributable to the new shares does not exceed 10% of the share capital at the time such authorization comes to effect or is exercised. For calculating purposes, the portion of the share capital attributable to the Company's treasury shares which during the term of the Authorized Capital 2018 are disposed of with an exclusion of the shareholders' pre-emption rights due to an authorization to dispose of treasury shares pursuant to Sections 71(1) No. 8 Sentence 5 and 186(3) Sentence 4 of the German Stock Corporation Act, shall also count towards the threshold of 10% of the share capital. In addition, the portion of the capital stock attributable to the shares which during the term of the Authorized Capital 2018 are issued due to other authorizations to issue shares of the Company with an exclusion of the shareholders' pre-emption rights pursuant to the direct or *mutatis mutandis* application of Section 186(3) Sentence 4 of the German Stock Corporation Act shall also count towards the threshold of 10% of the share capital. Furthermore, the portion of the capital stock attributable to the shares which are issued or are to be issued in order to service bonds with conversion or option rights, or with conversion or option obligations, shall also be counted towards the 10% threshold, to the extent that the bonds are issued during the term of the Authorized Capital 2018 with an exclusion of the shareholders' pre-emption rights pursuant to the application, *mutatis mutandis*, of Section 186(3) Sentence 4 of the German Stock Corporation Act;

(iv) (a) to the extent to which this is required to fulfill purchase obligations or purchase rights in connection with shares in the Company from or in connection with share options or convertible bonds and/or profit participation rights with option or conversion rights or obligations issued by the Company or other Group companies, as well as (b) to the extent to which this is required as a protection against dilution, in order to grant the holders or creditors of warrants or convertible bonds and/or profit participation rights with option or conversion rights (or a combination of these types of instruments) issued by the Company or other Group companies pre-emption rights to the shares in the Company as would be due to them as shareholders after exercise of the option or conversion rights or, as the case may be, the fulfillment of option or conversion obligations.

The Executive Board is authorized, subject to the approval of the Supervisory Board, to set other details regarding the capital increases relating to the Authorized Capital 2018 and their implementation, in particular with respect to the further content of the rights attached to the shares and the conditions of the issuance.

The Supervisory Board is authorized to amend the relevant section of the Articles of Association dealing with the Company's authorized capital after the respective use of the Authorized Capital 2018 as well as after expiration of the term of the authorization.

16.5. Authorization to issue Convertible Bonds and/or Warrant-linked Bonds, Profit-sharing Rights and/or Income Bonds (or Combinations of These Instruments) and to Disapply Pre-emption Rights

On May 29, 2018, an extraordinary general shareholders' meeting of the Company authorized the Company as follows:

(1) Authorization, par value, number of shares, issue by Group companies

The Executive Board is authorized, subject to the consent of the Supervisory Board, to issue bearer or registered subordinated or non-subordinated convertible bonds and/or warrant-linked bonds, profit-sharing rights and/or income bonds (or combinations of these instruments) (collectively referred to below as "bonds") in an aggregate principal amount of up to EUR 1,500,000,000.00 until May 28, 2023, on one or more occasions, also simultaneously in different series, and to grant the holders or beneficiaries of the bonds (collectively referred to below as "holders") conversion or option rights to a maximum of 16,120,000 registered no par value shares in the Company representing a proportionate amount of the capital stock totaling up to EUR 16,120,000.00 in accordance with the more detailed conditions attached to the bonds ("terms and conditions of issue"). The bonds may be issued in return for cash and/or non-cash capital contributions. The terms and conditions of issue may provide for an option or conversion obligation at the end of the term or at an earlier date, or upon the occurrence of a specific event.

The bonds may be issued in euros or — subject to a maximum limit equivalent to the value in euros — in the legal currency of an OECD country. If bonds are issued in a currency other than euros, the equivalent

value will be calculated according to the euro reference rate of the European Central Bank on the day before the adoption of the resolution concerning the issuing of the bond.

The bonds may also be issued by a subsidiary of Knorr-Bremse AG as defined by Section 18 of the German Stock Corporation Act *(Aktiengesetz)*. In this case the Executive Board will be authorized, subject to the consent of the Supervisory Board, to assume the guarantee for the bonds on behalf of the Company and to grant or create for the holders conversion or option rights/conversion or option obligations (or combinations of these) for bearer shares in the Company.

(2) Pre-emption right, authorization to disapply the pre-emption right

The shareholders are generally entitled to a pre-emption right in respect of the bonds. The pre-emption right can also be granted by allowing the bonds to be bought by one or more credit institutions or companies within the meaning of Section 186(5) Sentence 1 of the German Stock Corporation Act, determined by the Executive Board, on condition that the credit institutions or companies offer the new shares to the shareholders for subscription (indirect pre-emption right). If bonds are issued by a subsidiary of Knorr-Bremse AG as defined by Section 18 of the German Stock Corporation Act, Knorr-Bremse AG must ensure that the statutory pre-emption right of the Company's shareholders is secured.

However, the Executive Board is authorized, subject to the consent of the Supervisory Board, to disapply pre-emption rights of shareholders:

- to the extent the bonds, which are issued with conversion or option rights/conversion or option obligations, are issued in return for cash payment and, after carrying out a due and proper review, the Executive Board is of the opinion that the issue price of the bonds is not significantly below their hypothetical market value calculated using generally accepted methods (in particular, methods used in financial mathematics). This authorization to disapply the pre-emption rights applies to bonds with conversion or option rights/conversion or option obligations on shares representing a proportional amount of the capital stock that must not exceed 10% of the share capital of the Company in total, neither at the time at which this authorization comes into effect or — if lower — at the time this authorization is used. The share capital attributable to those shares issued or sold on a simplified non-pre-emptive basis during the period up to the time this authorization is used pursuant to or in accordance with Section 186 of the German Stock Corporation Act shall count towards this threshold;
- to the extent the bonds are issued in return for non-cash capital contributions, especially in order to be able to offer the bonds to third parties in connection with mergers or for the direct or indirect acquisition of companies, parts of businesses, or investments in businesses, or other assets, or of rights to acquire assets, or of receivables due from the Company or its subsidiaries within the meaning of Section 18 of the German Stock Corporation Act;
- to the extent this is necessary to grant the holders or beneficiaries of already issued bonds or warrants that are issued by the Company or by subsidiaries within the meaning of Section 18 of the German Stock Corporation Act, a pre-emption right that is equal to the right they would have after exercising the conversion right or option or after fulfilling the conversion obligation or option obligation;
- to disapply pre-emption rights for fractional amounts.

To the extent profit-sharing rights or income bonds are issued without conversion or option rights or without conversion or option obligations, the Executive Board will be authorized, subject to the consent of the Supervisory Board, to fully disapply the shareholders' pre-emption rights if these profit-sharing rights or income bonds are structured similarly to a bond, *i.e.,* they give rise to no membership rights in the Company, grant no rights to share in the proceeds of liquidation, and the coupon is not calculated on the basis of the amount of annual net profit, the unappropriated profit, or the dividend. In this case the Executive Board must carry out a due and proper review to ensure that the coupon and the issue price of the profit-sharing rights or income bonds are in line with market conditions at the time of issue.

(3) Convertible and warrant-linked bonds

The bonds are issued in units of smaller denominations.

If bonds are issued with option rights and/or obligations, each individual part of the bond will have one or more warrants attached which entitle or oblige the holder — in accordance with the more detailed terms and conditions of issue — to subscribe to no par value (*Stückaktien*) bearer shares in Knorr-Bremse AG. The terms and conditions of issue may provide that the option price can also be settled through the transfer

of individual bonds (part exchange) and, if applicable, an additional payment. If this procedure results in fractional amounts of shares, the terms and conditions of issue may provide that these fractional amounts can, in accordance with the terms and conditions, be aggregated to enable subscription to whole shares for an additional payment.

If bonds are issued with conversion rights and/or conversion obligations, the holders have the right, or assume the obligation, to convert their individual bonds in accordance with the terms and conditions of issue into no par value (*Stückaktien*) bearer shares in Knorr-Bremse AG. The conversion ratio is calculated by dividing the par value or — if the issue price is below the par value — the issue price of the individual bond by the specified conversion price for one share in the Company and can be rounded up or down to a whole number; an additional payment may also be specified, as may the aggregation of fractional amounts or a sum to be paid in compensation for fractional amounts that cannot be converted. The terms and conditions of issue may also stipulate that the conversion ratio is variable and the conversion price is to be determined on the basis of future market prices, within a specific range.

(4) Granting of new or existing shares, cash payment, right of substitution

The terms and conditions of issue may provide that the Company is entitled not to grant new shares when an option is converted or exercised, but to pay out the equivalent value in cash instead. The terms and conditions of issue may also provide an option for the Company to specify that bonds can be converted into already existing Company shares or into shares of another listed company instead of into new shares from conditional capital, or that an option right and/or obligation can be fulfilled through the delivery of such shares.

The terms and conditions of issue may provide that the Company is entitled, upon maturity of bonds that have conversion or option rights/conversion or option obligations, to grant the holders no par value shares (*Stückaktien*) in the Company or in another listed company instead of paying out all or part of the due amount in cash.

(5) Conversion and option price

In the event that bonds are issued that grant conversion or option rights, the conversion or option price for one share — with the exception of cases in which a conversion or option obligation is provided for — must be at least 80% of the volume-weighted average closing price of shares of the Company in the Xetra trading system (or a comparable successor system) on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) on the last ten trading days before the adoption of the resolution of the Managing Board concerning the issue of the bonds or — in the event that pre-emption rights are granted — at least 80% of the volume-weighted average closing price of shares of the Company in the Xetra trading system (or a comparable successor system) on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) during the subscription period with the exception of the days of the subscription period that are necessary to enable the conversion or option price to be publicized in good time pursuant to Section 186(2) of the German Stock Corporation Act. Section 9(1) and Section 199(2) of the German Stock Corporation Act remain unaffected.

Where there is a right to offer alternative performance (*Ersetzungsbefugnis*), and in cases of conversion or option obligations, the conversion or option price in accordance with the more detailed specification of the terms and conditions of issue must be at least either the aforementioned minimum price or the volume-weighted average closing price of shares of the Company in Xetra trading system (or a comparable successor system) on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) during the ten exchange trading days before the maturity date or another specified date, even if this average price is below the aforementioned minimum price. Section 9(1) and Section 199(2) of the German Stock Corporation Act remain unaffected.

(6) Protection against dilution, adjustment mechanisms

In the case of bonds with conversion or option rights/conversion or option obligations, the conversion or option price may, irrespective of Section 9(1) and Section 199(2) of the German Stock Corporation Act, in the event of the dilution of the conversion or option rights/conversion or option obligations, in accordance with the more detailed terms and conditions of issue, be adjusted so as to preserve their value, in each case unless the adjustment is governed by law, preemption rights are granted as compensation, a corresponding cash sum is paid, or some other adjustment mechanism is provided for.

(7) Authorization to specify the further details

The Executive Board is authorized, subject to the consent of the Supervisory Board, to specify the further details of the issue and the terms of issue of the bonds, particularly the interest rate, type of coupon, issue

price, term, denomination, protection against dilution, and conversion or option period and a possible variability of the conversion ratio, or to do so in agreement with the governing bodies of the Knorr-Bremse AG subsidiary (within the meaning of Section 18 of the German Stock Corporation Act) issuing the bonds.

16.6. Conditional Share Capital

As of the date of the Prospectus, the Company has a conditional capital pursuant to Section 7 of the Articles of Association in conjunction with Sections 192 et seq. of the German Stock Corporation Act (*Aktiengesetz*). Pursuant to Section 7(1) of the Articles of Association, the share capital of the Company shall be conditionally increased by up to EUR 16,120,000.00. The conditional capital is linked to the authorization resolved by the extraordinary general shareholders' meeting on May 29, 2018 to issue convertible bonds or warrant-linked bonds, profit-sharing rights or income bonds (or combinations of these instruments) in each case with conversion or option rights/conversion or option obligations, or to assume guarantees for other similar instruments issued by subsidiaries of the Company within the meaning of Section 18 of the German Stock Corporation Act. The authorization expires on May 28, 2023. The purpose of the conditional capital increase is to enable registered no par value shares in Knorr-Bremse AG to be granted upon the exercise of conversion or option rights, upon the fulfillment of conversion or option obligations, or if the Company exercises its right to choose to issue no par value shares in the Company instead of paying out all or part of the due amount in cash. The new shares are issued at the conversion or option price to be determined in each case in accordance with the aforementioned authorization resolution.

The conditional capital increase will be carried out only in so far as conversion or option rights are exercised or holders of bonds with conversion or option obligations exercise their options or fulfill their conversion obligations, or the Company exercises its right, upon maturity of bonds that have conversion or option rights/conversion or option obligations, to grant the holders of the individual bonds no par value shares in the Company instead of paying out all or part of the due amount in cash, and provided that no other form of fulfillment has been utilized. The new shares issued are eligible to participate in profit-sharing from the start of the fiscal year in which they are created; so far as permitted by law, the Executive Board may alternatively resolve, subject to the consent of the Supervisory Board, that the new shares are eligible to participate in profit-sharing from the start of the fiscal year for which — at the time of the exercise of the conversion or option right or the fulfillment of the conversion or option obligation — no resolution has yet been adopted by the general shareholders' meeting concerning the appropriation of profits. The Executive Board is authorized, subject to the approval of the Supervisory Board, to set other details regarding the implementation of the conditional capital increase.

16.7. Authorization to Acquire and Use Treasury Shares

On May 29, 2018, an extraordinary general shareholders' meeting of the Company authorized the Company as follows:

(1) The Executive Board is authorized to repurchase in the period up to May 28, 2023, for any purpose to the extent permitted by law and in accordance with the following provisions, treasury shares of Knorr-Bremse AG equating to up to a total of 10% of the lower of the share capital in existence at the time the authorization comes into effect and the share capital in existence each time that this authorization is exercised. The shares purchased on the basis of this authorization, together with other treasury shares that the Company has already purchased and holds, or that are attributable to it, must not account for more than 10% of the share capital at any point.

    The authorization may be used by the Company, or by its Group companies, or by third parties engaged by the Company or by a Group company for the Company's or a Group company's account, provided that the statutory requirements, in particular those specified in Section 71(2) of the German Stock Corporation Act (*Aktiengesetz*), have been satisfied.

    The shares may be repurchased through the stock exchange by means of a public offer to buy to all shareholders, by means of a public invitation to all shareholders to submit tender offers, or by means of granting rights to tender.

    - If the shares are repurchased through the stock exchange, the consideration per share (excluding purchase-related costs) paid by the Company must not exceed by more than 10%, or fall below by more than 20%, the price of the Company's shares as determined by the opening auction in the Xetra trading system (or a comparable successor system) on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) on the respective trading day.
    - If the shares are repurchased through a public offer to buy, the consideration per share (excluding purchase-related costs) paid by the Company must not exceed by more than 10%, or fall below by

more than 20%, the average market price of the Company's shares in the closing auction in the Xetra trading system (or a comparable successor system) on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) over the last three exchange trading days preceding the final decision by the Managing Board on the issue of an offer to buy.

- If the shares are repurchased through a public invitation to submit tender offers, or by granting rights to tender, the consideration per share (excluding purchase-related costs) paid by the Company must not exceed by more than 10%, or fall below by more than 20%, the average market price of the Company's shares in the closing auction in the Xetra trading system (or similar successor system) on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) over the last three exchange trading days preceding the day on which the tender offers are accepted or the day on which rights to tender are granted.

If, after a public offer to buy or a public invitation to submit tender offers has been issued, or after rights to tender have been granted, there are significant deviations in price from the offered buying or selling price, or from the limits of any buying or selling price margin, the offer to buy, invitation to submit tender offers, or the rights to tender can be modified up to the date of acceptance. In this case, the relevant amount is determined in accordance with the appropriate price on the last exchange trading day prior to the final decision by the Executive Board on the modification; the 10% excess and 20% shortfall limits must be applied to this amount.

The volume of a public offer to buy or a public invitation to submit tender offers can be limited. If a public offer to buy or a public invitation to submit tender offers is oversubscribed, the acquisition or acceptance must be carried out by quota in relation to the offered shares to be taken into account in each case, subject in this respect to the partial disapplication of any rights of shareholders to tender their shares. The arrangements may provide for a preferential acquisition or preferential acceptance of a low number of shares (up to 150 no par value shares per shareholder), and for rounding, subject in this respect to the partial disapplication of any rights of shareholders to sell their shares.

The total volume of rights to tender offered to shareholders can also be limited. If shareholders are granted rights to tender for the purposes of the acquisition, these rights are allocated to shareholders in relation to their shareholdings, the percentage being derived from the relationship between the volume of shares to be bought back by the Company and the total capital stock outstanding. Fractional amounts arising from rights to tender must not be allocated; in such cases, any partial rights to tender are excluded.

The detailed structure of each acquisition, in particular any offer to buy or any invitation to submit tender offers, is determined by the Executive Board. This also applies to the detailed structure of any rights to tender, especially with regard to maturity and, where appropriate, the extent to which such rights can be traded. Capital market and other statutory restrictions and requirements must be observed in this regard.

(2) The Executive Board is authorized to use the treasury shares repurchased on the basis of this authorization for the extent permitted by law as follows:

(a) The shares may be sold on the stock exchange or, subject to the consent of the Supervisory Board, through a public offer to all shareholders in relation to their existing holdings. In the case of the latter, the subscription rights are excluded for fractional amounts.

(b) In addition, subject to the consent of the Supervisory Board, the shares may be sold by some other method for cash at a price that is not materially below the market price of the Company's shares with the same terms on the date of sale (Sections 71(1) No. 8 Sentence 5 and 186(3) Sentence 4 of the German Stock Corporation Act (*Aktiengesetz*)). The proportion of share capital attributable to the number of shares sold under this authorization must not exceed 10% of the lower of the share capital in existence on the effective date of this authorization and the share capital of the Company in existence on each date that this authorization is exercised. The following shall count towards the 10% limit: the pro rata amount of share capital from new shares that, since the general shareholders' meeting passed the resolution regarding this authorization, have been issued on the basis of any authorizations to issue shares from authorized capital with the disapplication of subscription rights in accordance with Section 186(3) Sentence 4 of the German Stock Corporation Act; and, the pro rata amount of capital stock attributable to warrant-linked bonds and/ or convertible bonds with an option or conversion right, or with a conversion or exchange obligation, or with a right to tender, that has been issued on the basis of any authorizations in accordance with Section 221(4) and Section 186(3) Sentence 4 of the German Stock Corporation Act since the general shareholders' meeting passed the resolution on this authorization.

(c) Subject to the consent of the Supervisory Board, the shares may be offered and transferred in return for non-cash payment, especially as (part) consideration in the direct or indirect acquisition of businesses,

parts of businesses, or investments in businesses, or other assets, including receivables due from the Company, or in the purchase of rights to acquire assets, or as part of business combinations.

(d) The shares may be used to service acquisition obligations or acquisition rights to Knorr-Bremse AG shares arising from or in connection with convertible bonds or bonds with warrants issued by the Company or its Group companies.

(e) The shares may also be redeemed without the need for any further general shareholders' meeting resolution to approve the redemption or its implementation. A redemption of shares leads to a reduction in capital. Alternatively however, in accordance with Section 237(3) No. 3 of the German Stock Corporation Act, the Executive Board may specify that the share capital should not be reduced, but that instead the proportion of share capital attributable to the remaining shares should be increased in accordance with Section 8(3) of the German Stock Corporation Act. In this case, the Executive Board is authorized in accordance with Section 237(3) No. 3, second half-sentence, of the German Stock Corporation Act to adjust the details of the number of shares in the Articles of Association.

(3) The subscription rights of shareholders to treasury shares are excluded to the extent that these shares are used in accordance with the authorizations set out above under number 2) a) to d).

(4) The authorizations to repurchase treasury shares, to sell them, to use them in any other way, or to redeem them may be exercised independently of each other, on one or more occasions, either as a whole or in part.

16.8. General Provisions Governing a Liquidation of the Company

Besides liquidation as a result of insolvency proceedings, the Company may be liquidated, in particular, by a resolution of the general shareholders' meeting to dissolve the Company followed by a liquidation procedure. The resolution of the general shareholders' meeting requires a simple majority of the votes cast as well as a majority of at least three fourths of the share capital represented at the time the resolution is adopted. In the liquidation procedure, the assets remaining after all Company liabilities have been satisfied are divided among the shareholders in proportion to their interest in the Company's share capital. Certain restrictions, in particular restrictions for the benefit of creditors, must be observed.

16.9. General Provisions Governing Share Capital Increases and Decreases

The share capital of the Company may be increased against contribution in cash or against contribution in kind by a resolution of the general shareholders' meeting. According to the German Stock Corporation Act (*Aktiengesetz*), such resolution requires a simple majority of the votes cast as well as a majority of at least three fourths of the share capital represented at the time the resolution is adopted, unless the stock corporation's articles of association provide for a different majority. The current Articles of Association of Knorr-Bremse AG provide for a simple majority of the votes cast as well as a simple majority of the share capital represented at the time the resolution is adopted unless mandatory legal provisions require a different majority.

In addition, the general shareholders' meeting may create authorized capital by a resolution requiring a simple majority of the votes cast as well as a majority of at least three fourths of the share capital represented at the time the resolution is adopted. The authorized capital gives the Executive Board authority to issue shares up to a certain amount within a period of not more than five years after registration of the authorization with the commercial register and with the approval of the Supervisory Board. The nominal value of the authorized capital may not exceed one-half of the share capital in existence at the time the authorization is registered with the commercial register. For details on the Company's authorized capital see "*16.4. — Authorized Share Capital*".

The general shareholders' meeting may also resolve to decrease the share capital of the Company. Again, such resolution requires a simple majority of the votes cast as well as a majority of at least three fourths of the share capital represented at the time the resolution is adopted. A decrease of the share capital is also possible upon cancellation of treasury shares if the authorization granted to the Executive Board by the general shareholders' meeting to acquire treasury shares explicitly allows for such cancellation. For details on the authorization to acquire treasury shares including the authorization to redeem and cancel shares see "*16.7. — Authorization to Acquire and Use Treasury Shares*".

Besides the legal provisions on the exclusion of minority shareholders, the German Stock Corporation Act provides for the integration of stock corporations (*Eingliederung*) in Sections 319 et seq. of the German Stock Corporation Act (for details see "*16.11. — Exclusion of Minority Shareholders*").

16.10. General Provisions on Subscription Rights

According to the German Stock Corporation Act (*Aktiengesetz*), each shareholder is generally entitled to subscription rights regarding new shares to be issued in a capital increase (as well as convertible bonds, warrant

bonds, profit participation rights and participating bonds). Subscription rights are freely transferrable. During a specified period prior to the expiration of the subscription period, there may be trading in subscription rights on German stock exchanges. The general shareholders' meeting may exclude subscription rights in whole or in part when resolving upon a capital increase or an authorized capital. In case of authorized capital, the general shareholders' meeting may also authorize the executive board to exclude the subscription rights. All such resolutions by the general shareholders' meeting require a simple majority of the votes cast as well as a majority of at least three fourths of the share capital represented at the time the resolution is adopted. In addition, the exclusion of subscription rights requires a report by the executive board demonstrating the reasons for such exclusion as well as the reasons for the proposed issue price.

In particular, the exclusion of subscription rights for a new share issue is permissible if the Company is increasing its capital against contribution in cash, the amount of the capital increase does not exceed 10% of the existing share capital, and the issue price of the new shares is not significantly lower than the stock exchange price.

16.11. Exclusion of Minority Shareholders

According to Sections 327a et seq. of the German Stock Corporation Act (*Aktiengesetz*), which govern the so-called "squeeze-out under stock corporation law", the general shareholders' meeting of a stock corporation is able, at the request of a shareholder holding at least 95% of the share capital ("**Principal Shareholder**"), to resolve to transfer the shares of the minority shareholders to the Principal Shareholder against payment of an adequate compensation in cash. The amount of cash compensation to be granted to the minority shareholders has to take into account the situation of the company on the date of the resolution of the shareholders' meeting. The true value of the company determines the amount of cash compensation, which is generally calculated using the capitalized earnings method (*Ertragswertmethode*) or similar generally recognized valuation methods, provided however that, in the absence of certain circumstances, the compensation must not fall short of the weighted average stock price over the last three months prior to the publication of the intention to have a "squeeze-out" resolution be passed. The minority shareholders are entitled to file for a valuation proceeding (*Spruchverfahren*), in the course of which the fairness of the cash compensation is reviewed.

If the majority shareholder of the stock corporation is a stock corporation, a partnership limited by shares (*Kommanditgesellschaft auf Aktien*), or a Societas Europaea (*European company*), in each case having its seat in Germany, a squeeze-out in accordance with Section 62(5) German Reorganization and Transformation Act (*Umwandlungsgesetz*) can be effectuated, under certain circumstances, in order to facilitate an upstream merger of the stock corporation into the majority shareholder. Pursuant to Section 62(5) German Reorganization and Transformation Act (*Umwandlungsgesetz*), providing for this so-called "squeeze-out under transformation law", the majority shareholder holding at least 90% of the share capital is able to request the general shareholders' meeting to approve the squeeze-out within three months of the conclusion of the merger agreement.

In addition, according to Sections 39a and 39b German Securities Acquisition and Takeover Act (*Wertpapiererwerbs- und Übernahmegesetz*), providing for a so-called "squeeze-out under takeover law", an offeror holding at least 95% of the voting share capital of the target company (as defined in the German Securities Acquisition and Takeover Act) after a takeover or mandatory public offer, may within three months of the expiry of the deadline for acceptance of the offer, request the transfer of the remaining voting shares to it by court order against payment of an adequate compensation. To this end, the compensation guaranteed as part of the takeover or mandatory public offer is deemed adequate if, on the basis of the offering, the bidder has acquired shares amounting to at least 90% of the share capital affected by the offering.

Furthermore, according to Section 39c German Securities Acquisition and Takeover Act, the shareholders of a target company who have not accepted the offering can accept it within further three months after the acceptance period of the takeover or mandatory public offer has expired ("sell-out"), if the offeror has the right to file an application for the transfer of the outstanding voting shares in accordance with Section 39a German Securities Acquisition and Takeover Act.

The provisions for a squeeze-out under stock corporation law cease to apply once an offeror has petitioned for a squeeze-out under takeover law, and only apply again when these proceedings have been completed.

In addition to the legal provisions on the exclusion of minority shareholders, the German Stock Corporation Act also provides for what is called the integration of stock corporations (*Eingliederung*) in Sections 319 et seq. According to these provisions, the general shareholders' meeting of a stock corporation can approve the integration of a company if 95% of the shares of the company to be integrated are held by the future principal company. The former minority shareholders of the integrated company are entitled to an adequate compensation that generally must be granted in the form of shares of the principal company while, if the principal company is a

controlled company, the former shareholders may also demand an adequate compensation in cash instead of a compensation in the form of shares. Such integration is, however, only possible if the future principal company is a stock corporation with its registered seat in Germany.

16.12. Mandatory Takeover Bids

Pursuant to the German Securities Acquisition and Takeover Act (*Wertpapiererwerbs- und Übernahmegesetz*), every person whose share of voting rights reaches or exceeds 30% of the voting shares of the Company (upon admission of the Company's shares to trading on the regulated market of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*)) must publish this fact, including the percentage of its voting rights, within seven calendar days by publication on the internet and through electronic media for disseminating financial information. Subsequently, such person must submit a mandatory public tender offer to all shareholders of the Company unless an exemption from this obligation has been granted. The German Securities Acquisition and Takeover Act contains several rules that provide for an attribution and aggregation of voting rights in order to ensure that the shares are attributed to the person actually controlling the voting rights attached thereto. If a person fails to give notice of reaching or exceeding the 30% threshold or fails to submit a mandatory public tender offer, shareholder rights (including voting rights and, in certain cases, the right to collect dividends and liquidation proceeds) are suspended for the duration of non-compliance under certain circumstances. In addition, a fine may be imposed.

16.13. Disclosure Requirements for Shareholdings and Other Instruments

Upon admission of the Company's shares to trading on the regulated market segment of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) (or any other regulated market in Germany), the provisions of the German Securities Trading Act (*Wertpapierhandelsgesetz*) as amended shall apply.

Section 33 of the German Securities Trading Act requires that anyone who acquires, sells or whose shareholding in any other way reaches, exceeds or falls below 3%, 5%, 10%, 15%, 20%, 25%, 30%, 50% or 75% of the voting rights in an issuer whose home country is Germany and whose shares are admitted to trading on an organized market must immediately, and no later than within four trading days, notify the issuer and at the same time the BaFin. The notice period commences as soon as the person obliged to notify (*Meldepflichtiger*) knows, or, under the circumstances of the case should know, that his or her voting rights reach, exceed or fall below the abovementioned thresholds, and no later than two trading days after reaching, exceeding or falling below the threshold. The notice period might commence at a later stage only in case that the voting rights reach, exceed or fall below the thresholds as a result of an event affecting the total number of voting rights. The notification requirement is already triggered when an unconditional obligation for the transfer of shares that must be fulfilled without delay is established.

The notice may only be issued via the use of a standard form as introduced by the German Act for the Implementation of the Transparency Directive Amendment Directive (*Gesetz zur Umsetzung der Transparenzrichtlinie-Änderungsrichtlinie*). It must include the address of the individual or entity, the share of voting rights held and the date of reaching, exceeding, or falling below the respective threshold, and must be issued via a mandatory standard form. As a domestic issuer, the Company must publish such notices immediately, but no later than within three trading days after receiving them, via media outlets or outlets where it can be assumed that the notice will be disseminated in the EU and the non-European Union parties to the agreement on the EEA (so-called *Medienbündel*). The Company must also transmit the notice to the BaFin and to the German Company Register (*Unternehmensregister*) for storage.

For purposes of the notification requirements, the German Securities Trading Act contains various rules that require the attribution (*Zurechnung*) of voting rights of certain persons associated with the shareholder or acting together with the shareholder. For example, shares held by a subsidiary (as defined in the German Securities Acquisition and Takeover Act) are generally attributed to the parent company; similarly, shares held by a third company for the account of another company are attributed to the latter. Shares or financial instruments held for trading by a securities services company are not taken into account for determining the notification obligation if it is ensured that the voting rights held by them are not exercised, and that they amount to no more than 5% of the voting shares, or do not grant the right to purchase more than 5% of the voting shares.

Furthermore, any kind of cooperation among shareholders that is intended to effect a permanent and material change in the business strategy of the Company can result in an attribution of voting rights. This means that the cooperation does not necessarily have to concern the exercise of voting rights specifically; coordination in individual cases, however, will not trigger the attribution of voting rights.

Pursuant to the recently amended Section 38 of the German Securities Trading Act, similar obligations to notify the Company and the BaFin for reaching, exceeding or falling below the abovementioned thresholds (other than

the 3% threshold) apply to direct and indirect holders of certain instruments other than shares. This applies to instruments which grant upon maturity an unconditional right to acquire already issued voting shares of the Company, a discretionary right to acquire such shares, or instruments that refer to such shares and have a comparable economic effect than the aforementioned instruments. These include, *inter alia*, transferable securities, options, futures contracts, swaps, forward rate agreements and contracts for difference. The number of voting rights relevant for the notification requirement will generally be calculated by reference to the full nominal amount of shares underlying the instrument except where the instrument provides exclusively for a cash settlement. Details for such calculations are laid down in regulatory technical standards drafted by the European Securities and Markets Authority (ESMA).

The notification requirement under Section 33 of the German Securities Trading Act applies *mutatis mutandis* to holders of voting rights within the meaning of Section 33 and instruments within the meaning of Section 38 if the aggregate total of voting rights held in a single issuer to be taken into account pursuant to Section 33 and Section 38(1) reaches, exceeds or falls below the thresholds set forth in Section 33, with the exception of the 3% threshold.

Furthermore, a person obliged to notify (*Meldepflichtiger*) who reaches or exceeds the threshold of 10% of the voting rights, or a higher threshold, is obligated to notify the issuer within 20 trading days regarding the objective being pursued through the acquisition of voting rights, as well as regarding the source of the funds used for the purchase. Changes in those objectives must also be reported within 20 trading days. An issuer may stipulate in its articles of association that the aforementioned disclosure requirement does not apply. However, the Company has not made use of this option.

In case that the disclosure requirements are not met, shareholder rights (including voting rights and, in certain cases, the right to collect dividends and liquidation proceeds) are — subject to certain exceptions — suspended for the duration of non-compliance. If the failure to comply with the disclosure requirements specifically relates to the share of voting rights and is the result of a willful or grossly negligent conduct, the suspension period is extended by six months after the person obliged to notify (*Meldepflichtiger*) files the required notification. In addition, a fine may be imposed if a required notification is not at all, incorrectly or incompletely made, or not made in the appropriate manner or a timely fashion.

16.14. Disclosure of Managers' Transactions

Pursuant to Section 19 of the EU Market Abuse Regulation ((EU) No. 596/2014 of April 16, 2014) ("**Market Abuse Regulation**") persons discharging managerial responsibilities ("**Executives**") shall notify the Company and the BaFin of every transaction conducted on their own account relating to the shares or debt instruments of the Company or to derivatives or other financial instruments linked thereto (so-called directors' dealings). The same applies to persons closely associated with Executives who must notify the Company and the BaFin if they enter into such transactions. Transactions that must be notified also include, among others, pledging or lending of financial instruments, transactions undertaken by any person professionally arranging or executing transactions on behalf of an Executive or a closely associated person, including where discretion is exercised, as well as transactions made under a life insurance policy. The notification requirement applies to any subsequent transaction once a total amount of EUR 5,000 has been reached within a calendar year. The BaFin may decide to increase the threshold to EUR 20,000. Notification shall be made promptly and no later than three business days after the date of the transaction.

For the purposes of the Market Abuse Regulation, Executive means a person within the Company who is a member of the administrative, management or supervisory body of the Company or a senior executive who is not such member but who has regular access to inside information relating directly or indirectly to the Company and who has power to take managerial decisions affecting the future developments and business prospects of the Company. A person closely associated with an Executive means a spouse, a registered civil partner (*eingetragener Lebenspartner*), a dependent child as well as a relative who has shared the same household for at least one year on the date of the transaction concerned. A person closely associated also includes a legal person, trust or partnership, the managerial responsibilities of which are discharged by an Executive of the Company or by another person closely associated with him. Finally, the term includes a legal person, trust or partnership, which is directly or indirectly controlled by an Executive of the Company or by another person, which is set up for the benefit of such a person, or the economic interests of which are substantially equivalent to those of such a person.

The Company shall ensure that the information of which it is notified is promptly made public. In any case, it shall be made public no later than three business days after the transaction in a manner which enables fast access to this information on a non-discriminatory basis in accordance with ESMA's implementing technical standards. Furthermore, according to the German Securities Trading Act (*Wertpapierhandelsgesetz*), the Company shall without undue delay transmit the information to the German Company Register (*Unternehmensregister*) and notify BaFin. Non-compliance with the notification requirements may result in a fine.

16.15. Post-Admission Disclosure Requirements

After the Offering, the Company will for the first time be subject to the legal disclosure requirements for German stock corporations with shares listed on a public exchange. These disclosure requirements include, among others, periodic financial reporting (disclosure of annual and half-year financial reports), regular calls with securities and industry analysts, and other required disclosures according to the German Securities Trading Act (*Wertpapierhandelsgesetz*) as well as disclosure requirements under the Market Abuse Regulation. The Company will also be obliged under the Listing Rules of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) (*Börsenordnung für die Frankfurter Wertpapierbörse*) as amended from time to time to publish quarterly statements, as the Company's shares are to be listed on the Prime Standard sub-segment of the regulated market of the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*).

Pursuant to Section 17 of the Market Abuse Regulation the Company shall inform the public as soon as possible of inside information (as defined below) which directly concerns the Company. In such case the Company shall also, prior to informing the public, inform the BaFin and the management of the trading venues and facilities (*Geschäftsführungen der Handelsplätze*) where financial instruments of the Company have been admitted to trading or been included in such trading, and, after publication, without undue delay transmit the information to the German Company Register (*Unternehmensregister*).

Inside information comprises, among others, any information of a precise nature, which has not been made public, relating, directly or indirectly, to one or more issuers or to one or more financial instruments, and which, if it were made public, would be likely to have a significant effect on the prices of those financial instruments or on the price of related derivative financial instruments.

The Company may, on its own responsibility, delay disclosure of inside information if (i) immediate disclosure is likely to prejudice the legitimate interests of the Company, (ii) delay of disclosure is not likely to mislead the public and (iii) the Company is able to ensure that the inside information will remain confidential. In such case, the Company shall also inform the BaFin that disclosure of the information was delayed and shall provide a written explanation of how the conditions set out in the preceding sentence were met, immediately after the information is disclosed to the public. Where disclosure of inside information has been delayed and the confidentiality of that inside information is no longer ensured, the Company shall disclose such inside information to the public as soon as possible.

17. GOVERNING BODIES

17.1. Overview

The governing bodies of the Company are the Executive Board, the Supervisory Board and the general shareholders' meeting. The responsibilities and powers of these corporate bodies are regulated by the German Stock Corporation Act (*Aktiengesetz*), the Articles of Association and the rules of procedure for the Executive Board and the Supervisory Board.

The Executive Board conducts the business of the Company in accordance with the relevant laws, the Articles of Association of the Company and its rules of procedure. The Executive Board represents the Company when dealing with third parties. The members of the Executive Board are appointed and removed by the Supervisory Board. German law generally prohibits concurrent memberships of the executive board and the supervisory board in a stock corporation.

The Executive Board must ensure that appropriate risk management and risk controlling mechanisms are established and maintained within Knorr-Bremse AG, its subsidiaries and affiliates. This is to ensure that developments endangering the existence of the Company can be identified at an early stage. The Executive Board is also required to report any material issues in relation to business transactions and any material developments regarding the business to the Supervisory Board. It has to make such reports at least quarterly and must include issues pertaining to the turnover and developments within the Company, its subsidiaries and joint ventures. The Executive Board is further required to report any planned business policies and other fundamental issues concerning corporate planning (including financial, investment and personnel planning) to the Supervisory Board once a year; differences between the actual developments and previously reported goals, including the reasons for any deviations, must also be addressed. In the meeting of the Supervisory Board in which the annual financial statements are discussed, the Executive Board also has to report on the profitability of the Company, especially in relation to the return on equity. As a general rule, the Executive Board is required to report events which could have a material effect on the Company, and transactions which could be of material importance, especially in relation to the Company's profitability or liquidity, and to do so in a timely manner. This is to ensure that the Supervisory Board is able to assess such transactions prior to any action being taken. The Executive Board is required to report any other important events to the Chairman of the Supervisory Board without undue delay; this includes events at an affiliated company of which the Executive Board has become aware and which could potentially have a material impact on the Company. Moreover, any member of the Supervisory Board may at any time demand a report about the affairs of the Company. In addition, the Executive Board and the Supervisory Board shall, once the Company becomes a listed company, report annually in the annual report about the corporate governance of the Company and explain any deviations from the recommendations of the German Corporate Governance Code (*Deutscher Corporate Governance Kodex*), which was adopted by a governmental commission on the German Corporate Governance Code on February 26, 2002 and currently applies in the version dated February 7, 2017.

The Supervisory Board must monitor the Executive Board's management of the Company. The Supervisory Board is not entitled to manage the Company. However, if a position is vacant on the Executive Board, the Supervisory Board may delegate the responsibilities attaching to this position to one of its own members for a limited period of time. Such appointment shall not exceed a period of one year and the designated person's membership of the Supervisory Board is suspended while serving on the Executive Board.

According to Annex 2 to the Executive Board's rules of procedure, which were issued by the Supervisory Board, the Executive Board must obtain the approval of the Supervisory Board or of a Supervisory Board committee that has been appointed for these purposes by the Supervisory Board, respectively, prior to entering into certain transactions or taking certain measures. Such transactions or measures include, *inter alia*, (i) the entry of the Company or any direct or indirect affiliates into new business areas, to the extent that the related investments or operating expenses during the first three years amount to EUR 100 million or more; (ii) the complete or partial abandonment of material business areas of the Company or the Group as well as transactions or measures leading to a material change of the corporate purpose, scope or focus of the business of the Company, one of its subsidiaries or the Group, to the extent such measure affects 10% of the revenues or EBITDA of the Group; (iii) investments amounting to more than EUR 50 million or in excess of 20% of the respective annual budget for investments; (iv) the establishment or liquidation of companies as well as the acquisition, encumbrance, recapitalization, restructuring or other disposal of companies, participations or parts of companies, including the participation in joint ventures, to the extent in each case the market value or, if higher, the book value of the participation or the equity or other contribution of the Group is EUR 100 million or higher; (v) license agreements, contracts relating to the sale or encumbrance of IP rights, secret processes, business secrets, know-how and similar rights of the Company or a subsidiary, to the extent the affected IP rights have a value of

EUR 50 million or more; (vi) the sale or encumbrance of parcels, rights equivalent to real property and other fixed tangible assets and other measures in respect thereto, to the extent that in each case a value of EUR 100 million or more is reached; (vii) the application, amendment, extension or termination as well as the granting of credit lines, loans and other financing arrangements and certain financial measures with a nominal value of more than EUR 150 million in each case; (viii) the assumption of suretyships, guarantees or any similar liabilities and the provision or granting of any type of collateral with a market value of more than EUR 100 million or, independently of the amount in the individual case, if an aggregate value of EUR 500 million for any given fiscal year is reached or would be reached with the transaction; and (ix) the buyback of treasury shares and equity-loans.

The members of the Executive Board and the Supervisory Board owe fiduciary duties to the Company. The members of these corporate bodies must perform their duties taking into account a broad range of interests, especially those pertaining to the Company, its shareholders, employees and creditors. The shareholders' right to equal treatment and equal access to information must also be taken into account. The members of the Executive Board or the Supervisory Board are jointly and severally liable to the Company for damages for any breaches of their duties.

Pursuant to German law, a shareholder generally cannot take direct action against a member of the executive board or the supervisory board of a German stock corporation if the shareholder suspects that such member or members have violated their duties towards the company. Thus, pursuant to German law, generally only the Company has the right to pursue claims for damages against a member of the Executive Board or the Supervisory Board. The Executive Board represents the Company in relation to claims brought against members of the Supervisory Board and, in turn, the Supervisory Board represents the Company in relation to claims brought against members of the Executive Board. Pursuant to a decision by the German Federal Court of Justice (*Bundesgerichtshof*), the Supervisory Board is required to pursue claims for damages that are likely to be successful against members of the Executive Board, unless significant interests of the Company either take precedent over or are equally important as any such claim.

If the governing body authorized to represent the Company decides against pursuing a claim, claims for damages can be pursued by the shareholders following a resolution (by way of simple majority) by the general shareholders' meeting. The general shareholders' meeting can also appoint a special representative to pursue such claims. Shareholders with a combined shareholding of 10% of the entire share capital or holders of shares with an aggregate nominal value of at least of EUR 1 million may also request the courts to appoint a special representative.

Furthermore, the general shareholders' meeting can, by resolution with simple majority, appoint an auditor (a "special auditor") to review any measures, in particular in relation to management. If the general shareholders' meeting rejects a motion to appoint a special auditor, the court must appoint a special auditor at the request of shareholders who hold shares representing at least 1% of the share capital or shares with an aggregate nominal value of at least EUR 100,000 where the facts justify the suspicion that irregularities, gross violations of the law or of the Articles of Association have been committed. If the general shareholders' meeting appoints a special auditor, the court must appoint a different special auditor at the request of shareholders who hold shares representing at least 1% of the share capital or shares with an aggregate nominal value of at least EUR 100,000 if this is deemed to be necessary with respect to the person who has been appointed as special auditor. Shareholders and shareholder associations can use the shareholder forum of the German Federal Gazette (*Bundesanzeiger*), which is available through the Company Register's (*Unternehmensregister*) website, to call upon other shareholders to jointly, or through third party representation, request a special audit, appoint a special auditor, demand that a general shareholders' meeting is convened or exercise their voting rights in a general shareholders' meeting. If there are facts leading to the strong suspicion that the Company has incurred damages through irregularities or gross violations of the law or the Articles of Association, shareholders whose shareholding constitutes at least 1% of the share capital or who hold shares with an aggregate nominal value of at least EUR 100,000 may request from a court to bring a claim for damages of the Company in their own name but on behalf of the Company against members of governing bodies, subject to certain procedural requirements. Such a claim is prohibited if the Company itself files a complaint for damages.

The Company may only waive claims for compensation against members of the Executive Board and the Supervisory Board, or settle such claims, three years after such claim has arisen but only (a) if the shareholders resolve to do so in a general shareholders' meeting by resolution with simple majority and (b) where a majority of the shareholders, together holding shares which represent at least 10% of the share capital, do not object to this in the minutes of the meeting.

Pursuant to German law, individual shareholders and any other persons are prohibited from intentionally using their influence within the Company to cause a member of the Executive Board or the Supervisory Board to

engage in conduct that could be damaging to the Company. A shareholder controlling the Company may not use its influence to persuade the Company to act against its own interests unless there is a domination agreement (*Beherrschungsvertrag*) between such shareholder and the Company and the influence exerted is within the limits of certain statutory mandatory provisions or any damages are compensated. Anyone intentionally exercising influence to cause a member of the Executive Board or the Supervisory Board, an authorized signatory (*Prokurist*) or a general representative to act to the detriment of the Company or its shareholders is required to compensate the Company and its shareholders for any damages resulting from such behavior. In addition, the members of the Executive Board and the Supervisory Board are jointly and severally liable if they have acted in violation of their obligations.

17.2. Executive Board

17.2.1. General

The Articles of Association of the Company specify that the Executive Board shall consist of at least two members. The specific number of members of the Executive Board is determined by the Supervisory Board. The Supervisory Board appoints the members of the Executive Board for a maximum period of five years and may reappoint members. The Supervisory Board may revoke such appointment prior to the expiration of the term of office if there is just cause (*wichtiger Grund*), for example, a gross breach of duties or if the general shareholders' meeting expresses a lack of confidence in the member of the Executive Board. The Supervisory Board can appoint a member of the Executive Board as the Chairman of the Executive Board and another member as the Vice-chairman of the Executive Board. Pursuant to the rules of procedure of the Executive Board passed by the Supervisory Board on July 12, 2018, the Executive Board is quorate if all members of the Executive Board have been invited or notified and at least half of its members, but in any case at least two members, are present or participate in the vote. Members who participate by telephone or video conference or other electronic means of communication are also considered to be participating. The Executive Board shall only discuss and take decisions pertaining to the responsibility area of an absent member with the consent of such members, except in cases of emergency. The Executive Board passes resolutions wherever possible unanimously. If this is not possible, a resolution shall be passed by simple majority of the votes cast unless otherwise provided for by law or by the Articles of Association of the Company or by the rules of procedure of the Executive Board. In case of a tie, the Chairman shall have a casting vote.

Pursuant to the Articles of Association of the Company, the Company is represented by two members of the Executive Board or by a member of the Executive Board acting jointly with an authorized signatory (*Prokurist*). The Supervisory Board may determine that individual or all members of the Executive Board are released from the restrictions of entering into a legal transaction in the name of the Company and as a representative of a third party according to Section 181 (2nd alternative) of the German Civil Code (*Bürgerliches Gesetzbuch*) unless the law mandates otherwise. In all other respects, the Company is represented by a holder of a registered signing authority or other authorized signatories in accordance with the provisions established by the Executive Board.

17.2.2. Current Members of the Executive Board

The Executive Board of the Company currently consists of four members. The names and main responsibilities of the current members of the Executive Board of Knorr-Bremse AG are:

Name	Age	Member since	Appointed until	Responsibilities
Klaus Deller (Chairman)	56	May 1, 2009 (Chairman since January 1, 2015)(1)	September 30, 2021	Chairman of the Executive Board of the Company
Dr. Peter Laier	50	January 1, 2016	December 31, 2023	Responsible for the Commercial Vehicle Systems segment
Ralph Heuwing	52	November 1, 2017	October 31, 2022	Responsible for Finance, Controlling and IT
Dr. Juergen Wilder	48	September 1, 2018	August 31, 2021	Responsible for the Rail Vehicle Systems segment

(1) Intermitted from 1 July to 31 December 2014

The term of the service agreements for each individual member of the Executive Board corresponds to their respective terms in office.

Mr. Deller's current service agreement has a term of five years running until the end of his appointment as member of the Executive Board, *i.e.*, until December 31, 2019 ("**Mr. Deller's Current Service Agreement**").

In mutual consent with the Company, Mr. Deller resigned from his office as member of the Executive Board with effect as of September 30, 2018 and was reappointed as member of the Executive Board with effect as of October 1, 2018 for the term of three years, *i.e.* until September 30, 2021. With effect of October 1, 2018, Mr. Deller's Current Service Agreement was amended to reflect the appointment running until September 30, 2021 ("**Mr. Deller's New Service Agreement").** The service agreement of Mr. Heuwing corresponds to his appointment as member of the Executive Board, beginning on November 1, 2017, for a period of five years, *i.e.,* until October 31, 2022. Dr. Laier's current service agreement has a term of three years ending on December 31, 2018 ("**Dr. Laier's Current Service Agreement**"). On May 3, 2018, Dr. Laier and the Company entered into a new service agreement running from January 1, 2019 for the remaining time of his appointment, *i.e.*, until December 31, 2023 ("**Dr. Laier's New Service Agreement**"). On August 22/23, 2018, Dr. Wilder and the Company entered into a service agreement running from September 1, 2018 until the end of Dr. Wilder's appointment as member of the Executive Board, *i.e*., until August 31, 2021 (Mr. Deller's New Service Agreement, Mr. Heuwing's service agreement, Dr. Laier's New Service Agreement and Dr. Wilder's service agreement each a "**New Service Agreement**" and together, the "**New Service Agreements**"). The members of the Executive Board can be contacted under the Company's address.

17.2.2.1. Klaus Deller — Biography

Mr. Klaus Deller was born in 1962 in Germany. From 1984 to 1990, he studied Mechanical Engineering, leading to a Diploma in Mechanical Engineering, at the University of Stuttgart, Germany. From 1988 to 1989, he studied Mechanical Engineering and Applied Mathematics at the McCormick School of Engineering and Applied Science of Northwestern University in Evanston/Illinois, U.S., where he obtained a Master of Science degree. From 1994 to 1996, he pursued a Master of Business Administration at the J.L. Kellogg Graduate School of Management of Northwestern University in Evanston, Illinois, U.S. Mr. Deller began his professional career in 1991 at Robert Bosch GmbH, Stuttgart, Germany, where he held different positions until 2003. From 1996 to 1999, he was Vice President and key account manager for General Motors Europe (Frankfurt, Germany and Detroit, U.S.), and, from 2000 to 2003, he was Executive Vice President and Director with responsibility for Original Automotive Equipment sales and marketing. In January 2004, Klaus Deller became a member of the management board of Brose Fahrzeugteile GmbH & Co. KG in Coburg, Germany, responsible for the window regulator business division. In January 2006, he was appointed Deputy Chief Executive Officer of such company. In May 2009, Mr. Deller joined the Knorr-Bremse Group as a member of the Executive Board of Knorr-Bremse AG. Until June 2014, he held responsibility for the global Commercial Vehicles Systems division; and until August 2012, he was also Chairman of the management board (*Geschäftsführung*) of KB SfN GmbH. In January 2015, Mr. Deller was appointed Chairman of the Company's Executive Board and, until August 2018, he, concurrently, assumed the responsibility of the global Rail Vehicle Systems division. The following table shows the positions that Klaus Deller has held as a member of a management, administrative or supervisory body in companies or as a partner in partnerships outside the Knorr-Bremse Group in the last five years, as well as positions he currently holds in material companies within the Knorr-Bremse Group:

Positions held in companies and partnerships outside the Knorr-Bremse Group in the last five years	Positions currently held in material companies within the Knorr-Bremse Group
• Not applicable	• Company's Chairman of the Executive Board • Chairman of the supervisory board of KB SfS GmbH

17.2.2.2. Dr. Peter Laier — Biography

Dr. Peter Laier was born in 1968 in Fulda, Germany. From 1988 to 1993, he studied Mechanical Engineering at the University of Applied Sciences in Schweinfurt, Germany, where he obtained a degree in Mechanical Engineering (*Diplom-Ingenieur (FH)*). From 1993 to 1996, he studied Mechanical Engineering at the University of Stuttgart where he obtained a degree in Mechanical Engineering (*Diplom-Ingenieur*). In 2001, he obtained his doctoral degree (PhD) in Mechanical Engineering (*Dr.-Ing. Maschinenbau*) from the University of Stuttgart. From 1996 until 1999, he was research associate and later, from 1999 until 2000, Group Leader for Production Technology at the Fraunhofer Institute for Manufacturing Engineering and Automation in Stuttgart. From 2000 until 2012, he joined Continental AG, for which he worked in different locations in Frankfurt and Tokyo, and in several different positions within the Continental group. From 2000 to 2002, Dr. Laier was Director of Electronics and Sensorics Industrial Engineering and from 2002 to 2003, Director of the Profit Center Brake and Traction Sensors at Continental Teves. From 2003 to 2005, he was Vice President responsible for Electronic Brake Systems for Japan and South Korea. In 2005, he was promoted to President of Continental Teves Corporation, also for Japan and South Korea. From 2008 to 2012, Dr. Laier was a member of the management board Chassis & Safety division, and from 2008 to 2011, he was also Executive Vice President responsible for Chassis Components, while from 2011 to 2012, he was Executive Vice President responsible for Hydraulic Brake

Systems. From January 2013 to June 2014, Dr. Laier was a member of the executive board and Chief Technology Officer of Osram Licht AG, Munich, Germany, with overall responsibility for R&D, supply chain, logistics, quality and P&L for the General Lighting divisions of that company. In October 2014, he joined Benteler International AG, Salzburg, Austria, where he was a member of the executive board and Chief Operating Officer with worldwide responsibility for the Automotive and Steel/Tube divisions, as well as for purchasing and strategy. Dr. Peter Laier joined Knorr-Bremse AG in January 2016 as a member of the Company's Executive Board, with worldwide responsibility for the Commercial Vehicle Systems division.

The following table shows the positions that Dr. Peter Laier has held as a member of a management, administrative or supervisory body in companies or as a partner in partnerships outside the Knorr-Bremse Group in the last five years, as well as positions he currently holds in material companies within the Knorr-Bremse Group:

Positions held in companies and partnerships outside the Knorr-Bremse Group in the last five years	**Positions currently held in material companies within the Knorr-Bremse Group**
• Osram Licht AG; member of the executive board and Chief Technology Officer (from January 2013 until June 2014) • Benteler International AG; member of the executive board and Chief Operating Officer (from October 2014 until December 2015)	• Member of the Company's Executive Board • Chairman of the supervisory board of KB SfN GmbH

17.2.2.3. Ralph Heuwing — Biography

Ralph Heuwing was born in 1966 in Germany. From 1985 to 1990, he studied Mechanical Engineering at the "Rheinisch-Westfälische Technische Hochschule" in Aachen, including a year, from 1989 to 1990, at the Sloan School of Management at Massachusetts Institute of Technology (MIT) as a Visiting Scholar, and obtained a diploma degree. Mr. Heuwing began his professional career in 1990 as consultant at The Boston Consulting Group (BCG) in Munich. In December 1992, he obtained an MBA at INSEAD, Fontainebleau, France, after which he returned to BCG in Frankfurt, working as project manager. In 1996, he co-founded BCG's Indian operations. He became a partner and managing director at BCG in 1999. In 2001, he returned to Germany. In 2004, he became member of the management board (*Geschäftsleitung*) of the German/Austrian operations of BCG. In May 2007, he joined Dürr AG, Bietigheim-Bissingen, Germany, a stock-listed mechanical and plant engineering firm, as a member of the executive board and Chief Financial Officer, with responsibility for finance, IT and global sourcing as well as divisional responsibility for HOMAG Group AG und Clean Technology Systems, both within the Dürr Group, until he left the company in May 2017. From October 2014 until August 2015, Mr. Heuwing was also member of the management board and chief executive officer of HOMAG Group AG, Schopfloch, Germany (following Dürr AG's acquisition of HOMAG Group AG) and, thereafter, chairman of its supervisory board. From June 2016 until June 2018, he was member of the supervisory board of Ivoclar Vivadent AG. Since 2008, he has been a member of the supervisory board of Management Capital Holding. Since 2016, he has been a member of the supervisory boards of Ringmetall AG and Phoenix Contact GmbH & Co. KG. In November 2016, he was granted an award as the "Chief Financial Officer of the Year" for his achievements as Chief Financial Officer of Dürr AG by the German "Finance" magazine. In November 2017, he joined the Company and became a member of the Executive Board and Chief Financial Officer, responsible for finance, controlling and IT. Since 2018, Mr. Heuwing is member of the board representing the Unterstützungsverein für Mitarbeiter der Knorr-Bremse-Firmengruppe am Standort München e.V., a support association for employees of the Knorr-Bremse Group in Munich. Since 2018, he is also president and chief executive officer of Knorr Brake Holding Corporation, U.S.

The following table shows the positions that Ralph Heuwing has held as a member of a management, administrative or supervisory body in companies or as a partner in partnerships outside the Knorr-Bremse Group in the last five years, as well as positions he currently holds in material companies within the Knorr-Bremse Group:

Positions held in companies and partnerships outside the Knorr-Bremse Group in the last five years	Positions currently held in material companies within the Knorr-Bremse Group
• Dürr AG, Bietigheim-Bissingen, Germany; member of the executive board and Chief Financial Officer (from May 2007 until May 2017) • HOMAG Group AG, Schopfloch, Germany; member of the executive board and Chief Executive Officer (from October 2014 until August 2015); member of the supervisory board (from September 2015 until May 2017) • Management Capital Holding, Munich, Germany; member of the supervisory board (since 2008) • Ivoclar Vivadent AG, Schaan, Liechtenstein; member of the supervisory board (from June 2016 until June 2018) • Phoenix Contact GmbH & Co. KG: Blomberg, Germany; member of the supervisory board (since April 2016) • Ringmetall AG, Munich, Germany; member of the supervisory board (since August 2016)	• Member of the Company's Executive Board • Company's Chief Financial Officer • President and CEO of Knorr Brake Holding Corporation, U.S.

17.2.2.4. Dr. Juergen Wilder — Biography

Dr. Juergen Wilder was born in 1970 in Germany. From 1990 to 1996, he studied Physics at the Georg-August University in Göttingen, Germany. In 1999, he obtained his doctoral degree (PhD) from the Max-Planck-Institute for polymer research in Mainz, Germany. From 1999 to 2000, he conducted his postdoctoral reseach on protein folding at Harvard University in Cambridge, U.S. From October 2000 to March 2004, Dr. Wilder worked as a consultant on several strategic and operational improvement projects at Siemens Management Consulting, in the Munich, Germany, and the New York (U.S.) offices. From March 2004 to February 2011, Dr. Wilder worked at Siemens Industry Inc., first leading the restructuring program of the rolling stock business, later in October 2007, becoming CEO of such business. From March 2011 to November 2015, Dr. Wilder worked at Siemens AG; initially as Head of Strategy Infrastructure and Cities Sector in Munich, Germany, and later, as of February 2013, as CEO of the Mainland Transportation Global Business Unit in Krefeld, Germany, where he was tasked with the stabilization of major high speed train projects and a fundamental restructuring of business overall including a shift to a much more balanced risk profile of project landscape. From December 2015 to October 2017, Dr. Wilder was CEO and chairman of the executive board of DB Cargo AG, a subsidiary of Deutsche Bahn AG, working in Frankfurt/Main, Germany, where he set up and implemented a major rerstructuring program despite strong oppositional forces. In September 2018, Dr. Wilder joined the Knorr-Bremse Group as a member of the Executive Board of the Company, responsible for the global Rail Vehicle Systems division.

The following table shows the positions that Dr. Juergen Wilder has held as a member of a management, administrative or supervisory body in companies or as a partner in partnerships outside the Knorr-Bremse Group in the last five years, as well as positions he currently holds in material companies within the Knorr-Bremse Group:

Positions held in companies and partnerships outside the Knorr-Bremse Group in the last five years	Positions currently held in material companies within the Knorr-Bremse Group
• Siemens AG, Krefeld, Germany; Chief Executive Officer of the Global Business Unit Mainline Transportation (from February 2013 until November 2015) • DB Cargo AG, Frankfurt, Germany; Chief Executive Officer and Chairman of the executive board (from December 2015 until October 2017).	• Member of the Company's Executive Board

17.2.3. Compensation and Other Benefits; Share Ownership

The remuneration of the members of the Executive Board comprises an annual fixed remuneration, pensions, other benefits, an annual short-term variable compensation, a long-term incentive plan in the case of the New Service Agreements, and in the case of Mr. Deller's Current Service Agreement and Dr. Laier's Current Service Agreement a special discretionary bonus. These are described in more detail below.

The following tables show the remuneration and other benefits, excluding pension expenses, of each current member of the Executive Board granted for 2017, 2018 and 2019.

	Klaus Deller								
	2017			2018			2019		
In Euro thousand	**min**	**actual**	**max**	**min**	**target**	**max**	**min**	**target**	**max**
Non-performance-based components[1]									
Basic annual salary	1,600	1,600	1,600	1,546	1,546	1,546	1,500	1,500	1,500
Other benefits[2]	16	16	16	16	16	16	16	16	16
Total non-performance based compensation[1]	1,616	1,616	1,616	1,562	1,562	1,562	1,516	1,516	1,516
Performance-based components									
Short-term incentive	1,000	1,313	1,500	1,000	1,250	1,500	0	1,500	3,000
Long-term incentive[3]	0	500	1,000	0	500	1,000	0	1,000	2,000
Total performance-based compensation	1,000	1,813	2,500	1,000	1,750	2,500	0	2,500	5,000
IPO bonus	0	0	0	0	n/a	1,500	0	0	0
Total compensation[1/4]	2,616	3,429	4,116	2,562	3,312[4]	5,562	1,516	4,016	6,516

(1) Excluding pension expenses.

(2) The figures for the fiscal year 2017 include expenses for health and long-term care insurance, expenses for group accident insurance and expenses for a company car. The figures for 2018 and 2019 are estimates.

(3) In the case of Mr. Deller, a discretionary bonus may be granted every three years; the total amount is shown in the year in which the bonus was accounted for.

(4) No IPO bonus has been included in the calculation of target total compensation.

	Ralph Heuwing								
	2017			2018			2019		
In Euro thousand	**min**	**actual**	**max**	**min**	**target**	**max**	**min**	**target**	**max**
Non-performance-based components[1]									
Basic annual salary	133	133	133	800	800	800	800	800	800
Other benefits[2]	7	7	7	18	18	18	18	18	18
Total non-performance based compensation[1]	140	140	140	818	818	818	818	818	818
Performance-based components									
Short-term incentive	0	126	200	0	600	1,200	0	600	1,200
Long-term incentive	0	0	0	0	233	467	0	467	933
Total performance-based compensation	0	126	200	0	833	1,667	0	1,067	2,133
IPO bonus	0	0	0	0	n/a	800	0	0	0
Total compensation[1/3]	140	266	340	818	1,651[3]	3,285	818	1,885	2,915

(1) Excluding pension expenses.

(2) The figures for the fiscal year 2017 include expenses for health and long-term care insurance, expenses for group accident insurance, expenses for rent and a company car. The figures for 2018 and 2019 are estimates.

(3) No IPO bonus has been included in the calculation of target total compensation.

	Dr. Peter Laier								
	2017			2018			2019		
In Euro thousand	**min**	**actual**	**max**	**min**	**target**	**max**	**min**	**target**	**max**
Non-performance-based components[1]									
Basic annual salary	800	800	800	800	800	800	800	800	800
Other benefits[2]	23	23	23	23	23	23	23	23	23
Total non-performance based compensation[1]	823	823	823	823	823	823	823	823	823
Performance-based components									
Short-term incentive[3]	640	869	960[3]	640	800	960[3]	0	600	1,200
Long-term incentive	0	0	0	0	0	0	0	233	467
Total performance-based compensation	640	869	960	640	800	960	0	833	1,667
IPO bonus	0	0	0	0	n/a	800	0	0	0
Total compensation[1/4]	1,463	1,692	1,783	1,463	1,623[4]	2,583	823	1,656	2,490

(1) Excluding pension expenses.

(2) The figures for the fiscal year 2017 include expenses for health and long-term care insurance, expenses for group accident insurance and expenses for a company car. The figures for 2018 and 2019 are estimates.

(3) In the case of Dr. Laier, in addition to the short-term incentive, a special discretionary bonus may be granted under Dr. Laier's Current Service Agreement. Since Dr. Laier's Current Service Agreement does not provide for a cap of such bonus, the maximum amount of the short-term incentive does not include such bonus; for the fiscal year 2017 no such bonus was granted.

(4) No IPO bonus has been included in the calculation of target total compensation.

	Dr. Jürgen Wilder								
	2017			2018			2019		
In Euro thousand	**min**	**actual**	**max**	**min**	**target**	**max**	**min**	**target**	**max**
Non-performance-based components[1]									
Basic annual salary	n/a	n/a	n/a	267	267	267	800	800	800
Other benefits[2]	n/a	n/a	n/a	39	39	39	26	26	26
Total non-performance based compensation[1]	n/a	n/a	n/a	306	306	306	826	826	826
Performance-based components									
Short-term incentive	n/a	n/a	n/a	0	200	400	0	600	1,200
Long-term incentive	n/a	n/a	n/a	0	67	133	0	267	533
Total performance-based compensation	n/a	n/a	n/a	0	267	533	0	867	1,733
IPO bonus	n/a	n/a	n/a	0	0	0	0	0	0
Total compensation[1]	n/a	n/a	n/a	306	573	839	826	1,693	2,559

(1) Excluding pension expenses.

(2) The figures for 2018 and 2019 are estimates.

17.2.3.1. Non-performance-based Components

17.2.3.1.1. Fixed Base Remuneration

The members of the Executive Board receive a fixed base compensation in cash which is paid in twelve equal installments as a monthly salary. Under the New Service Agreements, Mr. Deller receives an annual fixed gross base remuneration amounting to EUR 1.5 million as of October 1, 2018. Mr. Heuwing, Dr. Wilder and Dr. Laier (as of January 1, 2019) each receive EUR 800.0 thousand annually (gross).

Under Mr. Deller's Current Service Agreement running until September 30, 2018, the annual fixed gross base remuneration amounts to EUR 1.25 million. From July 1, 2016 until 31 August, 2018, he received an additional annual fixed gross base remuneration in the amount of EUR 350.0 thousand for assuming responsibility for the Rail Vehicle Systems segment. Under Dr. Laier's Current Service Agreement running until December 31, 2018, the gross annual fixed gross base remuneration amounts to EUR 800.0 thousand annually (gross).

17.2.3.1.2. Pension Benefit Commitments

Under his New Service Agreement, Mr. Deller is, on the basis of a direct pension promise (*Direktzusage*) by the Company, entitled to a vested pension amounting to 2% of the average fixed annual base remuneration received during the last three years before retirement for each year in service up to the age of 63, payable from the age of 63. The entitlement is capped at 35% of the average fixed annual base remuneration received during the last three years before retirement. Such pension scheme includes an invalidity pension and surviving dependents' pension. From October 1, 2018, only the direct pension promise under Mr. Deller's New Service Agreement will apply.

In deviation from his New Service Agreement, Mr. Deller's Current Service Agreement provides for a vested pension amounting to 2% of his respective annual remuneration for each year in service, excluding the additional annual fixed gross salary for assuming responsibility for the Rail Vehicle Systems segment, up to the age of 65, payable from the age of 65. In the case of early retirement, from the age of 63, the amount is correspondingly lower.

Under the New Service Agreements, Mr. Heuwing, Dr. Laier and Dr. Wilder are each entitled to employer-financed pension contributions, which are paid into a support fund (*Unterstützungskasse*), in the case of Mr. Heuwing with effect as of November 1, 2017, in the case of Dr. Laier upon coming into force of his New Service Agreement, *i.e.*, with effect of January 1, 2019 and in the case of Dr. Wilder with effect as of September 1, 2018. Under this commitment, the Company makes a pension contribution to the support fund for each of them of EUR 300.0 thousand per year. Should Mr. Heuwing's service agreement be extended, it is envisaged under his service agreement that his pension contribution will be increased to EUR 400.0 thousand after completion of the

eighth year in service. The entitlement of Mr. Heuwing and Dr. Wilder is vested and Dr. Laier's pension entitlement will be immediately vested upon coming into force of his New Service Agreement. The company pension commitments include an invalidity pension and surviving dependents' pension.

Under Dr. Laier's Current Service Agreement, after a waiting period of three years in service, *i.e.*, from January 1, 2019 on, he is retroactively entitled to a pension amounting to 2% of his annual fixed remuneration for each year in service, currently 2.5 years, payable from the age of 65. Upon coming into force of his New Service Agreement, such entitlement is vested and remains effective for the service period up to and until December 31, 2018. For the service period starting on January 1, 2019, Dr. Laier will exclusively acquire pension rights under his New Service Agreement.

17.2.3.1.3. Other Benefits

Additionally, other benefits and perquisites are granted to members of the Executive Board, such as a company car, accident insurance and contributions to health and long-term care insurance premiums. For the provisions on D&O insurance see "*17.2.3.5 — Certain Other Provisions*".

17.2.3.2. Performance-based Components

17.2.3.2.1. Short-term Incentive and Bonus

Under the New Service Agreements, in the case of Mr. Deller and Dr. Laier from January 1, 2019, each member of the Executive Board is entitled to receive an annual cash bonus as a short-term incentive ("**STI**"). The target amount is EUR 600.0 thousand (gross) in the case of Mr. Heuwing, Dr. Laier and Dr. Wilder and EUR 1.5 million in the case of Mr. Deller ("**STI Target Amount**"). The effective amount is subject to the achievement of certain financial performance targets determined by the Supervisory Board for the respective fiscal year, which relate to sales (weighted at 30%), profit before tax (weighted at 30%), working capital (weighted at 30%) and quality (weighted at 10%). When achieving 100% of the financial performance targets, the STI Target Amount of EUR 600.0 thousand (gross) is payable. If less than 80% of the financial performance targets are attained, no payout will occur. If the achievement of the performance targets equals or exceeds 135%, the payout equals 200% of the STI Target Amount, *i.e.*, EUR 1.2 million (gross) in the case of Mr. Heuwing, Dr. Laier and Dr. Wilder and EUR 3.0 million in the case of Mr. Deller. In case of a target achievement between 80% and 100% or between 100% and 135%, the payout amount is calculated by linear interpolation. While in the case of Mr. Deller and Mr. Heuwing the performance targets refer only to the Knorr-Bremse Group as a whole, in the case of Dr. Laier 50% of the performance targets refer to the Knorr-Bremse Group as a whole and 50% refer to the Commercial Vehicle Systems segment and in the case of Dr. Wilder 50% of the performance targets refer to the Knorr-Bremse Group as a whole and 50% refer to the Rail Vehicle Systems segment. Since Dr. Wilder's service agreement commenced on September 1, 2018, his STI for the fiscal year 2018 will be paid out *pro rata temporis, i.e.,* for four months.

Under his Current Service Agreement, for the period ending December 31, 2018, Mr. Deller is entitled to receive an annual cash bonus, 50% of which are dependent on the achievement of budget targets for a given fiscal year ("**Grant Year**") determined by the Supervisory Board, such as the Company's net result, gross and net cash flow, quality data and growth (predominantly measured by the achievement of targets in the Grant Year). The remaining 50% of his annual cash bonus depend on the achievement of targets individually agreed upon with the Supervisory Board. If 100% of the targets are achieved, the target amount of EUR 1.25 million (gross) will be paid out. The minimum amount of EUR 1.0 million (gross) corresponds to a target achievement of 80% or less and the maximum amount of EUR 1.5 million (gross) corresponds to a target achievement of 120% or more. In case of a target achievement between 80% and 100% or between 100% and 120%, the payout amount is calculated by linear interpolation. The bonus is paid out at the end of the first half of the fiscal year following the Grant Year.

Dr. Laier's Current Service Agreement (effective until December 31, 2018) provides for an annual cash bonus with a target amount of EUR 800.0 thousand (gross), a minimum amount of EUR 640.0 thousand (gross) and a maximum amount of EUR 960.0 thousand (gross), one third of which depends on the performance of the Company, one third on the performance of the Commercial Vehicle Systems segment and one third on the achievement of individual targets agreed upon with the Supervisory Board. In the past, such individual targets were agreed upon at the beginning of the Grant Year. If 100% of the targets are achieved, the target amount of EUR 800.0 thousand (gross) will be paid out. The minimum amount of EUR 640.0 thousand (gross) corresponds to a target achievement of 80% or less and the maximum amount of EUR 960.0 thousand (gross) corresponds to a target achievement of 120% or more. In case of a target achievement between 80% and 100% or between 100% and 120%, the payout amount is calculated by linear interpolation. The performance of the Company and the Commercial Vehicle Systems segment is measured by the following performance indicators and targets defined

for the Grant Year: sales (weighted at 20%), profit before tax (weighted at 30%), working capital (weighted at 25%) and quality (weighted at 25%). The bonus is paid out in June of the fiscal year following the Grant Year.

Further, under Dr. Laier's Current Service Agreement, effective until December 31, 2018, Dr. Laier may receive a discretionary bonus granted by the Supervisory Board if, in the respective year, an extraordinary performance beyond budget and agreed targets is mainly attributable to Dr. Laier. No such discretionary bonus was granted for the fiscal year 2017.

17.2.3.2.2. Long-term Incentive

Under the New Service Agreements, each member of the Executive Board is entitled to take part in a long-term incentive plan (the long-term incentive the "**LTI**"). Based on the development of the Economic Value Added in the course of a three-year performance period, a certain amount in cash is granted as additional compensation for the respective three-year period and paid out in June of the year following the three-year performance period. A new three-year performance period starts each year resulting in overlapping performance periods. While Mr. Deller's, Mr. Heuwing's and Mr. Wilder's first three-year performance period each started in 2018, Dr. Laier's first three-year performance period will start in 2019. The target amount for the three-year performance period equals EUR 700.0 thousand in the case of Mr. Heuwing and Dr. Laier and EUR 1.5 million in the case of Mr. Deller. Dr. Wilder's target amount equals EUR 600.0 thousand for the three-year performance periods starting in 2019 and the following years and EUR 200.0 thousand for his first three-year performance period starting in 2018 (the target amount for the three-year performance period in each case the "**LTI Target Amount**").

The Economic Value Added is calculated by deducting the Capital Charge (defined as business assets, *i.e.*, capital employed (non-current assets plus working capital plus leasing adjustments) multiplied with a weighted average cost of capital of 8%) from the net operating profit after tax (defined as EBIT minus tax).

At the beginning of every performance period, the Supervisory Board determines a target value, a minimum value and a maximum value. If the target value is met, the target achievement is considered to be 100%. If the minimum value is reached, the target achievement equals 1%; if less than the minimum value is attained, the target achievement equals 0%; if the maximum value is reached or exceeded, the target achievement is capped at 200%. Any value between the minimum value and the target value or between the target value and the maximum leads to a corresponding target achievement calculated by linear interpolation.

The LTI payout amount is calculated by multiplying the LTI Target Amount with the respective target achievement. As a consequence, the payable amount is capped at 200% of the LTI Target Amount, *i.e.*, at EUR 3.0 million in the case of Mr. Deller, at EUR 1.4 million in the case of Mr. Heuwing and Dr. Laier and at EUR 1.2 million in the case of Dr. Wilder. The maximum payable amount for Dr. Wilder's first three-year performance period starting in 2018 is EUR 400.0 thousand. In the event of extraordinary events or developments, such as a merger with another company, material changes to the shareholder structure, acquisitions or disposals which are subject to the Supervisory Board's approval, changes in the regulatory framework, high inflation or high or significant changes in accounting or valuation methods, the Supervisory Board is entitled to limit the payment amount in their own discretion or, if the respective member of the Executive Board would have received a higher amount without a certain event or development, to increase the payment amount in their own discretion. Further, the Supervisory Board determines the special effects by which the Economic Value Added is adjusted for the purpose of the determination of the LTI payout amount and how this adjustment is to be determined.

In the case of a successful IPO, it is envisaged under the New Service Agreements to link the LTI plan conditions to the stock market value.

Under Mr. Deller's Current Service Agreement, the Supervisory Board decides every three years at its own discretion on granting Mr. Deller a special discretionary bonus of up to EUR 1.0 million (gross). For the fiscal year 2018, Mr. Deller is not entitled to receive such bonus.

Dr. Laier's Current Service Agreement does not provide for a long-term incentive.

17.2.3.2.3. IPO Bonus

Under the New Service Agreements, Mr. Deller, Mr. Heuwing and Dr. Laier are entitled to receive a one-time bonus up to the amount of one year's fixed gross base renumeration as described under "*17.2.3.1 — Non-performance-based Components*" ("**IPO Bonus**") subject to the condition that the envisaged IPO has successfully taken place during the term of office as a member of the Executive Board of Mr. Deller, Mr. Heuwing or Dr. Laier, respectively. The exact amount of the IPO Bonus is subject to the discretion of the Supervisory Board but is based on the overall success of the stock market placement based on market capitalization (average of the first 60 trading days following the IPO) taking into account the general market

environment at the time of the IPO and on the individual contributions of Mr. Deller, Mr. Heuwing and Dr. Laier to the successful IPO, respectively.

Dr. Wilder's service agreement, Mr. Deller's Current Serivce Agreement and Dr. Laier's Current Service Agreement do not provide for a separate IPO Bonus.

17.2.3.3. Overall Maximum Compensation Amount

Under the New Service Agreements, Mr. Deller's variable remuneration is capped at EUR 6.0 million (gross) and Mr. Heuwing's and Dr. Laier's variable remuneration is capped at EUR 2.6 million (gross), in each case after full ramp-up of the LTI and excluding a separate IPO bonus if granted. Dr. Wilder's variable remuneration is capped at EUR 2.4 million (gross) after full ramp-up of the LTI. Under Mr. Deller's Current Service Agreement, variable remuneration is capped at EUR 2.5 million (gross) including a special discretionary bonus if granted and under Dr. Laier's Current Service Agreement, the STI is capped at EUR 960.0 thousand (gross).

In addition, under the New Service Agreements, the overall compensation including other benefits is capped for Mr. Deller at EUR 8.3 million (gross) and for Mr. Heuwing and Dr. Laier at EUR 3.7 million (gross), in each case excluding a separate IPO bonus if granted. In the case of Dr. Wilder, overall compensation is capped at EUR 3.5 million.

17.2.3.4. Commitments in connection with the Termination of Executive Board Membership

Under the New Service Agreements, each member of the Executive Board is entitled to a severance payment if — following the approval of the Supervisory Board — the respective membership of the Executive Board is terminated prematurely by mutual consent and, as a consequence, the respective service agreement ends automatically provided that: (i) the termination of the membership of the Executive Board has not been initiated by the respective member of the Executive Board; (ii) the Company has not had good cause to terminate the appointment or the service agreement; and (iii) the respective member of the Executive Board is not reappointed as a member of the Executive Board. Such severance payment must not exceed the total amount of compensation (fixed base compensation and variable compensation) for 24 months and must compensate no more than the remaining term of the respective service agreement. For the purpose of the severance payment, the amount of variable compensation is calculated by multiplying one-twelfth of the sum of the STI and LTI actually earned for the previous fiscal year prior to the termination of the appointment as member of the Executive Board with the number of months for which the respective member of the Executive Board is entitled to the severance payment (a severance payment under these terms "**Severance Payment**").

If the membership of the Executive Board is terminated prematurely by a resolution of the Supervisory Board, the New Service Agreement of the respective member of the Executive Board ends after a phasing-out period which generally corresponds to Section 622(2) German Civil Code. If the membership of the Executive Board ends due to the inability to conduct business properly, for which the respective member of the Executive Board is not responsible, or following withdrawal of confidence by the shareholder meeting, such phasing-out period is extended to 24 months but not beyond the regular end of the term of the respective New Service Agreement. During the phasing-out period, each member of the Executive Board is entitled to receive the fixed base salary as well as the STI and the LTI. The same applies if the respective member of the Executive Board resigns from office for good cause.

In the event of the Company not being the surviving company of a merger (*Verschmelzung*), a splitting (*Aufspaltung*) or a transformation (*Umwandlung*), each member of the Executive Board is entitled to a Severance Payment.

In addition, in the event of a change of control following the IPO that results in (i) a change in the corporate strategy leading to a substantial change in the position of the respective member of the Executive Board or (ii) a substantial change or limitation of the responsibilities of the respective member of the Executive Board, each member of the Executive Board has the right to terminate its membership of the Executive Board and/or its service agreement. In this case, each member of the Executive Board is entitled to a Severance Payment. A change of control occurs if a person other than KB Holding GmbH, Ursus GmbH or one of their direct or indirect shareholders acquires a majority of the voting rights in the Company.

Mr. Deller's Current Service Agreement and Dr. Laier's Current Service Agreement do not provide for a severance payment if the membership of the Executive Board is terminated prematurely by mutual consent.

If the membership of the Executive Board of Mr. Deller or Dr. Laier is prematurely terminated by a resolution of the Supervisory Board, the respective Current Service Agreement ends at its regular end. From the end of the membership of the Executive Board until the end of Mr. Deller's or Dr. Laier's Current Service Agreement, Mr. Deller and Dr. Laier are each entitled to receive the fixed base compensation.

17.2.3.5. Certain Other Provisions

The members of the Executive Board receive insurance coverage through D&O insurance taken out by the Company.

The New Service Agreements provide for a post-contractual non-compete clause (*Nachvertragliches Wettbewerbsverbot*). For the period of one year, each member of the Executive Board, respectively, may not directly or indirectly work for another company that is in direct or indirect competition to the Knorr-Bremse Group, perform an advisory or freelance activity for such other company, establish or acquire such company or hold direct or indirect interests in such company that allow to exercise influence on the governing bodies of such company. The post-contractual non-compete clause applies to the territory within which the Knorr-Bremse Group is active or has specific plans to be active in each case on the date the respective New Service Agreement ends. Each member of the Executive Board is entitled to receive a monthly compensation payment in the amount of half of the monthly remuneration last received (including STI and LTI). The New Service Agreements also provide for a contractual penalty in case of breach of the contractual non-compete clause amounting to two twelfths of the total annual gross cash remuneration actually received during the last full fiscal year prior to the end of the service agreement. Should the non-compete clause be breached several times, the contractual penalty is capped at 100% of the total annual gross cash remuneration last received.

17.2.3.6. Share Ownership

At the date of the Prospectus, no members of the Executive Board hold, directly or indirectly, any shares of the Company, nor any option rights regarding shares of the Company. Each of the members of the Executive Board has committed towards the Company to acquire, within four years from the first day of trading, shares of the Company until the aggregate value of shares of the Company held by such member of the Executive Board equals the respective member of the Executive Board's gross annual fixed remuneration. As part of such an investment, the members of the Executive Board have committed to invest an amount totalling EUR 3.15 million in the Offering on a preferential basis at the Offer Price. The members of the Executive Board have further committed not to sell without the prior written consent of the Company any Offer Shares or to enter into certain other transactions regarding the Offer Shares for a minimum period of six months beginning at the first day of trading of the Company's shares on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*) (for more information, see "*3.6 — The Offering — Preferential Allocation*" and "*3.10.3 — The Offering — Lock-up of the Executive Board*").

17.2.3.7. Historical Compensation of the Members of the Executive Board and Certain Other Provisions

For the fiscal year 2017, total remuneration for the then members of the Executive Board (including Dr. Zwingmann) was granted in the amount of EUR 8.6 million including an aggregate of EUR 42.3 thousand for expenses for payments in kind excluding insurance premiums and an additional EUR 14.7 thousand for expenses for insurance premiums as well as variable remuneration in the amount of EUR 3.5 thousand including Mr. Deller's long term bonus. Expenses of EUR 1.6 million were recognized in the fiscal year 2017 for post-employment benefits, *i.e.,* pension provisions.

17.3. Supervisory Board

17.3.1. General

Pursuant to Section 10(1) of the Company's Articles of Association, the Supervisory Board of Knorr-Bremse AG shall consist of twelve members. Six members representing the shareholders are elected by the Company's general shareholders' meeting in accordance with the provisions of the German Stock Corporation Act. The other six members representing the employees are elected in accordance with the provisions of the German Co-Determination Act of 1976 (*Mitbestimmungsgesetz*). In addition, the Articles of Association allow the Supervisory Board to appoint individuals who have made a special contribution to the Company as honorary chairmen of the Supervisory Board. Heinz Hermann Thiele has been appointed Honorary Chairman of the Supervisory Board. Unless the general shareholders' meeting has set a shorter term of office, the term of office of each Supervisory Board member of the shareholders, as well as the term of each substitute member, expires at the end of the annual general shareholders' meeting ratifying the activities of the Supervisory Board for the fourth fiscal year following the commencement of the member's term of office, not including the fiscal year in which the term commences. Members may be re-elected.

If a Supervisory Board member resigns from office before the end of his/her term, a successor will be elected for the remainder of such leaving member's term of office. The same applies in the event an election is contested and must be held again. The successor will serve for the remainder of the departing member's term of office. A substitute member can be elected simultaneously with the appointment of a member of the Supervisory Board; the substitute member will in this case automatically replace this new member if he or she resigns prior to the

expiration of their term of office or if their election has been successfully contested and no successor has been appointed. The appointment of such a substitute member expires at the earlier of the appointment of a successor or the expiration of the term of office for which the replaced member was elected. If the substitute member who left following the election of a successor member had been appointed for more than one Supervisory Board member, his/her position as substitute member will be restored. The election of substitute members for the members of the Supervisory Board representing the employees is governed by the German Co-Determination Act.

The Supervisory Board elects, according to the German Co-Determination Act, a chairman and two vice-chairmen from among its members at a meeting (which does not require a special invitation) following the general shareholder's meeting in which the Supervisory Board members are newly appointed. The terms of office of the chairman and the vice-chairmen correspond to their appointments as members of the Supervisory Board unless a shorter term of office is determined at the time of their election. If the chairman or any of the vice-chairmen resigns from his/her position prior to the expiration of their term of office, the Supervisory Board must elect a substitute from among its members for the remaining term of office of the leaving chairman or vice-chairman. Should the chairman and the vice-chairmen be prevented from performing their respective duties, such duties will be assumed for the duration of the hindrance by the most senior Supervisory Board member and, in case two or more members have served for the same period, then the oldest member. The replacing member shall not have a casting vote.

The members and substitute members of the Supervisory Board can resign at any time upon giving four weeks' written prior notice to the chairman of the Supervisory Board or, if the chairman of the Supervisory Board resigns, to the vice-chairmen of the Supervisory Board. The chairman of the Supervisory Board (or, in case of resignation of the chairman, the vice-chairmen) may consent to a shorter notice period or waive the notice period. If good cause is given, a resignation is possible with immediate effect.

Pursuant to Section 15(1) of the Articles of Association, the chairman of the Supervisory Board is responsible for convening the meetings of the Supervisory Board with a notice period of at least 14 days, whereby the day on which the invitation is sent and the day on which the meeting takes place shall not be counted for purposes of the calculation of the notice period. The notice period may be shortened in urgent cases. Notice of meetings may be given in writing, orally, by telephone, telefax, e-mail or other usual means of communication. According to the Articles of Association, if the chairman so requires or with the approval of all members of the Supervisory Board, meetings may be held, and individual members of the Supervisory Board may participate, by way of a conference call or other electronic means of communication, in particular, video conferences. The chairman acts as chair of the meetings of the Supervisory Board. Resolutions of the Supervisory Board are usually adopted in meetings. Members unable to attend the meeting can participate in adopting a resolution if another member presents a written vote on their behalf. A resolution on items of the agenda that were not included in the invitation and were not communicated at least three days before the meeting is only permissible if none of the members of the Supervisory Board objects to the voting on such item. The three-day notice period may be shortened in case of urgency. Absent members must be given the opportunity, within a reasonable period to be determined by the chairman, to vote or object to the voting on such item in writing, by telephone, telefax, e-mail or by other usual means of communication. The resolution will only become effective if none of the absent members has objected within the given period. Members that participate in a meeting by telephone or electronic means of communication shall be deemed to be present at the meeting. Resolutions may be adopted outside meetings in writing, orally, by telephone, telefax, e-mail or other usual means of communication, with a combination of the aforementioned means or as a combination of a meeting and a resolution outside a meeting, provided the chairman of the Supervisory Board so prescribes with a reasonable notice, or if all Supervisory Board members participate in the resolution.

In accordance with the Articles of Association, the Supervisory Board is quorate if at least half of the members of the entire Supervisory Board participate in adopting the resolutions. A member (i) who is absent and not participating by telephone or electronic means of communication (in particular, video conference) but who submits a vote as mentioned above or (ii) who abstains from voting, is deemed to have participated in adopting a resolution. Unless otherwise required by law or the Articles of Association, resolutions are passed by simple majority of the members participating in the voting. An abstention is not deemed to be a vote. In the event of a tie, if a re-vote on the same subject matter again results in a tie, the chairman is granted a casting vote.

The chairman of the Supervisory Board may, according to his best judgment, cancel or postpone a meeting for which an invitation has been sent.

17.3.2. Committees

Pursuant to the Articles of Association, the Supervisory Board may establish committees and may further delegate to such committees the authority to make decisions on behalf of the Supervisory Board to the extent legally permissible. In addition to the Mediation Committee (*Vermittlungsausschuss*), which must be formed pursuant to Section 27(3) of the German Co-Determination Act, the Supervisory Board has, in accordance with its rules of procedure, formed an executive committee (the "**Executive Committee**", *Präsidialausschuss*), a nomination committee (the "**Nomination Committee**", *Nominierungsausschuss*) and an audit committee (the "**Audit Committee**", *Prüfungsausschuss*). Pursuant to its rules of procedure, the Supervisory Board may form further committees. To the extent legally permissible, decision-making authority may be delegated to committees or members thereof. In accordance with Section 27(3) of the German Co-Determination Act and pursuant the rules of procedure of the Supervisory Board, the Mediation Committee shall consist of the chairman of the Supervisory Board, the first vice-chairman, one employee representative (elected by the employee representatives on the Supervisory Board) and one shareholder representative (elected by a majority vote of the shareholder representatives on the Supervisory Board). As of the date of the Prospectus, the Mediation Committee consists of Prof. Dr. Klaus Mangold, Franz-Josef Birkeneder, Michael Jell and Kathrin Dahnke. The Mediation Committee is responsible for making proposals to the Supervisory Board regarding the appointment of members of the Executive Board if the required two-thirds majority is not reached during the first ballot.

Pursuant to Section 11 of the rules of procedure of the Supervisory Board, the Executive Committee shall consist of the chairman of the Supervisory Board, both vice-chairmen of the Supervisory Board and one employee representative (appointed by the Supervisory Board). The Executive Committee is chaired by the chairman of the Supervisory Board. The Executive Committee coordinates the work within the Supervisory Board, prepares the Supervisory Board meetings and the review of its efficiency and supervises the implementation of the resolutions passed by the Supervisory Board or its committees. Among other duties, the Executive Committee resolves in lieu of the Supervisory Board on (i) transactions between the Company or an affiliate of the Company, on the one hand, and a member of the Executive Board or a party related to such member, on the other hand, to the extent an approval of the Supervisory Board is required in accordance with Section 112 German Stock Corporation Act; (ii) the approval of sideline activities pursuant to Section 88 of the German Stock Corporation Act and supervisory board mandates of the Executive Board members outside the Knorr-Bremse Group; (iii) granting of loans to persons listed in Sections 89 and 115 of the German Stock Corporation Act; (iv) the approval of contracts with Supervisory Board members pursuant to Section 114 German Stock Corporation Act; and (v) the legal representation in litigations in which the Company is represented jointly by the Executive Board and the Supervisory Board or by the Supervisory Board only, in particular with respect to actions for rescission and cancellation (*Anfechtungs- und Nichtigkeitsklagen*). In addition, the Executive Committee discusses regularly the long-term succession plans for members of the Executive Board, proposes suitable candidates to the Supervisory Board for new appointments, prepares the appointment of Executive Board members as well as their service agreements including remuneration matters, proposes the total remuneration of Executive Board members to the Supervisory Board and prepares the resolutions by the Supervisory Board on the remuneration system of the Executive Board and the regular review thereof.

Pursuant to Section 12 of the rules of procedure of the Supervisory Board, the Nomination Committee shall consist of the chairman of the Supervisory Board, the second vice-chairman and one further shareholder representative (elected by the shareholder representatives on the Supervisory Board and chosen from their own). The Nomination Committee is chaired by the Chairman of the Supervisory Board. As of the date of the Prospectus, the Nomination Committee consists of Prof. Dr. Klaus Mangold, Kathrin Dahnke and Julia Thiele-Schürhoff. The Nomination Committee is responsible for proposing to the Supervisory Board candidates suited to be proposed as election nominees by the Supervisory Board to the general shareholders' meeting.

Pursuant to Section 13 of the rules of procedure of the Supervisory Board, the Audit Committee shall consist of the chairman of the Supervisory Board, one shareholder representative and two employee representatives, all elected by the Supervisory Board from among its members. At least one member of the Audit Committee must have expertise in the areas of accounting or auditing, and at least one of these two members must be independent. All members of this committee must be familiar with the industrial sector in which the Company operates. Regarding the election of the chairman of the committee (which shall not be the chairman of the Supervisory Board), the Supervisory Board must pay particular consideration to the fact that such committee chairman must have specific expertise and experience in the application of accounting principles and internal control procedures. The committee chairman must be independent and may not be a former member of the Executive Board of the Company whose term in office ended less than two years prior to his/her appointment as chairman of the Audit Committee. As of the date of the Prospectus, the Audit Committee consists of Kathrin Dahnke, Prof. Dr. Klaus Mangold, Franz-Josef Birkeneder and Werner Ratzisberger. The Audit Committee deals with issues relating to

accounting, risk management and the effectiveness of internal control procedures, compliance and sustainability. Among other duties, the Audit Committee is responsible for proposing to the Supervisory Board candidates suited to be proposed as auditors for Knorr-Bremse AG and Knorr-Bremse Group by the Supervisory Board to the shareholders' meeting. Prior to the Supervisory Board's proposal to the shareholders' meeting, the Audit Committee shall obtain a written statement by the auditor candidates listing any relation between the auditing company, its bodies and auditor managers, on the one hand, and the Knorr-Bremse Group and the members of its bodies, on the other hand, which may give rise to doubts as to the auditor candidate's independence. In addition, the Audit Committee, *inter alia,* prepares the resolutions by the Supervisory Board on auditing, adopting and approving the financial statements, on the proposal for appropriation of profits and on corporate governance issues, in particular on the Supervisory Board's decision on the declaration of conformity with the German Corporate Governance Code. The Audit Committee resolves, *inter alia*, in lieu of the Supervisory Board on the issuing of the audit mandate to the auditor and agreements with the auditor with regard to information on potential reasons for exclusion or prejudice that arise during the audit and agreements regarding the immediate disclosure of material events. The Audit Committee shall, *inter alia*, take appropriate measures to ascertain and monitor the independence of the auditor.

17.3.3. Current Members of the Supervisory Board

The following table shows the names of the current members of the Supervisory Board of Knorr-Bremse AG, as well as — where applicable — their further positions as members of a management, administrative or supervisory boards in companies or as partners in partnerships. Positions held in companies or partnerships outside the Knorr-Bremse Group in the last five years but no longer current, are also reflected in the following table.

Name	Age	Member since	Appointed until	Further positions as a member of a management, administrative or supervisory body in companies or as a partner in partnerships
Prof. Dr. Klaus Mangold Chairman ...	75	2018	2021	Chairman of the supervisory board of Alstom AG
				Member of the global advisory council of Ernst & Young
				Member of the supervisory board of Swarco AG
				Chairman of Mangold Consulting GmbH(**)
				Chairman of the supervisory board of Rothschild Russia and the CIS (Commonwealth of Independent States)(**)
				Member of the board of directors of Alstom S.A.(**)
				Chairman of the supervisory board of Rothschild GmbH(**)
				Member of the supervisory board of Continental AG(**)
				Chairman of the supervisory board of TUI AG(**)
				Member of the board of directors of Baiterek National Managing Holding JSC(**)
				Member of the advisory board of Lürssen Maritime Beteiligungen GmbH & Co. KG(**)
				Chairman of the advisory board of Cortec GmbH(**)
Franz-Josef Birkeneder(*) First Deputy Chairman	58	2016	2020	Not applicable

Name	Age	Member since	Appointed until	Further positions as a member of a management, administrative or supervisory body in companies or as a partner in partnerships
Michael Jell(**)	55	2014	2021	Member of the supervisory board of KB SfS GmbH
Dr. Wolfram Mörsdorf	69	2008	2022	Chairman of the supervisory board of Getrag B.V. & Co. KG
				Chairman of the supervisory board of WINOA AG
				Chairman of the supervisory board of FRITZ Winter Eisengießerei GmbH & Co. KG(**)
				Member of the supervisory board of PWK Automotive GmbH(**)
				Chairman of the supervisory board of Gienanth GmbH(**)
				Chairman of the supervisory board of Silbitz Group GmbH(**)
				Chairman of the supervisory board of SISTEMA Finance GmbH(**)
				Member of the Advisory Board of the Company(**)
Werner Ratzisberger(**)	51	2006	2021	Not applicable
Sebastian Roloff(*)	35	2014	2021	Not applicable.
Erich Starkl(*)	56	2014	2021	Deputy chairman at IG Metall trade union.(**)
Julia Thiele-Schürhoff	47	2016	2021	Head of Corporate Social Responsibility of the Company
				Chairwoman of the executive board of Knorr-Bremse Global Care e. V.(**)
Wolfgang Tölsner	70	2013	2022	Member of executive board of Bochumer Verein Verkehrstechnik GmbH
				Member of executive board of Railpool GmbH
				Member of the supervisory board of KB SfS GmbH(**)
				President of the administrative board of Selectron AG(**)
				Chairman of the supervisory board of Bombardier Transportation Deutschland GmbH(**)
				Member of administrative board of 4PL Central Station AG(**)
Georg Weiberg	71	2013	2021	Member of the supervisory board of Mahle Behr GmbH & Co. KG(**)
				Member of the supervisory board of MAG GmbH(**)
				Advisory council for VOSS Automotive GmbH(**)

Name	Age	Member since	Appointed until	Further positions as a member of a management, administrative or supervisory body in companies or as a partner in partnerships
				Member of the supervisory board of FRITZ Winter Eisengießerei GmbH & Co. KG(**)
Günter Wiese(*)................................	66	2011	2021	Member of the supervisory board of KB SfS GmbH(**)
Kathrin Dahnke Second Deputy Chairwoman	57	2018	2021	Member of the supervisory board of Fraport AG(**)
				Member of the executive board of Wilh. Werhahn KG (including several positions as managing director or board member in companies that are 100% owned by Wilh. Werhahn KG)(**)
				Member of the supervisory board of Zwilling J.A. Henckels AG(**)
				Member of the supervisory board of Basalt-Actien-Gesellschaft(**)
				Member of the supervisory board of Bank 11 für Privatkunden und Handel GmbH(**)
				Member of the supervisory board of ABCbank GmbH(**)
				Member of the advisory board of Niedertor Steuerberatungsgesellschaft Gmbh(**)

(*) Employee representative.

(**) Position is currently held.

17.3.3.1. Prof. Dr. Klaus Mangold — Biography

Prof. Dr. Mangold was born in 1943 in Germany. He studied law and economics at the universities of Munich, Geneva, Paris, London, Heidelberg and Mainz. After his studies Prof. Dr. Mangold held various positions in the German industry sector. From 1983 to 1990, he was chairman and member of the board of management of Rhodia AG, a subsidiary of the former Rhône-Poulenc-Group. From 1991 to 1994, he was chairman of the board of management of Quelle AG. From 1995 to 2003, he was member of the board of management of DaimlerChrysler AG, and during the same period, he was also chairman of the board of management of DaimlerChrysler Services AG. In that capacity he was responsible for the business services segment and the Central and Eastern European markets of DaimlerChrysler AG. From 2000 to 2010, Prof. Dr. Mangold was chairman of the German Committee on Eastern European Economic Relations. From 2003 to 2013, he was member of the supervisory board of Metro AG, Germany. From 2010 to 2016, he was chairman of the supervisory board of Alstom AG, Germany. From 2011 to 2017, he was member of the global advisory council of Ernst & Young, USA. From 2013 to 2016, he was member of the supervisory board of Swarco AG, Austria. Since 2003, Prof. Dr. Mangold has been chairman of Mangold Consulting GmbH, which he founded that same year. Since 2004, he has been chairman of the supervisory board of Rothschild Russia and the CIS (Commonwealth of Independent States); since 2005, honorary consul of the Russian Federation for Baden-Württemberg, Germany; since 2007, member of the board of directors of Alstom S.A., France; since 2008, chairman of the supervisory board of Rothschild GmbH, Germany; since 2009, member of the supervisory board of Continental AG, Germany; since 2010, chairman of the supervisory board of TUI AG, Germany; since 2013, member of the board of directors of Baiterek National Management Holding JSC, Kazakhstan and member of the advisory board of Lürssen Maritime Beteiligungen GmbH & Co. KG, Germany; and, since 2017, chairman of the advisory board of Cortec GmbH, Germany.

17.3.3.2. Franz-Josef Birkeneder — Biography

Mr. Birkeneder was born in 1960 in Germany. He earned a mechanical engineering degree (*Diplom-Ingenieur (FH)*) from the University of Applied Sciences, Regensburg. In 1989, after working in Wacker Chemie GmbH,

Burghausen, Mr. Birkeneder joined the Company as plant quality manager in Aldersbach. From 1993 to 1995, he held the position of quality manager at KB SfN GmbH. From 1995 to 1998, Mr. Birkeneder worked as the competence center manager for compressors and air dryers. Since 1998, Mr. Birkeneder has been plant manager of the Group's site in Aldersbach and, until 2005 he was also the competence center manager for air disc brakes. In 2016, Mr. Birkeneder was appointed first deputy chairman of the Supervisory Board of the Company.

17.3.3.3. Michael Jell — Biography

Mr. Jell was born in 1963 in Germany. From 1978 until 1981, Mr. Jell did his apprenticeship as a machinist in the Company, after which he qualified to become a certified machine fitter. From 2002 to 2010, Mr. Jell worked as test technician for control and monitoring systems in the hydraulic supply unit of the Company. From 2010 until 2014, Mr. Jell was member of the works council for the Company, KB SfS GmbH, KB Media GmbH, and Knorr-Bremse Services GmbH. From 2014 to March, 2018, he was deputy chairman of the works council of the Company, KB SfS GmbH, KB Media GmbH and Knorr-Bremse Services GmbH; during which time he was also deputy chairman of the supervisory board of the Company and chairman of the general works council of KB SfS GmbH. Since April 2015, Mr. Jell has been member of the supervisory board of KB SfS GmbH. Since March 2018, Mr. Jell has been also chairman of the works council of the Company, KB SfS GmbH, KB Media GmbH and Knorr-Bremse Services GmbH, chairman of the group works council of the Company and chairman of the general works council of KB SfS GmbH. In 2014, Mr. Jell was appointed member of the Supervisory Board of the Company.

17.3.3.4. Dr. Wolfram Mörsdorf — Biography

Dr. Mörsdorf was born in 1948 in Germany. In 1974, Dr. Mörsdorf earned a metallurgical engineering degree from Rheinisch-Westfälische Technische Hochschule in Aachen, Germany. In 1978, he obtained a doctoral degree (Dr.-Ing) from the same university. From 1994 to 2009, he worked for the ThyssenKrupp AG in Essen, Germany; additionally, from 2006 to 2009, he was deputy chairman of the executive board of ThyssenKrupp Technologies AG. From 2008 to 2017, he was chairman of the supervisory board of Getrag B.V. & Co. KG. From 2013 to 2017, he was chairman of the supervisory board of WINOA AG. Since 2010, he has been chairman of the supervisory board of FRITZ Winter Eisengießerei GmbH & Co. KG. Since 2012, he is a member of the supervisory board of PWK Automotive. Since 2014, he has been a chairman of the supervisory board of Gienanth GmbH and chairman of the supervisory board of Silbitz Group GmbH. Since 2016, he has been chairman of the supervisory board of SISTEMA Finance GmbH. In 2008, Dr. Mörsdorf was appointed member of the Supervisory Board and the Advisory Board of the Company.

17.3.3.5. Werner Ratzisberger — Biography

Mr. Ratzisberger was born in 1967 in Germany. From 1995 to 1998, he studied for a qualification as engineering technician. In 1983, Mr. Ratzisberger started his apprenticeship in the Company; afterwards, until 1998, he worked in Aldersbach in the machining area. From 2006 to 2010, he was chairman of the works council of the Company in Aldersbach. From 2010 until early 2018, he was responsible for central IE in the Truck division. Currently, Mr. Ratzisberger is a project engineer for mechanical processing/surfaces at KB SfN GmbH. In 2006, Mr. Ratzisberger was appointed member of the Supervisory Board of the Company.

17.3.3.6. Sebastian Roloff — Biography

Mr Roloff was born in 1983 in Germany. Mr. Roloff studied law in Regensburg and Speyer. During his studies, he worked as researcher for the chairman of the legal committee of the State Parliament of Bavaria and as student assistant in the University of Regensburg. Since 2011, he has held a position as trade union officer at IG Metall in its Munich office. Additionally, since 2015, he has worked as a lawyer in his own company. In 2014, Mr Roloff was appointed member of the Supervisory Board of the Company.

17.3.3.7. Erich Starkl — Biography

Mr. Starkl was born in 1962 in Germany. In 1981, Mr. Starkl completed his training as a mechanical engineer. In 1997, he completed his studies at the Academie der Arbeit in Frankfurt. From 2000 to 2010, Mr. Starkl worked as managing director for the Food, Beverages and Catering Union. Since 2010, Mr. Starkl is deputy chairman at IG Metall trade union in its Passau office. In 2014, Mr. Starkl was appointed member of the Supervisory Board of the Company.

17.3.3.8. Julia Thiele-Schürhoff — Biography

Ms. Thiele-Schürhoff was born in 1971 in Germany. Ms. Thiele-Schürhoff studied law at the Ludwig-Maximilians University in Munich, Germany. From 2002 to 2008, Ms. Thiele-Schürhoff was legal counsel of the Company. Additionally, from 2008 to 2014, Ms. Thiele-Schürhoff was Head of Corporate Social

Responsibility of the Company. Since 2005, she has been founder, CEO and chairwoman of the executive board of Knorr-Bremse Global Care e. V. and since 2008, she has been a member of the Corporate Responsibility Council of the Company. In 2016, Ms. Thiele-Schürhoff was appointed member of the Supervisory Board of the Company.

17.3.3.9. Wolfgang Tölsner — Biography

Mr. Tölsner was born in 1948 in Germany. Mr. Tölsner earned an electrical engineering degree from the Technical University of Hanover, Germany. From 2010 to 2013, he was a board member of OC Oerlikon AG. From 2001 to 2014, he was member of executive board of Bochumer Verein Verkehrstechnik GmbH. From 2008 to 2014, he was a member of the executive board of Railpool GmbH. Since 2014, he has been a member of the supervisory board of KB SfS GmbH. Since 2015, he has been president of the administrative board of Selectron AG. Since 2016, he has been chairman of the supervisory board of Bombardier Transportation Deutschland GmbH. Since 2017, he is a member of the administrative board of 4PL Central Station AG. Since 2009, Mr. Tölsner has worked mainly as an independent business consultant. In 2013, Mr. Tölsner was appointed member of the Supervisory Board of the Company.

17.3.3.10. Georg Weiberg — Biography

Mr. Weiberg was born in 1947 in Germany. From 1968 to 1971, he studied engineering, leading to a Diploma in Engineering, at the Technical College of Ulm, Germany. Furthermore, from 1971 to 1975, he studied at the Technical University of Berlin, where he obtained a Diploma in Automotive Technology. From 2006 to 2013, he was executive vice president of Daimler Trucks and chief engineer for all Daimler Truck brands. Since 2013, he is member of the supervisory board of Mahle Behr GmbH & Co. KG, as well as a consultant for Bharat Benz India. Since 2014, he is a member of the supervisory board of MAG GmbH. Since 2015, Mr. Weiberg holds the position of advisory council for VOSS Automotive GmbH. Since 2017, he has also been member of the supervisory board of FRITZ Winter Eisengießerei GmbH & Co. KG. In 2013, Mr. Weiberg was appointed member of to the Supervisory Board of the Company.

17.3.3.11. Günter Wiese — Biography

Mr. Wiese was born in 1952 in Germany. In 1969, Mr. Wiese finished his studies in the Polytechnic High School of Berlin, Friedrichshain, Germany. From 2006 to April 2018, Mr. Wiese was chairman of the works council of KB SfS GmbH at its Berlin site. Since 2011, Mr. Wiese has been also member of the supervisory board of such company. In 2011, Mr. Wiese was appointed member of the Supervisory Board of the Company.

17.3.3.12. Kathrin Dahnke — Biography

Ms. Dahnke was born in 1969 in Germany. Ms. Dahnke earned a business administration degree at the Georg-August University in Göttingen. From 2010 to 2014, she was CFO of DMG Mori Seiki AG (formerly, Gildemeister AG). Since 2013, she has been member of the supervisory board of Fraport AG, Frankfurt, Germany. Since 2014, Ms. Dahnke has been a member of the executive board of Wilh. Werhahn KG, Bielefeld, a member of the supervisory board of Zwilling J.A. Henckels AG, Solingen, Basalt-Actien-Gesellschaft, Linz, Bank 11 für Privatkunden und Handel GmbH, Neuss, and ABCbank GmbH, all within the Wilh. Werhahn Group, as well as managing director of several companies which are 100% directly or indirectly owned by the Wilh. Werhahn Group. Since 2014, she has also been CFO, as well as being responsible for the Building Materials Business Unit of Wilh. Werhahn KG. Ms. Dahnke is also member of the advisory board of Niedertor Steuerberatungsgesellschaft Gmbh, Neuss. Since 2016, she has been member of the supervisory board of B. Braun Melsungen AG. In May 2018, Ms. Dahnke was appointed second deputy chairwoman of the Supervisory Board of the Company.

The members of the Supervisory Board can be contacted under the Company's business address.

17.3.4. Compensation and Other Benefits; Share Ownership

The compensation of the members of the Supervisory Board is set out in Section 18 of the Articles of Association of the Company. The Articles of Association state that the members of the Supervisory Board shall receive an annual base fixed remuneration (with pro-rata payment in case the membership existed only during part of the relevant year, on the basis of rounded months). The annual base fixed remuneration amounts to EUR 80,000.00 for each member of the Supervisory Board, EUR 250,000.00 for the chairman of the Supervisory Board, and EUR 120,000.00 for each of the vice-chairmen of the Supervisory Board. Additional annual remuneration is paid for the membership in, or chair of, the committees of the Supervisory Board as follows: (i) the chairman of the Executive Committee receives EUR 60,000.00 and the other committee members receive EUR 20,000.00; (ii) the chairman of the Audit Committee receives EUR 60,000.00 and the other committee members receive EUR 20,000.00. The remuneration of members of the Supervisory Board who have not been members of the

Supervisory Board or a committee for an entire fiscal year or have not chaired a committee for an entire fiscal year is calculated *pro rata temporis*. The annual base fixed remuneration is payable following the end of the annual general shareholders' meeting to which the financial statements for the reference year are submitted or which decides on their approval.

The members of the Supervisory Board receive insurance coverage through D&O insurance taken out by the Company. Moreover, expenses relating to the performance of their duties as well as valued added tax on their Supervisory Board remuneration are reimbursed by the Company.

For the fiscal year 2017, the Company paid a total of EUR 620,000.00 as aggregate compensation to the then appointed members of the Supervisory Board.

The members of the Company's Supervisory Board receive no pension payments or retirement benefits in their capacity as members of the Supervisory Board.

As described under "*15. — Shareholder Structure*", except for Julia Thiele-Schürhoff, no members of the Supervisory Board hold, directly or indirectly, any shares of the Company, nor any option rights regarding shares of the Company.

17.4. Honorary Chairman of the Supervisory Board

Heinz Hermann Thiele has been appointed as the Honorary Chairman of the Supervisory Board.

17.5. Certain Information on the Members of the Executive Board and the Supervisory Board

In the last five years, none of the members of the Executive Board and the Supervisory Board has been convicted in relation to any fraudulent offences. None of the members of the Executive Board and the Supervisory Board has been associated with any bankruptcies, receiverships or liquidations during the last five years. No official public incriminations by statutory authorities or regulatory authorities (including designated professional bodies) have been made and/or sanctions imposed against any member of the Executive Board or the Supervisory Board during this period. None of the members of the Executive Board and the Supervisory Board has been considered by a court to be unfit to qualify as a member of an administrative, management or supervisory body of any issuer or from acting in the management or conduct of the affairs of any issuer during the last five years.

To the extent that the members of the Executive Board or the Supervisory Board directly or indirectly hold shares in the Company, they may, separately from their positions in the governing body, have special interests as a result of their shareholdings. Prior to completion of the Offering, except as described in "*17.3.4. — Compensation and Other Benefits; Share Ownership*", the members of the Executive Board and the Supervisory Board hold no participation in the Company. For additional information of the indirect shareholdings of the members of the members of the Supervisory Board after completion of the Offering, see also "*15. — Shareholder Structure*".

In other respects, no conflicts or potential conflicts exist with regard to obligations owed to the Company as of the date of the Prospectus that could result from their private interests or other obligations, except for Mr. Weiberg's and Mr. Tölsner's agreements with Group companies as described under "*18. — Transactions and Relationships with Related Parties*". No member of the Executive Board and the Supervisory Board has executed a contract for services with a company of the Group that provides for benefits on termination.

There are no family relationships between the members of the Executive Board and the Supervisory Board or among the members of each respective board, except for Mr. Heinz Hermann Thiele and Ms. Julia Thiele-Schürhoff. Ms. Julia Thiele-Schürhoff, a member of the Supervisory Board, is the daughter of the Honorary Chairman of the Supervisory Board of the Company, Mr. Heinz Hermann Thiele.

17.6. General Shareholders' Meeting

General shareholders' meetings (regular and extraordinary) take place at the registered seat of the Company or in any other German city with more than 100,000 citizens. Each share entitles the holder to one vote in the general shareholders' meeting. There are no restrictions on the voting rights. The voting right arises only upon fully paid up shares.

Unless mandatory statutory provisions require otherwise, resolutions are adopted by a simple majority vote and, if a majority of the capital is required, with a majority of the share capital represented when the resolution is adopted. Pursuant to German stock corporation law, resolutions of fundamental importance require the approval of the majority of the votes cast and of a 75% majority of the share capital represented at the passing of the resolution. Resolutions of fundamental importance include, among others:

- amendments to the purpose/objects of the Company,
- capital increases,

- capital reductions,
- creating authorized or conditional capital,
- mergers, spin-offs or amalgamations, as well as a transfers of the share capital or assets of the Company,
- execution of corporate group agreements (especially control and profit and loss transfer agreements),
- changes to the legal status of the Company, and
- dissolution of the Company.

The general shareholders' meeting can be convened by the Executive Board, the Supervisory Board or shareholders whose combined shareholding amounts to 5% of the share capital. Shareholders or shareholders associations can use the shareholder forum of the German Federal Gazette, which is available through the Company Register's website, to either put forward a joint request or to put forward a request on behalf of the shareholders for a general shareholders' meeting. The Supervisory Board must call a general shareholders' meeting if it is in the interest of the Company. The annual regular general shareholders' meeting takes place within the first eight months after the expiration of the fiscal year. The notice of the general shareholders' meeting must be issued in the German Federal Gazette 36 days prior to the day of the general shareholders' meeting at the latest, the day of the general shareholders' meeting itself and the day of the receipt of the notice not being included in this notice period. Only shareholders who have registered their shares in a timely manner (prior to the general shareholders' meeting) are entitled to participate in the general shareholders' meeting and exercise their voting rights under the Articles of Association of the Company. The registration must be received by the Company at the address stated in the notice calling the meeting no later than six days prior to the meeting. The date of receipt is not taken into account when calculating the time period. The registration must be in text form (Section 126b German Civil Code (*Bürgerliches Gesetzbuch*)) and must be in German or English. The Executive Board is authorized to permit shareholders to participate in the shareholders' meeting without being physically present at the meeting and without a proxy being present. It may further allow for all or individual shareholders to exercise some or all of their rights partially or fully by way of electronic communication. The Executive Board is also authorized to allow shareholders to cast their votes in writing or by way of electronic communication without being present at the general shareholders' meeting (postal vote). Should the Executive Board use this authorization, it will specify the details of this procedure at the time of convening the general shareholders' meeting.

Neither German law nor the Articles of Association of the Company limit the rights of shareholders who do not reside in Germany or who are foreign shareholders in relation to holding shares and exercising the voting rights pertaining to the shares.

The rights of the shareholders can generally only be amended with the consent of the affected shareholders but there are circumstances, set out by law, in which a 75% majority is sufficient. Currently, there are no provisions in the Articles of Association that deviate from the statutory provisions regarding the scope of amending shareholders rights.

17.7. Corporate Governance

The Company's approach on good corporate governance is based on the idea of sustainable development and covers products and production processes, employees, environmental and climate protection as well as social commitment. The Company also attaches great importance to the efficient conduct of their work by the Executive Board and Supervisory Board, good cooperation between these bodies and with the Company's staff, and to open and transparent corporate communications.

The corporate structure of the Company is based on the responsible, transparent and efficient leadership and control of the Company. The Company therefore complies or intends to comply with the objectives of the German Corporate Governance Code in its most recent version dated February 17, 2017 (the "**Code**").

The Code provides recommendations and ideas for the management and the supervision of German listed companies. It is based on internationally and nationally recognized standards of good, responsible corporate management. The Code contains recommendations ("should provisions") and suggestions ("can provisions") for corporate governance in relation to shareholders and the general shareholders' meeting, the Executive Board and the Supervisory Board, transparency and accounting and auditing of financial statements. Compliance with the recommendations or suggestions of the Code is not obligatory. German stock corporation law only requires the Executive Board and the Supervisory Board of a listed company to state annually that the recommendations in the Code have been complied with or to explain which recommendations have not been complied with and are not being applied and the reasons behind non-compliance. It is possible to deviate from the suggestions contained

in the Code without disclosure. The declaration of compliance must be publicly available on the Company's website at all times.

Prior to the listing of the shares of the Company, the Company is under no obligation to issue a declaration relating to the Code. In accomplishing its goal of sustainably enhancing the value of the company, Knorr-Bremse AG is guided extensively by the principles of the Code, with the aid of which it has largely brought itself into line with the standards of German listed enterprises.

The Company currently complies, and intends to comply after the listing of the shares, with all recommendations in the Code, except for the following.

Currently, the Company does not comply with clause 3.8(3) according to which in any D&O policy for the supervisory board a deductible similar to a deductible of at least 10% of the loss up to at least the amount of one and a half times the fixed annual remuneration of the board members shall be agreed; in addition, the Company may not be able to immediately comply with Clause 7.1.2 Sentence 3 of the Code which recommends that the consolidated financial statements and the group management report shall be made publicly accessible within 90 days from the end of the fiscal year and that mandatory interim financial information shall be made publicly accessible within 45 days from the end of the reporting period. The Company intends to comply with these recommendations from the end of the fiscal year 2019 on.

Until the effectiveness of all New Service Agreements, the Company does not comply with the recommendations in the clauses of the Code listed below. For detailed information on the New Service Agreements see "*17.2.2 Current Members of the Executive Board*" and "*17.2.3 Compensation and Other Benefits; Share Ownership*".

Clause 4.2.3(2) Sentences 3 and 4 of the Code according to which components of the variable remuneration of the members of the executive board generally shall have a multi-year assessment basis that shall have essentially forward-looking characteristics and according to which both positive and negative developments shall be taken into account when determining variable remuneration components; clause 4.2.3(2) Sentence 6 of the Code according to which both the amount of the overall remuneration of the members of the executive board and the variable components shall be capped at a maximum level; clause 4.2.3(2) Sentences 7 and 8 according to which variable remuneration components shall be based on demanding and relevant comparison parameters and subsequent amendments to the performance targets or comparison parameters shall be excluded; clause 4.2.3(4) Sentence 1 of the Code which states that, when service agreements are entered into with members of the executive board, it shall be ensured that payments, including fringe benefits, made to a member of the executive board due to early termination of their service agreement do not exceed twice the annual remuneration (severance cap) and do not constitute remuneration for more than the remaining term of the service agreement.

18. TRANSACTIONS AND RELATIONSHIPS WITH RELATED PARTIES

The following legal relationships existed between the companies of the Knorr-Bremse Group and related parties in the fiscal years ended December 31, 2017, 2016 and 2015, respectively, and in the current fiscal year 2018 until and including the date of the Prospectus. Business relationships between the Company and other companies of the Group (the effects of which have been eliminated as part of the consolidation in connection with the preparation of the Audited Consolidated Financial Statements) are not included.

Related parties pursuant to IAS 24 include those entities with whom the Company forms an affiliated group or in which it holds an interest that enables it to exercise a significant influence over the business policy of the associated company. Principal Shareholders in the Company and their close family members, as well as those entities over which the Principal Shareholders or their close family members are able to exercise a significant influence or in which they are a member of the key management personnel, are also qualified as related parties. In addition, related parties also include the members of the Company's Executive Board and Supervisory Board and close members of their families, as well as those entities over which the members of the Company's Executive Board or their close family members are able to exercise a significant influence. Related parties to the Company include Vossloh AG, Werdohl, Germany, and affiliates of Vossloh AG, since the main shareholder of the Company as of the date of the Prospectus, KB Holding, holds 44.73% of the shares and voting rights in Vossloh AG.

Certain relationships with such related parties, including the service and other agreements concluded with the members of the Company's Executive Board and compensation arrangements for the members of the Supervisory Board are described under "*17.2.3. — Governing Bodies — Compensation and Other Benefits; Share Ownership*", "*17.3.4. — Governing Bodies — Compensation and Other Benefits; Share Ownership*", "*17.4. — Governing Bodies — Honorary Chairman of the Supervisory Board*" and "*17.5. — Governing Bodies — Certain Information on the Members of the Executive Board and the Supervisory Board*".

Further information, including quantitative information, of related party transactions is contained in the notes to our Audited Consolidated Financial Statements which are included in section "*23. — Financial Information*".

18.1. Transactions and Relationships with the Selling Shareholder and Affiliated Parties

Between 2016 and the date of the Prospectus, Knorr-Bremse and several Group companies entered into property purchase agreements with Mr. Heinz Hermann Thiele or enterprises affiliated to him. Under such agreements, properties in Munich and Aldersbach in Germany, in São Paulo City and Ubatuba City in Brazil and in Bugac in Hungary were sold to Mr. Thiele or enterprises affiliated to him for a total purchase price of EUR 37.1 million. The purchase prices for the properties in Munich and Aldersbach, Germany and in Bugac, Hungary were determined by an independent expert valuation assessment and — in the case of certain Munich properties — subject to valuation principles agreed between the parties in prior years. With respect to certain properties located in Germany, the purchase agreements provide for an obligation of the seller to effect certain demolishing and ground and soil remediation.

Under an agreement entered into in 1989, Mr. Heinz Hermann Thiele is entitled to purchase certain lots of the Group's Munich properties if the Group decides to dispose thereof or does no longer use them for business purposes. The purchase price corresponds to a base price agreed in 1989 plus value increases of comparable industrial properties but not taking into account rezoning effects or improved traffic connections.

In the context of the aforementioned real estate acquisitions and otherwise, Mr. Heinz Hermann Thiele or enterprises affiliated to him have leased properties to Knorr-Bremse and to other Group companies. Such leased properties include whole land-plots developed with buildings for use as offices, stores, workshops, technology centers or laboratories as well as farms, residential apartments and houses. They are located in Germany, Austria, Italy, Brazil, South Africa and Hungary. Lease payments on these properties amounted to EUR 3.1 million in the fiscal year 2017, EUR 2.6 million in the fiscal year 2016 and EUR 2.5 million in the fiscal year 2015. Further, since 2009, KB SfN GmbH has leased some roof areas in Aldersbach to a company affiliated to Mr. Thiele for the operation of a solar system.

Until April 2018, Ursus held a minority participation in Knorr Brake Holding Corporation, Delaware, U.S. In April 2018, the parties agreed on a redemption of such shares and effected a buy-back carried out by Knorr Brake Holding Corporation based on a redemption agreement. The Company granted a loan for a maximum period of three years in the amount of USD 159.6 million to Knorr Brake Holding Corporation to pay the purchase price to Ursus. The purchase price was determined by an independent expert valuation carried out in February 2018.

In September 2018, an enterprise affiliated to Mr. Heinz Hermann Thiele acquired a business jet from one of the Company's subsidiaries. The purchase price amounted to USD 15.0 million and was assessed on the basis of a market research conducted by Knorr-Bremse and an independent expert valuation. The costs for the next inspection of the aircraft will be split between the seller and the purchaser.

In January 2017, the Group acquired all shares of (i) Vossloh Kiepe GmbH, Germany, (ii) Vossloh Kiepe South Africa (Pty) Ltd., South Africa and (iii) Vossloh Kiepe, Inc., which were directly or indirectly held by Vossloh AG, Werdohl, Germany. The aggregate purchase price consisted of a fixed amount in cash of EUR 47.5 million and a conditional earn-out component to be paid at a later point in time of EUR 25.0 million. The purchase price for several shareholder loans acquired by the Group in the transaction amounted to EUR 14.3 million.

In the ordinary course of business, Vossloh AG or its affiliated companies sourced supplies from our Rail Vehicle Systems segment in the amount of EUR 7.4 million in the fiscal year 2017, EUR 13.5 million in 2016 and EUR 15.4 million in 2015.

For his services in board functions at the Company or its subsidiaries, Mr. Heinz Hermann Thiele received a compensation of EUR 208.7 thousand for the fiscal year 2018, EUR 1.5 million for the fiscal year 2017, EUR 1.7 million for the fiscal year 2016 and EUR 1.8 million for the fiscal year 2015. Since 2013, Mr. Thiele has been advising the Executive Board of the Company on strategic and operating issues of fundamental importance and assisting in attending to important customer relationships under a consulting agreement, whose term was extended by five years in 2016 and which was revised in 2018. For such services, Mr. Thiele was granted a compensation of EUR 1.9 million in the fiscal year 2017, EUR 1.8 million in the fiscal year 2016 and EUR 1.7 million in the fiscal year 2015.

Under a consulting agreement with Knorr Brake Holding Corporation, Delaware, U.S., concluded in April 2018, Mr. Heinz Hermann Thiele has contracted to provide, for a term of 36 months, consulting services such as networking, business development, attending to customer and business relationships and lobbying activities for the company's divisions in the U.S. market. For such services, Mr. Thiele was granted an aggregate consulting fee of USD 5.0 million (for the 36 months).

Under his previous service agreement as member of the Executive Board of the Company, Mr. Heinz Hermann Thiele is entitled to two company cars and chauffeuring services for one of them. Mr. Thiele may use an office with respective services at the Company's premises. He is further entitled to pension payments amounting to EUR 1.2 million per year. A reduced right to pension payments will transfer to his widow.

In the past, Knorr-Bremse rendered certain services to Mr. Heinz Hermann Thiele, for which Knorr-Bremse was refunded. Since September 2018, the rendering of such services to Mr. Thiele is goverend by an agreement providing for prices for such services to be determined according to the cost-plus method.

On January 16, 2018, the KB Holding, Ursus and the Company entered into an agreement on the allocation of costs incurred in connection with the Offering, in particular, certain legal, auditor and other advisor fees. Under this agreement, each of KB Holding and Ursus agreed to reimburse the Company for all costs that were incurred in the fiscal year 2017 in connection with the preparation and the execution of the Offering on a pro rata basis. The total amount to be reimbursed by the KB Holding and Ursus amounted to EUR 3.3 million (including VAT).

On September 28, 2018, the Selling Shareholder and the Company entered into a corresponding agreement on the allocation of costs covering also the indemnity against liability claims in connection with the Offering. Under this agreement, the Selling Shareholder will reimburse the Company for all costs that are incurred in connection with the preparation and the execution of the Offering. The costs to be reimbursed include, in particular, certain legal, auditor and other advisor fees and the cost of insuring against liability claims. The cost reimbursement obligation of the Selling Shareholder remains unaffected if the Offering is postponed or cancelled. The Selling Shareholder further agreed to indemnify the Company from all liability risks in connection with the Offering. The Company is obliged to obtain insurance, which also covers the Selling Shareholder, against potential liability claims in connection with the Offering; the costs associated with such insurance are also subject to the cost reimbursement obligation of the Selling Shareholder. If and to the extent the Company is compensated by any third party, the Selling Shareholder's reimbursement is not applicable.

By way of donations, the Group supports the non-profit organization Knorr-Bremse Global Care e.V., whose executive chairperson is Mrs. Julia Thiele-Schürhoff. In the fiscal years 2017, 2016 and 2015, such donations amounted to EUR 1.5 million each year. In the six-month period ended June 30, 2018, a donation of EUR 1.5 million was granted.

Until October 2016, Mrs. Julia Thiele-Schürhoff was employed by the Company. Such employment was mutually terminated prior to Mrs. Thiele-Schürhoff's election as a member of the Supervisory Board in 2016.

18.2. Other Related Party Transactions

Since 2015, Mr. Wolfgang Tölsner, a member of the Supervisory Board, had been providing consulting services to our Rail Vehicle Systems segment under several consulting agreements, the last of which ended in July 2018.

Under such consulting agreements, Mr. Tölsner's compensation amounted to EUR 37.1 thousand in the fiscal year 2018 (from January until July), EUR 81.1 thousand in the fiscal year 2017, EUR 121.0 thousand in the fiscal year 2016 and EUR 145.8 thousand in the fiscal year 2015. For his services as member and president of the administrative board (*Verwaltungsrat*) of Selectron Systems AG, governed by a service agreement and effective as of July 1, 2018 Mr. Tölsner receives an annual compensation of EUR 40 thousand.

Under a consulting agreement of 2013 and extended in 2015, Mr. Georg Weiberg, a member of the Supervisory Board, provided certain consulting services to our Commercial Vehicle Systems segment. In the fiscal year 2017, the compensation paid to Mr. Weiberg amounted to EUR 11.3 thousand, in the fiscal year 2016 to EUR 15.0 thousand and in the fiscal year 2015 to EUR 26.3 thousand. As from July, 2018, the services provided by Mr. Weiberg are subject to a new consulting agreement with a term of one year, with an option for annual renewal. The maximum amount payable under this consulting agreement is EUR 90 thousand p.a.

Under a consulting agreement of 2016 with a two-year term until June 2018, Dr. Dieter Wilhelm, a former member of the Executive Board, provided consulting services to our Rail Vehicle Systems segment primarily in Japan. Dr. Wilhelm's compensation amounted to EUR 177.0 thousand in the fiscal year 2017 and EUR 33.0 thousand in the fiscal year 2016 (from July to December).

Until the dissolution of the Company's advisory board in July 2018, Dr. Wolfram Mörsdorf, Mrs. Julia Thiele-Schürhoff, Mr. Wolfgang Tölsner and Mr. Georg Weiberg, all members of the Supervisory Board, were also members of this advisory board. The annual compensation they received as ordinary members of the advisory board amounted to EUR 36.0 thousand for the fiscal years 2017 and 2016 and to EUR 15 thousand for the fiscal year 2015.

19. INFORMATION ON MAJOR HOLDINGS OF KNORR-BREMSE AG

The following table provides an overview of the major direct and indirect holdings of Knorr-Bremse AG:

Company name, registered seat	Participating interest held by the Company/ respective parent company as of the date of the Prospectus (in %)	Field of activity	Subscribed capital as of December 31, 2017 on the IFRS balance sheet (in EUR thousand)(1)	Reserves(2) as of December 31, 2017 according to IFRS (in EUR thousand)(1)	Receivables(3) / payables of the Company towards affiliates as of December 31, 2017 according to IFRS (in EUR thousand)(1)	Result for the fiscal year ended December 31, 2017 (in EUR thousand unless otherwise indicated)	Dividends including profit/loss transfer received by Knorr-Bremse AG in the fiscal year ended December 31, 2017 (in EUR thousand)
			(unaudited)				
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich, Germany	80%	Production and sales of brakes for commercial vehicles	64,000	10,297	(74,749)	83,435	80,000
Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich, Germany	100%	Production and sales of brakes for rail vehicles	36,000	0	470,737	0	297,895
Knorr-Bremse Steering Systems GmbH, Wülfrath, Germany	80%	Production and sales of steering systems for commercial vehicles	25	0	(1,111)	2,770	0
Kiepe Electric GmbH, Düsseldorf, Germany	100%	Development, production and distribution of electrical engineering products, in particular of devices for electrified passenger and freight traffic	1,000	5,737	(24,785)	0	0
Knorr-Bremse PowerTech GmbH, Berlin, Germany	100%	Production and sales of converters and electrical equipment for all types of rail vehicles	250	1,750	36,892	(11,352)	0
Knorr-Bremse Systèmes pour Véhicules Utilitaires France S.A., Lisieux, France	80%	Production and sales of brakes for commercial vehicles	4,032	0	(42,691)	22,620	0
Knorr-Bremse Ges.m.b.H., Mödling, Austria	100%	Production and sales of brakes and doors for rail vehicles	1,200	0	(38,280)	44,937	0
Selectron Systems AG, Lyss, Switzerland	100%	Production and sales of automation solutions for rail vehicles	2,697	0	5	7,505(5)	0
Knorr-Bremse España, S.A., Getafe, Spain	100%	Production and sales of air conditioning systems and brakes for rail vehicles	1,853	48,597	26,452	0	0
Knorr-Bremse Vasúti Jármű Rendszerek Hungária Kft., Budapest, Hungary	100%	Production and sales of brakes for rail vehicles	7,156	5,168	(79,735)	6,952,121(6)	0
G.T. Group Ltd., Peterlee, U.K.	80%	Production and sale of emission control systems and exhaust brakes for rail vehicles	182	0	(964)	(225)(7)	0
New York Air Brake LLC, Watertown/New York, U.S.	89%	Production and sales of brakes for rail vehicles	1	11,178	21	19,508(8)	0
Knorr Brake Truck Systems Company, Watertown/New York, U.S.	89%	Holding entity	0	118,205	0	59,313(8)	0
Knorr Brake Holding Corporation, Watertown/New York, U.S.	89%	Holding entity	100	147,436	39,920	172,258(8)	85,452

Company name, registered seat	Participating interest held by the Company/ respective parent company as of the date of the Prospectus (in %)	Field of activity	Subscribed capital as of December 31, 2017 on the IFRS balance sheet (in EUR thousand)[1]	Reserves[2] as of December 31, 2017 according to IFRS (in EUR thousand)[1]	Receivables[3] / payables of the Company towards affiliates as of December 31, 2017 according to IFRS (in EUR thousand)[1]	Result for the fiscal year ended December 31, 2017 (in EUR thousand unless otherwise indicated)	Dividends including profit/loss transfer received by Knorr-Bremse AG in the fiscal year ended December 31, 2017 (in EUR thousand)
			(unaudited)				
Bendix Commercial Vehicle Systems LLC, Elyria/Ohio, U.S.[4]	89%	Production and sales of brakes for commercial vehicles	0	173,271	(12)	104,659[8]	0
Knorr-Bremse India Pvt. Ltd., Faridabad, India	100%	Production and sales of brakes for commercial vehicles	2,099	3,068	2	2,063,063[10]	0
Knorr-Bremse Asia Pacific (Holding) Limited., Hong Kong/China	100%	Holding entity	5,855	0	26	1,766,154[11]	269,057
Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd., Suzhou, China	100%	Production and sales of brakes for rail vehicles	9,209	0	0	1,079,122[9]	0
Merak Jinxin Air Conditioning Systems (Wuxi) Co., Ltd., Wuxi/China	51%	Production and sales of air conditioning systems for rail vehicles	4,401	0	0	51,818[9]	0
Bendix Spicer Foundation LLC, Elyria/Ohio, U.S[4]	71%	Production and sales of brakes for commercial vehicles	0	32,353	0	33,311[8]	0
IFE-VICTALL Railway Vehicle Door Systems (Qingdao) Co., Ltd., Qingdao/China	59%	Production and sales of doors for rail vehicles	4,123	0	2	17,255[9]	0
Knorr-Bremse / Nankou Air Supply Unit (Beijing) Co., Ltd., Nankou/China	55%	Production and sales of brakes for rail vehicles	2,985	0	0	34,313[9]	0
Knorr-Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co., Ltd., Daxing, China	50%	Production and sales of brakes for rail vehicles	2,898	0	0	311,525[9]	0

(1) Foreign currencies are converted in equity by historical rate, in balance sheet by year end rate.

(2) The numbers show the capital reserve.

(3) Receivables against subsidiaries are shown by positive numbers, whereas payables owed to subsidiaries are shown by negative numbers. Where a company has both receivables and payables, the balance is shown.

(4) Group figures.

(5) In CHF thousand.

(6) In HUF thousand.

(7) In GPB thousand.

(8) In USD thousand.

(9) In CNY thousand.

(10) In INR thousand.

(11) In HKD thousand.

20. UNDERWRITING

20.1. Subject of and Arrangements on Underwriting

The Company, the Selling Shareholder, Ursus and each of the Underwriters have entered into an underwriting agreement with respect to the offer and sale of the shares offered hereby (the Underwriting Agreement) on September 28, 2018.

In the Underwriting Agreement, the Underwriters have agreed to acquire a total of 35,043,479 Base Shares as well as up to 8,060,000 Additional Base Shares to the extent the Upsize Option is exercised and up to 5,256,521 Over-Allotment Shares from the holdings of the Selling Shareholder, with a view to offering them to investors in the Offering, subject to certain conditions. The Underwriters have agreed to remit to the Selling Shareholder the purchase price for its Base Shares and its Additional Base Shares, if and to the extent the Upsize Option is exercised and, in addition, to remit to the Selling Shareholder the purchase price for the Over-Allotment Shares being sold, if and to the extent the Greenshoe Option is exercised, in case of the Base Shares and the Additional Base Shares at the time the shares from the holdings of the Selling Shareholder are delivered and in case of the Over-Allotment Shares one day after the Greenshoe Option is exercised.

The following table presents the percentage of Base Shares, Additional Base Shares and Greenshoe Shares that will or may be purchased by the respective Underwriter pursuant to the Underwriting Agreement:

Underwriter	Maximum number of Base Shares to be purchased	Maximum number of Additional Base Shares to be purchased	Maximum number of Greenshoe Shares to be purchased	Percentage of purchased Base Shares, Additional Base Shares and Greenshoe Shares(*) (in %)
Deutsche Bank Aktiengesellschaft Mainzer Landstraße 11-17 60329 Frankfurt am Main, Germany Joint Global Coordinator and Joint Bookrunner	8,760,871	2,015,000	1,314,131	25.00%
J.P. Morgan Securities plc 25 Bank Street, Canary Wharf London, E14 5JP, U.K. Joint Global Coordinator and Joint Bookrunner	8,760,870	2,015,000	1,314,131	25.00%
Morgan Stanley & Co. International plc 25 Cabot Square, Canary Wharf London, E14 4QA, U.K. Joint Global Coordinator and Joint Bookrunner	8,760,870	2,015,000	1,314,131	25.00%
Joh. Berenberg, Gossler & Co. KG Neuer Jungfernstieg 20 20354 Hamburg, Germany Joint Bookrunner	2,190,217	503,750	328,532	6.25%
COMMERZBANK Aktiengesellschaft Kaiserstraße 16 60311 Frankfurt am Main, Germany Joint Bookrunner	2,190,217	503,750	328,532	6.25%
UBS Limited 5 Broadgate London, EC2M 2QS, U.K. Joint Bookrunner	2,190,217	503,750	328,532	6.25%
UniCredit Bank AG Arabellastraße 12 81925 Munich, Germany Joint Bookrunner	2,190,217	503,750	328,532	6.25%
Total	35,043,479	8,060,000	5,256,521	100.00%

(*) Assuming the placement of the maximum number of Offer Shares (*i.e.*, assuming full exercise of the Upsize Option and full exercise of the Greenshoe Option).

The Offering comprises a public offering in Germany and Luxembourg and private placements in certain jurisdictions outside Germany. In the United States, the Offer Shares will be offered and sold only to Qualified

Institutional Buyers as defined in Rule 144A under the Securities Act. Outside the United States, the shares of the Company are being offered and sold only in offshore transactions pursuant to the exemption from registration under Regulation S under the Securities Act. The Offer Shares have not been and will not be registered under the Securities Act, or the securities laws of any other jurisdiction of the United States and may not be offered, sold or otherwise transferred to or within the United States, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and in compliance with any applicable securities laws of any state or other jurisdiction in the United States. The Offering will commence on October 1, 2018 and is expected to end on October 11, 2018. The Offer Price will be determined using the order book prepared during the bookbuilding process. Pricing is expected to take place on or about October 11, 2018.

The obligations of the Underwriters are subject to various conditions, including, among other things, (i) the conclusion of a pricing agreement, an agreement on the allocation of costs between the Selling Shareholder and the Company covering also the indemnity against liability claims in connection with the Offering and an IPO insurance agreement between the Company and an insurance company, (ii) the absence of a material adverse change, e.g. a reasonably likely material adverse change to the share capital of the Company, long-term debt of the Company reasonably likely prospective material adverse change, in or affecting the condition, business, prospects, management, consolidated financial position, shareholders' equity or results of operations of the Knorr-Bremse Group or a suspension in trading in securities (other than an intraday suspension for technical reasons) of the Company or in securities generally on the Frankfurt Stock Exchange, the London Stock Exchange or the New York Stock Exchange; (iii) receipt of customary certificates, legal opinions and comfort letters, and (iv) the making of necessary filings and the receipt of necessary approvals in connection with the Offering and the introduction of the Company's shares to trading on the Frankfurt Stock Exchange (*Frankfurter Wertpapierbörse*).

The Underwriters have provided and may, from time to time, provide services to companies of the Knorr-Bremse Group and the Selling Shareholder in the ordinary course of business and may extend credit to and have regular business dealings with companies of the Knorr-Bremse Group and the Selling Shareholder in their capacity as financial institutions (for a more detailed description of the interests of the Underwriters in the offering, see "*3.15. — The Offering — Interests of Parties Participating in the Offering*").

20.2. Commissions

The Underwriters will offer the Base Shares, the Additional Base Shares and the Over-Allotment Shares at the Offer Price. The Company will not receive any proceeds from the Offering and will therefore not pay any commissions to the Underwriters. The Selling Shareholder will, for the Base Shares, the Additional Base Shares (if any) and, if any, the Greenshoe Shares, pay the Underwriters the following commissions:

(a) a commission of 1.0% of the aggregate gross sales proceeds of the Offering, including any proceeds from exercising the Greenshoe Option ("**Base Fee**"); and

(b) at the Selling Shareholder's absolute discretion, an incentive commission of up to 0.5% of the gross sales proceeds of the Offering, including any proceeds from exercising the Greenshoe Option (the "**Discretionary Fee**").

The Base Fee shall be divided among the Underwriters on a fixed basis according to their respective underwriting commitments. The Base Fee will be deducted from the gross proceeds upon completion of the Offering. The Selling Shareholder may decide that the Discretionary Fee shall be apportioned among the Underwriters in proportions that differ from their respective underwriting quotas. The Selling Shareholder will take the decision on the allocation of the Discretionary Fee and arrange for the payment of the Discretionary Fee, if any, within 35 days after the settlement of the Offering. In the event that such day is not a business day in Frankfurt am Main, Germany, the payment will be delayed until the next business day in Frankfurt am Main, Germany.

The Company and the Selling Shareholder have also agreed to reimburse the Underwriters for certain costs and expenses (according to an internal split).

See also "*4. — Proceeds and Costs of the Offering and the Listing; Reasons for the Offering and the Listing*".

The Underwriters may involve selling agents in connection with the offering and, in this context, may share part of the commission with such selling agents.

20.3. Greenshoe Option and Securities Loan

To cover potential Over-Allotments, KB Holding will make available up to 5,256,521 bearer shares with no par value (*Stückaktien*) free of charge in the form of a securities loan to Deutsche Bank for the account of the Underwriters. In addition, KB Holding has further granted the Underwriters the option to acquire these shares against payment of the Offer Price (Greenshoe Option) in order to satisfy their retransfer obligation under the

securities loan. The Greenshoe Option may be exercised at maximum to the extent that shares of KB Holding have been placed by way of Over-Allotments. The Greenshoe Option shall be exercisable by Deutsche Bank as stabilization manager in agreement with the other Underwriters and will terminate 30 calendar days after commencement of the stock exchange trading of the shares.

20.4. Termination/Indemnification

The Underwriting Agreement provides that the Underwriters may under certain circumstances terminate the Underwriting Agreement, including after the shares have been allotted and listed, up to delivery and settlement. Grounds for termination include in particular

- a material adverse change in the economic position or the business of the Company or the Knorr-Bremse Group; and
- an event that has material adverse effects on the financial markets in Germany, the U.K. or the U.S..

If the Underwriting Agreement is terminated, the Offering will not take place, in which case any allotments already made to investors will be invalidated, and investors will have no claim for delivery. Claims with respect to security commissions already paid and costs incurred by an investor in connection with the subscription will be governed solely by the legal relationship between the investor and the financial institution to which the investor submitted its purchase order. Investors who engage in short selling bear the risk of being unable to satisfy their delivery obligations.

The Company and the Selling Shareholder have further agreed in the Underwriting Agreement to indemnify the Underwriters against certain liabilities, including liabilities under applicable securities laws, that may arise in connection with the Offering.

20.5. Selling Restrictions

No public offer is being made and no one has taken any action that would, or is intended to, permit a public offering of the Offer Shares to be made in any country or jurisdiction, other than Germany and Luxembourg, where any such action for that purpose is required. Accordingly, the Offer Shares may not be offered or sold, directly or indirectly, and neither the Prospectus nor any other offering material or advertisement in connection with the Offer Shares may be distributed or published in or from any country or jurisdiction except in compliance with any applicable rules and regulations of such country or jurisdiction. It is the responsibility of any person who receives a copy of this document to satisfy himself or herself as to full observance of the laws of any relevant territory in respect of any actions he or she may take, including obtaining of any requisite governmental or other consent or the observance of any requisite formalities and the payment of any issue, transfer or other taxes due in such territory.

The Offer Shares are being offered to the public solely in Germany and Luxembourg. No offers to buy the Offer Shares may be solicited and the Offer Shares and may not be offered, sold or directly or indirectly delivered to any person in the United States, except (a) to such persons whom they reasonably believe to be Qualified Institutional Buyers (within the meaning of Rule 144A under the Securities Act) in transactions meeting the requirements of Rule 144A of the Securities Act, or (b) in accordance with Rule 903 of Regulation S under the Securities Act. In addition, in the Underwriting Agreement each Underwriter has undertaken and will undertake not to engage in any directed selling efforts (as the term is defined in Regulation S of the Securities Act) with respect to these shares. The Offer Shares have not been and will not be registered under the Securities Act, or the securities laws of any other jurisdiction of the United States and may only be offered or sold outside the United States in accordance with Regulation S under the Securities Act and in compliance with all other applicable U.S. legal regulations.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (as defined below, and each of these states a "**Relevant Member State**"), each Underwriter, and each of its Affiliates, have, to the best of their respective knowledge, not made and will not make an offer to the public of any Offer Shares which are the subject of the Offering sontemplated by this Agreement in that Relevant Member State other than the offers contemplated in the Prospectus in Germany and Luxembourg once the Prospectus has been approved by the BaFin and published in accordance with the Prospectus Directive as implemented in Germany and Luxembourg and notified by the BaFin to the CSSF, exept that they may make an offer to the public in that Relevant Member State of any Offer Shares at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

(a) addressed solely to Qualified Investors (as defined in the Prospectus Directive);

(b) to fewer than 150 natural or legal persons (other than Qualified Investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the Joint Global Coordinators for any such offer; or

(c) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer (as set forth in clauses (a) to (c)) of Offer Shares shall result in a requirement for the publication by the Company or any Underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this section, the expression an “offer to the public” in relation to any Offer Shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any Offer Shares, as the same may be varied in that member state by any measure implementing the Prospectus Directive in that member state, and the expression “Prospectus Directive” for purposes of this section includes any relevant implementing measure in the Relevant Member State.

Each Underwriter or any of its Affiliates or any person acting on its or their behalf (i) has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity within the meaning of Section 21 of the UK Financial Services and Markets Act 2000, as amended (“**FSMA**”) received by it in connection with the issue or sale of any Offer Shares in circumstances in which Section 21(1) of the FSMA does not apply to the Company; and (ii) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Offer Shares in, from or otherwise involving the United Kingdom.

None of the Underwriters nor any of their Affiliates has taken, or will take, any action in any jurisdiction other than a Relevant Member State that would constitute an offer to the public of any Offer Shares.

21. TAXATION IN GERMANY

The following section presents a number of key German taxation principles which generally are or can be relevant to the acquisition, holding or transfer of shares both by a shareholder (an individual, a partnership or corporation) that has a tax domicile in Germany (that is, whose place of residence, habitual abode, registered office or place of management is in Germany) and by a shareholder without a tax domicile in Germany. The information is not exhaustive and does not constitute a definitive explanation of all possible aspects of taxation that could be relevant for shareholders. The information is based on the tax laws in force in Germany as of the date of the Prospectus (and their interpretation by administrative directives and courts) as well as typical provisions of double taxation treaties that Germany has concluded with other countries. Tax law can change — sometimes retrospectively. Moreover, it cannot be ruled out that the German tax authorities or courts may consider an alternative interpretation or application to be correct that differs from the one described in this section.

This section cannot serve as a substitute for tailored tax advice to individual shareholders. Shareholders are therefore advised to consult their tax advisers regarding the tax implications of the acquisition, holding or transfer of shares and regarding the procedures to be followed to achieve a possible reimbursement of German withholding tax (Kapitalertragsteuer). Only such advisers are in a position to take the specific tax-relevant circumstances of individual shareholders into due account.

21.1. Taxation of the Company

21.1.1. Corporate Income Tax

As a rule, the taxable profits generated by corporations with their seat or place of management in Germany are subject to corporate income tax (*Körperschaftsteuer*). The rate of the corporate income tax is a standard 15% for both distributed and retained earnings, plus a solidarity surcharge (*Solidaritätszuschlag*) amounting to 5.5% on the corporate income tax liability (*i.e.*, 15.825% in total).

In general, dividends (*Dividenden*) or other profit shares that the Company derives from domestic or foreign corporations are effectively 95% exempt from corporate income tax (including solidarity surcharge), as 5% of such receipts are treated as non-deductible business expenses, and are therefore subject to corporate income tax (and solidarity surcharge thereon). In other respects, business expenses actually incurred in direct relation to the dividends may be deducted. However, dividends that the Company receives from domestic or foreign corporations are not exempt from corporate income tax (including solidarity surcharge thereon), if the Company only holds a direct participation of less than 10% in the share capital of such corporation at the beginning of the calendar year (hereinafter, a "**Portfolio Participation**" — *Streubesitzbeteiligung*). The acquisition of a shareholding of at least 10% during a calendar year is deemed to have occurred at the beginning of such calendar year. Participations in the share capital of other corporations which the Company holds through a partnership (including those that are co-entrepreneurships (*Mitunternehmerschaften*)) are attributable to the Company only on a pro rata basis at the ratio of the interest share of the Company in the assets of the relevant partnership.

The Company's gains from the disposal of shares in a domestic or foreign corporation are effectively 95% exempt from corporate income tax (including the solidarity surcharge thereon), regardless of the size of the participation and the holding period; 5% of the gains are treated as non-deductible business expenses and are therefore subject to corporate income tax (plus the solidarity surcharge thereon) at a rate of 15.825%. Conversely, losses incurred from the disposal of such shares are not deductible for corporate income tax purposes. However, transaction costs directly related to the disposal of shares reduce a (95% exempt) capital gain or increase a (non-tax deductible) capital loss. Currently, there are no specific rules for the taxation of gains arising from the disposal of Portfolio Participations.

21.1.2. Trade Tax

Additionally, German corporations are also usually subject to trade tax (*Gewerbesteuer*) with respect to their taxable trade profit (*Gewerbeertrag*) generated at their permanent establishments maintained in Germany (*inländische Betriebstätten*). The taxable trade profit corresponds in principle with the profit as determined for corporate income tax purposes. However, certain add-backs (including, for example, certain amounts of lease payments and interest expenses) and deductions might result in a lower or higher tax base for trade tax purposes. Trade tax on the taxable trade profits depends on the municipal trade tax multiplier (*Gewerbesteuer-Hebesatz*) applied by the relevant authority in the municipality in which the Company maintains its permanent establishments. Based on data provided by the German Federal Statistics Office for the year 2016, the average trade tax rate in Germany amounts to approximately 14% (with a statutory minimum tax rate of 7%, but no maximum tax rate). The blended trade rate applying to the Company may be lower or higher than the statistical

average. When determining the income of the corporation that is subject to corporate income tax, trade tax cannot be deducted as a business expense. In principle, profits derived from the sale of shares in another domestic or foreign corporation are treated in the same way for trade tax purposes as for corporate income tax (as described above). Contrary to this, profit shares derived from domestic or foreign corporations are only effectively 95% exempt from trade tax, if the Company either held a participation of at least 15% in the share capital of the company making the distribution at the beginning of the relevant assessment period or — in the case of participations in foreign corporations (subject to further requirements) — if the Company has been holding a participation of this size continuously since the beginning of such period ("**Trade Tax Participation Privilege**" — *gewerbesteuerliches Schachtelprivileg*). If the participation is held in a foreign corporation within the meaning of Article 2 of the Council Directive 2011/96/EU of November 30, 2011 (the "**Parent-Subsidiary Directive**") which is tax resident in another EU Member State, the Trade Tax Participation Privilege becomes available if the Company held at least 10% in the share capital of the foreign corporation at the beginning of the relevant assessment period. Otherwise, the profit shares will be subject to trade tax (at the above-mentioned rates) in full. Subject to additional limitations, the trade tax participation privilege also applies to dividends paid by other foreign corporations.

21.1.3. Restrictions on Deductions of Interest Expenses

The provisions of the so-called interest barrier (*Zinsschranke*) limit the degree to which interest expenses are deductible from the tax base. Accordingly, as a rule, interest expenses exceeding interest income are deductible in an amount of up to 30% of the EBITDA as determined for tax purposes in a given fiscal year, although there are exceptions to this rule. Non-deductible interest expenses must be carried forward to subsequent fiscal years (interest carry-forwards). EBITDA that has not been fully utilized can, under certain circumstances, be carried forward to subsequent years (for up to five years) and may be used to allow additional interest deductions (EBITDA carry-forward). Further restrictions may apply to interest paid on shareholder loans. For trade tax purposes, however, the deductibility of interest expenses is further restricted to the extent that the sum of certain trade taxable add back items exceeds EUR 100,000, since in such cases 25% of the interest expenses, to the extent they were deducted for corporate income tax purposes, are added back to the tax base when calculating the taxable trade profit. Therefore, for trade tax purposes, the amount of deductible interest expenses is in such cases only 75% of the interest expenses deductible for purposes of corporate income tax.

21.1.4. Tax Losses

Under certain conditions, negative income of the Company that has not been offset by current year positive income can be carried back or forward into other assessment periods. Tax loss carry-backs (*Verlustrückträge*) to the immediately preceding assessment period are only permissible up to EUR 1 million for corporate income tax but not for trade tax purposes. Negative income that has not been offset and not carried back will be carried forward to subsequent assessment periods. Such tax loss carry forwards (*Verlustvorträge*) can be offset against positive income of subsequent assessment periods in full up to an amount of EUR 1 million of the relevant positive income for corporate income and trade tax purposes. If the taxable income or the taxable trade profit exceeds this amount, only 60% of the excess amount can be offset against tax loss carry-forwards. The remaining 40% of the excess amount is subject to tax in any case (minimum taxation — *Mindestbesteuerung*). Unused tax loss carry-forwards can, as a rule, be carried forward indefinitely and can be deducted pursuant to the rules set out regarding future taxable income or taxable trade profit.

21.1.5. Forfeiture of Unutilized Losses and Interest Carry-Forwards

Unutilized losses and interest carry-forwards are forfeited in full and can no longer be deducted if, within a period of five years, more than 50% of the Company's share capital or voting rights are transferred either directly or indirectly to an acquiring party or its related parties or a group of acquirers with aligned interests or if a comparable situation arises (harmful acquisition of shares (*schädlicher Beteiligungserwerb*)). If more than 25% up to and including 50% of the Company's share capital or voting rights are transferred or another harmful acquisition of shares takes place within the meaning of the foregoing sentence during a period of five years, unutilized losses and interest carry-forwards will be forfeited pro rata to the transferred percentage (together the "**Change of Control Rules**"). The foregoing limitations do not apply if the Company's share capital or voting rights are transferred to acquirers belonging to the same group of companies described in greater detail in the relevant statutory provisions (group clause (*Konzernklausel*)) or to the extent the losses do not exceed the pro rata (acquisition of more than 25% to 50% interest) or entire (acquisition of more than 50% interest) taxable built-in gains in Germany (built-in gains clause (*Stille-Reserven-Klausel*)). In late 2016, an additional exemption from the Change of Control Rules for unutilized losses and interest carry forwards was enacted with an effective date for harmful acquisitions of shares after December 31, 2015. Basically, the application of the Change of Control Rules can be suspended upon application of the taxpayer provided that the company has been

continuously operating the same business operations since its establishment or at least within a period including the past three tax assessment periods preceding and including the tax assessment period in which the harmful acquisition of shares takes place (the "**Observation Period**"), and that none of further pre-determined events has occurred during the Observation Period. Furthermore, if any of these pre-determined events (including the discontinuation of the business operations) occurs in a subsequent period, any tax loss carry-forward and any interest carry-forward remaining after the Observation Period is forfeited. Additional exemptions (*e.g.*, the built-in gains clause) are applicable.

On March 29, 2017, the German Federal Constitutional Court ("**German Federal Constitutional Court**", *Bundesverfassungsgericht*) held that the above Change of Control Rules in their versions applicable from 2008 until 2015 are inconsistent with the principle of equality (*Gleichheitsgrundsatz*) under the German Constitution (*Grundgesetz*), to the extent they relate to a transfer of more than 25% up to and including 50% of the subscribed share capital or voting rights of a company. This applies irrespective of the introduction of the group clause and the built-in gains clause. The Federal Constitutional Court obliged the German legislator to revise by December 31, 2018 at the latest the law in line with the German Constitution (*Grundgesetz*) with retroactive effect as from January 1, 2008.

The ruling of the Federal Constitutional Court remains silent on whether or not the Change of Control Rules are compliant with the German Constitution to the extent more than 50% of the subscribed capital or voting rights are transferred. However, this question is dealt with in cases still pending with the Federal Fiscal Court (*Bundesfinanzhof*). Further, the Federal Constitutional Court did not decide whether the Change of Control Rules as applicable since 2016 comply with the constitutional principle of equality. Therefore, it is currently unclear if and to what extent the pertinent Change of Control Rules will be further amended by the German legislator.

21.2. Taxation of Shareholders

In terms of the taxation of shareholders of the Company, a distinction must be made between taxation in connection with the holding of shares ("*21.2.1. — Taxation of Dividends*") and taxation in connection with the sale of shares ("*21.2.2. — Taxation of Capital Gains*"), as well as taxation in connection with the gratuitous transfer of shares ("*21.2.4. — Inheritance and Gift Tax*").

21.2.1. Taxation of Dividends

21.2.1.1. Withholding Tax

As a general rule, dividends distributed to the shareholder are subject to a withholding tax (*Kapitalertragsteuer*) of 25% and a solidarity surcharge of 5.5% thereon (*i.e.*, 26.375% in total plus church tax, if applicable). This, however, will not apply if and to the extent that dividend payments are funded from the Company's contribution account for tax purposes (*steuerliches Einlagekonto;* Section 27 German Corporate Income Tax Act — *Körperschaftsteuergesetz* ("**KStG**")); in this case no withholding tax will be withheld. However, these payments will reduce the acquisition costs of the shares and may, consequently, result in or increase a taxable gain upon the disposal of the shares (see below "*21.2.2. — Taxation of Capital Gains*"). The assessment basis for the withholding tax is the dividend approved by the general shareholders' meeting.

If shares — as it is the case with the shares in the Company — are admitted for collective custody by a central securities depository (*Wertpapiersammelbank*) pursuant to Section 5 German Act on Securities Accounts (*Depotgesetz — DepotG*) and are entrusted to such bank for collective custody (*Sammelverwahrung*) in Germany, the withholding tax is withheld and passed on for the account of the shareholders (i) by the domestic credit or financial services institution (*inländisches Kredit- oder Finanzdienstleistungsinstitut*) (including domestic branches of such foreign enterprises), by the domestic securities trading company (*inländisches Wertpapierhandelsunternehmen*) or the domestic securities trading bank (*inländische Wertpapierhandelsbank*) which keeps or administers the shares and disburses or credits the dividends to the shareholder or disburses the dividends to a foreign agent, (ii) by the central securities depository to which the shares were entrusted for collective custody if the dividends are disbursed to a foreign agent by such central securities depository or (iii) by the Company itself if and to the extent shares held in collective custody by the central securities depository are treated as so-called "*abgesetzte Bestände*" (stock being held separately) (hereinafter in all cases, the "**Dividend Paying Agent**"). Aside from the case of stock being held separately, the Company does not assume any responsibility for the withholding of the withholding tax.

In general, the withholding tax must be withheld without regard as to whether and to which extent the dividend is exempt from (corporate) income tax at the level of the shareholder and whether the shareholder is domiciled in Germany or abroad.

However, withholding tax on dividends distributed to a company domiciled in another EU Member State within the meaning of Article 2 of the Parent-Subsidiary Directive, may be refunded upon application and subject to

further conditions. This also applies to dividends distributed to a permanent establishment of such a parent company in another EU Member State or to a parent company that is subject to unlimited tax liability in Germany, provided that the participation in the Company is actually part of such permanent establishment's business assets. Further requirements for the refund of withholding tax under the Parent-Subsidiary Directive are that the shareholder has directly held at least 10% of the Company's registered share capital for one year and that a respective application is filed with the German Federal Central Tax Office ("**German Federal Central Tax Office**", *Bundeszentralamt für Steuern, Hauptdienstsitz Bonn-Beuel*, An der Küppe 1, D-53225 Bonn, Germany). If, in the case of a holding of at least 10% of the Company's registered share capital, shares held in collective custody (*Sammelverwahrung*) by the German central securities depository (*Wertpapiersammelbank*) Clearstream Banking AG are treated as so-called "*abgesetzte Bestände*" (stock being held separately), the German tax authorities will not object when the main paying agent (*Hauptzahlstelle*) of the Company upon presentation of a valid exemption certificate (*Freistellungsbescheinigung*) and of a proof that this stock has been held separately, disburses the dividend without deducting withholding tax. An exemption certificate can be granted upon application (using official application forms) with the German Federal Central Tax Office (at the above address).

With respect to distributions made to other shareholders without a tax domicile in Germany, the withholding tax rate can be reduced in accordance with an applicable double taxation treaty Germany has entered into with the respective shareholder's country of residence if the shares neither form part of the assets of a permanent establishment or a fixed place of business in Germany, nor form part of business assets for which a permanent representative in Germany has been appointed. The withholding tax reduction or exemption are generally granted by the German Federal Central Tax Office (at the above address) upon application in such a manner that the difference between the total amount withheld, including the solidarity surcharge, and the reduced withholding tax actually owed under the relevant double taxation treaty (generally 15% which may be further reduced if additional prerequisites are met) is refunded by the German Federal Central Tax Office (at the above address).

Forms for the refund and exemption from the withholding at source procedure are available at the German Federal Central Tax Office (at the above address or online at http://www.bzst.bund.de) as well as at German embassies and consulates.

If dividends are distributed to corporations subject to non-resident taxation in Germany, *i.e.*, corporations with no registered office or place of management in Germany and if the shares neither belong to the assets of a permanent establishment or fixed place of business in Germany nor are part of business assets for which a permanent representative in Germany has been appointed, two-fifths of the tax withheld at the source can generally be refunded even if not all of the prerequisites for a refund under the Parent-Subsidiary Directive or an applicable double taxation treaty are fulfilled. The relevant application forms are available at the German Federal Central Tax Office (at the above address).

The aforementioned possibilities for an exemption from or a refund of withholding tax depend on certain other conditions being met (particularly the fulfillment of so-called substance requirements — *Substanzerfordernisse*).

The aforementioned withholding tax reductions are restricted if (i) the applicable double taxation treaty provides for a tax reduction leading to an applicable tax rate of less than 15% and (ii) the shareholder is not a corporation that directly holds at least a participation of 10% of the equity capital of the Company and is subject to tax on its income and profits in its state of residence without being exempt. If the aforementioned criteria are met, a relief from or a refund of withholding tax is only possible if the shareholder (i) has been the economic owner of the shares for a continuous period of at least 45 days during the period starting 45 days prior to the date when the dividend becomes due and ending 45 days after such date (the "**Minimum Holding Period**" (*Mindesthaltedauer*)), (ii) has been exposed (if taking into account claims of the shareholder from transactions reducing the risk of changes of the market value of the shares and corresponding claims of related parties of the shareholder) to at least 70% of the risk resulting from a decrease-in-value of the shares continuously during the Minimum Holding Period (the minimum change-in-value risk (*Mindestwertänderungsrisiko*)) and (iii) is not obliged to forward (*vergüten*) these dividends, directly or indirectly, in total or to more than 50% to another person (the tests under (i) to (iii) above are together described as the "**Minimum Risk Test**"). As an exception to this rule, the Minimum Risk Test does not apply if the shareholder has been, upon actual receipt of the dividend, the economic owner of the shares for a continuous period of at least one year, whereby shares of the shareholder acquired first are deemed to be sold first (first in — first out).

21.2.1.2. Taxation of Dividends of Shareholders with a Tax Domicile in Germany

This section applies to shareholders with a tax domicile in Germany (*i.e.*, persons whose residence, habitual abode, statutory seat or place of effective management and control is located in Germany).

21.2.1.2.1. Shares Held as Non-Business Assets

Dividends distributed to shareholders who are individuals with a tax domicile in Germany whose shares are held as non-business assets form part of their taxable capital investment income, which is subject to a special uniform income tax rate of 25% plus solidarity surcharge of 5.5% thereon (*i.e.*, 26.375% in total plus church tax, if applicable). The income tax owed for this dividend income is in general satisfied by the withholding tax withheld by the Dividend Paying Agent ("**Flat-rate Withholding Tax**" (*Abgeltungsteuer*)). Income-related expenses cannot be deducted from the shareholder's capital investment income (including dividends), except for an annual lump-sum deduction (*Sparer-Pauschbetrag*) of EUR 801 (EUR 1,602 for married couples and registered partners jointly assessed).

The shareholder may request that his or her capital investment income (including dividends) along with his or her other taxable income will be subject to the progressive income tax rate (instead of the uniform income tax rate for capital investment income) if this results in a lower tax burden. In this case, income-related expenses cannot be deducted from the capital investment income either, except for the aforementioned annual lump-sum deduction and the withholding tax will generally be credited against the progressive income tax and any excess amount will be refunded. However, the full amount of withholding tax levied on the dividends is only creditable if the shareholder meets the requirements of the Minimum Risk Test. In case that the shareholder does not meet the requirements of the Minimum Risk Test, three-fifths of the withholding tax levied on the dividends (excluding the solidarity surcharge, *i.e.*, 15% of the dividends) is not creditable, but may, upon application, be deducted when determining the shareholder's taxable income in an assessment procedure. Shareholders who do not meet the requirements of the Minimum Risk Test but who have, nevertheless, not suffered a withholding tax deduction on the dividends (*e.g.*, due to the presentation of a non-assessment certificate) or have already obtained a refund of the taxes withheld, are obliged to notify their competent tax office thereof and to make the payment of an amount corresponding to the amount which would otherwise be withheld. As an exception to this rule, the Minimum Holding Period (and, if applicable, a corresponding notification and (re-)payment obligation) does not apply to an investor if either (i) his or her amount of dividend income on shares (including shares of the Company) and certain profit participation rights (*Genussrechte*) does not exceed an amount of EUR 20,000 in a given tax assessment period or if (ii) he or she has been, upon actual receipt of the dividend, the economic owner of the shares for a continuous period of at least one year, whereby shares of the shareholder acquired first are deemed to be sold first (first in — first out).

Exceptions from the Flat-rate Withholding Tax also apply upon application for shareholders who have a shareholding of at least 25% in the Company and for shareholders who have a shareholding of at least 1% in the Company and are able to entrepreneurially influence the business activities of the company through a professional work for the Company (the latter alternative is applicable for tax assessment periods from 2017 onwards). In this situation, the tax treatment described below at "*21.2.1.2.2. — Shares Held as Business Assets — (2) Sole Proprietors (Individuals)*" applies. This also means that the requirements of the Minimum Risk Test (as described above) have to be fulfilled by the respective shareholder to receive a full withholding tax credit or refund.

The church tax in the case of taxpayers subject to church tax will be withheld by way of an automated procedure and remitted to the religious community levying the tax. Church tax withheld at source may not be deducted as a special expense (*Sonderausgabe*) in the course of the tax assessment, but the Dividend Paying Agent may reduce the standard withholding tax (of 26.375% including the solidarity surcharge) by 26.375% of the church tax to be withheld on the dividends. Where shareholders have lodged a timely written objection with the German Federal Central Tax Office (at the above address) (so-called blocking notice (*Sperrvermerk*)) as regards the automated retrieval of data on their religious affiliation, church tax will not be automatically deducted. In this case, a shareholder subject to church tax is obliged to declare the dividends in his income tax return. The church tax on the dividends is then levied by way of a tax assessment.

Shareholders who are subject to an unlimited tax liability in Germany and hold their shares as non-business assets may be paid the dividends without deduction of withholding tax if certain prerequisites are met, in particular, if the shareholder has provided a non-assessment certificate (*Nichtveranlagungs-Bescheinigung*) or an exemption instruction (*Freistellungsauftrag*) and the exempt amount indicated therein has not yet been exhausted.

As an exemption, dividend payments that are funded from the Company's contribution account for tax purposes (*steuerliches Einlagekonto;* Section 27 KStG) and are paid to shareholders with a tax domicile in Germany whose shares are held as non-business assets, do — contrary to the above — not form part of the shareholder's taxable income but reduce the acquisition costs for the underlying shares. This results in a higher capital gain in case of the shares' disposal (see below, "*21.2.2. — Taxation of Capital Gains*"). However, this will not apply if

(i) the shareholder or, in the event of a gratuitous transfer, its legal predecessor, or, if the shares have been gratuitously transferred several times in succession, one of his legal predecessors at any point during the five years preceding the (deemed, as the case may be,) disposal directly or indirectly held at least 1% of the share capital of the Company (a "**Qualified Holding**") and (ii) the dividend payment funded from the Company's contribution account for tax purposes exceeds the actual acquisition costs of the shares. In such a case of a Qualified Holding, a dividend payment funded from the Company's contribution account for tax purposes is deemed a sale of the shares and is taxable as a capital gain if and to the extent the dividend payment funded from the Company's contribution account for tax purposes exceeds the acquisition costs of the shares. In this case the taxation corresponds with the description in the section "*21.2.2. — Taxation of Capital Gains*" made with regard to shareholders maintaining a Qualified Holding.

21.2.1.2.2. Shares Held as Business Assets

Dividends from shares held as business assets of a shareholder with a tax domicile in Germany are not subject to the Flat-rate Withholding Tax. However, dividends are generally subject to the withholding tax on capital investment income of 25% plus 5.5% solidarity surcharge thereon, resulting in an aggregate tax rate of 26.375%, plus church tax for individuals, if applicable. The withholding tax (including the solidarity surcharge and church tax, if applicable) withheld and paid by the Dividend Paying Agent will generally be credited against the shareholder's income or corporate income tax liability (including the solidarity surcharge and church tax, if applicable) or refunded in the amount of any excess. However, the shareholder is only permitted to fully credit the withholding tax levied on the dividends if the requirements of the Minimum Risk Test (as described in section "*21.2.1.2.1. — Shares Held as Non-Business Assets*" above) are fulfilled. The taxation depends on whether the shareholder is a corporation, a sole proprietor or a partnership (co-entrepreneurship).

Dividend payments that are funded from the Company's contribution account for tax purposes (*steuerliches Einlagekonto;* Section 27 KStG) and are paid to shareholders with a tax domicile in Germany whose shares are held as business assets are generally fully tax-exempt in the hands of such shareholder, but reduce the acquisition costs for the underlying shares. To the extent the dividend payments funded from the Company's contribution account for tax purposes exceed the actual acquisition costs of the shares, a taxable capital gain occurs. The taxation of such gain corresponds with the description in the section "*21.2.2. — Taxation of Capital Gains*" made with regard to shareholders whose shares are held as business assets (however, as regards the application of the 95% exemption in case of a corporation this is not undisputed).

(1) Corporations

If the shareholder is a corporation with a tax domicile in Germany, the dividends are in general effectively 95% exempt from corporate income tax and the solidarity surcharge; 5% of the dividends are treated as non-deductible business expenses and are therefore subject to corporate income tax (plus the solidarity surcharge) at a total tax rate of 15.825%. In other respects, business expenses actually incurred in direct relation to the dividends may be deducted. However, dividends are not exempt from corporate income tax (including solidarity surcharge thereon), if the shareholder only holds a Portfolio Participation at the beginning of the calendar year. Participations of at least 10% acquired during a calendar year are deemed to have been acquired at the beginning of the calendar year. Participations which a shareholder holds through a partnership (including those that are co-entrepreneurships (*Mitunternehmerschaften*)) are attributable to the shareholder only on a pro rata basis at the ratio of the interest share of the shareholder in the assets of the relevant partnership.

Dividends (after deducting business expenses economically related to the dividends) are subject to trade tax in the full amount, unless the requirements of the Trade Tax Participation Privilege are fulfilled. In this latter case, the dividends are not subject to trade tax; however, trade tax is levied on the amount considered to be a non-deductible business expense (amounting to 5% of the dividend). Trade tax on the taxable trade profits depends on the municipal trade tax multiplier (*Gewerbesteuer-Hebesatz*) applied by the relevant authority in the municipality in which the Company maintains its permanent establishments. The average trade tax rate in Germany amounts to approximately 14% (with a statutory minimum tax rate of 7%, but no maximum tax rate). The blended trade rate applying to the Company may be lower or higher than the statistical average.

(2) Sole Proprietors (Individuals)

If the shares are held as business assets by a sole proprietor with a tax domicile in Germany, only 60% of the dividends are subject to progressive income tax (plus the solidarity surcharge) at a total tax rate of up to approximately 47.5% ("**Partial Income Method**" (*Teileinkünfteverfahren*)) plus church tax, if applicable. Only 60% of the business expenses economically related to the dividends are tax-deductible. With respect to church tax, if applicable, the Partial Income Method does not apply, *i.e.*, church tax will be levied on the assumption that the dividends are fully taxable. If the shares belong to a domestic permanent establishment in Germany of a

business operation of the shareholder, the dividend income (after deducting business expenses economically related thereto) is not only subject to income tax but is also fully subject to trade tax, unless the prerequisites of the Trade Tax Participation Privilege are fulfilled. In this latter case, the net amount of dividends, *i.e.*, after deducting directly related expenses, is exempt from trade tax. As a rule, trade tax can be credited against the shareholder's personal income tax, either in full or in part, by means of a lump-sum tax credit method, depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer.

(3) Partnerships

If the shareholder is a trading or deemed trading partnership (co-entrepreneurship) with a tax domicile in Germany, the income or corporate income tax is not levied at the level of the partnership but at the level of the respective partners. The taxation for every partner depends on whether the partner is a corporation or an individual. If the partner is a corporation, the dividends contained in the profit share of the shareholder will be taxed in accordance with the principles applicable for corporations (see "*(1) Corporations*" above). If the partner is an individual, the taxation is in line with the principles described for sole proprietors (see "*(2) Sole Proprietors (Individuals)* above). Upon application and subject to further conditions, an individual as a partner can have his personal income tax rate lowered for earnings not withdrawn from the partnership.

In addition, the dividends are generally subject to trade tax in the full amount at the partnership level if the shares are attributed to a German permanent establishment of the partnership. If a partner of the partnership is an individual, the portion of the trade tax paid by the partnership pertaining to his profit share will generally be credited, either in full or in part, against his personal income tax by means of a lump-sum method — depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer. Due to a lack of case law and administrative guidance, it is unclear how the rules for the taxation of dividends from Portfolio Participations (see "*(1) Corporations*" above) might impact the trade tax treatment at the level of the partnership. Shareholders are strongly recommended to consult their tax advisers.

(4) Special Treatment of Companies in the Financial and Insurance Sectors and Pension Funds

Special rules apply to dividends received by companies active in the financial and insurance sectors, as well as pension funds (see below "*21.2.3. — Special Treatment of Companies in the Financial and Insurance Sectors and Pension Funds*").

21.2.1.3. Taxation of Dividends of Shareholders with a Non-German Tax Domicile

Shareholders without a tax domicile in Germany, whose shares are attributable to a German permanent establishment or fixed place of business or are part of business assets for which a permanent representative in Germany has been appointed, are liable for tax in Germany on their dividend income. In this respect the provisions outlined above for shareholders with a tax domicile in Germany whose shares are held as business assets apply accordingly (see "*21.2.1.2.2. — Shares Held as Business Assets*"). The withholding tax (including the solidarity surcharge) withheld and passed on will generally be credited against the income or corporate income tax liability or refunded in the amount of any excess. The shareholder is only permitted to fully credit the withholding tax levied on the dividends if the requirements of the Minimum Risk Test (as described in section "*21.2.1.2.1. — Shares Held as Non-Business Assets*") are fulfilled.

In all other cases, any tax liability in Germany for dividends received by shareholders resident outside of Germany will be discharged through the withholding of the withholding tax by the Dividend Paying Agent. A refund or exemption is granted only as discussed above under "*21.2.1.1. — Withholding Tax*".

Dividend payments that are funded from the Company's contribution account for tax purposes (*steuerliches Einlagekonto;* Section 27 KStG) are generally not subject to German taxation.

21.2.2. Taxation of Capital Gains

21.2.2.1. Taxation of Capital Gains of Shareholders with a Tax Domicile in Germany

This section applies to shareholders with a tax domicile in Germany (*i.e.*, persons whose residence, habitual abode, statutory seat, or place of effective management and control is located in Germany).

21.2.2.1.1. Shares Held as Non-Business Assets

Gains on the disposal of shares acquired after December 31, 2008 by a shareholder that is an individual with a tax domicile in Germany and held as non-business assets are generally — regardless of the holding period — subject to a uniform tax rate on capital investment income in Germany (25% plus the solidarity surcharge of 5.5% thereon, *i.e.*, 26.375% in total plus any church tax if applicable).

By contrast, gains from the sale of shares that were acquired by a shareholder prior to January 1, 2009 are not taxable. If a shareholder acquired shares before January 1, 2009 as well as on or after January 1, 2009 and if these shares are kept in the same custodial account, it will be deemed that those shares that were acquired first are sold first.

The taxable capital gain is equal to the difference between (a) the proceeds of the disposal and (b) the acquisition costs of the shares plus the expenses related directly and materially to the disposal. Dividend payments that are funded from the Company's contribution account for tax purposes (*steuerliches Einlagekonto;* Section 27 KStG) reduce the original acquisition costs; if dividend payments that are funded from the Company's contribution account for tax purposes exceed the acquisition costs, negative acquisition costs — which can increase a capital gain — can arise in case of shareholders, whose shares are held as non-business assets and do not qualify as a Qualified Holding.

Only an annual lump-sum deduction of EUR 801 (EUR 1,602 for married couples and registered partners jointly assessed) may be deducted from the entire capital investments income. It is generally not possible to deduct income-related expenses in connection with capital gains, except for the expenses directly related in substance to the disposal which can be deducted when calculating the capital gains. Losses from the disposal of shares may only be offset against profits from capital investments arising from the disposal of the Company's shares or other shares in stock corporations during the same assessment period or in future assessment periods.

If the shares are held in custody or administered by a domestic credit or financial services institution, domestic securities trading company or a domestic securities trading bank, including domestic branches of foreign credit institutions or financial service institutions, or if such an office executes the disposal of the shares and pays out or credits the capital gains (each a "**Domestic Paying Agent**"), the tax on the capital gains will in general be satisfied by the Domestic Paying Agent withholding the withholding tax on investment income in the amount of 26.375% (including the solidarity surcharge) on the capital gain and transferring it to the tax authority for the account of the seller. The church tax deduction for capital gains is performed by way of standardized tax withholding procedure by the Domestic Paying Agent withholding such tax. The principles outlined above for church tax on dividend income (see "*21.2.2.1.1. — Shares Held as Non-Business Assets*") apply accordingly.

However, the shareholder can apply for his or her total capital investment income, together with his or her other taxable income, to be subject to progressive income tax rate as opposed to the uniform tax rate on investment income, if this results in a lower tax liability. In this case, the withholding tax is credited against the progressive income tax and any resulting excess amount will be refunded. Limitations on offsetting losses are applicable. Further, income-related expenses are non-deductible, except for the annual lump-sum deduction. Furthermore, the limitations on offsetting losses are also applicable under the income tax assessment.

Shareholders who are subject to German residents taxation and hold their shares as non-business assets may realize capital gains without deduction of tax on capital investment income and solidarity surcharge if certain prerequisites are met, particularly if the shareholder has provided a non-assessment certificate (*Nichtveranlagungs-Bescheinigung*) or an exemption instruction (*Freistellungsauftrag*) and the exempt amount indicated therein has not yet been exhausted.

If the withholding tax or, if applicable, the church tax on capital gains is not withheld by a Domestic Paying Agent, the shareholder is required to declare the capital gains in his or her income tax return. The income tax and any applicable church tax on the capital gains will then be collected by way of assessment.

In case of a Qualified Holding, the capital gain deriving from the disposal of the shares is not subject to the flat-rate withholding tax, but to the progressive income tax regime. In this case the Partial Income Method applies, which means that only 60% of the capital gains are subject to tax and only 60% of the losses on the disposal and expenses economically related thereto are tax deductible. Even though withholding tax is withheld by a Domestic Paying Agent in the case of a Qualified Holding, this does not satisfy the tax liability of the shareholder. Consequently, a shareholder must declare his or her capital gains in his or her income tax returns. The withholding tax (including the solidarity surcharge and church tax, if applicable) withheld and paid will be credited against the shareholder's income tax liability on his or her tax assessment (including the solidarity surcharge and any church tax if applicable) or refunded in the amount of any excess.

21.2.2.1.2. Shares Held as Business Assets

Gains on the sale of shares held as business assets of a shareholder with a tax domicile in Germany are not subject to the Flat-rate Withholding Tax. Withholding tax may only be withheld if the shares are kept with a Domestic Paying Agent. Subject to certain prerequisites, the tax on capital investment income withheld and remitted to the tax authorities will be imputed towards the shareholder's income tax liability and any excess amount paid will be refunded. Subject to certain requirements, however, the Domestic Paying Agent may refrain

from deducting tax on capital investment income if (i) the shareholder is a corporation, an association of individuals or an estate with its tax residence in Germany or (ii) the shares form part of the business assets of a business operation in Germany and the shareholders declares such to the Domestic Paying Agent in the officially prescribed form. Should the Domestic Paying Agent nonetheless have withheld tax on capital investment income, the tax withheld and remitted to the tax authorities (including solidarity surcharge, and church tax, if applicable) will be imputed towards the shareholder's personal income tax or corporate income tax liability (including solidarity surcharge and church tax, if applicable) and any excess amount paid will be refunded.

The taxation of the capital gains depends on whether the shareholder is a corporation, a sole proprietor or a partnership (co-entrepreneurship). Dividend payments that are funded from the Company's contribution account for tax purposes (*steuerliches Einlagekonto;* Section 27 KStG) reduce the original acquisition costs. In case of disposal, a higher taxable capital gain can arise therefrom. If the dividend payments exceed the shares' book value for tax purposes, a taxable capital gain can arise.

(1) Corporations

If the shareholder is a corporation with a tax domicile in Germany, the gains on the disposal of shares are, in general, effectively 95% exempt from corporate income tax (including the solidarity surcharge) and trade tax, currently, regardless of the size of the participation and the holding period; 5% of the gains are treated as non-deductible business expenses and are therefore subject to corporate income tax (plus the solidarity surcharge) at a tax rate amounting to 15.825% and trade tax (depending on the municipal trade tax multiplier applied by the respective municipal authority). The average trade tax rate in Germany amounts to approximately 14% (with a statutory minimum tax rate of 7%, but no maximum tax rate). The blended trade rate applying to the Company may be lower or higher. As a rule, losses on disposals and other profit reductions in connection with shares (*e.g.* from a write down) cannot be deducted as business expenses. Currently, there are no specific rules for the taxation of gains arising from the disposal of Portfolio Participations.

(2) Sole Proprietors (Individuals)

If the shares are held as business assets by a sole proprietor who is an individual with a tax domicile in Germany, only 60% of the gains on the disposal of the shares are subject to progressive income tax (plus the solidarity surcharge) at a total tax rate of up to approximately 47.5% (Partial Income Method) and, if applicable, church tax. Only 60% of the losses on the disposal and expenses economically related thereto are tax deductible. With respect to church tax, if applicable, the Partial Income Method does not apply. If the shares belong to a German permanent establishment of a business operation of the sole proprietor, 60% of the gains of the disposal of the shares are, in addition, subject to trade tax.

Trade tax can be credited towards the shareholder's personal income tax, either in full or in part, by means of a lump-sum tax credit method — depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer.

(3) Partnerships

If the shareholder is a trading or deemed trading partnership (co-entrepreneurship) with a tax domicile in Germany, the income or corporate income tax is not levied at the level of the partnership but at the level of the respective partners. The taxation depends on whether the partner is a corporation or an individual. If the partner is a corporation, the gains on the disposal of the shares as contained in the profit share of the partner will be taxed in accordance with the principles applicable for corporations (see "*21.2.1.2.2. — Shares Held as Business Assets — (1) Corporations*" above). For capital gains in the profit share of a partner that is an individual, the principles outlined above for sole proprietors apply accordingly (Partial Income Method, see above under "*21.2.1.2.2. — Shares Held as Business Assets — (2) Sole Proprietors (Individuals)*". Upon application and subject to further conditions, an individual as a partner can obtain a reduction of his or her personal income tax rate for earnings not withdrawn from the partnership.

In addition, gains on the disposal of shares are subject to trade tax at the level of the partnership, if the shares are attributed to a domestic permanent establishment of a business operation of the partnership: Generally, at 60% as far as they are attributable to the profit share of an individual as the partner of the partnership, and, currently, at 5% as far as they are attributable to the profit share of a corporation as the partner of the partnership. Losses on disposals and other profit reductions in connection with the shares are currently not considered for the purposes of trade tax if they are attributable to the profit share of a corporation, and are taken into account at 60% in the context of general limitations if they are attributable to the profit share of an individual.

If the partner of the partnership is an individual, the portion of the trade tax paid by the partnership attributable to his or her profit share will generally be credited, either in full or in part, against his or her personal income tax by

means of a lump-sum method — depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer.

(4) Special Treatment of Companies in the Financial and Insurance Sectors and Pension Funds

Special rules apply to capital gains realized by companies active in the financial and insurance sectors, as well as pension funds (see below, "*21.2.3. — Special Treatment of Companies in the Financial and Insurance Sectors and Pension Funds*").

21.2.2.2. Taxation of Capital Gains of Shareholders with a Non-German Tax Domicile

Capital gains derived from the disposal of shares by shareholders with no tax domicile in Germany are only subject to German tax if the selling shareholder has a Qualified Holding in the Company or the shares belong to a domestic permanent establishment or fixed place of business or are part of business assets for which a permanent representative in Germany has been appointed.

In the case of a Qualified Holding, 5% of the gains on the disposal of the shares are currently in general subject to corporate income tax plus the solidarity surcharge, if the shareholder is a corporation. Pursuant to a recently published decision of the German Federal Tax Court (*Bundesfinanzhof*) dated May 31, 2017 (I R 37/15), the fiction of that 5% of the capital gains are treated as non-deductible business expenses shall not apply if the respective shareholder does not generate any German-source income. Hence, in case of a Qualified Holding, the capital gain on the disposal of the shares should not be subject to German taxation if the shareholder has no tax domicile in Germany and neither maintains a permanent establishment nor has appointed a permanent representative in Germany. If the shareholder is a private individual, only 60% of the gains on the disposal of the shares are subject to progressive income tax plus the solidarity surcharge thereon and church tax, if applicable (partial-income method). However, most double taxation treaties provide for a partial or full relief from German taxation and assign the right of taxation to the shareholder's country of residence. Where a Domestic Paying Agent is involved, withholding tax on capital gains is generally levied at a rate of 25% (plus 5.5% solidarity surcharge thereon, resulting in an aggregate withholding tax rate of 26.375%). However, if (i) the shares are not held through a permanent establishment or fixed place of business or as business assets for which a permanent representative is appointed in Germany and (ii) a Domestic Paying Agent is involved, then, pursuant to a tax decree issued by the German Federal Ministry of Finance on January 18, 2016, the Domestic Paying Agent will not be required to withhold the *tax* on capital investment income (plus solidarity surcharge thereon) upon production of a certification of residence (*Ansässigkeitsbescheinigung*). In the case of a Qualified Holding, the capital gains must be declared in a tax return and will be taxed via an assessment procedure if no exemption under a double taxation treaty or under domestic law applies.

With regard to gains or losses on the disposal of shares belonging to a domestic permanent establishment or fixed place of business, or which are part of business assets for which a permanent representative in Germany has been appointed, the abovementioned provisions pertaining to shareholders with a tax domicile in Germany whose shares are business assets apply mutatis mutandis (see "*21.2.2.1.2. — Shares Held as Business Assets*"). The Domestic Paying Agent can refrain from deducting the withholding tax if the shareholder declares to the Domestic Paying Agent on an official form that the shares form part of domestic business assets and certain other requirements are met.

21.2.3. Special Treatment of Companies in the Financial and Insurance Sectors and Pension Funds

If credit institutions (*Kreditinstitute*) or financial services institutions (*Finanzdienstleistungsinstitute*) hold or sell shares that are allocable to their trading portfolio (*Handelsbestand*) pursuant to Section 340e para. 3 of the German Commercial Code (*Handelsgesetzbuch*), they will neither be able to benefit from the Partial Income Method nor be entitled to the effective 95% exemption from corporate income tax plus the solidarity surcharge and any applicable trade tax. Thus, dividend income and capital gains are fully taxable. The same applies to shares acquired by financial companies (*Finanzunternehmen*) within the meaning of the German Banking Act (*Kreditwesengesetz*) where (i) credit institutions or financial service institutions hold, directly or indirectly, a participation of more than 50% in the respective finance company and (ii) the finance company must account for the shares as current assets (*Umlaufvermögen*) as of the date of acquisition. The preceding sentence applies accordingly for shares held in a permanent establishment in Germany by financial institutions, financial service institutions and financial institutions tax resident in another EU Member State or in other signatory states of the Treaty on the EEA.

Likewise, the tax exemption described earlier afforded to corporations for dividend income and capital gains from the sale of shares does not apply to shares that qualify as a capital investment (*Kapitalanlagen*) in the case of life insurance and health insurance companies, or those which are held by pension funds.

However, an exemption to the foregoing, and thus a 95% effective tax exemption, applies to dividends obtained by the aforementioned companies, to which the Parent-Subsidiary Directive applies.

21.2.4. Inheritance and Gift Tax

The transfer of shares to another person *mortis causa* or by way of gift is generally subject to German inheritance or gift tax if:

(i) the place of residence, habitual abode, place of management or registered office of the decedent, the donor, the heir, the donee or another acquirer is, at the time of the asset transfer, in Germany, or such person, as a German national, has not spent more than five continuous years outside of Germany without maintaining a place of residence in Germany, or

(ii) the decedent's or donor's shares belonged to business assets for which there had been a permanent establishment in Germany or a permanent representative had been appointed, or

(iii) the decedent or the donor, at the time of the succession or gift, held a direct or indirect interest of at least 10% of the Company's share capital either alone or jointly with other related parties.

The small number of double taxation treaties in respect of inheritance and gift tax which Germany has concluded to date usually provide for German inheritance or gift tax only to be levied in the cases under (i) and, subject to certain restrictions, in the cases under (ii). Special provisions apply to certain German nationals living outside of Germany and to former German nationals.

21.2.5. Other Taxes

No German capital transfer taxes, value-added-tax, stamp duties or similar taxes are currently levied on the purchase or disposal or other forms of transfer of the shares. However, an entrepreneur may opt to subject disposals of shares, which are in principle exempt from value-added-tax, to value-added-tax if the sale is made to another entrepreneur for the entrepreneur's business. Wealth tax is currently not levied in Germany.

On February 14, 2013, the EU Commission adopted a proposal for a Council Directive (the "**Draft Directive**") on a common financial transaction tax ("**FTT**"). According to the Draft Directive, the FTT shall be implemented in eleven EU member states (Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Spain, Slovakia and Slovenia). The FTT as provided under the Draft Directive was originally scheduled to be applicable as of January 1, 2014. In 2015, Estonia stated that it will not participate in implementing the proposed FTT.

The proposed FTT has a very broad scope and could, if introduced in the form of the proposal apply to certain dealings in the Shares in certain circumstances.

Ten EU member states (including Germany; the "**Participating Member States**") had announced that they intend to reach an agreement with regard to the FTT by the end of June 2016, focusing initially on the taxation of shares and certain derivatives, which however did not take place. The FTT has not been implemented yet. As to the further implementation of any FTT, there is currently no detailed plan or timetable available.

Nevertheless the FTT remains subject to negotiation between the Participating Member States and was (and most probably will be) the subject of legal challenge. It may still be adopted and be altered prior to its adoption, the timing of which remains unclear. Moreover, once any directive has been adopted (the "**Directive**"), it will need to be implemented into the respective domestic laws of the Participating Member States and the domestic provisions implementing the Directive might deviate from the Directive itself. Finally, additional EU member states may decide to participate in or to dismiss the implementation. The participation of at least nine EU member states is necessary to enact a Directive without the participation of all EU member states in the so called enhanced cooperation legislation procedure.

Prospective shareholders should consult their own tax advisers in relation to the consequences of the FTT.

22. TAXATION IN LUXEMBOURG

The following information is of a general nature only and is based on the Company's understanding of certain aspects of the laws and practice in force in Luxembourg as of the date of the Prospectus. It does not purport to be a comprehensive description of all of the tax considerations that might be relevant to an investment decision. It is included herein solely for preliminary information purposes. It is not intended to be, nor should it be construed to be, legal or tax advice. It is a description of the essential material Luxembourg tax consequences with respect to the shares and may not include tax considerations that arise from rules of general application or that are generally assumed to be known to shareholders. This summary is based on the laws in force in Luxembourg on the date of the Prospectus and is subject to any change in law that may take effect after such date. Prospective shareholders should consult their professional advisors with respect to particular circumstances, the effects of state, local or foreign laws to which they may be subject and as to their tax position.

Please be aware that the residence concept used under the respective headings below applies for Luxembourg income tax assessment purposes only. Any reference in the present section to a tax, duty, levy impost or other charge or withholding of a similar nature refers to Luxembourg tax law and/or concepts only. Also, please note that a reference to Luxembourg income tax encompasses corporate income tax (*impôt sur le revenu des collectivités*), municipal business tax (*impôt commercial communal*), a solidarity surcharge (*contribution au fonds pour l'emploi*), and personal income tax (*impôt sur le revenu*) generally. Corporate taxpayers may further be subject to net worth tax (*impôt sur la fortune*), as well as other duties, levies or taxes. Corporate income tax, municipal business tax, as well as the solidarity surcharge invariably apply to most corporate taxpayers resident of Luxembourg for tax purposes. Individual taxpayers are generally subject to personal income tax and the solidarity surcharge. Under certain circumstances, where an individual taxpayer acts in the course of the management of a professional or business undertaking, municipal business tax may apply as well.

22.1. Income Tax

A Luxembourg resident shareholder is not liable to any Luxembourg income tax on reimbursement of share capital previously contributed to the Company.

22.1.1. Luxembourg Resident Individuals

Dividends and other payments derived from the shares by a resident individual shareholder, who acts in the course of the management of either his/her private wealth or his/her professional/business activity, are subject to income tax at the ordinary progressive rates.

Capital gains realized upon the disposal of the shares by a resident individual shareholder, who acts in the course of the management of his/her private wealth, are not subject to income tax, unless said capital gains qualify either as speculative gains or as gains on a substantial participation. Capital gains are deemed to be speculative and are thus subject to income tax at ordinary rates if the shares are disposed of within six (6) months after their acquisition or if their disposal precedes their acquisition. A participation is deemed to be substantial where a resident individual shareholder holds or has held, either alone or together with his spouse or partner and/or minor children, directly or indirectly at any time within the five (5) years preceding the disposal, more than ten percent (10%) of the share capital of the company whose shares are being disposed of. A shareholder is also deemed to alienate a substantial participation if he acquired free of charge, within the five (5) years preceding the transfer, a participation that was constituting a substantial participation in the hands of the alienator (or the alienators in case of successive transfers free of charge within the same five-year period). Capital gains realized on a substantial participation more than six (6) months after the acquisition thereof are taxed according to the half-global rate method (*i.e.*, the average rate applicable to the total income is calculated according to progressive income tax rates and half of the average rate is applied to the capital gains realized on the substantial participation). A disposal may include a sale, an exchange, a contribution or any other kind of alienation of the participation.

Capital gains realized on the disposal of the shares by a resident individual shareholder, who acts in the course of the management of his/her professional/business activity, are subject to income tax at ordinary rates. Taxable gains are determined as being the difference between the price for which the shares have been disposed of and the lower of their cost or book value.

22.1.2. Luxembourg Resident Companies

A Luxembourg resident company (*société de capitaux*) must include any profits derived, as well as any gains realized on the sale, disposal or redemption of shares, in its taxable profits for Luxembourg income tax assessment purposes.

22.1.3. Luxembourg Residents Benefiting From a Special Tax Regime

Shareholders which are Luxembourg resident companies benefiting from a special tax regime, such as (i) undertakings for collective investment governed by the amended law of December 17, 2010, (ii) specialized investment funds subject to the amended law of February 13, 2007, (iii) family wealth management companies governed by the amended law of May 11, 2007 and (iv) reserved alternative investment funds subject to the law of July 23, 2016 and treated as specialized investment funds for Luxembourg tax purposes, are income tax exempt entities in Luxembourg, and are thus not subject to any Luxembourg income tax.

22.1.4. Luxembourg Non-resident Shareholders

A non-resident shareholder, who has neither a permanent establishment nor a permanent representative in Luxembourg to which or to whom the shares are attributable, is generally not liable to any Luxembourg income tax on income received and capital gains realized upon the sale, disposal or redemption of the shares.

A non-resident company which has a permanent establishment or a permanent representative in Luxembourg to which or to whom the shares are attributable, must include any income received, as well as any gain realized on the sale, disposal or redemption of shares, in its taxable income for Luxembourg tax assessment purposes. The same inclusion applies to an individual, acting in the course of the management of a professional or business undertaking, who has a permanent establishment or a permanent representative in Luxembourg, to which or to whom the shares are attributable. Taxable gains are determined as being the difference between the sale, repurchase or redemption price and the lower of the cost or book value of the shares sold or redeemed.

22.2. Withholding Tax

Under current Luxembourg tax law, distributions made to the shareholders by the Company are not subject to Luxembourg withholding tax.

22.3. Net Wealth Tax

A Luxembourg resident shareholder, or a non-resident shareholder who has a permanent establishment or a permanent representative in Luxembourg to which or to whom the shares are attributable, is subject to Luxembourg net wealth tax on such shares, except if the shareholder is (i) a resident or non-resident individual taxpayer, (ii) an undertaking for collective investment governed by the amended law of December 17, 2010, (iii) a securitization company governed by the amended law of March 22, 2004 on securitization, (iv) a company governed by the amended law of June 15, 2004 on venture capital vehicles, (v) a specialized investment fund governed by the amended law of February 13, 2007, (vi) a family wealth management company governed by the amended law of May 11, 2007, (vii) a professional pension institution governed by the amended law of July 13, 2005 or (viii) a reserved alternative investment fund governed by the law of July 23, 2016.

However, (i) a securitization company governed by the amended law of March 22, 2004 on securitization, (ii) a company governed by the amended law of June 15, 2004 on venture capital vehicles, (iii) a professional pension institution governed by the amended law of July 13, 2005, as well as (iv) an opaque reserved alternative investment fund governed by the law of July 23, 2016 and opting for the treatment as a venture capital vehicle for Luxembourg tax purposes, remain subject to a minimum net wealth tax.

22.4. Other Taxes

There is no Luxembourg registration tax, stamp duty or other similar tax or duty payable by the shareholders in Luxembourg by reason only of the issuance or transfer of the shares.

Under Luxembourg tax law, where an individual shareholder is a resident of Luxembourg for tax purposes at the time of his/her death, the shares are included in his or her taxable base for inheritance tax purposes. On the contrary, no inheritance tax is levied on the transfer of the shares upon death of a shareholder in cases where the deceased was not a resident of Luxembourg for inheritance purposes at the time of his/her death.

Gift tax may be due on a gift or donation of the shares, if the gift is recorded in a Luxembourg notarial deed or otherwise registered in Luxembourg.

23. FINANCIAL INFORMATION

23.1.	***Unaudited Condensed Consolidated Interim Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with IFRS on Interim Financial Reporting (IAS 34) as of and for the Six-Month Period Ended June 30, 2018 (with Comparative Figures for the Six-Month Period Ended June 30, 2017)***	***F-2***
	Consolidated Statement of Profit or Loss	F-3
	Consolidated Statement of Comprehensive Income	F-4
	Consolidated Statement of Financial Position	F-5
	Consolidated Statement of Cash Flows	F-6
	Consolidated Statement of Changes in Equity	F-7
	Notes to the Consolidated Financial Statements	F-8
23.2	***Audited Consolidated Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with IFRS as of and for the Fiscal Years Ended December 31, 2017, December 31, 2016 and December 31, 2015***	***F-24***
	Consolidated Statement of Profit or Loss	F-25
	Consolidated Statement of Comprehensive Income	F-26
	Consolidated Statement of Financial Position	F-27
	Consolidated Statement of Cash Flows	F-28
	Consolidated Statement of Changes in Equity	F-29
	Notes to the Consolidated Financial Statements	F-30
	Auditor's Report	F-116
23.3	***Audited Unconsolidated Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with the German Commercial Code (Handelsgesetzbuch) as of and for the Fiscal Year Ended December 31, 2017***	***F-117***
	Statement of Financial Position	F-118
	Statement of Profit or Loss	F-119
	Notes	F-120
	Auditor's Report	F-133

23.1 Unaudited Condensed Consolidated Interim Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with IFRS on Interim Financial Reporting (IAS 34) as of and for the Six-Month Period Ended June 30, 2018 (with Comparative Figures for the Six-Month Period Ended June 30, 2017)

Consolidated statement of profit or loss

	1st half-year	
	2018 TEUR	2017 TEUR
Revenues	3,322,241	2,975,993
Changes in inventories of unfinished/finished products	29,275	59,126
Other own work capitalized	19,773	14,585
Total operating performance	**3,371,288**	**3,049,704**
Other operating income	47,804	40,897
Cost of materials	(1,680,393)	(1,463,637)
Personnel expenses	(746,456)	(708,383)
Other operating expenses	(410,036)	(400,600)
Earnings before interest, tax, depreciation and amortization (EBITDA)	**582,207**	**517,980**
Depreciation and amortization	(109,878)	(94,865)
Earnings before interests and taxes (EBIT)	**472,329**	**423,115**
Interest income	11,223	11,867
Interest expenses	(18,238)	(21,315)
Other financial result	(34,816)	(24,925)
Earnings before taxes	**430,499**	**388,743**
Taxes on income	(123,508)	(119,118)
Net income	**306,991**	**269,625**
Thereof attributable to:		
Profit attributable to non-controlling interests	*23,456*	*33,258*
Profit attributable to the shareholders of Knorr-Bremse AG	*283,534*	*236,367*
	306,991	**269,625**
Earnings per share in Euro		
undiluted	1.76	1.47
diluted	1.76	1.47

Consolidated statement of comprehensive income

	1st half-year	
	2018 TEUR	2017 TEUR
Net income	**306,991**	**269,625**
Actuarial gains and losses	272	785
Equity instruments recognized directly in equity	(1,569)	(8,521)
Deferred taxes	(38)	255
Items that will not be reclassified to profit or loss	**(1,335)**	**(7,481)**
Currency translation differences	6,198	(84,441)
Items that may be reclassified to profit or loss	**6,198**	**(84,441)**
Other comprehensive income after taxes	**4,862**	**(91,922)**
Comprehensive income	**311,853**	**177,703**
Total comprehensive income attributable to non-controlling interests	14,193	24,907
Total comprehensive income attributable to the shareholders of Knorr-Bremse AG	297,660	152,796

Consolidated statement of financial position

	6/30/2018 TEUR	12/31/2017 TEUR
Assets		
Intangible assets and goodwill	552,567	540,495
Property, plant and equipment	1,099,844	1,116,398
Investments accounted for using the equity method	1,502	1,950
Other financial assets	87,868	93,102
Other assets	31,976	11,539
Other assets (IFRS 15)	6,500	-
Costs to fulfil a contract	9,092	-
Employee benefits	26,739	21,625
Deferred tax assets	107,380	85,009
Non-current assets	**1,923,469**	**1,870,117**
Inventories	831,644	748,823
Trade accounts receivables	1,420,392	1,147,879
Other financial assets	8,700	12,518
Other assets	138,368	132,118
Contract assets	128,344	-
Receivables from construction contracts	-	116,171
Income tax receivable	62,536	67,637
Cash and cash equivalents	1,551,330	1,600,033
Assets held for sale and disposal groups	-	32,116
Current assets	**4,141,314**	**3,857,295**
Total assets	**6,064,782**	**5,727,412**
Equity		
Subscribed capital	161,200	67,600
Capital reserves	7,197	1,310
Retained earnings	35,874	106,956
Other components of equity	(157,659)	(166,407)
Profit carried forward	892,474	1,302,834
Profit attributable to the shareholders of Knorr-Bremse AG	283,534	535,504
Equity attributable to the shareholders of Knorr-Bremse AG	**1,222,621**	**1,847,798**
Equity attributable to non-controlling interests	85,843	147,951
thereof share of non-controlling interests in net income	*23,456*	*51,716*
Equity	**1,308,464**	**1,995,748**
Liabilities		
Provisions for pensions and similar obligations	310,493	310,234
Provisions for other employee benefits	25,436	28,433
Other provisions	255,971	234,147
Financial liabilities	1,496,056	738,746
Other liabilities	17,023	17,346
Income tax liabilities	73,417	71,704
Deferred tax liabilities	42,214	27,262
Non-current liabilities	**2,220,611**	**1,427,873**
Provisions for other employee benefits	23,948	15,206
Other provisions	244,465	231,714
Trade accounts payables	1,042,669	894,119
Financial liabilities	670,963	570,955
Other liabilities	148,559	269,382
Contract liabilities	302,048	-
Liabilities from construction contracts	-	230,750
Income tax liabilities	68,059	53,141
Liabilities directly associated with assets held for sale and disposal groups	34,998	38,524
Current liabilities	**2,535,707**	**2,303,791**
Liabilities	**4,756,318**	**3,731,664**
Total equity and liabilities	**6,064,782**	**5,727,412**

Consolidated statement of cash flows

	1st half-year	
	2018 TEUR	2017 TEUR
Cash flow from operating activities		
Net income/ (loss)	306,991	269,625
Adjustments for		
Depreciation and amortization	109,878	94,865
Impairment/ (reversal of impairment) of inventories	5,917	(5,209)
Impairment/ (reversal of impairment) of trade accounts receivables	973	(585)
(Profit)/ loss on sale of property, plant and equipment	(3,939)	641
Other non-cash expenses and income	38,674	27,146
Interest result	7,015	9,448
Investment result	674	953
Income tax expense	123,508	119,118
Income tax payments	(106,440)	(118,878)
Changes to		
Inventories, accounts receivable trade and other assets, which cannot be allocated to investment or financing activities	(383,364)	(345,004)
Trade accounts payable, which cannot be allocated to investment or financing activities	107,710	131,930
Provisions	41,535	16,074
Cash flow from operating activities	**249,131**	**200,124**
Cash flow from investing activities		
Disbursements for investments in intangible assets	(27,023)	(22,258)
Proceeds from the sale of property, plant and equipment	11,910	11,418
Disbursements for investments in property, plant and equipment	(71,872)	(63,912)
Proceeds from the sale of investments	6,261	-
Disbursements for financial investments	-	(8,701)
Disbursements for the acquisition of consolidated companies and other business units	-	(96,513)
Interest received	3,438	10,637
Net disbursements for investments in plan assets (pensions)	(4,651)	(4,523)
Cash flow from investing activities	**(81,936)**	**(173,852)**
Cash flow from financing activities		
Proceeds from loans and borrowings	744,818	1,790
Disbursements from the repayment of borrowings	(1,922)	(9,477)
Disbursements for finance lease liabilities	(3,288)	(2,809)
Interest paid	(5,264)	(7,864)
Dividends paid to parent company shareholders	(851,289)	(385,073)
Dividends paid to minority shareholders	(3,939)	(22,962)
Net proceeds from factoring	(49,625)	(53,703)
Disbursements for repurchase of own shares	(130,615)	-
Cash flow from financing activities	**(301,124)**	**(480,099)**
Cash flow changes	**(133,930)**	**(453,827)**
Change in cash funds resulting from exchange rate and valuation-related movements	23,966	(48,740)
Change in cash funds resulting from changes to the Group structure	490	-
Net decrease in cash funds	**(109,475)**	**(502,568)**
Cash funds at the beginning of the period	1,578,829	1,710,991
Cash funds at the end of the period	**1,469,355**	**1,208,423**
Cash funds are comprised as follows:	**1,469,355**	**1,208,423**
Cash and cash equivalents	1,551,330	1,242,198
Short-term marketable securities	54	51
Short-term bank debt (less than 3 months)	(82,030)	(33,826)

Consolidated statement of changes in equity

	Subscribed capital TEUR	Capital reserves TEUR	Retained earnings TEUR	Group earnings TEUR	Other components of equity: Currency translation TEUR	Other components of equity: Equity instruments recognized directly in equity TEUR	Other components of equity: Actuarial gains and losses TEUR	Equity attributable to the shareholders of Knorr-Bremse AG TEUR	Equity attributable to non-controlling interests TEUR	Total equity TEUR
As at 12/31/2017	**67,600**	**1,310**	**106,956**	**1,838,338**	**(97,864)**	**(14,075)**	**(54,468)**	**1,847,798**	**147,951**	**1,995,748**
Adjustments from IFRS 15			8,749					8,749		8,749
As at 1/1/2018	**67,600**	**1,310**	**115,705**	**1,838,338**	**(97,865)**	**(14,075)**	**(54,468)**	**1,856,546**	**147,951**	**2,004,497**
Dividend payment				(851,289)				(851,289)	(3,939)	(855,228)
Net income				283,534				283,534	23,456	306,991
Other comprehensive income after taxes					15,475	(1,569)	220	14,125	(9,263)	4,862
Comprehensive income	**-**	**-**	**-**	**283,534**	**15,475**	**(1,569)**	**220**	**297,660**	**14,193**	**311,853**
Capital increase from corporate funds	93,600		(93,600)					-		-
Contribution from shareholders		3,354						3,354		3,354
Allocation to retained earnings			94,058	(94,058)				-		-
Acquisition of non-controlling interests without a change in control			(85,599)		11,000		444	(74,155)	(56,460)	(130,615)
Equity-settled share-based payment		2,533						2,533		2,533
Other changes			5,311	(517)	(16,821)			(12,028)	(15,902)	(27,929)
As at 6/30/2018	**161,200**	**7,197**	**35,874**	**1,176,008**	**(88,211)**	**(15,645)**	**(53,803)**	**1,222,621**	**85,843**	**1,308,465**
As at 1/1/2017	**67,600**	**1,860**	**94,856**	**1,703,990**	**12,585**	**1,326**	**(68,845)**	**1,813,372**	**152,575**	**1,965,946**
Dividend payment				(385,073)				(385,073)	(22,962)	(408,035)
Net income				236,367				236,367	33,258	269,625
Other comprehensive income after taxes					(76,090)	(8,522)	1,041	(83,571)	(8,351)	(91,922)
Comprehensive income	**-**	**-**	**-**	**236,367**	**(76,090)**	**(8,522)**	**1,041**	**152,796**	**24,907**	**177,703**
Allocation to retained earnings			6,569	(6,569)				-		-
Other changes				19,665				19,665	(11,970)	7,696
As at 6/30/2017	**67,600**	**1,860**	**101,425**	**1,568,380**	**(63,505)**	**(7,196)**	**(67,805)**	**1,600,760**	**142,549**	**1,743,309**

Notes to the interim condensed consolidated financial statements of Knorr-Bremse AG

1. Accounting principles F-9
2. Significant accounting policies issued by the IASB and applied for the first time........ F-9
3. Changes to the Group........ F-12
4. Revenues F-12
5. Other operating income........ F-12
6. Other operating expenses F-13
7. Financial instruments........ F-13
8. Assets held for sale or disposal groups........ F-15
9. Equity........ F-17
10. Borrowings F-17
11. Other financial commitments and contingent liabilities F-17
12. Legal risks F-18
13. Relationships with related parties........ F-19
14. Events after the reporting date F-20
14. Share-based payment F-20
15. Number of employees F-21
16. Segment information........ F-22

1. Accounting principles

The Company

Knorr-Bremse AG ("Company") is a joint stock company domiciled in Germany. The Company's registered office and headquarters are located in Moosacher Str. 80, 80809, Munich, Germany. The Company is registered in the City of Munich commercial register under HRB 42031. The interim condensed consolidated financial statements include the Company and its subsidiaries (jointly referred to as the "Group" or "Knorr-Bremse"). The Group is a global manufacturer of brake systems for rail and commercial vehicles. The division Rail Vehicle Systems ("RVS") also includes the product fields of platform screen doors, entry systems, power supply systems, driver assistance systems, air-conditioning systems, control systems, friction material, windscreen wipers, simulators and control components. The product portfolio for the division Commercial Vehicle Systems ("CVS") also includes driver assistance systems, steering systems, torsional vibration dampers and solutions relating to the drive train and transmission controls to improve efficiency and save fuel.

Accounting and measurement methods

The interim condensed consolidated financial statements for the period from January 1 to June 30, 2018 have been condensed and prepared in accordance with IAS 34 *Interim Financial Reporting* as published by the International Accounting Standards Board (IASB) and adopted by the European Union (EU). The interim condensed consolidated financial statements are based on the consolidated financial statements as of December 31, 2017 and should be read in conjunction with these.

The interim condensed consolidated financial statements will be released for publication by the management board on September 4, 2018.

With the exception of IFRS 15 *Customer Contracts* ("IFRS 15"), which is mandatory since January 1, 2018, the accounting and measurement methods applied correspond to those applied in the consolidated financial statements as of December 31, 2017.

The preparation of the interim condensed consolidated financial statements requires a certain amount of judgement decisions, estimates and assumptions by the management board, which affect the application of the accounting methods and the stated amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates. The estimation methods generally correspond to the estimation methods applied in the consolidated financial statements as of December 31, 2017.

The nominal tax rate is 32.8%. In accordance with IAS 34, the calculation of the Group's income taxes for the first half year of 2018 was based on the expected effective tax rate for the full year 2018 of 29.0% (prior period: 31.1%). The difference to the nominal tax rate is mainly due to lower local tax rates in comparison to the nominal tax rate on group level, permanent differences resulting from tax corrections as well as the non-capitalization of deferred tax assets on current year losses and loss carry-forwards, which are deemed to be not recoverable.

The interim condensed consolidated financial statements have been prepared in Euro (EUR), which is the functional and reporting currency of Knorr-Bremse AG. Unless otherwise stated, all figures in the interim condensed consolidated financial statements and the associated notes have been rounded to the nearest thousand Euros (TEUR). Rounding differences may therefore occur.

2. Significant accounting policies issued by the IASB and applied for the first time

The Group has applied IFRS 15 for the first time beginning January 1, 2018. IFRS 15 establishes a comprehensive framework for determining whether, to what extent and at what point in time revenue is recognized. It replaces existing guidelines on revenue recognition, including IAS 18 *Revenue*, IAS 11 *Construction Contracts* and IFRIC 13 *Customer Loyalty Programs*.

With regard to the first-time application of IFRS 15, the Group applies the modified retrospective method according to which the cumulative adjustment amounts are recognized as of January 1, 2018. Consequently, the Group does not apply the requirements of IFRS 15 to each comparative period presented. The previous year's figures were therefore not adjusted.

The balance sheet positions contract assets, costs to fulfil a contract and contract liabilities are newly introduced due to IFRS 15. The previously presented receivables and liabilities from construction contracts were adjusted as a result of the first-time application of IFRS 15. Differences in presentation between contract assets and contract liabilities as well as receivables from construction contracts and liabilities from construction contracts mainly result from the offsetting of provisions for onerous contracts with corresponding receivables from construction contracts in the previous year. These were reported gross in accordance with IFRS 15. In accordance with IFRS 15, contract assets are to be included in the calculation of the impairments in accordance with IFRS 9. This did not have any significant effects for the first half year of 2018. Further effects of the first time application of IFRS 15 are the recognition of costs to fulfil a contract (presented in a separate line item of non-current assets) and capitalization of nomination fees paid to customers (presented under other non-current assets).

The following table summarizes the transition effects on retained earnings as of January 1, 2018:

	TEUR
Retained earnings	
Capitalization of costs to fulfil a contract	7,177
Recognition of a contract liability for cost reimbursements received	(2,296)
Capitalization of nomination fees	6,500
Effects from significant financing components	(231)
Relevant tax impact	(2,401)
Transition effect as of January 1, 2018	**8,749**

The transition to IFRS 15 has the following effect on the balance sheet and profit and loss items in the interim condensed consolidated financial statements as of June 30, 2018. There were no material effects on the consolidated statement of cash flows for the period starting January 1 to June 30, 2018.

Effects on the consolidated statement of financial position

As at June 30, 2018	Values as reported TEUR	Adjustment effects TEUR	Values without application of IFRS 15 TEUR
ASSETS			
Non-current assets	1,923,469	15,592	1,907,877
thereof other assets	*38,476*	*6,500*	*31,976*
thereof costs to fulfil a contract	*9,092*	*9,092*	-
Current assets	4,141,314	8,357	4,132,957
thereof contract assets	*128,344*	*8,357*	*119,987*
Balance sheet total	**6,064,782**	**23,949**	**6,040,833**
EQUITY	**1,308,464**		
thereof retained earnings	*35,874*	*8,749*	*27,126*
thereof profit attributable to the shareholders of Knorr-Bremse AG	*283,534*	*550*	*282,984*
Liabilities			
Non-current liabilities	2,220,611	2,733	2,217,878
thereof deferred tax liabilities	*42,214*	*2,733*	*39,482*
Current liabilities	2,535,707	11,918	2,523,790
thereof other provisions	*244,465*	*26,431*	*218,034*
thereof contract liabilities	*302,048*	*(14,513)*	*316,561*
Total liabilities	**4,756,318**	**14,650**	**4,741,668**
Balance sheet total	**6,064,782**	**23,949**	**6,040,833**

Impact on the consolidated statement of profit or loss

Consolidated statement of profit or loss

1st half-year 2018	Values as reported TEUR	Adjustment effects TEUR	Values without application of IFRS 15 TEUR
Revenues	3,322,241	(175)	3,322,066
Changes in inventories of unfinished/finished products	29,275	(1,915)	27,360
Other own work capitalized	19,773	-	19,773
Total operating performance	**3,371,288**	**(2,090)**	**3,369,198**
Other operating income	47,804	240	48,044
Cost of materials	(1,680,393)	-	(1,680,393)
Personnel expenses	(746,456)	-	(746,456)
Other operating expenses	(410,036)	393	(409,644)
Earnings before interest, tax, depreciation and amortization (EBITDA)	**582,207**	**(1,457)**	**580,750**
Depreciation and amortization	(109,878)	-	(109,878)
Earnings before interests and taxes (EBIT)	**472,329**	**(1,457)**	**470,872**
Interest income	11,223	-	11,223
Interest expense	(18,238)	576	(17,662)
Other financial result	(34,816)	-	(34,816)
Earnings before taxes	**430,499**	**(881)**	**429,617**
Taxes on income	(123,508)	331	(123,177)
Net income	**306,991**	**(550)**	**306,441**

Due to the application of the modified retrospective transition method, the cumulative effect of the first-time application of IFRS 15 in the amount of TEUR 11,150 before tax (after tax TEUR 8,749) was reported as an increase in the opening balance sheet value of retained earnings at the time of first application. The figures for the comparable period are based on the accounting principles of IAS 18 *Revenue* and IAS 11 *Construction Contracts*.

Changes in the consolidated statement of financial position resulted in particular from reclassifications due to the first-time disclosure of contract assets and contract liabilities and the reversal of the offsetting of provisions for onerous contracts in connection with construction contracts with associated balance sheet items. The contract assets recognized as of June 30, 2018 were reported as receivables from construction contracts prior to application of IFRS 15, the contract liabilities as liabilities from construction contracts.

There were no significant transition effects in the income statement. Without the application of IFRS 15 the consolidated result would have amounted to TEUR 306,441. Due to the IFRS 15 application, the consolidated result amounts to TEUR 306,991.

In accordance with IFRS 15, revenue is recognized when a customer has control over the goods or services, whereby the determination of the date of the transfer of control – either at a point in time or over time – requires an assessment of the Company.

The Group also accounts for some projects where revenue is realized over a period of time. In such instances revenue is calculated by applying the percentage-of-completion method. The progress is measured based on the cost-to-cost method. Sales from the spare parts business are generally recognized at the time of delivery of the spare parts to the customer.

At Knorr-Bremse, customer-specific development work ("pre-production engineering activities") may regularly be required to process new orders prior to the start of series production. As a result of the introduction of IFRS 15, costs to fulfil an anticipated contract are capitalized. The amortization begins with the start of production over the period of the supply relationship. Amortization is presented in changes in inventories of the consolidated statement of profit or loss. As of June 30, 2018, amortization of the capitalized costs to fulfil has not yet started.

Cost reimbursements received from customers in connection with pre-production engineering activities are recognized as a contract liability and subsequently recognized in revenue over the period of the supply relationship. Prior to the application of IFRS 15, these cost reimbursements were recognized in other operating income when payments were received.

Nomination fees paid to customers are capitalized as other assets and subsequently recognized as deductions to sales over the period of the supply relationship.

There were also changes due to the application of the impairment provisions of IFRS 9 to contract assets in accordance with IFRS 15 and the existence of a significant financing component in the contract as part of the transaction price.

3. Changes to the Group

Changes to the Group

The following entities were consolidated for the first time in 2018: Sydac Simulation Technologies India Private Limited, India, Bendix Servicios de Mexico, Mexico, Knorr-Bremse Systems for Rail Vehicles Enterprise Management (Beijing) Co., Republic of China, Dyno-Inno Test Center for Brake Equipment (Suzhou) Ltd., Republic of China and Sichuan Knorr-Bremse Guo Tong Railway Transportation Equipment Co., Ltd. Chengdu, Republic of China.

Acquisition of minority interest in Knorr Brake Holding Corporation

Effective April 20, 2018, all non-voting preference shares in Knorr Brake Holding Corporation, Delaware, USA, held by URSUS Vermögensverwaltungs GmbH ("URSUS"), Grünwald, Germany, were sold to Knorr-Brake Holding Corporation for a purchase price of TEUR 130,615 (TUSD 159,600). At the same time, these preference shares were canceled by Knorr Brake Holding Corporation. The rights associated with the preference shares no longer exist as of this date.

Divestments

For detailed information see chapter 8. Assets held for sale or disposal groups.

4. Revenues

The revenues of TEUR 3,322,241 for the six-months period ended June 30, 2018 increased by 11.6% compared to TEUR 2,975,993 in the same period in 2017. The growth in both divisions is almost entirely organic, since the most recent acquisition in RVS – Kiepe Electric – was acquired in February 2017. The group sales for the six-months period ended June 30, 2017 would have been TEUR 12,308 higher if Kiepe Electric had been acquired at January 1, 2017.

Knorr-Bremse's business activities are not subject to significant seasonal influences.

5. Other operating income

	1st half-year	
	2018 TEUR	**2017 TEUR**
Income from other services	8,463	7,556
Income from the disposal of prototypes and scrap sales	6,626	5,814
Income from government grants	3,863	1,831
Rental income	3,787	1,834
Insurance compensation and compensation payments	3,582	980
Other income	21,483	22,882
	47,804	**40,897**

Other operating income consists mainly of income from other services and income from the disposal of prototypes. Other services mainly relate to development and testing services to third parties.

6. Other operating expenses

	1st half-year	
	2018 TEUR	2017 TEUR
Order-related expenses	(109,468)	(76,201)
Personnel-related expenses	(50,979)	(62,861)
Maintenance expenses	(49,306)	(45,312)
Legal, consulting and audit costs	(43,754)	(46,530)
Other services	(39,634)	(34,153)
Rents and leases	(33,460)	(37,039)
External research and development costs	(21,240)	(16,058)
Administrative expenses	(14,010)	(13,971)
Other taxes	(12,542)	(11,239)
Donations	(2,094)	(2,003)
Other expenses	(33,549)	(55,233)
	(410,036)	**(400,600)**

Other operating expenses of TEUR 410,036 are nearly at the previous year's level.

The order-related expenses primarily refer to warranty expenses, freight costs and commissions. The personnel-related expenses predominantly include travel expenses and training costs. Other services include services such as logistics, security services and cleaning. Other expenses primarily consist of communication and administration costs. Moreover, the fees for societies, associations and chambers, insurance costs, as well as costs for marketing are included in other expenses.

7. Financial instruments

Classifications and fair values

The following table shows the carrying amounts and the fair values of financial assets and liabilities for each individual category of financial instruments in accordance with IFRS 9. For the classification (hierarchy levels) of fair value in accordance with IFRS 13, please refer to the section on accounting policies in the consolidated financial statements as of December 31, 2017.

The financial instruments can be classified as: financial instruments measured at fair value with recognition of the change in fair value in profit or loss (FVTPL), financial instruments measured at fair value with recognition of the change in fair value in other comprehensive income (FVOCI) and financial instruments measured at amortized cost.

Information in accordance with IFRS 9

	6/30/2018							
	Book value TEUR				Fair value TEUR			
Category	FVTPL	FVOCI	At amortized cost	Total	Level 1	Level 2	Level 3	Total
Financial assets	**24,240**	**45,463**	**2,998,588**	**3,068,290**	**45,328**	**7,691**	**9,492**	**62,512**
Derivative financial instruments	7,691	-	-	7,691	-	7,691	-	7,691
Equity instruments	16,548	38,272	-	54,820	45,328	-	9,492	54,820
Securities and debt instruments*	-	-	5	5	-	-	-	-
Trade accounts receivables*	-	7,191	1,413,201	1,420,392	-	-	-	-
Purchase price receivables from sale of land*	-	-	27,736	27,736	-	-	-	-
Other financial receivables*	-	-	6,316	6,316	-	-	-	-
Cash and cash equivalents*	-	-	1,551,330	1,551,330	-	-	-	-
Financial liabilities	**(41,336)**	**-**	**(3,168,352)**	**(3,209,688)**	**(1,252,790)**	**(380,170)**	**(379,616)**	**(2,012,576)**
Derivative financial instruments	(41,336)	-	-	(41,336)	-	(41,336)	-	(41,336)
Bank loans	-	-	(283,768)	(283,768)	-	(300,584)	-	(300,584)
Liabilities resulting from options for minority interests	-	-	(379,616)	(379,616)	-	-	(379,616)	(379,616)
Bonds and debt instruments	-	-	(1,243,786)	(1,243,786)	(1,252,790)	-	-	(1,252,790)
Lease liabilities	-	-	(33,809)	(33,809)	-	(38,250)	-	(38,250)
Other financial liabilities*	-	-	(184,704)	(184,704)	-	-	-	-
Trade accounts payables*	-	-	(1,042,669)	(1,042,669)	-	-	-	-

* without information on fair value based on the fact that net book value is approximately similar to the fair value

Information in accordance with IFRS 9

	12/31/2017							
	Book value TEUR				Fair value TEUR			
Category	FVTPL	FVOCI	At amortized cost	Total	Level 1	Level 2	Level 3	Total
Financial assets	**34,026**	**46,084**	**2,773,422**	**2,853,532**	**46,765**	**17,401**	**9,702**	**73,868**
Derivative financial instruments	17,401	-	-	17,401	-	17,401	-	17,401
Equity instruments	16,625	39,842	-	56,467	46,765	-	9,702	56,467
Securities and debt instruments	-	-	2	2	-	-	-	-
Trade accounts receivables*	-	6,242	1,141,637	1,147,879	-	-	-	-
Purchase price receivables from sale of land	-	-	27,735	27,735	-	-	-	-
Other financial receivables*	-	-	4,015	4,015	-	-	-	-
Cash and cash equivalents*	-	-	1,600,033	1,600,033	-	-	-	-
Financial liabilities	**(7,308)**	**-**	**(2,196,512)**	**(2,203,820)**	**(505,700)**	**(289,371)**	**(379,616)**	**(1,174,687)**
Derivative financial instruments	(7,308)	-	-	(7,308)	-	(7,308)	-	(7,308)
Bank loans	-	-	(230,567)	(230,567)	-	(237,895)	-	(237,895)
Liabilities resulting from options for minority interests	-	-	(379,616)	(379,616)	-	-	(379,616)	(379,616)
Bonds and debt instruments	-	-	(497,390)	(497,390)	(505,700)	-	-	(505,700)
Lease liabilities	-	-	(35,977)	(35,977)	-	(44,168)	-	(44,168)
Other financial liabilities*	-	-	(158,843)	(158,843)	-	-	-	-
Trade accounts payables*	-	-	(894,119)	(894,119)	-	-	-	-

* without information on fair value based on the fact that net book value is approximately similar to the fair value

Trade accounts receivables measured at FVOCI relate to trade receivables related to factoring arrangements.

Valuation techniques for determining fair value

The market value of financial derivatives is the price at which a party would take over the rights and/or obligations from another party. The market values are calculated based on the market information available at the reporting date using recognized measurement methods:

Forward exchange contracts and interest rate hedging contracts are valued on the basis of reference rates, taking forward premiums and discounts into account. Net present value calculations are performed using yield curves.

For the six-months period ended June 30, 2018 and the periods before Knorr-Bremse did not apply hedge accounting under IFRS 9. Therefore the changes in fair value of the derivatives which economically hedge currency risks in future cash flows have to be measured at fair value through profit and loss.

Knorr-Bremse plans to implement hedge accounting starting as of January 1, 2019 to avoid periodical fluctuations from fair value measurement of derivatives used for cash flow hedging in the profit and loss statement.

The group recognized unrealized non-recurring expenses amounting to EUR 44.3 million in half year 2018 (prior period unrealized non-recurring income amounting to EUR 23.1 million).

Commodity contracts are valued on the basis of quoted prices on active stock exchanges.

Options are measured using recognized option pricing models (incl. Black-Scholes). The bank valuation as at the reporting date is used for structured products. The valuation reflects the Bank's assessment of the value of the financial instrument concerned under prevailing market conditions and is derived either from the mid-market price or, if expressed as bid and ask prices, from the indicative price at which the Bank would have terminated and bought back or repurchased and sold the financial instrument at the close of business or at another time agreed with Knorr-Bremse at the relevant financial center on the valuation date indicated above.

In addition, default risks are taken into account when measuring financial derivatives at fair value ("credit value adjustments"). The calculation basis for the probabilities of default is the credit default spreads per counterparty and for the company.

The Group measures long-term receivables/loans based on parameters such as interest rates, certain country-specific risk factors, creditworthiness of the individual customers, and the risk characteristics of the financed project.

The fair values of the Group's interest-bearing loans are calculated using the discounted cash flow method. This is based on a discount rate, which reflects the issuer's borrowing rate at the end of the reporting period. The internal non-compliance risk was classified as low over the entire period.

The financial liability from a put option on minority interests gives Robert Bosch GmbH the opportunity of tendering its shares to Knorr-Bremse if contractually defined conditions are met. These are carried out at amortized cost in accordance with IFRS 9. The fair value stated is based on unobservable input parameters and is therefore assigned to level 3 of the fair value hierarchy. The purchase price is defined in the contract and is calculated using a multiplier method based on the results of the Knorr-Bremse companies. The multiplier is defined in the contract and depends on changes of reference multiples. Historical EBIT figures of the respective Knorr-Bremse companies were used as earnings figures. In a letter dated June 21, 2018, Robert Bosch GmbH declared the exercise of the put option regarding its minority shareholding in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH. Negotiations are currently underway between Knorr-Bremse and Robert Bosch GmbH on the terms and conditions for exercising the option. The liability was recognized based on the agreed price of the option.

Non-consolidated companies are also included in equity instruments. Kiepe Corporation, Canada and Freios Bre Coahuila, Mexico are included in the interim condensed consolidated financial statements at cost of TEUR 1,914 and TEUR 6,433, respectively. The companies have not yet commenced operations and essentially consist of newly acquired land and machinery, so that the fair value corresponds to the acquisition costs; there are no significant effects on the net assets, financial position and results of operations of the Group. The other equity instruments measured at level 3 fair value are considered individually and in total to be immaterial to the net assets, financial position and results of operations of the Group, so that no further disclosures are made for them either.

Reclassifications between the hierarchy levels

No reclassifications were made between the individual hierarchy levels within the first six months of 2018 as well as in the respective period in 2017.

8. Assets held for sale or disposal groups

The two disposal groups "Sydac" and "Blueprint" remain classified as held for sale as of June 30, 2018 due to an ongoing disposal process.

Sydac

The disposal group was sold effective at July 31, 2018. The resulting loss from this sale amounts to EUR 10.8 million. EUR 5.3 million of this amount were already recognized in the income statement as at December 31, 2017 and presented as an impairment under depreciation and amortization in the third quarter of 2017. The additional impairment of EUR 5.5 million was recognized in the income statement as of June 30, 2018 under depreciation and amortization.

As of June 30, 2018, the Sydac disposal group comprises the following assets and liabilities, measured at fair value less costs to sell:

Sydac

	6/30/2018 TEUR
Inventories	-
Other financial assets	-
Trade accounts receivable and other assets	-
Income-tax asset	-
Assets held for sale	**-**

	TEUR
Provisions for pensions	1,586
Other provisions	1,921
Other financial liabilities	-
Trade accounts payable and other liabilities	718
Liabilities in connection with assets held for sale	**4,225**

Blueprint

As at June 30, 2018 the vehicle maintenance business bundled in the "Blueprint" disposal group comprises Knorr-Bremse Rail Service UK Ltd. and Kiepe Electric UK Ltd. including Kiepe UK Ltd.

The Swedish part of the vehicle maintenance business (Swedtrac) as part of the Blueprint disposal group was sold to the purchaser Stadler Service Sweden AB with a purchase agreement dated January 12, 2018, with the transfer of entitlements and obligations taking effect on April 1, 2018. A gain of EUR 6.7 million was realized from this sale and was presented in other financial result.

On August 3, 2018, the remaining vehicle maintenance business based in UK (Kiepe Electric UK Ltd. and Knorr-Bremse RailService UK Ltd.) was sold at a loss of EUR 40.6 million. EUR 20.0 million of this amount were already recognized in the income statement as at December 31, 2017 and presented as an impairment under depreciation and amortization in the third quarter of 2017. An additional impairment of EUR 19.5 million was recognized in the income statement as of June 30, 2018 under depreciation and amortization. Further EUR 1.1 million will be recognized at closing.

In total the loss from the "Blueprint" disposal group (including the part of the vehicle maintenance business already described above) amounts to EUR 33.9 million.

As of June 30, 2018, the Blueprint disposal group comprises the following assets and liabilities, measured at fair value less costs to sell:

Blueprint

	6/30/2018 TEUR
Inventories	-
Other financial assets	-
Trade accounts receivable and other assets	-
Assets held for sale	**-**

	TEUR
Provisions for pensions	104
Other provisions	1,578
Other financial liabilities	38
Trade accounts payable and other liabilities	29,053
Liabilities in connection with assets held for sale	**30,773**

9. Equity

Capital increase from corporate funds

In the Extraordinary Shareholders' Meeting of Knorr-Bremse AG on May 29, 2018, the following notarized changes to equity were resolved, which were registered in the Commercial Register on June 21, 2018:

The capital stock of Knorr-Bremse AG has been newly divided. Accordingly, one share with a par value of EUR 26.00 each will be replaced by 26 shares with a par value of EUR 1 each. The voting rights were adjusted accordingly.

In this context, the previous capital stock was increased by issuing 93,600,000 new no-par value bearer shares through a capital increase from company funds in accordance with § 207 ff. of the German Stock Corporation Act. (AktG) of TEUR 93,600 from TEUR 67,600 to TEUR 161,200 by converting the other revenue reserves shown under revenue reserves. The new shares carry dividend rights as of January 1, 2018.

A dividend of EUR 327.00 per share (based on actual amount of shares as at the end of April 2018) was paid to the shareholders of Knorr-Bremse AG in April 2018. This corresponds to a total (gross) dividend of TEUR 850,200.

Earnings per share

Earnings per share are calculated in accordance with IAS 33 from the earnings attributable to Knorr-Bremse AG shareholders and the weighted average number of shares outstanding during the year.

As a result of the share split and the capital increase from corporate funds, earnings per share are calculated on the basis of the actual number of shares as of June 30, 2018 and on the basis of a retrospective adjustment to this number of shares for the prior period. The number of shares in circulation thus amounts to 161,200,000 and also corresponds to the weighted average.

There are still no instruments that could potentially lead to a dilution of earnings per share. Consequently, the diluted earnings per share correspond to the undiluted earnings per share.

10. Borrowings

Another corporate bond was issued by Knorr-Bremse AG. This EUR 750 million corporate bond has a fixed interest rate of 1.125% p.a. and a maturity of seven years. The new bond is rated 'A2' by Moody's. With a denomination of EUR 1,000, the security is designed for both private and institutional investors. Settlement took place on June 14, 2018. The bond was fully allotted due to the very high level of demand.

11. Other financial commitments and contingent liabilities

Other financial commitments

6/30/2018	Up to 1 year TEUR	1 to 6 years TEUR	Over 6 years TEUR
Rent and lease obligations	43,857	103,087	75,599
Investment projects	6,813	-	-
Other obligations	1,324	961	-
	51,994	**104,048**	**75,599**

The increase of the rent and lease obligations is related to a new rental agreement for a production site in Russia.

The other obligations include loan commitments and bank guarantees.

Contingent liabilities

	6/30/2018	12/31/2017
	TEUR	TEUR
Guarantees	25,309	23,226
Warranties	2,756	1,451
Other	2,493	2,352
	30,558	**27,028**

The Company's contingent liabilities primarily involve guarantees and warranties. Guarantees were mainly issued for rent guarantees for commercial and factory buildings.

Guarantees exist mainly in Hungary with respect to customer contracts for products. In this case, the guarantee exceeds the statutory warranty obligations already recognized in the financial statements.

12. Legal risks

Investigations U.S. Department of Justice

On April 3, 2018, the U.S. Department of Justice, Antitrust Division (hereinafter: DOJ) announced that it reached a settlement with Knorr-Bremse AG and Westinghouse Air Brake Technologies Corporation (Wabtec) on allegations of unlawful agreements not to compete for each other´s employees.

The settlement provides for the following framework points:

- no criminal liability for all facts disclosed by Knorr-Bremse AG,
- no fine for disclosed matters,
- requirements for the implementation of controls and other compliance requirements for a period of seven years; and
- annual declaration by Knorr-Bremse AG that there were no violations in this context.

Following the settlement reached with the DOJ in April 2018, several law firms filed class action lawsuits on behalf of employees against Knorr-Bremse AG, Wabtec and some of their subsidiaries. The aim of the class action lawsuits is to obtain damages to compensate employees for reduced payment on the basis of the alleged unlawful agreements not to compete for each other´s employees between the above mentioned parties.

Due to the very early stage of the class action and the unforeseeable number of potential claimants, it is not possible to determine a reliable amount for a provision for potential claims. For this reason, no provisions were formed as of December 31, 2017.

In addition, in fiscal year 2016, the DOJ initiated a non-public civil law investigation against Knorr Brake Company, Westminster, Maryland/USA and New York Air Brake LLC, Watertown, New York/USA and one competitor, which has not yet been completed.

Administrative Proceedings in Brazil against Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda.

On September 27, 2016, administrative proceedings were initiated by the Brazilian Administrative Council for Economic Defense against the Group company Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda., Itupeva/Brazil ("**KBB**") and several of its competitors in Brazil. According to leniency applicants, the aforementioned parties have organized themselves in order to exchange nonpublic competitively sensitive information. The allegations against KBB are confined to the exchange of information and do not address any kind of cartel behavior. Since the proceedings are still in their early stages, no reliable statement can be made at this time with regard to the likelihood of success or the possible consequences of an adverse outcome of the proceedings.

Criminal Investigation against Microelettrica Scientifica S.p.A.

Italian law enforcement authorities have initiated investigations regarding international corruption against Microelettrica Scientifica S.p.A., Buccinasco/Italy ("Microelettrica"), former members of its board of directors and a management member of three Russian Group companies in connection with commission payments to an agent regarding the conclusion of a contract with a Russian company. Knorr-Bremse believes that Microelettrica had appropriate prevention measures against corruption in place and therefore believes it complied with Italian law.

13. Relationships with related parties

Related parties within the meaning of IAS 24 are natural persons or companies that can be influenced by Knorr-Bremse AG, that can exercise an influence on Knorr-Bremse AG or that are under the influence of another related party of Knorr-Bremse AG. Transactions with related parties are conducted on an arm's length basis.

With the exception of the transactions described below, there were no material changes from the information disclosed in the 2017 consolidated financial statements:

In April 2018, Heinz Hermann Thiele, the Group's ultimate controlling party, signed a consultancy agreement with Knorr-Brake Holding Corporation, Delaware/USA. Over a period of 36 months, Mr. Thiele provides services for the business development of the U.S. American market. An expense of TEUR 346 was recognized in the first half year 2018. As of June 30, 2018, the residual prepayment amount was deferred under other assets and amounted to TEUR 3,931.

URSUS held a 10.7% stake in Knorr Brake Holding Corporation, Delaware/USA, until the Company bought back its shares in April 2018 (see also note 3. Changes to the Group).

With effect from May 29, 2018, Kathrin Dahnke, residing in Bielefeld, member of the board of Wilh. Werhahn KG, Neuss, was unanimously elected to the Supervisory Board. The election was for a term of office until the end of the Annual Shareholders' Meeting that resolves on the ratification of the actions of the Supervisory Board for fiscal year 2020, insofar until the end of the Annual Shareholders' Meeting held in 2021.

The Company's management board member responsible for the Finance, Controlling and IT department has changed with effect from January 1, 2018. The Company's Supervisory Board appointed Ralph Heuwing as the successor to Dr. Lorenz Zwingmann. Ralph Heuwing had joined the Company on November 1, 2017.

In the case of short-term benefits, the remuneration of the management board provides for variable bonus payments based on the degree of target achievement of certain key company figures over a 12-month period (so-called Short-term Incentive Compensation). In 2018, the Company concluded a bonus agreement for Mr. Heuwing, Dr. Laier and Dr. Wilder, which includes a long-term variable bonus (the so-called Long-term Incentive Plan) in addition to the Short-term Incentive Compensation. This remuneration component is based on the achievement of key performance measure Economic Value Added ("EVA") over a performance period of three years. Expenses of TEUR 770 related to Short-Term Incentive Compensation were recognized for the affected members of the management board with adjusted contracts in the first half year 2018 (TEUR 435 in the first half year 2017). In relation to the Long-Term Incentive Plan TEUR 117 were recognized as expense in the first half year 2018 (TEUR 0 in the first half year 2017).

In addition, in the first half year of 2018 the members of the management board, Mr. Heuwing and Dr. Laier, were each granted a bonus up to TEUR 800 in the event the Company is going public successfully.

14. Events after the reporting date

With the exception of the transactions listed below, there have been no significant events since the balance sheet date – June 30, 2018 – that would have been worth mentioning in these interim condensed consolidated financial statements:

Acquisition of Rail Friction Know-How from Federal Mogul

As of June 29, 2018, Knorr-Bremse signed a purchase agreement with Federal Mogul for the acquisition of intangible rights in the form of know-how for the development and production of products in the area of rail vehicles and industry friction for a purchase price of EUR 63 million in total. On August 2, 2018, the consent of the antitrust authorities was given and thereby the agreement for the real transfer of the rights.

Publication of the new HEUBECK-RICHTTAFELN 2018 G

On July 20, 2018, HEUBECK AG published new HEUBECK Mortality Tables 2018 G. These tables are based on the newest statistics of the statutory pension insurance and the Federal Statistics Office and thereby reflect the most recent developments regarding mortality, disability, marriage and fluctuation probabilities. Since the average life expectancy has further increased, however more slowly than in the past, a moderate increase in the overall pension provision is expected according to HEUBECK.

The Group has so far not applied the new HEUBECK Mortality Tables 2018 G. The resulting change in the pension obligation in the event of the first-time application of the new mortality tables will be recognized in OCI.

Sale of Sydac

The simulation business in the Rail Vehicles segment (Sydac; see chapter 8. Assets held for sale or disposal groups), which was classified as a disposal group as of June 30, 2018, was sold with the purchase agreement signed on July 31, 2018.

Sale of Blueprint

With the signing of two sales contracts as of January 12, 2018 and August 3, 2018, the Vehicle Maintenance business classified as a disposal group as of June 30, 2018 in the Rail Vehicle segment (Blueprint; see chapter 8. Assets held for sale or disposal groups) was sold.

Changes on Supervisory and Executive Boards

In an extraordinary shareholders' meeting of Knorr-Bremse AG, Prof. Dr. Klaus Mangold was appointed to the company's Supervisory Board, effective September 1, 2018. Parallel to that the Supervisory Board elected him as its new chairman. Prior to this, Hans-Georg Härter had resigned from the Supervisory Board for health reasons. He left the Supervisory Board on August 31, 2018. In addition, Dr. Jürgen Wilder was appointed to the Executive Board of Knorr-Bremse AG with responsibility for the Rail Vehicle Systems division, effective September 1, 2018.

15. Share-based payment

Shares in two "Black Empowerment Entities" were issued in South Africa in 2009. This relates to share-based payments within the meaning of IFRS 2, which must be classified as transactions with equity settlement.

Knorr-Bremse S.A. (Pty) Ltd., Kempton Park/South Africa has fully financed the issuance of its treasury stock. The financing should be paid by collecting dividends on these shares. The rights transferred to the "Black Empowerment Entities" were measured at fair value. In the event that this exceeds the fair value of the payments received and the other assets, the difference is reported as an expense.

As no financial contributions were to be made by the shareholders of the “Black Empowerment Entities”, the costs and the issued equity instrument were equal.

The fair value was calculated as follows:

- The Black-Scholes model was used to calculate the costs with regard to the option pricing model in accordance with IFRS 2.
- The option has a term of twelve years.
- The cash value represents 25% of the discounted cash flow of the company’s equity valuation as at January 1, 2009.
- The exercise price on the expiry date.
- The risk-free interest rate was assumed to be 8.9%.
- A volatility of 30% was assumed based on an analysis of the sector in which the company operates.
- A dividend yield of 5.5% was assumed based on prudent dividend forecasts and corporate growth of 10% per annum.

On this basis, the equity effect of the share-based payment as of January 1, 2014 amounted to TEUR 1,707.

In 2017 and early 2018, changes in the shareholder structure were made. The shares of two Black Empowerment Entities were repurchased and newly issued to one of the Black Empowerment entities in form of common shares. Due to the common shares issued in early 2018 without any financial contribution, Knorr-Bremse recognized other operating expenses and a corresponding increase in capital reserves of TEUR 2,533 according to IFRS 2.

16. Number of employees

Average number of employees

	1st half-year	
	2018	**2017**
Wage earners	15,503	13,424
thereof leased personnel	*2,780*	*2,400*
Salaried employees	13,226	12,561
thereof leased personnel	*395*	*424*
Trainees	207	196
	28,936	**26,182**

17. Segment information

Information on reportable segments

	Reportable segments			Reconciliation to IFRS		Remaining segments and consolidation	Group
	RVS TEUR	CVS TEUR	TOTAL TEUR	RVS TEUR	CVS TEUR	TEUR	TEUR
1st half-year 2018							
External revenues	1,741,200	1,590,993	3,332,193	1,288	(14,086)	2,846	3,322,241
Inter segment revenues	8,362	6,537	14,899	(6,624)	(6,155)	(2,120)	-
Segment revenues	**1,749,562**	**1,597,530**	**3,347,092**	**(5,336)**	**(20,241)**	**726**	**3,322,241**
EBITDA*	317,269	250,912	568,180	4,931	8,734	362	582,207
Depreciation and amortization	(55,880)	(42,099)	(97,979)	(6,626)	1,209	(6,482)	(109,878)
EBIT*	261,389	208,813	470,201	(1,696)	9,943	(6,119)	472,329
Interest income	5,502	706	6,208	1,307	1,752	1,956	11,223
Interest expenses	(5,666)	(1,631)	(7,297)	(3,865)	(3,045)	(4,031)	(18,238)
Other financial result	-	(914)	(914)	4,626	806	(39,334)	(34,816)
thereof: attributable to subsidiaries accounted for using the equity method	-	*(914)*	*(914)*	-	-	-	*(914)*
EBT	**261,225**	**206,974**	**468,199**	**371**	**9,456**	**(47,528)**	**430,499**

* Not explicitly disclosed in the Management Reporting to CODM

	Reportable segments			Reconciliation to IFRS		Remaining segments and consolidation	Group
	RVS TEUR	CVS TEUR	TOTAL TEUR	RVS TEUR	CVS TEUR	TEUR	TEUR
1st half-year 2017							
External revenues	1,588,805	1,450,892	3,039,696	(40,591)	(17,426)	(5,687)	2,975,993
Inter segment revenues	8,061	(2,402)	5,659	(6,897)	(3,758)	4,995	-
Segment revenues	**1,596,865**	**1,448,490**	**3,045,355**	**(47,487)**	**(21,183)**	**(692)**	**2,975,993**
EBITDA*	261,396	230,614	492,010	14,664	12,233	(927)	517,980
Depreciation and amortization	(56,064)	(41,681)	(97,745)	(77)	9,441	(6,484)	(94,865)
EBIT*	205,332	188,932	394,265	14,587	21,675	(7,410)	423,115
Interest income	4,340	924	5,264	1,268	1,727	3,608	11,867
Interest expenses	(5,167)	(1,718)	(6,885)	(3,006)	(3,137)	(8,286)	(21,315)
Other financial result	-	(953)	(953)	(1,597)	(1,882)	(20,493)	(24,925)
thereof: attributable to subsidiaries accounted for using the equity method	-	*(953)*	*(953)*	-	-	-	*(953)*
EBT	**204,505**	**187,185**	**391,690**	**11,251**	**18,382**	**(32,580)**	**388,743**

* Not explicitly disclosed in the Management Reporting to CODM

Reconciliation account

Internal reporting does not contain any segment-specific information on assets and liabilities; this is therefore not included in the segment information.

i. Revenues

	1st half-year	
	2018 TEUR	2017 TEUR
Revenues of reportable segments (German GAAP)	3,347,092	3,045,355
Revenues of other segments (German GAAP)	94,320	78,584
Inter-segment consolidation and other effects	(49,630)	(44,434)
Adjustment for over-time accounting	6,308	(9,973)
Adjustment based on disclosure differences due to the implementation of BilRuG	(75,849)	(93,539)
Consolidated revenues	**3,322,241**	**2,975,993**

ii. Earnings before tax

	1st half-year	
	2018 TEUR	2017 TEUR
Earnings before tax of reportable segments (German GAAP)	468,199	391,690
Earnings before tax of other segments (German GAAP)	1,932	59,308
Inter-segment consolidation and other effects	(10,430)	(104,865)
Adjustment due to amortization not recognized on Goodwill	24,438	25,640
Adjustment for over-time accounting	6,308	(9,973)
Adjustment due to capitalization and amortization of development projects	19,368	5,582
Adjustment due to valuation differences in pension liabilities	4,510	(4,897)
Adjustment due to purchase options NCI	-	(12,543)
Adjustment provisions	(16,708)	12,364
Adjustment impairment of assets held for sale and disposal groups	(20,840)	-
Adjustment due to fair value valuation of financial instruments	(41,462)	25,922
Other adjustments based on differences between German GAAP and IFRS	(4,816)	515
Profit from continuing operations, consolidated before tax	**430,499**	**388,743**

Geographical information

The following table shows the group's revenues, broken down by country of domicile of the group company.

	1st half-year	
Revenues	2018 TEUR	2017 TEUR
Europe/Africa	1,652,626	1,505,070
North America	681,156	650,604
South America	51,833	44,614
Asia-Pacific	936,626	775,705
	3,322,241	**2,975,993**

Munich, September 4, 2018

Knorr-Bremse AG

Management Board

Klaus Deller Ralph Heuwing Dr. Peter Laier Dr. Jürgen Wilder

23.2. Audited Consolidated Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with IFRS as of and for the Fiscal Years Ended December 31, 2017, December 31, 2016 and December 31, 2015

Consolidated statement of profit or loss

	Note	2017 TEUR	2016 TEUR	2015 TEUR
Revenues	**E.1.**	6,153,543	5,471,256	5,823,508
Changes in inventories of unfinished/finished products	**E.2.**	38,754	(11,075)	(7,104)
Other own work capitalized	**E.2.**	31,768	21,075	19,207
Total operating performance		**6,224,065**	**5,481,255**	**5,835,611**
Other operating income	**E.3.**	81,171	83,280	89,129
Cost of materials	**E.4.**	(3,009,595)	(2,571,407)	(2,747,342)
Personnel expenses	**E.5.**	(1,438,871)	(1,272,122)	(1,272,193)
Other operating expenses	**E.6.**	(741,261)	(668,902)	(636,165)
Earnings before interest, tax, depreciation and amortization (EBITDA)		**1,115,510**	**1,052,103**	**1,269,041**
Depreciation and amortization	**E.7.**	(211,479)	(165,659)	(170,484)
Earnings before interests and taxes (EBIT)		**904,031**	**886,444**	**1,098,557**
Interest income	**E.8.**	24,036	19,212	21,698
Interest expenses	**E.8.**	(38,801)	(28,681)	(29,159)
Other financial result	**E.8.**	(36,797)	(35,701)	(43,065)
Income before taxes		**852,469**	**841,274**	**1,048,031**
Taxes on income	**E.9.**	(265,248)	(274,115)	(337,381)
Net income		**587,220**	**567,160**	**710,650**
Thereof attributable to:				
Profit (loss) attributable to non-controlling interests	**C.5.**	51,716	40,830	57,883
Profit (loss) attributable to the shareholders of Knorr-Bremse AG		535,504	526,330	652,768
		587,220	**567,160**	**710,650**
Earnings per share in Euro				
undiluted		3.32	3.27	4.05
diluted		3.32	3.27	4.05

Consolidated statement of comprehensive income

	Note	2017 TEUR	2016 TEUR	2015 TEUR
Net income		**587,220**	**567,160**	**710,650**
Actuarial gains and losses	**F.10.1**	15,647	(37,363)	10,708
Equity instruments recognized directly in equity		(22,629)	1,326	-
Deferred taxes	**E.9.5.**	(1,188)	8,540	(3,620)
Items that will not be reclassified in the statement of profit or loss		**(8,171)**	**(27,497)**	**7,088**
Currency translation differences		(119,136)	21,257	43,685
Items that may be reclassified to profit or loss		**(119,136)**	**21,257**	**43,685**
Other comprehensive income after taxes		**(127,307)**	**(6,240)**	**50,773**
Comprehensive income		**459,914**	**560,919**	**761,424**
Total comprehensive income attributable to non-controlling interests	**C.5.**	43,110	43,689	65,417
Total comprehensive income attributable to the shareholders of Knorr-Bremse AG		416,804	517,231	696,007

Consolidated statement of financial position

	Note	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Assets				
Intangible assets and goodwill	**F.1., F.2.**	540,495	484,473	333,685
Property, plant and equipment	**F.3.**	1,116,398	1,099,413	1,014,940
Investments accounted for using the equity method		1,950	1,999	7,380
Other financial assets	**F.4.**	93,102	94,161	7,286
Other assets	**F.5.**	11,539	5,663	5,157
Employee benefits	**F.10.**	21,625	13,799	7,637
Deferred tax assets	**E.9.**	85,009	115,645	137,058
Non-current assets		**1,870,117**	**1,815,154**	**1,513,142**
Inventories	**F.6.**	748,823	611,130	625,520
Trade accounts receivables	**F.5.**	1,147,879	971,447	947,304
Other financial assets	**F.4.**	12,518	6,425	1,757
Other assets	**F.5.**	132,118	146,458	134,646
Receivables from construction contracts	**E.1.**	116,171	123,822	101,895
Income tax receivable		67,637	34,202	25,743
Cash and cash equivalents	**F.7.**	1,600,033	1,720,827	1,360,548
Assets held for sale and disposal groups	**F.8.**	32,116	5,638	4,137
Current assets		**3,857,295**	**3,619,949**	**3,201,550**
Total assets		**5,727,412**	**5,435,103**	**4,714,692**

	Notes information	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Equity				
Subscribed capital	**F.9.1.**	67,600	67,600	67,600
Capital reserves	**F.9.2.**	1,310	1,860	1,860
Retained earnings	**F.9.3.**	106,956	94,856	81,184
Other components of equity	**F.9.4**	(166,407)	(54,934)	(45,835)
Profit carried forward		1,302,834	1,177,661	926,413
Profit attributable to the shareholders of Knorr-Bremse AG		535,504	526,330	652,768
Equity attributable to the shareholders of Knorr-Bremse AG	**F.9.5.**	**1,847,798**	**1,813,372**	**1,683,989**
Equity attributable to non-controlling interests	**F.9.5.**	147,951	152,574	154,068
thereof share of non-controlling interests in net income	**C.5.**	*51,716*	*40,830*	*57,883*
Equity		**1,995,748**	**1,965,946**	**1,838,056**
Liabilities				
Provisions for pensions and similar obligations	**F.10.**	310,234	316,654	284,764
Provisions for other employee benefits	**F.10.**	28,433	28,581	28,811
Other provisions	**F.11.**	234,147	246,301	258,565
Financial liabilities	**F.13.**	738,746	756,269	261,941
Other liabilities	**F.12.**	17,346	25,938	26,125
Income tax liabilities		71,704	72,792	74,235
Deferred tax liabilities	**E.9.**	27,262	25,983	39,356
Non-current liabilities		**1,427,873**	**1,472,519**	**973,798**
Provisions for other employee benefits	**F.10.**	15,206	13,506	14,970
Other Provisions	**F.11.**	231,714	226,925	180,223
Trade accounts payable	**F.12.**	894,119	754,458	727,042
Financial liabilities	**F.13.**	570,955	531,287	490,717
Other liabilities	**F.12.**	269,382	285,475	271,014
Liabilities from construction contracts	**E.1.**	230,750	126,256	146,793
Income tax liabilities		53,141	57,969	72,079
Liabilities directly associated with assets held for sale	**F.8.**	38,524	763	-
Current liabilities		**2,303,791**	**1,996,638**	**1,902,837**
Liabilities		**3,731,664**	**3,469,157**	**2,876,636**
Total equity and liabilities		**5,727,412**	**5,435,103**	**4,714,692**

Consolidated statement of cash flows

	Note	2017 TEUR	2016 TEUR	2015 TEUR
Cash flow from operating activities				
Net income (including earnings share of minority interests)		587,220	567,160	710,650
Adjustments for				
Depreciation on intangible assets and property, plant and equipment		211,479	165,659	170,484
Reversal of impairment on inventories		(8,823)	24,138	(1,007)
Reversal of impairment on trade accounts receivable		(902)	(1,556)	1,905
Profit (loss) on sale of property, plant and equipment		(645)	(11,450)	1,162
Other non-cash expenses and income		38,567	23,078	32,381
Interest income		14,765	9,469	7,461
Investment result		579	(2,641)	(815)
Income tax expense		251,687	267,788	329,178
Income tax payments		(254,389)	(280,299)	(310,954)
Changes of				
inventories, trade accounts receivable and other assets, which cannot be allocated to investment or financing activities		(201,556)	49,519	33,779
Trade accounts payable trade, which cannot be allocated to investment or financing activities		87,230	(95,810)	3,849
Provisions		(45,326)	54,123	(18,590)
Cash flow from operating activities	**G.1.**	**679,886**	**769,178**	**959,483**
Cash flow from investing activities				
Proceeds from the sale of intangible assets		-	68	538
Disbursements for investments in intangible assets		(45,200)	(45,991)	(31,482)
Proceeds from the sale of fixed assets		19,269	37,282	20,693
Disbursements for investments in property, plant and equipment		(184,685)	(200,320)	(204,806)
Proceeds from the sale of investments		28,326	5,516	1,324
Disbursements for financial investments		(8,701)	(86,820)	(6,057)
Disbursements for the acquisition of consolidated companies and other business units		(96,513)	(160,083)	(104,020)
Interest received		16,717	8,309	26,612
Disbursements for investments in plan assets (pensions)		(9,047)	(6,162)	(5,442)
Cash flow from investing activities	**G.2.**	**(279,833)**	**(448,201)**	**(302,640)**
Cash flow from financing activities				
Proceeds from equity contributions by minority shareholders		151	2,428	-
Proceeds from borrowings		2,983	498,738	17,616
Disbursements from the repayment of borrowings		(18,272)	(41,172)	(10,842)
Disbursements for finance lease liabilities		(5,332)	(3,343)	(2,956)
Interest paid		(20,152)	(16,259)	(20,938)
Dividends paid to parent company shareholders		(385,073)	(384,899)	(332,957)
Dividends paid to minority shareholders		(48,017)	(43,796)	(63,012)
Net proceeds from factoring		13,645	29,474	6,950
Cash flow from financing activities	**G.3.**	**(460,067)**	**41,171**	**(406,139)**
Cash flow changes		**(60,014)**	**362,148**	**250,704**
Change in cash funds resulting from exchange rate and valuation-related movements		(72,147)	9,532	21,406
Net increase/decrease in cash and cash equivalents		**(132,161)**	**371,680**	**272,110**
Cash and cash equivalents at the beginning of the period		1,710,991	1,339,311	1,067,201
Cash and cash equivalents at the end of the period	**G.4.**	**1,578,829**	**1,710,991**	**1,339,311**
Cash and cash equivalents are comprised as follows:				
Cash and cash equivalents		1,600,033	1,720,827	1,360,548
Short-term marketable securities		51	51	11
Short-term bank debt (less than 3 months)		(21,255)	(9,887)	(21,248)

Consolidated statement of changes in equity

	Note	Subscribed capital TEUR	Capital reserves TEUR	Retained earnings TEUR	Group earnings TEUR	Other components of equity: Currency translation TEUR	Other components of equity: Equity instruments recognized directly in equity TEUR	Other components of equity: Actuarial gains and losses TEUR	Equity attributable to the shareholders of Knorr-Bremse AG TEUR	Equity attributable to non-controlling interests TEUR	Total equity TEUR
As at 1/1/2017		**67,600**	**1,860**	**94,856**	**1,703,990**	**12,585**	**1,326**	**(68,845)**	**1,813,372**	**152,575**	**1,965,946**
Dividend payment					(385,073)				(385,073)	(48,017)	(433,090)
Net income					535,504				535,504	51,716	587,220
Other comprehensive income after taxes						(110,449)	(22,629)	14,377	(118,701)	(8,606)	(127,307)
Comprehensive income		**-**	**-**	**-**	**535,504**	**(110,449)**	**(22,629)**	**14,377**	**416,804**	**43,110**	**459,914**
Allocation to retained earnings				12,100	(12,100)				-		-
Equity-settled share-based payment			(550)						(550)		(550)
Realized losses from financial assets measured at fair value through OCI					(7,228)		7,228		-		-
Other changes					3,245				3,245	283	3,528
As at 12/31/2017	**F.9.**	**67,600**	**1,310**	**106,956**	**1,838,338**	**(97,864)**	**(14,075)**	**(54,468)**	**1,847,798**	**147,951**	**1,995,748**
As at 1/1/2016		**67,600**	**1,860**	**81,184**	**1,579,179**	**(5,837)**	**-**	**(39,998)**	**1,683,988**	**154,068**	**1,838,056**
Dividend payment					(384,900)				(384,900)	(43,796)	(428,696)
Net income					526,330				526,330	40,830	567,160
Other comprehensive income after taxes						18,422	1,326	(28,847)	(9,099)	2,859	(6,240)
Comprehensive income		**-**	**-**	**-**	**526,330**	**18,422**	**1,326**	**(28,847)**	**517,231**	**43,689**	**560,919**
Allocation to retained earnings				13,672	(13,672)				-		-
Other changes					(2,947)				(2,947)	(1,386)	(4,333)
As at 12/31/2016	**F.9.**	**67,600**	**1,860**	**94,856**	**1,703,990**	**12,585**	**1,326**	**(68,845)**	**1,813,372**	**152,575**	**1,965,946**
As at 1/1/2015		**67,600**	**1,860**	**57,597**	**1,286,120**	**(42,005)**	**-**	**(47,070)**	**1,324,102**	**143,927**	**1,468,030**
Dividend payment					(332,957)				(332,957)	(63,012)	(395,969)
Net income					652,768				652,768	57,883	710,650
Other comprehensive income after taxes						36,167	-	7,072	43,240	7,534	50,773
Comprehensive income		**-**	**-**	**-**	**652,768**	**36,167**	**-**	**7,072**	**696,007**	**65,417**	**761,424**
Allocation to retained earnings				23,587	(23,587)				-		-
Other changes					(3,164)				(3,164)	7,736	4,572
As at 12/31/2015	**F.9.**	**67,600**	**1,860**	**81,184**	**1,579,179**	**(5,837)**	**-**	**(39,998)**	**1,683,988**	**154,068**	**1,838,056**

Notes to the consolidated financial statements of Knorr-Bremse AG

A. Basis of preparation

A.1. About the Company

Knorr-Bremse AG ("Company") is a joint stock company domiciled in Germany. The Company's registered office and headquarters are located in Moosacher Str. 80, 80809, Munich, Germany. The Company is registered in the City of Munich commercial register under HRB 42031. The consolidated financial statements include the Company and its subsidiaries (jointly referred to as the "Group" or "Knorr-Bremse"). The Group is a global manufacturer of brake systems for rail and commercial vehicles. The division of rail vehicle systems also includes the product fields of platform screen doors, entry systems, power supply systems, driver assistance systems, air-conditioning systems, control systems, friction material, windscreen wipers, simulators and control components. The product portfolio of the division of commercial vehicle systems also includes driver assistance systems, steering systems, torsional vibration dampers and solutions relating to the drive train and transmission controls to improve efficiency and save fuel.

A.2. Accounting principles

The Company's consolidated financial statements were prepared in accordance with the International Financial Reporting Standards (IFRS), as they adopted in the European Union (EU), as well as the supplementary provisions of chapter 315e (3) of the German Commercial Code (HGB in the version of July 10, 2018). All mandatory standards applicable on the reporting date were implemented. IFRS 9 Financial Instruments was also applied ahead of schedule. The consolidated statement of income is prepared based on the total cost method.

A.3. Measurement bases

The Group consistently applied the following accounting methods to all periods presented in this consolidated financial statements.

The consolidated financial statements were prepared according to historical purchase and production costs with the exception of the following balance sheet items with different measurement bases on the respective reporting dates.

Measurement bases

Asset	Method
Derivative financial instruments	Fair value
Non-derivative financial instruments, measured at fair value through profit or loss	Fair value
Non-derivative financial instruments, measured at fair value through OCI	Fair value
Contingent consideration in a business combination	Fair value
Net debt (asset) from defined benefit plans	Present value of the defined benefit obligation less the fair value of the plan assets

A.4. Functional and presentation currency

The consolidated financial statements are presented in euro, the Company's functional currency. All financial information presented in euro is rounded to thousands of euros (TEUR), unless otherwise indicated. This may result in rounding differences.

A.5. Use of discretionary decisions and estimates

The preparation of the consolidated financial statements require a certain amount of discretionary decisions, estimates and assumptions by the management board, which affect the application of the accounting methods and the stated amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are constantly reviewed. Revisions of estimates are reported prospectively.

Discretionary decisions on the application of accounting methods primarily influence the amounts reported in the consolidated financial statements during the consolidation (Chapter C.1. et seq.).

Material effects on the consolidated financial statements as a result of assumptions and estimation uncertainty particularly occur in the measurement of defined benefit obligations (Chapter D.14. and F.10.), impairment tests (Chapter D.17. and D.18.) and the recognition and measurement of other accrued liabilities with respect to litigation and warranties (Chapter D.15. and F.11.). The measurement of the warranty provisions is based on estimates regarding expected warranty claims. An important factor affecting these estimates are the expected number of future warranty claims to be incurred. In this regard, there is a significant estimation uncertainty resulting from the large range of numbers of potential warranty claims.

The consolidated financial statements were approved for publication by the management board on August 22, 2018.

B. Accounting standards

B.1. First application of, as well as early adoption of financial reporting standards issued by the IASB

These consolidated financial statements are prepared by the Group in accordance with the IFRS regulations. All IFRS accounting standards mandatorily applicable in the European Union as of December 31, 2017 are applied. The following accounting policies of significance for the Group are applied for the first time:

Financial reporting pronouncements issued by the IASB and applied for the first time

Standard	New or revised standards and interpretations	Date of mandatory application EU
IAS 12	Changes to IAS 12: Recognition of deferred tax assets for unrealized losses	January 1, 2017
IAS 7	Changes to IAS 7: Disclosure initiative - statement of cash flows	January 1, 2017
IFRS 12	Annual improvements	January 1, 2017

Changes to IAS 12

Recognition of deferred tax assets for unrealized losses:

The changes clarify the recognition of deferred tax assets for unrealized losses regarding debt instruments measured at fair value.

The changes apply for the first time in the first reporting period of a fiscal year commencing on or after January 1, 2017.

Knorr-Bremse already correctly applied the respective accounting rules in the prior periods, hence no changes result to the consolidated financial statements as of December 31, 2017 with respect to the clarification of the standards.

Other changes

The following new or amended standards are not expected to have any or any material effects on the consolidated financial statements.

- Changes to IAS 7: Disclosure initiative - statements of cash flows
- Annual improvements 2014 - 2016: Changes to IFRS 12

The following accounting rules of significance for the Group have been applied early:

Financial reporting pronouncements issued by the IASB and early dated

Standard	New or revised standards and interpretations	Date of mandatory application EU
IFRS 9	IFRS 9: Financial instruments	January 1, 2018

B.2. Standards issued by the IASB, which have not yet been applied

The following table presents the standards issued by the IASB, of significance for the group, which have not yet been applied.

Financial reporting pronouncements issued by the IASB and not yet adopted

Standard	New or revised standards and interpretations	Date of mandatory application EU
IFRS 2	Changes to IFRS 2: Classification and measurement of share-based Payments	January 1, 2018
IFRS 15	IFRS 15: Revenue from contracts with customers	January 1, 2018
IAS 19	Changes to IAS 19: Plan changes, reductions or settlements	January 1, 2019
IAS 28	Investments in Associates and Joint Ventures	January 1, 2019
IFRS 9	IFRS 9: Prepayment with negative compensation	January 1, 2019
IFRS 16	IFRS 16: Leases	January 1, 2019
IFRIC 23	IFRIC 23: Uncertainty over Income Tax Treatments	January 1, 2019
IFRS 10 und IAS 28	Changes to IFRS 10 and IAS 28: Sale or deposit of assets between an investor and an associate or joint venture	Still open

Changes to IFRS 15

IFRS 15 replaces the following standards: IAS 11, IAS 18, IFRIC 13, IFRIC 15, IFRIC 18, and SIC 31.

The standard requires revenue from contracts with customers for contractual obligations to be reported. Contractual obligations are obligations towards the customer to transfer an identified service or an identified good, which can be separately distinguished. The standard contains detailed regulations for the first time on the issue of whether such obligations can be separately distinguished. This requires an analysis of the contracts with regard to whether and if so which individual contractual obligations exist in a contract with a customer. Moreover, among other conditions require contractual obligations that are largely the same to be combined into one contractual obligation.

In accordance with IFRS 15, revenue may only be recognized once contractual obligations will have been fulfilled. Fulfillment exists once the control of the performance transfers to the customer. This transfer of control may occur over a period or on a certain date. A transfer over a period is comparable with the *percentage of completion* method as defined in IAS 11.

IFRS 15 also contains in particular new rules for the assessment of contract assets (under IAS 11: receivables from construction contracts), to determine the transaction price and to capitalize the costs to fulfill a contract.

In addition, IFRS 15 results in changes of presentation of the balance sheet items.

With respect to the transition to IFRS 15, the Group applies the modified retrospective transition method as of January 1, 2018. Consequently, changes resulting from the first-time application of IFRS 15 are determined retrospectively and recognized cumulatively as of January 1, 2018. The following table gives an overview of expected changes.

Effects as of 1/1/2018 from the first-time application of IFRS 15

Subject	Description	Subsequent accounting
Construction contracts	Presentation change to provision for onerous contracts losses on construction contracts: Elimination of offsetting with related balance sheet item	No offsetting will take place in the future.
	Application of the impairment rules of IFRS 9 to contract assets according to IFRS 15	Calculation of an expected credit loss on contract assets and write-down of the contract assets in the appropriate amount.
	Financing components as a portion of the transaction price	Significant financing components are to be considered as a portion of the transaction price and therefore of revenue. Corresponding interest-effects are to be recognized in interest income or interest expenses.
Costs to fulfill performance obligations and cost reimbursements from the customer	Capitalisation of costs	Costs to fulfil the contract are to be capitalised and amortised over the term of the contract.
	Recognition of cost reimbursements received as liabilities	Reimbursements of the customer for costs to fulfill the contract represent a portion of the transaction price and are to spread over the term of the contract.
Volume bonuses	Change in presentation	Presentation of the accrued volume bonuses as liabilities.
Payments to customers for the appointment as a supplier	Capitalisation of the payments made	Recognition of such payments as assets, treatment as a portion of the transaction price and deduction from revenue over the term of the contract.

Overall, a positive effect on total equity before tax in a low double-digit million range is expected from the transition.

Changes to IAS 19

Plan changes, reductions or settlements:

According to the amendment to IAS 19, if a defined benefit plan is amended, reduced or settled, the current service cost and the net interest for the remaining financial year must be recalculated using the current actuarial assumptions previously used to revalue the net liability (asset). The changes must initially be applied in the first reporting period of a fiscal year starting on or after January 1, 2019, whereby early application is permitted.

The Group is currently assessing the potential impact of the changes on its consolidated financial statements. The Group currently does not expect any material impact.

IFRS 16 Leases

IFRS 16 introduces a standard accounting model according to which leases in general must be reported in the lessee's balance sheet. A lessee recognizes a right-of-use asset, which reflects the right to use the underlying asset, as well as a debt from the lease, which reflects the obligation to make lease payments. Exceptions exist for short-term leases and leases for low-value assets. The accounting for the lessor is similar to the current standard, i.e. the lessor lease is still classified as a finance or operating lease.

IFRS 16 replaces the existing guidelines on leases, including IAS 17 Leases, IFRIC 4 determining whether an arrangement contains a lease, SIC-15 Operating leases—Incentives, and SIC-27 Evaluating the substance of transactions involving the legal form of a lease.

The standard initially applies in the first reporting period of a fiscal year commencing on or after January 1, 2019. Early application is permissible for companies that apply IFRS 15 Revenue from contracts with customers at the time of the initial application of IFRS 16 or before.

The Group has not yet quantified the effects of the application of IFRS 16 on its reported assets and liabilities. The quantitative effects depend among other on the selected transition method, the extent to

which the practical simplification rules and exceptions are applied for the recognition and for all additional leases that the Group will enter into. The Group assumes that the selected transition approach and the quantitative information will be provided before the initial application.

Other changes

The following new or amended standards are not expected to have any or any material effects on the consolidated financial statements.

- Changes to IAS 40: Transfer of investment property
- Changes to IFRS 4: Application of IFRS 4 in combination with IFRS 9 Financial Instruments
- Annual improvements 2014 - 2016: Changes to IAS 28 and IFRS 1
- Changes to IFRIC 22: Foreign Currency Transactions and Advance Consideration
- Annual improvements 2015 - 2017: Changes to IAS 12, IAS 23, IFRS 3 and IFRS 11
- IFRS 17: Insurance contracts

The standards issued by the IASB, which have not yet been applied, are expected to be initially applied in accordance with their first time application requirement.

C. Consolidation

C.1. Principles of consolidation

The consolidated financial statements include the financial statements of the Company and all material affiliated companies. Subsidiaries controlled by the Group are fully consolidated. The Group controls a company, if it is exposed to fluctuating returns or is entitled to receive these returns and has the ability to influence these returns using its power of control over the company. The financial statements of subsidiaries are contained in the consolidated financial statements from the date on which the control starts and up to the date on which the control ends.

The Group recognizes business combinations based on the acquisition method. As part of the capital consolidation, the acquisition costs of the acquired shares are offset against the equity of the subsidiaries assigned to the group. The acquired, identifiable net assets and the consideration transferred are basicly recognized at fair value. A positive difference that arises between the acquisition costs of the acquired shares and the identifiable net assets upon initial consolidation is recognized as goodwill. Each goodwill is reviewed annually for impairment. A negative difference is reported directly in profit and loss.

The consideration transferred does not contain any amounts associated with the fulfillment of previously existing relationships. Such amounts are fundamentally reported in profit and loss.

Any conditional obligation to provide consideration is reported at the fair value at the time of acquisition. If the contingent consideration is classified as equity, it is not reassessed and a settlement is recognized in equity. Otherwise, other contingent considerations are assessed at fair value on each reporting date and subsequent changes to the fair value of the contingent considerations are reported in profit and loss.

Non-controlling interests are recognized with their corresponding share of the identifiable net assets of the acquired company at the date of acquisition.

Associated companies are companies in which the Group has significant influence, but no control or joint control in relation to finance and business policy. A joint venture is an agreement over which the Group exercises joint control, whereby the Group has rights to the net assets of the agreement rather than rights to its assets and obligations for its liabilities.

Shares in associated companies and joint ventures are reported based on the equity method. They are initially recognized at the acquisition costs, which also include transaction costs. After the initial

recognition, the consolidated financial statements contain the group's share in the comprehensive income, less distributions received, of the investments reported based on the equity method up to the date on which the significant influence or joint control ends.

All intragroup receivables and payables as well as expenses and income are eliminated within the scope of the debt consolidation as well as the consolidation of expense and income. Unrealized gains from transactions with companies that are recognized based on the equity method are derecognized against the investment in the amount of the group's interest in the associated company. Unrealized losses are eliminated in the same manner as unrealized gains, but only if there is no indication of an impairment.

C.2. Foreign currency translation

Foreign currency receivables and payables of the companies included in the consolidated financial statements are reported at the spot exchange rate on the date of the transaction. These items are translated at the spot rate on the reporting date.

Annual financial statements of consolidated group companies prepared in a foreign currency are translated using the modified reporting date method. Accordingly, assets and liabilities from foreign group companies are translated at the spot rate on the reporting date, while income and expenses from foreign group companies are translated at the average rate for the respective fiscal year. The resulting currency translation differences are reported in other comprehensive income and recognized in the line item currency translation if the currency translation difference is not assigned to the non-controlling interests.

The exchange rates on which the foreign currency translation is based, and which have a material effect on the consolidated financial statements are listed below:

Currency exchange rates

		December 31, 2017		December 31, 2016		December 31, 2015	
		Spot rate	Average rate	Spot rate	Average rate	Spot rate	Average rate
USA	USD	0.83382	0.88097	0.94868	0.90667	0.91525	0.90606
China	CNY	0.12813	0.13058	0.13661	0.13614	0.14102	0.14396
Hungary	HUF	0.00322	0.00323	0.00322	0.00321	0.00319	0.00323
Czech Republic	CZK	0.03916	0.03805	0.03701	0.03698	0.03700	0.03665
United Kingdom	GBP	1.12710	1.14078	1.16798	1.21976	1.35503	1.38229
India	INR	0.01305	0.01356	0.01397	0.01346	0.01379	0.01410
Japan	JPY	0.00741	0.00786	0.00810	0.00832	0.00760	0.00749
Hong Kong	HKD	0.10670	0.11303	0.12232	0.11682	0.11808	0.11688
South Africa	ZAR	0.06754	0.06679	0.06917	0.06221	0.05923	0.07080
Brazil	BRL	0.25171	0.27549	0.29150	0.26327	0.23480	0.27401

C.3. Changes to the Group

C.3.1. Business combinations

With regard to the accounting methods for business combinations, we refer to the information under chapter C.1.

The following companies were acquired, founded or initially included in the Group of consolidated companies in the 2015, 2016 and 2017 fiscal years:

2015

- Knorr-Bremse DETC Commercial Vehicle Braking Technology Co., Ltd., Shiyan/China
- Knorr-Bremse DETC Commercial Vehicle Braking Systems (Shiyan) Co., Ltd., Shiyan/China (consolidated at equity)
- Knorr-Bremse Systems for Rail Vehicles Kazakhstan LLP, Astana/Republic of Kazakhstan
- Selectron Systems AG, Lyss/Switzerland

- Selectron Systems Pvt. Limited, Gurgaon/India
- Selectron Systems (Beijing) Co. Ltd., Beijing/China

No companies were acquired or founded in 2015, which were not included in the Group of consolidated companies.

Notes on the significant business combination in 2015:

Acquisition of the Selectron Group

On January 1, 2015, the Group acquired 100% of the shares and voting rights in Selectron Systems AG, Lyss/Switzerland, as well as its subsidiaries, Selectron Systems Pvt. Limited, Gurgaon/India, and Selectron Systems (Beijing) Co. Ltd., Beijing/China, and gained control over the Selectron Group.

The acquisition allowed the Group to extend its product portfolio of components and solutions for the automation, networking, and control of rail vehicles. Besides reliable components with long service lives and appropriate costs, increased safety standards are decisive. The constantly increasing data volume that is exchanged between the individual systems requires higher bandwidths to transmit the data. The Selectron Group has been meeting these requirements for years. The integration into the Group results in an enhanced range of products and services, which facilitates supplier management for the vehicle manufacturer and operator. Moreover, the Selectron Group can better service its customers also at an international level by using the group's global sales and service network.

In the 2015 fiscal year, the Selectron Group contributed revenues of TEUR 45,260 and profit of TEUR 779 to the consolidated result before income taxes. The contribution to profit also includes the depreciation and amortization of hidden reserves as part of the purchase price allocation.

a) Consideration transferred

The following provides a summary of the fair values of each main group of considerations at the acquisition date:

	TEUR
Funds	102,165
Conditional consideration	4,029
Total consideration transferred	**106,194**

The contingent consideration amounts to 21.42% of the total earnings before interest, tax, depreciation and amortization (EBITDA) of the Selectron Group in 2015 and 2016. In this case, the total EBITDA must amount to at least TEUR 12,365; no contingent considerations arise below this threshold. The contingent consideration is limited to a maximum of TEUR 4,158. The Group has taken a liability of TEUR 4,029 into account, which corresponds to the fair value of the conditional consideration on the acquisition date.

As at December 31, 2015, the fair value of the contingent consideration amounted to TEUR 4,073; as at December 31, 2016, the fair value amounted to TEUR 4,046.

b) Costs associated with the business combination

Costs of TEUR 727 for due diligence, legal and notary fees arose in the Group in relation to the business combination. These costs are reported in other operating expenses.

c) Identifiable assets acquired and liabilities assumed

The following table indicates the fair value of the assets acquired and liabilities assumed on the acquisition date:

	TEUR
Technology	10,197
Order backlog	1,533
Customer relationship	21,092
Other intangible assets	120
Property, plant and equipment	2,988
Financial assets	152
Inventories	6,197
Trade accounts receivables	5,392
Other assets	874
Funds	4,176
Provisions	(12,250)
Financial debt	(7,192)
Deferred taxes	(6,240)
Trade accounts payables and other liabilities	(1,787)
Total identifiable net assets acquired	**25,252**

Trade accounts receivable include gross amounts of contractual receivables of TEUR 5,456, of which TEUR 64 are probably considered to be uncollectible and therefore impaired at the acquisition date.

d) Goodwill

Goodwill as a result of the acquisition was reported as follows:

	TEUR
Consideration transferred	106,194
Fair value of the identifiable net assets	(25,252)
Goodwill	**80,942**

Goodwill primarily results from the future potential for development of the existing technologies, the expected expansion of the product and customer base, as well as the know-how of the workforce. The recorded goodwill is not tax-deductible.

2016

- Aldona Seals Ltd., Peterlee/United Kingdom
- Alpha Process Controls (International) Ltd., Peterlee/United Kingdom
- G.T. Group Ltd., Peterlee/United Kingdom
- GT Emission Systems Ltd., Peterlee/United Kingdom
- GT Project Engineering Ltd., Consett/United Kingdom
- Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong/China
- Icer Rail S.L., Pamplona/Spain (formerly at-equity)
- Semiconductor Solutions (Pty.) Ltd., Pretoria/South Africa
- tedrive Steering Systems GmbH, Wülfrath/Germany
- tedrive Yönlendirme Sistemleri Sanayi ve Tic. Ltd. Şti., Istanbul/Turkey
- Zelisko Elektrik Sanayi ve Ticaret Limited Şirketi, Istanbul/Turkey

The following companies were acquired or founded in the 2016 fiscal year, but were not included in the group of consolidated companies:

- Knorr-Bremse Services Europe s.r.o., Stráž nad Nisou/Czech Republic
- RBL-Technologie Ltd., Nabereschnyje Tschelny/Russia
- tedrive Steering Systems Inc., Wixom, Michigan/USA

Notes on the significant business combinations in 2016:

Acquisition of the GT Group

On July 5, 2016, the Group acquired 100% of the shares and voting rights in GT Group Ltd., Peterlee/United Kingdom, as well as its subsidiaries GT Emission Systems Ltd., Peterlee/United Kingdom, GT Project Engineering Ltd., Consett/United Kingdom, Aldona Seals Ltd., Peterlee/United Kingdom, as well as Alpha Process Controls (International) Ltd., Peterlee/United Kingdom, and obtained control over the GT Group.

The GT Group primarily develops and produces exhaust gas recirculation valves and exhaust gas brake flaps for diesel engines in the commercial vehicle sector. The acquisition allows the Group to access new technologies, which complement the existing product portfolio in Asia. At the same time, the intention is to expand the existing market position in Europe, and to develop new markets.

In the 2016 fiscal year, the GT Group contributed revenues of TEUR 26,238 and profit of TEUR 664 to the consolidated result before income taxes. The contribution to profit also includes the depreciation and amortization of hidden reserves as part of the purchase price allocation.

a) Consideration transferred

The consideration includes cash, whose fair value as at the acquisition date amounts to TEUR 107,693.

b) Costs associated with the business combination

Costs of TEUR 726 for due diligence, legal and notary fees arose in the Group in relation to the business combination. These costs are reported in other operating expenses.

c) Identifiable assets acquired and liabilities assumed

The following table indicates the fair value of the assets acquired and liabilities assumed on the acquisition date:

	TEUR
Technology	7,012
Customer relationship	11,767
Property, plant and equipment	4,055
Inventories	4,413
Trade accounts receivables	9,243
Other assets	6,201
Funds	5,010
Deferred taxes	(3,808)
Trade accounts payables and other liabilities	(10,371)
Total identifiable net assets acquired	**33,522**

The trade accounts receivable essentially include gross amounts of contractual receivables of TEUR 9,302, of which TEUR 59 were considered to be uncollectible and therefore impaired at the acquisition date.

d) Goodwill

Goodwill as a result of the acquisition was reported as follows:

	TEUR
Consideration transferred	107,693
Fair value of the identifiable net assets	(33,522)
Goodwill	**74,171**

Goodwill primarily resulted from the integration of the technology into the group's product portfolio, the expansion of existing and development of new markets, as well as the existing workforce. The recorded goodwill is not tax-deductible.

If the corporate acquisition had taken place at the start of the year, group revenues would have increased by another TEUR 30,743 to TEUR 56,981 and group earnings before tax would have risen by another TEUR 2,355 to TEUR 3,019. When calculating the amounts, the management board assumed that the fair values from the purchase price allocation at the respective acquisition date would also have been valid in the event of an acquisition on January 1, 2016.

Acquisition of the tedrive Group

As at September 8, 2016, the Group acquired 100% of the shares and voting rights in tedrive Steering Systems GmbH, Wülfrath/Germany, as well as its subsidiaries tedrive Yönlendirme Sistemleri Sanayi ye Tic. Ltd. Sti., Istanbul/Turkey, tedrive Steering Systems Inc., Wixom, Michigan/USA, and RBL-Technologie Ltd., Nabereschnyie Tschelny/Russia.

tedrive Steering Systems GmbH and tedrive Yönlendirme Sistemleri Sanayi ye Tic Ltd. were therefore included in the Group of consolidated companies as at September 1, 2016.

tedrive is a leading manufacturer and development specialist of steering systems for passenger cars and trucks, and primarily sells mechanical and electronic/hydraulic steering systems. The acquisition allows the Company to expand its product portfolio with components and solutions for steering systems.

In the 2016 fiscal year, the tedrive Group contributed revenues of TEUR 28,854 and earnings before taxes of TEUR 1,020 to the consolidated result before income taxes.

a) Consideration transferred

The purchase price for the tedrive Group amounted to TEUR 33,819.

b) Costs associated with the business combination

Costs of TEUR 499 for due diligence, legal and notary fees arose in the Group in relation to the business combination. These costs are reported in other operating expenses.

c) Identifiable assets acquired and liabilities assumed

The following table indicates the fair value of the assets acquired and liabilities assumed on the acquisition date:

	TEUR
Technology	2,255
Customer relationship	9,674
Other intangible assets	681
Property, plant and equipment	8,115
Financial assets	20
Inventories	8,959
Trade accounts receivables	7,872
Other assets	1,407
Funds	10,478
Provisions	(6,160)
Trade accounts payables and other liabilities	(17,027)
Total identifiable net assets acquired	**26,274**

The trade accounts receivable include gross amounts of contractual receivables of TEUR 7,982, of which TEUR 110 were considered to be uncollectible at the acquisition date.

d) Goodwill

Goodwill as a result of the acquisition was reported as follows:

	TEUR
Consideration transferred	33,819
Fair value of the identifiable net assets	(26,274)
Goodwill	**7,545**

Goodwill primarily resulted from the future potential for development of the existing technologies. The recorded goodwill is not tax-deductible.

If all corporate acquisitions had taken place at the beginning of fiscal year 2016, group revenues would have increased by another TEUR 54,888 to TEUR 83,742 and group earnings before tax would have risen by another TEUR 1,789 to TEUR 2,809. When calculating the amounts, the management board assumed that the fair values from the purchase price allocation at the respective acquisition date would also have been valid in the event of an acquisition on January 1, 2016.

Acquisition of ICER Rail

Until November 20, 2016 the Group held 50% of the shares and voting rights in Icer Rail S.L., Pamplona/Spain, which is a leading manufacturer and development specialist of brake blocks and brake pads. The Company was consolidated up to that date using the at-equity method, with the most recent book value of the investment amounting to TEUR 7,695. On November 21, 2016, the Group acquired the remaining 50% of the shares and voting rights in Icer Rail S.L. and accordingly now owns 100% of the shares and voting rights. This resulted in a transition from the at-equity accounting to full consolidation as at November 21, 2016.

a) Consideration of the new shares

The purchase price for the remaining 50% of the shares and voting rights in Icer Rail S.L. amounted to TEUR 22,100. This includes a control premium of TEUR 4,177 (18.9%).

b) Revaluation of old shares

The revaluation of the old shares (at-equity investment) at the time of the business combination resulted in a profit of TEUR 10,229. In this connection, deferred taxes in the amount of TEUR 2,550 were recorded as liabilities. The determined goodwill from the total transaction amounts to TEUR 24,634.

The result of the current financial year attributable to the old shares amounts to TEUR 1,893.

c) Costs associated with the business combination

Costs of TEUR 197 for due diligence, legal and notary fees arose in the Group in relation to the business combination. These costs are reported in other operating expenses.

d) Identifiable assets acquired and liabilities assumed

The following table indicates the fair value of the assets acquired and liabilities assumed on the acquisition date.

	TEUR
Other intangible assets	156
Property, plant and equipment	14,805
Financial assets	483
Inventories	2,747
Trade accounts receivables	2,605
Other assets	308
Funds	3,568
Trade accounts payables and other liabilities	(9,283)
Total identifiable net assets acquired	**15,389**

The trade accounts receivable include gross amounts of contractual receivables of TEUR 2,658, of which TEUR 53 were considered to be uncollectible and therefore impaired at the acquisition date.

In the 2016 fiscal year, Icer Rail contributed revenues of TEUR 148 and earnings before taxes of TEUR 130 to the consolidated result before income taxes.

e) Goodwill

Goodwill as a result of the acquisition was reported as follows:

	TEUR
Consideration transferred (50% new shares)	22,100
thereof control premium 18,9%	*4,177*
Fair Value 50% old shares (Equity)	17,923
Fair value of the identifiable net assets (100%)	(15,389)
Goodwill	**24,634**

Goodwill primarily resulted from the future potential for development of the existing technologies. The recorded goodwill is not expected to be tax-deductible.

The profit from the revaluation of the old shares (50%) is as follows:

	TEUR
Fair Value 50% old shares (Equity)	17,923
Book value 50% old shares (Equity)	(7,694)
Income from old shares	**10,229**

If the company had been acquired at the beginning of 2016, consolidated revenues would have increased by a further TEUR 3,332 to TEUR 3,480 and consolidated result before income taxes by a further TEUR 2,630 to TEUR 2,760. When calculating the amounts, the management board assumed that the fair values from the purchase price allocation at the respective acquisition date would also have been valid in the event of an acquisition on January 1, 2016.

2017

The following companies were acquired or founded in the 2017 fiscal year, or were included for the first time in the Group of consolidated companies:

- APS electronic AG, Niederbuchsiten/Switzerland
- Kiepe Electric Ges. m. b. H., Vienna/Austria
- Kiepe Electric GmbH, Düsseldorf/Germany
- Kiepe Electric Inc., Alpharetta, Georgia/USA
- Kiepe Electric Ltd., Birmingham/United Kingdom
- Kiepe Electric UK Limited, Birmingham/United Kingdom
- Knorr-Bremse Services Europe s.r.o., Stráž nad Nisou/Czech Republic

The following companies were acquired or founded in the 2017 fiscal year, but were not included in the group of consolidated companies:

- Dyno-Inno Test Center for Brake Equipment (Suzhou) Ltd., Suzhou/China
- Freios Bre Coahuila, S.A. de C.V., Cd. Acuña, Coah/Mexico
- Heiterblick Projektgesellschaft mbH, Leipzig/Germany
- Kiepe Electric Corporation, Vancouver/Canada

- Kiepe Electric d.o.o., Niš/Serbia
- Kiepe Electric (Pty) Ltd. South Africa, Woodstock/South Africa
- Kiepe Electric S.r.l., Cernusco sul Navigilio/Italy
- Knorr-Bremse Systems for Rail Vehicles Enterprise Management (Beijing) Co., Ltd. Peking/China
- Sichuan Knorr-Bremse Guo Tong Railway Transportation Equipment Co., Ltd. Chengdu/China
- Sydac Simulation Technologies India Private Limited, Pune/India

Notes on the significant business combinations in 2017:

Acquisition of the business segment Electrical Systems (Vossloh Kiepe)

With effect from February 1, 2017, the Group acquired 100% of the shares and voting rights in Vossloh Kiepe GmbH, Düsseldorf/Germany, Vossloh Kiepe, Inc., Alpharetta/USA, and Vossloh Kiepe Southern Africa (Pty) Ltd., Cape Town/South Africa, including its subsidiaries, and obtained control over the companies. The companies and their subsidiaries and investments were renamed as "Kiepe Electric" after the acquisition.

Kiepe Electric develops and produces electrical systems and equipment for rail vehicles in local public transport, as well as electric traction systems for trolleybuses, hybrid vehicles, fuel cell buses, and locomotives. Other Vossloh Kiepe products include heating, air-conditioning and ventilation systems. Kiepe Electric products and services are used by transport companies, state and private railways, as well as their supplier industry. The acquired group expands the Group's systems portfolio for rail vehicles, as well as, in part, the offer for commercial vehicles. As part of the increasing electrification and networking of railways and commercial vehicles, as a system supplier, Kiepe Electric opens up new application possibilities and growth opportunities.

In the 2017 fiscal year, Kiepe Electric contributed revenues of TEUR 180,466 and a loss before taxes of TEUR 26,395 to the consolidated result before income taxes.

a) Consideration transferred

The following provides a summary of the fair values of each main group of considerations at the acquisition date:

	TEUR
Funds	48,351
Contingent consideration (present value)	25,268
Total consideration transferred	**73,619**

The contingent consideration is dependent on the total actual costs of a Kiepe Electric turnkey project, which is currently expected to run until 2021. If the actual costs for the project fall below the previously defined amount, 92.08% of this deviation (deviation limited to TEUR 60,000) will fall due for payment as contingent consideration. If the actual costs for the project are above the target cost amount (negative deviation), the Group will receive 92.08% of the exceeded costs (deviation limited to TEUR 60,000) as a reimbursement of purchase price (indemnification). Based on costings estimations at the acquisition date, the Group calculated a positive cost deviation including discount effects, which was recognized as contingent consideration. In fiscal year 2017, Knorr-Bremse paid in advance an amount of TEUR 25,448, which differed from the fair value of the contingent consideration.

b) Costs associated with the business combination

Costs of TEUR 1,272 for due diligence, legal and notary fees arose in the Group in relation to the business combination in the 2017 fiscal year. These costs are reported in other operating expenses.

c) Identifiable assets acquired and liabilities assumed

The following table indicates the reported amounts of the assets acquired and liabilities assumed on the acquisition date:

	TEUR
Technology	2,452
Order backlog	4,410
Customer relationship	11,713
Other intangible assets	2,957
Property, plant and equipment	35,678
Financial assets	2,447
Inventories	99,680
Trade accounts receivables	26,763
Receivables from construction contracts	25,340
Other assets	8,167
Funds	44,407
Provisions	(32,544)
Financial debt	(3)
Trade accounts payables	(14,440)
Liabilities from construction contracts	(92,905)
Advance payments	(11,088)
Deferred Taxes	(15,831)
Other liabilities	(27,905)
Total identifiable net assets acquired	**69,298**

The trade accounts receivable include gross amounts of contractual receivables of TEUR 29,767, of which TEUR 3,004 were considered to be uncollectible and therefore impaired adjusted at the acquisition date.

d) Goodwill

Goodwill as a result of the acquisition was reported as follows:

	TEUR
Consideration transferred	73,619
Fair value of the identifiable net assets	(69,298)
Goodwill	**4,321**

Goodwill primarily resulted from the new application possibilities of the Kiepe Electric products in the Group as well as the know-how of the workforce. The recorded goodwill is not tax-deductible.

If the corporate acquisition had taken place at the beginning of the year, group revenues would have increased by another TEUR 12,308 to TEUR 192,774 and group earnings before tax would have fallen by another TEUR 1,429 to TEUR 27,824. When calculating the amounts, the management board assumed that the fair values from the purchase price allocation at the respective acquisition date would also have been valid in the event of an acquisition on January 1, 2017.

Acquisition of the assets of the Bosch Transmission Systems Division (TRS) in Musashi/Japan as an asset deal

Effective March 31, 2017, Knorr-Bremse Commercial Vehicle Systems Japan Ltd. and Bosch Corporation, Japan, completed the acquisition of all assets of the Bosch Transmission Systems Division (TRS) in Musashi/Japan as an asset deal. The purchase price agreement was signed by both parties on June 22, 2016. The company develops, produces and sells systems and components for manual and automated transmissions for on-highway commercial vehicles in Asia.

a) Consideration transferred

The purchase price amounted to TEUR 64,749 and was paid in full.

b) Costs associated with the business combination

Costs of TEUR 790 for due diligence, legal and notary fees arose in the Group in relation to the business combination in the 2017 fiscal year. These costs are reported in other operating expenses.

c) Identifiable assets acquired and liabilities assumed

As a result of the asset deal, the Group assumed the following assets and liabilities at the time of acquisition:

	TEUR
Customer relationships	32,700
Property, plant and equipment	2,293
Inventories	4,455
Trade accounts payables and other liabilities	(953)
Total identifiable net assets acquired	**38,495**

d) Goodwill

Goodwill as a result of the acquisition was reported as follows:

	TEUR
Consideration transferred	64,749
Fair value of the identifiable net assets	(38,495)
Goodwill	**26,254**

The goodwill results primarily from the integration of the technology in the transmission control business area and the expected expansion of the customer base in the Asia region. The recorded goodwill is not tax-deductible.

C.3.2. Divestments—disposals of consolidated companies

In the 2017 fiscal year, the following companies were merged, liquidated or sold:

- Microelettrica Power Devices (Pty.) Ltd., Johannesburg/South Africa
- Swedtrac Trafik AB, Solna/Sweden
- SWT Swedtrac Svets & Smide AB, Solna/Sweden
- Transtechnik Asia Pacific Pty. Ltd., Sydney/Australia

C.3.3. Changes of company names

The following companies were renamed in fiscal year 2017:

- Black River Logistics Company LLC, Watertown, New York/USA (previously Black River Air Logistics Company LLC, Watertown, New York/USA)
- Knorr-Bremse Services GmbH, München/Deutschland (previously Knorr-Bremse IT-Services GmbH, München/Deutschland)
- Knorr-Bremse SteeringSystems GmbH, Wülfrath/Deutschland (previously tedrive Steering Systems GmbH, Wülfrath/Deutschland)
- Knorr-Bremse Systems for Commercial Vehicles (Chongqing) Ltd., Chongqing/China (previously Knorr-Bremse CAFF Systems for Commercial Vehicles Chongqing Ltd., Chongqing/China)

C.4. Composition of the Group

Composition of the Group

Number of fully consolidated subsidiaries	2017 Domestic	2017 International	2016 Domestic	2016 International	2015 Domestic	2015 International
Status January 1	**27**	**116**	**26**	**107**	**26**	**107**
Additions	1	6	1	9	0	5
Disposals	0	4	0	1	0	4
Reclassifications	0	0	0	1	0	-1
Status December 31	**28**	**118**	**27**	**116**	**26**	**107**

Number of associated companies	2017 Domestic	2017 International	2016 Domestic	2016 International	2015 Domestic	2015 International
Status January 1	**2**	**2**	**3**	**3**	**3**	**1**
Additions	0	0	0	0	0	1
Disposals	0	0	1	0	0	0
Reclassifications	0	0	0	-1	0	1
Status December 31	**2**	**2**	**2**	**2**	**3**	**3**

Non-consolidated subsidiaries	2017 Domestic	2017 International	2016 Domestic	2016 International	2015 Domestic	2015 International
Status January 1	**1**	**8**	**1**	**5**	**1**	**7**
Additions	1	8	0	3	0	0
Disposals	0	0	0	0	0	2
Reclassifications	0	0	0	0	0	0
Status December 31.	**2**	**16**	**1**	**8**	**1**	**5**

Investments	2017 Domestic	2017 International	2016 Domestic	2016 International	2015 Domestic	2015 International
Status January 1	**4**	**3**	**4**	**3**	**4**	**3**
Additions	0	0	0	0	0	0
Disposals	0	1	0	0	0	0
Status December 31	**4**	**2**	**4**	**3**	**4**	**3**

For details on the group of consolidated companies, refer to the list of shareholdings under H.12.

C.5. Significant non-controlling interests

Non-controlling interests

Name	Registered Office/Country of foundation	Ownership shares constituting non-controlling interests		
		12/31/2017 %	12/31/2016 %	12/31/2015 %
Knorr Brake Holding Corporation	Watertown, New York/USA	10,7	10,7	10,7
Knorr Bremse CARS LD Co. Ltd	Daxing/China	50	50	50

The following summarized financial information is presented for the Knorr Brake Holding Corporation subgroup and for Knorr-Bremse CARS LD Co Ltd, prepared in accordance with IFRS and modified for adjustments to fair value at acquisition date and for differences in the Group's accounting policies. This is information before eliminations, which is carried out with other group companies.

The voting rights of Knorr Bremse CARS LD Co Ltd. amount to 50% while no voting rights exist in Knorr Brake Holding Corporation.

The remaining non-controlling interests are not significant, individually or in total.

Knorr Brake Holding Corporation subgroup	2017 TEUR	2016 TEUR	2015 TEUR
Revenues	1,347,070	1,194,812	1,459,672
Profit	119,736	95,747	138,947
Profit attributable to non-controlling interests	17,113	13,912	22,880
Other income	(33,092)	11,165	15,782
Comprehensive income	253,941	201,749	241,144
Total comprehensive income attributable to non-controlling interests	11,809	15,559	25,934

Knorr Brake Holding Corporation subgroup	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Current assets	361,814	355,391	389,348
Non-current assets	776,943	804,755	791,693
Current liabilities	(287,014)	(257,785)	(278,500)
Non-current liabilities	(66,689)	(97,414)	(146,423)
Net assets	785,394	805,295	756,383
Net assets attributable to non-controlling interests	95,711	100,542	96,327

Knorr Brake Holding Corporation subgroup	2017 TEUR	2016 TEUR	2015 TEUR
Cash flows from operating activities	156,347	114,376	120,424
Cash flows from investing activities	125,668	53,444	40,329
Cash flows from financing activities	(284,264)	(155,504)	(143,851)
Net increase in cash and cash equivalents	(2,249)	12,316	16,902

Knorr Brake Holding Corporation subgroup	2017 TEUR	2016 TEUR	2015 TEUR
Dividends paid during the year to non-controlling interests	18,705	17,027	14,678

Knorr Bremse CARS LD Co. Ltd	2017 TEUR	2016 TEUR	2015 TEUR
Revenues	191,568	226,559	316,993
Profit	37,736	42,855	54,552
Profit attributable to non-controlling interests	18,868	21,428	27,276
Other income	(4,519)	(2,481)	4,865
Comprehensive income	33,217	40,374	59,417
Total comprehensive income attributable to non-controlling interests	16,608	20,187	29,708

Knorr Bremse CARS LD Co. Ltd	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Current Assets	149,059	133,456	180,835
Non-current assets	5,248	6,725	8,360
Current liabilities	(81,929)	(54,070)	(77,113)
Non-current liabilities	(5,331)	(12,715)	(33,182)
Net assets	67,047	73,396	78,900
Net assets attributable to non-controlling interests	33,523	36,698	39,450

Knorr Bremse CARS LD Co. Ltd	2017 TEUR	2016 TEUR	2015 TEUR
Cash flows from operating activities	34,120	61,063	65,095
Cash flows from investing activities	614	244	(1,012)
Cash flows from financing activities	(39,566)	(45,878)	(51,336)
Net increase in cash and cash equivalents	(4,831)	15,428	12,747

Knorr Bremse CARS LD Co. Ltd	2017 TEUR	2016 TEUR	2015 TEUR
Dividends paid during the year to non-controlling interests	19,783	22,939	25,266

D. Notes on the accounting and measurement methods

D.1. Revenue

Revenue is reported as soon as the significant risks and opportunities associated with the ownership are transferred to the buyer, the receipt of payment is probable, the associated costs and possible returns can be reliably estimated, no further right over the goods exist, and the revenue amount can be reliably calculated. Revenue is reported less returns, price reductions, and quantity discounts. Revenue is measured at the contractually agreed price.

Commercial Vehicle Systems Division

The Commercial Vehicle Systems Division sells complete and subsystems of a braking system for commercial vehicles. This relates to business in the original equipment market as well as the aftermarket sector, in which large quantities of various products are dispatched to customers on a daily basis. Framework agreements exist with the original equipment and aftermarket customers, which regulate the prices for a high percentage of the products. Production is just in time. The significant risks and opportunities are transferred upon delivery of the goods. Revenues in the commercial vehicles segment are recognized at the time of delivery of the goods.

Rail Vehicle Systems Division

The Rail Vehicle Systems Division operates the original equipment business as a project business. The aftermarket business involves the sale of spare parts as well as the implementation of the project business.

The original equipment project business is based on individual project contracts. The Company's services primarily involve the delivery of brake, door, and air-conditioning systems for rail vehicles. The contracts provide for a delivery of different numbers of identical trains.

The project business in the aftermarket concerns the general overhaul of entire trains for the brake, door and air conditioning systems sectors.

The project business generally consists in production orders pursuant to IAS 11. The revenue is calculated using the percentage-of-completion (PoC) method. The progress is measured based on the cost-to-cost method. The revenue is calculated based on the accrued manufacturing costs of the orders plus the attributable profit according to the degree of completion achieved at the reporting date. Contract revenue is measured at the fair value of the payment received or outstanding payment. Anticipated losses from production orders are fully recognized at the time of their detection in profit and loss.

The spare parts business in the aftermarket segment is regulated in separate contracts. Revenue from the spare parts business are recognized at the time the spare parts are delivered to the customers.

D.2. Government grants

Government grants are recognized, if adequate certainty exists that the conditions associated with the grant will be met and the grants will be provided.

These can be divided into grants for assets and performance-related grants.

IAS 20.23 provides for an accounting option.

Grants for assets must either be deducted from the book value of the corresponding asset or reported as deferred income, which must be released to income over the useful life of the asset. The Company deducts grants for assets from the book value of the asset.

According to IAS 20.29, a right to choose exists between accounting in other operating income or offsetting of the corresponding expense with the income from the grants for performance-related grants. The company exercises the first option.

D.3. Earnings before interests and taxes (EBIT)

The operating income is the result from the group's main activity as well as other income and expenses from business activities. The earnings before interests and taxes (EBIT) do not include interest income and interest expense, as well as the other financial result, and taxes on income.

D.4. EBITDA

EBITDA corresponds to earnings before depreciation and amortization as reported in the income statement.

D.5. Net-working capital

Net working capital corresponds to inventories, trade accounts receivable and receivables from construction contracts less trade accounts payable, liabilities from construction contracts and advance payments received (see chapter F.12.).

D.6. Financial income and financing expenses

Interest income and expenses are recognized in profit or loss based on the effective interest method. Dividend income is recognized in profit or loss at the time at which the Group's legal entitlement to payment arises.

D.7. Borrowing costs

Borrowing costs are capitalized if they are directly attributable to the acquisition or production of a qualifying asset for which a longer period of time is required to bring it to its intended usable or saleable condition. All other borrowing costs are expensed as incurred. The Group did not capitalize any borrowing costs in the reporting periods.

D.8. Income taxes

Current taxes are the expected tax debt or tax claim in relation to the taxable income or tax loss for the fiscal year based on the tax rates that apply on the reporting date, or which will be in place shortly, as well as all adjustments to the tax debt in previous years. The expected tax debt or tax claim reflects the amount that represents the best estimate under consideration of tax uncertainties, where applicable. Current tax debts also include all tax debts, which arise as a result of dividends.

Current tax claims and liabilities are only netted under certain conditions.

Deferred taxes are recognized with regard to temporary differences between the book values of the assets and liabilities for group accounting purposes and the amounts used for tax purposes. Deferred taxes are not recognized for:

- temporary differences in the event of the initial reporting of assets or debts for a transaction, which does not relate to a business combination and which does not influence the accounting earnings before taxes or the taxable earnings

- temporary differences in connection with shares in subsidiaries, associates and jointly controlled entities, if the Group is able to manage the timing of the reversal of the temporary differences and it is likely that they will not be reversed in the foreseeable future

- taxable temporary differences in the event of the initial reporting of goodwill.

A deferred tax claim is recognized for unused tax losses, unused tax credits and deductible temporary differences to the extent that it is likely that future taxable earnings will be available for which they can be used. Future taxable profits are determined on the basis of the individual business plans of the subsidiaries, taking into account the reversal of temporary differences. Unrecognized deferred tax claims are reassessed on every reporting date and recognized in the amount likely to be permitted by the realization of future taxable earnings.

Deferred tax liabilities are additionally recognized for temporary differences arising from future dividend distributions.

Deferred tax claims are reviewed on every reporting date and reduced to the extent to which it is no longer likely that the associated tax benefit will be realized; write-ups are reported, if the probability of future taxable earnings improves.

Unrecognized deferred tax claims are reassessed on every reporting date and recognized in the amount likely to be permitted by the realization of future taxable earnings.

Deferred taxes are measured based on the tax rates, which are expected to be applied to temporary differences, as soon as they reverse, namely, using tax rates that apply or have been announced on the reporting date.

The measurement of deferred taxes reflects the tax consequences that arise from the Group's expectation with regard to the manner of recognition of the book values of its assets and the settlement of its debts as at the reporting date.

Deferred tax claims and deferred tax debts are netted if certain conditions are met.

D.9. Intangible assets

Intangible assets, which were not acquired as part of a business combination, with a determinable useful life, are recognized at the acquisition or production costs less cumulative depreciation and amortization and cumulative impairments.

The goodwill resulting from a business combination is recognized with the acquisition costs, less any necessary impairment.

Expenditure for research activities is recognized in profit or loss in the period in which it arises.

Development projects are capitalized at acquisition or production costs, including development-related overheads, if the development costs can be reliably measured, the product or process is technically and commercially appropriate, a future commercial benefit is probable, and the Group intends and has adequate resources to complete the development and use or sell the asset.

Development projects are measured at the acquisition or production costs, less cumulative amortization and cumulative impairment expenses.

Intangible assets with a determinable useful life are subject to linear and amortization over their estimated useful lives. The amortization is fundamentally recognized in profit and loss. Goodwill as well as intangible assets without a determinable useful life are not subject to regular and amortization. All capitalized intangible assets, with the exception of goodwill, have a limited useful life.

The estimated useful lives amount to:

- Licenses and acquired rights: 1 - 20 years
- Brand and customer relationships: 3 - 20 years
- Internally generated intangible assets: 3 - 10 years

Amortization methods, useful lives, and residual values are reviewed on every reporting date and adjusted where necessary.

Goodwill is tested annually for impairment.

Please refer to chapter D.18. for information on the fair value of non-financial assets.

D.10. Property, plant and equipment

Property, plant and equipment (PPE) are measured at acquisition or production costs, less cumulative depreciation and cumulative impairment expenses.

Depreciation and amortization is calculated on a scheduled, linear basis over the estimated useful life. Depreciation is fundamentally recognized in profit and loss.

If indications of an impairment of individual items of PPE exist, and the recoverable amount is lower than the book value, an impairment test is performed for this asset. The recoverable amount is the higher of the fair value less the costs of sale and the useful value. If the recoverable amount is below the book value, the difference is recognized in profit and loss and the basis for the regular depreciation is reassessed.

Assets held under finance leases, for which there is no adequate certainty that ownership will transfer to the Group at the end of the lease, are depreciated over the shorter of the term of the lease or the useful life.

Land is not subject to regular depreciation.

The estimated useful lives for the current year and comparison years of PPE amount to:

- Buildings: 3 - 50 years
- Technical equipment and machinery: 3 - 25 years
- Other equipment, plant and office equipment: 1 - 25 years

Depreciation methods, useful lives, and residual values are reviewed on every reporting date and adjusted where necessary.

D.11. Leases

For every agreement, the Group checks whether the agreement is or contains a lease.

For agreements that contain a lease, the Group separates the payments required from this type of agreement and other remuneration into those for the lease and those for other items based on their relative fair value.

If, as part of a lease relating to PPE, all of the fundamental risks and opportunities are transferred to the group, the lease is classified as a financing lease. If, for a finance lease, the Group cannot reliably separate the payments into those for the lease and those for other items, an asset and a debt are recognized based on the fair value of the underlying asset. The debt is subsequently reduced by applying the group’s incremental borrowing rate, if payments have occurred and the financing costs added to the debt have been reported. The leasing object is initially recognized at the lower of the fair value and the present value of the minimum lease payments. The subsequent measurement takes place in accordance with the accounting methods applicable for this asset. The minimum lease payments made as part of financing leases are divided into financing expense and the repayment portion of the residual debt. The distribution of the financing expense across the term of the lease is based on a constant interest rate for the remaining residual debt. Other leases are classified as operating leases. The corresponding assets are not reported in the group’s balance sheet.

The payments made as part of operating leases are recognized in profit and loss on a linear basis over the term of the lease. If leasing incentives are agreed, these are recognized over the term of the lease as part of the total leasing expenses.

For leases with regard to a plant, a property, and/or a building, which legally exist in the form of a lease (sale and leaseback transaction), but not economicially, any sales proceeds that exceed the book value are accrued and reported in profit and loss over the term of the lease.

D.12. Inventories

Inventories are essentially valued at the lower of the acquisition or production costs and the net realizable value. Unfinished and finished products include manufacturing costs that can be attributed directly to the production process as well as an adequate share of production overheads. Production-related administration costs are also capitalized.

The net realizable value is calculated based on the proceeds that can be realized on the market in the normal course of business, less the costs for manufacturing the product and sales costs.

D.13. Assets held for sale or disposal groups

Non-current assets held for sale or disposal groups are classified as "Assets held for sale and discontinued operations", if it is highly probable that the associated book value will largely be realized by a sale transaction and not by continued utilization.

Non-current assets, respectively non-current and current assets included in disposal groups, are recognized at their book value or the lower fair value less costs of disposal. Intangible assets and PPE are no longer subject to regular depreciation and amortization, and any associated company recognized using the equity method is no longer recognized using the equity method as soon as it is classified as held for sale or held for distribution.

D.14. Employee benefits

The Group recognizes defined contribution as well as defined benefit plans.

Obligations for contributions to defined contribution plans are reported as an expense once the associated work performance has been provided. Prepaid benefits are reported as an asset if a right to the reimbursement or reduction of future payments exists.

The group's net obligation with regard to defined benefit plans is calculated separately for every plan in that the future benefits, which the employees earned in the current period and earlier periods, are estimated. This amount is discounted and the fair value of any plan asset is deducted from this amount.

The calculation of defined benefit obligations is based on actuarial reports on the basis of the projected unit credit method.

Revaluations of net debt from defined benefit plans are reported directly in the other comprehensive income. The revaluation includes actuarial profits and losses, the income from plan assets (not including interest) and the impact of any asset cap (not including interest).

D.15. Other provisions

Provisions are recognized for legal or constructive obligations in relation to third parties, which are caused by events from the past, which are likely to lead to the outflow of resources and their amount can be reliably estimated. The maturity and/or amount of provisions are uncertain.

The amount of provisions is calculated based on the best estimate of the amount of the expected outflow of resources. If the provisions are expected to be utilized within the normal business cycle, they are classified as short-term. Long-term provisions with a term of more than one year are discounted on the reporting date using the corresponding interest rates.

Warranties:

Provisions for warranty obligations are established for the expected warranty obligations from the sale of products and services. The national law on sales contracts and individual agreements are taken into account. The provisions are based on the best estimates with regard to the fulfillment of the obligations in consideration of empirical values for claims from the past. They also include provisions for claims already raised by customers.

Restructuring measures:

An accrued liability for restructuring measures is reported as soon as the Group has approved a detailed and formal restructuring plan, and the restructuring measures have either started or have been publicly announced by the affected parties. Future operating losses are not taken into account.

Contract accruals:

Contract accruals are established for existing contracts based on the imminent obligation excess of unavoidable costs over proceeds. The accrued liability is valued at the present value of the expected

excess obligation from the continuation of the contract. Before an accrued liability is established for an onerous contract, the Group reports a value reduction on the assets associated with this contract.

Sundry other provisions:

Sundry other provisions are recognized as of the closing date at the present value of the required settlement amount based on reasonable judgment.

Provisions for taxes:

The Group reports all risks and obligations arising from tax matters under tax liabilities.

D.16. Financial instruments

In accordance with IAS 32.11, all contracts, which lead to a financial asset for a company and to a financial debt or equity instrument for another company, are considered financial instruments. Financial instruments are initially recognized at fair value on the trading day, taking into account attributable transaction prices.

Classification of financial instruments:

Financial assets from debt instruments

Financial assets are classified in the following measurement categories: “at amortized cost”, “at fair value through equity”, and “at fair value through profit and loss”. A classification into the three categories takes place based on the group’s business model for managing the financial assets as well as the characteristics of the contractual payment flows of the assessed financial assets.

The “at amortized cost” category contains all financial assets whose business model is associated with the aim of collecting the contractually agreed payment flows (business model: “hold”). Likewise, the contractual terms and conditions of the financial asset must be such that cash flows occur at fixed dates that exclusively represent repayments and interest payments on the outstanding capital amount (SPPI - criterion “cash flow condition”).

Measurement at fair value not recognized in profit or loss is to be applied to financial assets with the aim of realizing cash flows both through the receipt of contractual payments and through sale (“holding and selling” business model). At the same time, the contractual conditions of the financial asset must also be structured so that payment flows, which exclusively represent principal and interest payments on the outstanding nominal amount, are generated on defined dates (criterion: cash flow condition).

Financial assets at fair value through profit or loss are those that are either held for trading or managed on the basis of their fair value or whose cash flows are maximized through sales. If financial instruments are classified at fair value through equity, transaction costs are reported in profit and loss directly in the period in which they arise. This relates to a residual category, which contains all financial assets that cannot be assigned to the “hold” or “hold and sell” business model (business model: “trade/other”), as well as assets for which the SPPI criterion does not result in a positive decision. Financial assets for which the “fair value option” is exercised for the initial recognition are also classified as “at fair value through profit and loss”.

At the initial application date in accordance with the IFRS, an assessment of the business model to be applied was made for the financial instruments held by the Group so that an appropriate classification in the IFRS 9 measurement categories could take place. The business models are validated on a regular basis to ensure the correct classification of the financial assets.

Financial assets in the “at amortized cost” category particularly include trade accounts receivable (not including factoring), cash and cash equivalents and other receivables.

Cash equivalents are short-term, extremely liquid financial investments, which can be converted to cash at any time, and which are only subject to insignificant risks of changes in value.

Financial assets in the category “at fair value through equity” existed in the Group in the form of trade accounts receivable for which factoring with disposals is applied.

Financial assets in the category “at fair value through profit or loss” take the form of freestanding derivatives and equity investments. Financial assets that fall under the “fair value option” do not exist.

Reclassifications between the measurement categories did not occur between 2015 and 2017.

Financial liabilities

Financial liabilities are classified in the “at amortized cost” category. The Knorr-Bremse Group only recognizes financial liabilities from derivatives with negative fair values at fair value. If the “fair value option” is exercised for the initial recognition, they are classified as “at fair value through profit and loss”. There are no financial liabilities which fall under “fair value option”.

Financial liabilities in the category “at amortized cost” are mainly bonds issued, liabilities to banks and trade payables.

Financial liabilities in the category “at fair value through profit or loss” in the Group are exclusively freestanding derivatives with a negative market value.

Equity instruments

Equity instruments under IFRS 9 are essentially classified at fair value through profit and loss. For the initial recognition of a financial investment in an equity instrument, which is held as a long-term strategic investment, rather than for trading purposes, IFRS 9 provides for an irrevocable option to report the changes to fair value in the other operating income (“FVOCI option”). In this case, the classification takes place in the “at fair value through equity” category. In one case, an equity investment was classified as “at fair value through equity” at initial recognition. Dividends are recognized in the income statement. Furthermore, the fair value changes recognized in equity are not reclassified to the income statement upon disposal of the equity instrument.

The fair value corresponds to the prices quoted on an active market, where applicable. If such a market does not exist, the fair value is calculated based on measurement models using current market parameters.

Derecognitions and modifications

Financial assets are derecognized, if the contractual rights to payments, which arise from the instrument, expire or, alternatively, the financial assets are transferred with all material risks and opportunities. Financial liabilities are derecognized, if the contractual obligations are settled, canceled, or expire. In the event of adjustments to loan conditions or extensions of terms, the Group validates whether this involves substantial modifications within the meaning of IFRS 9. The assessment as to whether a modification is substantial is made on basis of qualitative and quantitative criteria, the criteria used by the Group for financial assets correspond to the criteria for financial liabilities. If there is a substantial modification, the existing financial instrument is derecognized and the substantially modified financial instrument is rebooked. If there is a non-substantial modification, the book value of the financial instrument is adjusted through profit or loss.

Derivative financial instruments

Within the group, financial derivatives must be recognized as financial assets or financial liabilities at fair value, irrespective of the purpose. The fair value of derivatives is calculated by discounting the future payment flows at the market interest rate and using other established actuarial methods, such as option price models. Derivatives are recognized on the trading day. The fair value of unconditional derivatives is zero at initial recognition under market conditions. Options are initially recognized at fair value (equal to the premium paid or received). Counterparty-specific credit risks are taken into account as part of the measurement of financial derivatives.

The Group uses financial derivatives in the form of forward exchange transactions and foreign exchange options, interest rate swaps, cross-currency interest rate swaps, as well as commodity

derivatives to hedge against currency, interest rate and commodity risks. While currency risks primarily arise due to sales in foreign currencies, interest rate risks are predominantly caused by variable-rate liabilities, while commodity price risks arise as a result of the procurement of metals in the production process. Hedge accounting is not applied to derivative financial instruments held to economically hedge market price risks.

Impairments

IFRS 9 requires expected losses to be reported for all assets within the scope of the impairment regulations. The loss reported as well as the interest collected are calculated based on the assignment of the instrument to the categories listed below.

According to the general impairment model ("general approach"), the change in value is determined based on the following three levels:

Level 1: All relevant instruments are initially assigned to level 1. The present value of the expected losses from possible default events within the next twelve months ("12-month expected credit loss") after the reporting date must be reported and recognized as an expense. Interest is recognized on the basis of the gross book value. Consequently, the effective interest method is applied on the basis of the book value before risk provisioning is taken into account.

Level 2: This includes all instruments, which have undergone a significant increase in the default risk since their initial reporting. The monitoring for a significant Increase in the default risk as of the closing date is carried out in connection with a screening process of the relevant changes in ratings, respectively CDS spreads, of the business partner. Generally, a significant increase in the default risk is assumed in the event of an amount overdue in excess of 30 days. If the business partner for the financial instruments is showing an investment-grade rating, an assessment of a significant increase in the credit risk is not made. The impairment corresponds to the present value of the expected losses from possible default events over the remaining term of the instrument ("lifetime expected credit loss"). The interest is reported analogous to level 1.

Level 3: If, in addition to an increased risk of default, there is objective evidence of an impairment of an instrument, the impairment is also measured based on the present value of the expected losses from possible default events over the remaining term. The reporting of the interest in the following periods must be adjusted so that the interest income is calculated based on the net book value and therefore based on the book value after taking account of the loan loss provision.

At each balance sheet date, the Group tests whether there is objective evidence of impairment for financial instruments carried at "acquisition costs" or "at fair value through equity". Criteria for impairment include default on payments or default of debtors, indications of imminent insolvency or the disappearance of an active market for a security due to financial difficulties.

A default event exists when it is considered probable that a debtor cannot or will not be able to meet his payment obligations or meet them in full. Where a default event exists, the gross carrying amounts of the financial assets (fully or partially) are written off so that the gross carrying amount after write-off represents the expected recoverable amount. In addition, a default event is assumed in the event of significant payment delays. For financial instruments within the scope of the "general approach", a default event is assumed in connection with an amount overdue by more than 90 days.

For the group, in particular, cash and cash equivalents are subject to the impairment requirements in accordance with the "general approach".

For trade accounts receivable and leasing receivables, IFRS 9 provides for a simplified approach to impairment ("simplified approach") under which an impairment in the amount of the expected losses must be reported over the remaining term for all instruments, irrespective of the credit quality. Consequently, no distinction is made for these financial instruments between allocation to level 1 or level 2 of the impairment model under IFRS 9. A transfer to level 3 takes place if there is objective evidence of impairment. With respect to trade accounts receivable, a default event is assumed in the case that there are delays in payment in excess of 12 months. A default also exists if it considered probable that a debtor cannot meet or cannot entirely meet its payment obligations.

Trade accounts receivable of business partners are divided into three groups:

Group 1: the probability of default can be determined using the public issuer rating

Group 2: the probability of default can be determined via an information agency

Group 3: Benchmark default probability

Rating and default probability data are updated annually.

For the group, in particular, trade accounts receivable are subject to the impairment requirements in accordance with the "simplified approach".

Leasing receivables as well as any financial guarantees or loan commitments, which would fall under the impairment provisions, did not exist for the Company.

D.17. Fair value - financial instruments (financial assets)

Measurement of fair value:

In the Knorr-Bremse group, financial instruments classified as "at fair value through profit or loss" and "at fair value through equity" (in particular derivatives and equity instruments) are measured at fair value. In addition, the fair value of financial instruments that are not measured at fair value is disclosed in the notes to the consolidated financial statements.

The fair value is the price that would be received in an orderly transaction between market participants on the assessment date for the sale of an asset or that would be paid for the transfer of a liability. When measuring the fair value, it is assumed that the transaction is concluded on the principal market for the asset or liability, or on the most favorable market for the asset or liability, if no principal market is available.

The Group must have access to the principal market or to the most favorable market. The fair value of an asset or liability is measured based on the assumptions, which the market participants would use as a basis for the pricing in their best commercial interest.

The Group uses measurement techniques that are appropriate under the circumstances and for which adequate data to measure the fair value is available. In this respect, the use of material input factors which can be observed must be as high as possible, while the use of input factors that cannot be observed must be kept to a minimum.

All financial assets and liabilities measured at fair value or whose fair value is disclosed in the notes are classified in the fair value hierarchies described below based on the input parameter of the lowest level, which is material for the overall measurement at fair value.

Level 1: (Unadjusted) prices listed in active markets

Level 2: Assessment methods in which key market parameters for assessment can be observed directly or indirectly

Level 3: Assessment methods in which significant parameters for valuation are not observable on the market

The assessment procedures and the input parameters used are reviewed regularly. The aim of the reviews is to use observable input factors in determining fair value as far as possible. Rearrangements in the hierarchy level are made at the end of the period in which the change occurred.

D.18. Fair value - non-financial assets

The book values of the group's non-financial assets are reviewed on every reporting date in order to determine whether there is any indication of an impairment. If this is the case, the recoverable amount of the asset is estimated. Goodwill is reviewed annually for impairment.

To check whether an impairment exists, assets are combined into the smallest group of assets, which generate cash inflows from continued use, which are largely independent of the cash inflows of other assets or cash-generating units (CGUs). Goodwill that was acquired as part of a business combination is assigned to one or more groups of CGUs from which a benefit from the use of the synergies of the business combination is expected.

The recoverable amount of an asset or a CGU is the higher of the amounts from the value in use and the fair value less costs to sell. When assessing the value in use, the estimated future cash flows are discounted to their present value, whereby a weighted average cost of capital (WACC) before tax is used, which reflects the current market valuations of the interest effect and the specific risks of an asset or a CGU.

An impairment expense is reported if the book value of an asset or a CGU exceeds its recoverable amount.

Impairment expenses are reported in profit and loss.

An impairment expense with regard to the goodwill is not reversed. For other assets, an impairment expense is only reversed to the extent that the book value of the asset does not exceed the book value that would have been calculated, less the depreciation or amortization, if no impairment expense had been reported.

D.19. Share-based payment

The Group applies solely in relation to its South African subsidiary, Knorr-Bremse S.A. (Pty.) Ltd, Kempton Park/South Africa, IFRS 2 "Share-based Payment" on its share-based payment transactions due to local legal requirements in the context of "Black Economic Empowerment". According to IFRS 2, plans, which lead to share-based payments, must be treated as equity-settled transactions, if the premiums paid relate to equity instruments of the receiving company or the receiving company has no obligation to perform a settlement. In the case of equity-settled share-based payments, remuneration to beneficiaries in accordance with IFRS 2 must be recognized as an expense and a corresponding increase in the capital reserve. Since in the case of share-based payment transactions in connection with the "Black Economic Empowerment", these do not deal with compensation granted to employees but rather to external beneficiaries, the presentation of the related expenses is made in other operating expenses. In the case of equity-settled share-based payments, the fair value is measured at the grant date and reported as an expense over the vesting period. The group's share-based payments are exclusively equity-settled.

E. Notes on the consolidated statement of profit or loss

E.1. Revenues

The revenues are comprised as follows:

Revenues

	2017 TEUR	2016 TEUR	2015 TEUR
Revenue from the sale of goods	4,840,244	4,416,875	4,510,202
Revenue from construction contracts	1,313,299	1,054,381	1,313,306
	6,153,543	**5,471,256**	**5,823,508**

Group revenues increase by 11.6% in 2015 and by TEUR 606,549 from TEUR 5,216,959 to TEUR 5,823,508. After a decline in 2016 of 6.0%, sales revenue increased by 12.5% or TEUR 682,287 from TEUR 5,471,256 to TEUR 6,153,543 in the reporting period. This includes sales of TEUR 180,466 from the acquisition of the Kiepe Group. The increase in the Rail Vehicles division is also due to rising rail transportation and rising service business. In the Commercial Vehicles Division, the increase resulted primarily from higher truck production. In the previous year's reporting period, sales revenue declined by TEUR 352,252. The decline concerns the Rail Vehicles Division with declining high-speed, locomotive and freight business.

The following additional information is available for the group's current construction contracts:

Current construction contracts:

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Accumulated contract costs plus recognized profits less recognized losses	4,735,587	4,849,943	3,679,980
Advance payments	725,130	759,260	643,543
Construction contracts with a positive balance	116,171	123,822	101,895
Construction contracts with a negative balance	230,750	126,256	146,793

With a slight increase of TEUR 278 from TEUR 101,617 to TEUR 101,895 in 2015, the gross amount due from construction contracts with a positive balance remains almost constant. After an increase in 2016, the level of construction contracts with a positive balance decreased by TEUR 7,651 from TEUR 123,822 to TEUR 116,171.

On the other hand, the gross amount due to construction contracts with a negative balance in 2015 decreased by TEUR 5,791 from TEUR 152,584 to TEUR 146,793. After a further reduction in 2016, the construction contracts with a negative balance increased significantly in the reporting period by TEUR 104,494 from TEUR 126,256 to TEUR 230,750, especially due to the acquisition of the Kiepe Group.

E.2. Change in inventory and other own work capitalized

Change in inventory and other own work capitalized

	2017 TEUR	2016 TEUR	2015 TEUR
Change in inventory of finished and unfinished goods	38,754	(11,075)	(7,104)
Other own work capitalized	31,768	21,075	19,207

The change in inventory reflects the change in finished and unfinished products. The development of finished and unfinished products is covered in chapter F.6. Inventories.

The other own work capitalized results from the capitalization of development projects.

E.3. Other operating income

Other operating income

	2017 TEUR	2016 TEUR	2015 TEUR
Income from the disposals of prototypes and scrap sales	14,535	11,031	9,305
Income from other services	13,534	14,558	18,536
Income from the disposal of land and buildings	7,737	15,763	-
Rental income	5,140	4,524	5,181
Income from government grants	4,434	2,782	3,468
Income from the reimbursement of advisory services	3,347	-	-
Insurance compensation and compensation payments	2,073	4,212	17,514
Proceeds from the disposal of intangible and other tangible assets	1,016	1,859	3,066
Other income	29,354	28,551	32,059
	81,171	**83,280**	**89,129**

Other operating income consists mainly of income from the disposal of prototypes, income from other services and gains from the disposal of land and buildings. Other services mainly relate to development and testing services to third parties.

Income from the disposal of land and buildings declined in 2017 by TEUR 8,026. In 2016 it resulted from the sale of land in Berlin-Marzahn that is no longer in use and in 2017 from the sale of part of the company facility in Munich.

Due to the violation of a customer’s purchase obligations, a compensation payment in the amount of EUR 15.0 million was received in 2015.

E.4. Cost of materials

Cost of materials

	2017 TEUR	2016 TEUR	2015 TEUR
Expenses for raw materials, consumables and supplies and for purchased goods	(2,779,759)	(2,389,179)	(2,579,929)
Expenses for purchased services	(229,836)	(182,228)	(167,413)
	(3,009,595)	**(2,571,407)**	**(2,747,342)**

The cost of materials is comprised of the expenditure on materials, supplies, and purchased goods as well as on services purchased. The development can be considered proportionally to the development of revenues (2017: TEUR 6,153,543; 2016: TEUR 5,471,256; 2015: TEUR 5,823,508).

In spite of the increase in the cost of materials in 2017, the material cost ratio as a percentage of revenues amounted to 48.9% in 2017 compared to 47.0% in 2016 and 47.2% in 2015.

In the reporting period, inventories in the amount of TEUR 2,779,759 (2016: TEUR 2,389,179; 2015: TEUR 2,579,929) were recognized in expense.

Please refer to chapter F.6 for more information on the changes to inventories.

E.5. Personnel expenses

Personnel expenses

	2017 TEUR	2016 TEUR	2015 TEUR
Wages and salaries	(1,084,128)	(967,944)	(941,814)
Social security contributions	(212,101)	(183,304)	(194,697)
Expenses for personnel leasing	(116,260)	(97,459)	(104,274)
Termination benefits	(16,051)	(16,072)	(23,928)
Expenses in connection with defined benefit plans	(10,331)	(7,343)	(7,480)
	(1,438,871)	**(1,272,122)**	**(1,272,193)**

The personnel expenses primarily include wages and salaries, as well as social security contributions.

The increase in wages and salaries by approximately 12.0% in 2017 is based on the increase in the average number of employees from 2016 (24,664) to 2017 (26,910). The increase is due, on the one hand, to the expansion of the scope of consolidation due to business combinations and, on the other hand, the general build-up of new employees, especially in the area of the personnel-intensive service business as well as research and development. Personnel adjustment measures due to severance payments that did not result from restructuring measures affected personnel expenses in fiscal year 2017 by TEUR 16,051 in a comparable amount to 2016 (TEUR 16,072).

E.6. Other operating expenses

Other operating expenses

	2017 TEUR	2016 TEUR	2015 TEUR
Order-related expenses	(110,652)	(124,061)	(119,213)
Maintenance expenses	(104,745)	(83,934)	(80,979)
Personnel expenses	(99,139)	(100,912)	(110,132)
Legal, consulting and audit costs	(92,374)	(83,114)	(51,341)
Rents and leases	(85,090)	(61,829)	(59,963)
Other services	(70,143)	(67,825)	(78,035)
External research and development costs	(38,229)	(46,689)	(38,433)
Administrative expenses	(30,225)	(29,133)	(28,554)
Other taxes	(19,712)	(22,239)	(29,090)
Losses from the disposal of land and buildings	(4,783)	(5,715)	(5,210)
Donations	(3,976)	(2,216)	(2,328)
Other expenses	(82,192)	(41,234)	(32,886)
	(741,261)	**(668,902)**	**(636,165)**

The order-related expenses primarily consist of warranty expenses, freight costs and commissions. The personnel-related expenses predominantly involved travel expenses and training costs. Other services include services such as logistics, security services and cleaning. Other expenses primarily consist of communication and administration costs as well as reversals from provisions, which had an opposite effect. Moreover, the fees for societies, associations, and chambers, insurance costs, as well as costs for marketing are included in other expenses.

The increase in other operating expenses relates primarily to increased rental and leasing expenses, maintenance expenses and legal, consulting and audit costs in connection with the attempted takeover of Haldex AB and the conversion of the financial reporting to IFRS.

E.7. Depreciation and amortization

Depreciation and amortization is comprised as follows:

Depreciation and amortization

	2017 TEUR	2016 TEUR	2015 TEUR
Depreciation and amortization of intangible assets	**(43,353)**	**(31,781)**	**(30,008)**
thereof regular depreciation and amortization of intangible assets	*(43,353)*	*(31,781)*	*(30,008)*
Depreciation and amortization of property, plant and equipment	**(142,758)**	**(133,878)**	**(140,477)**
thereof impairments of property, plant and equipment	-	*(7,185)*	*(13,652)*
thereof regular depreciation and amortization of property, plant and equipment	*(142,758)*	*(126,693)*	*(126,825)*
Depreciation and amortization on disposal groups	**(25,368)**	**-**	**-**
	(211,479)	**(165,659)**	**(170,484)**

Depreciation and amortization increase by 35.7% in 2015 and by TEUR 44,817 from TEUR 125,667 to TEUR 170,484. After a slight decline in 2016, depreciation and amortization increased by 27.7% or TEUR 45,820 from TEUR 165,659 to TEUR 211,479 in the reporting period.

The continuous increase in intangible assets resulted in a rise in the amortization of intangible assets. No impairment losses on goodwill or any amortization of intangible assets were necessary in the reporting years.

Impairments of PPE of TEUR 13,652 in 2015 and TEUR 7,185 in 2016 mainly result from impairment losses on logistics assets not required for operations, which are no longer used. In accordance with IAS 36, impairment tests were carried out for such assets of the American subsidiary Black River Air Logistics Company LLC as of December 31, 2015 and December 31, 2016. The recoverable amount was calculated internally in consideration of the third-level input parameters (non-observable input parameters) and the assumptions made. After deduction of net financial liabilities, this amounted to TEUR 25,122 as of December 31, 2016 and TEUR 31,490 as of December 31, 2015. The resulting value adjustment requirement of TEUR 7,185 in 2016 and TEUR 13,652 in 2015 was recognized in the income statement.

The write-downs of disposal groups in the amount of TEUR 25,368 relate to the disposal groups Blueprint and Sydac (see chapter F.8.1.).

E.8. Financial result

Financial result

	2017 TEUR	2016 TEUR	2015 TEUR
Interest income from financial instruments, thereof	**6,605**	**4,625**	**7,305**
a) Financial instruments (AC)	*5,333*	*4,625*	*6,373*
b) Financial instruments (FVTPL)	*1,272*	-	*933*
Interest income from defined benefit plans	5,965	7,465	7,259
Other	11,466	7,121	7,134
Interest income	**24,036**	**19,212**	**21,698**
Interest expenses from financial investments, thereof	**(16,264)**	**(4,608)**	**(5,366)**
a) Financial instruments (AC)	*(16,264)*	*(4,559)*	*(5,366)*
b) Financial instruments (FVTPL)	-	*(49)*	-
Interest expenses from defined benefit plans	(11,222)	(12,798)	(15,144)
Compounding of provisions	(4,922)	(5,427)	(5,641)
Other	(6,393)	(5,848)	(3,007)
Interest expenses	**(38,801)**	**(28,681)**	**(29,159)**
Currency translation differences, thereof	**67,348**	**61,086**	**121,822**
a) Financial instruments (FVOCI)	*680*	*171*	*17*
b) Financial instruments (FVTPL)	*66,667*	*60,915*	*121,805*
Income from disposals of financial instruments	1,400	309	3,024
Income from the revaluation of financial instruments (FVTPL)	-	171	176
Profit and loss contribution from at-equity investments, after taxes	(953)	2,641	802
Income from the revaluation of existing shares as part of a step acquisition	-	10,229	-
Other	374	26	13
Other financial income	**68,169**	**74,460**	**125,837**
Currency translation differences, thereof	**(89,997)**	**(69,837)**	**(136,337)**
a) Financial instruments (AC)	*(26,904)*	*(12,754)*	*(33,577)*
b) Financial instruments (FVOCI)	*(540)*	*(222)*	*(504)*
c) Financial instruments (FVTPL)	*(62,552)*	*(56,861)*	*(102,255)*
Losses from disposals of financial instruments	(1,930)	(199)	(1,700)
Expenses from the revaluation of financial instruments (FVTPL)	(567)	-	-
Expenses resulting from options for minority interests	(12,472)	(40,125)	(30,865)
Other financial expenses	**(104,966)**	**(110,161)**	**(168,902)**
Other Financial result from other financial income and other financial expenses	**(36,797)**	**(35,701)**	**(43,065)**
Financial result	**(51,562)**	**(45,170)**	**(50,526)**

The foreign currency results of financial instruments carried at amortized cost (AC) mainly result from the currency translation differences of trade receivables and payables as well as cash and cash equivalents at the closing rate; these foreign currency results are netted.

The currency results from financial instruments recognized at fair value through profit or loss (FVTPL) result from the realized results from currency derivatives and the valuation effects from existing currency derivatives.

In 2016, the share in profits of companies accounted for using the equity method mainly arise from the share in the result of Icer Rail S.L. until 21 November 2016. The previous 50 % minority interests were acquired effective from November 21, 2016, with the result that the group's equity share rose to 100 % with a corresponding transition from at-equity accounting to full consolidation (see chapter C.3.1.).

Interest income and expenses from financial instruments measured at fair value (FVTPL) are attributable to the fair value measurement of the interest rate swaps. Interest income and expense from financial instruments (AC) carried at amortized cost represent the total interest expense and income of these assets and liabilities determined using the effective interest method.

For further information on interest income and interest expenses from defined benefit plans, please refer to chapter F.10.

Employee benefits

The development of the provisions is dealt with in chapter F.11 Other Provisions.

E.9. Taxes on income

E.9.1. Taxes reported in profit and loss

The tax expenses include current and deferred taxes. Current taxes and deferred taxes are reported in profit and loss, except for the extent to which they are associated with a business combination or with items reported directly in equity or in the other operating income.

Taxes reported in profit and loss

	2017 TEUR	2016 TEUR	2015 TEUR
Current year	(251,322)	(262,022)	(321,768)
Previous year	(365)	(5,766)	(7,410)
Current tax expense	**(251,687)**	**(267,788)**	**(329,178)**
Recognition /reversal of temporary differences current year	(18,836)	(7,249)	(8,458)
Temporary differences from previous years	4,208	1,369	(881)
Tax losses / tax credits	1,067	(447)	1,137
Deferred tax expenses	**(13,561)**	**(6,327)**	**(8,202)**
Tax expenses	**(265,248)**	**(274,115)**	**(337,381)**

The deferred tax increase from previous years mainly relates to prior-year adjustments to temporary differences. The change to the temporary differences in the current year results to a large part from consolidation entries.

E.9.2. Taxes reported in other comprehensive income

Taxes reported in other comprehensive income

	2017		
	Before tax TEUR	Deferred tax -claims (-) / -liabilities (+) TEUR	After tax TEUR
Revaluation of net debt from defined benefit plans	125,354	(21,859)	103,496
Revaluation of net debt from pension plan assets	(51,139)	2,111	(49,028)
Currency translation differences	97,865	-	97,865
Revaluation of equity instruments	14,075	-	14,075
Total	**186,155**	**(19,748)**	**166,407**

	2016		
	Before tax TEUR	Deferred tax -claims (-) / -liabilities (+) TEUR	After tax TEUR
Revaluation of net debt from defined benefit plans	111,860	(23,241)	88,620
Revaluation of net debt from pension plan assets	(22,079)	2,305	(19,774)
Currency translation differences	(7,274)	-	(7,274)
Revaluation of equity instruments	(1,326)	-	(1,326)
Total	**81,182**	**(20,936)**	**60,246**

	2015		
	Before tax TEUR	Deferred tax -claims (-) / -liabilities (+) TEUR	After tax TEUR
Revaluation of net debt from defined benefit plans	58,775	(14,738)	44,037
Revaluation of net debt from pension plan assets	(6,381)	2,342	(4,039)
Currency translation differences	5,837	-	5,837
Total	**58,232**	**(12,396)**	**45,835**

E.9.3. Taxes reported directly in equity

In the years 2015, 2016 and 2017 no taxes were reported directly in equity.

E.9.4. Reconciliation of the effective tax rate

	12/31/2017		12/31/2016		12/31/2015	
	%	TEUR	%	TEUR	%	TEUR
Earnings before taxes		852,469		841,274		1,048,031
Expected taxes	32.8%	279,610	32.8%	275,938	32.8%	343,754
Differences between the local and hypothetical tax rate at the top level	-7.3%	(62,572)	0.1%	(60,583)	0.1%	(62,840)
Changes to the tax rate	0.5%	4,640	0.1%	968	0.1%	1,045
Effect from at-equity investments	0.0%	(77)	0.0%	168	0.0%	(106)
Effects from permanent differences due to different accounting under IFRS and tax return	-0.3%	(2,166)	-0.4%	(3,294)	-0.1%	(1,535)
Increase in tax due to non-tax deductible expenses	3.7%	31,419	4.2%	34,932	2.6%	26,975
Tax-exempt income	-2.7%	(23,354)	-0.6%	(4,637)	-0.5%	(5,158)
Non-recognition of losses in the current year	6.6%	56,336	3.0%	25,106	2.6%	26,890
Change/adjustment of (unrecognized) tax loss carry-forwards	-0.9%	(7,393)	-0.9%	(7,393)	-1.0%	(10,383)
Change/adjustment of unrecognized temporary differences	-0.2%	(1,428)	0.0%	325	0.4%	3,906
Taxes from previous years	-0.5%	(3,843)	0.5%	4,397	0.8%	8,291
Other	-0.7%	(5,925)	1.0%	8,187	0.6%	6,541
Effective taxes	**31.1%**	**265,248**	**32.6%**	**274,115**	**32.2%**	**337,381**

The difference between the effective and expected tax expenses in all years mainly results from lower local tax rates compared to the hypothetical tax rate at group level. Additional significant effects are the deviations due to permanent effects from tax adjustments (non-deductible operating expenses in connection with investments) and the non-recognition of deferred tax assets on current losses, respectively loss carryforwards, which are not considered to be recoverable.

In December 2017, a change in the tax law in the USA was adopted. As a result, the corporation tax rate was reduced, effective January 1, 2018, from 35 to 21 percent. The impacts thereof are in effect included in tax rate changes, which result primarily from the write-down of existing deferred tax assets in the USA.

E.9.5. Change in deferred taxes

Change in deferred taxes in the balance sheet during the year

							As of 12/31	
2017 fiscal year	**Net at 1/1 TEUR**	**In profit/loss TEUR**	**In other income TEUR**	**Others TEUR**	**Net currency translation differences TEUR**	**Net TEUR**	**Deferred tax assets TEUR**	**Deferred tax liabilities TEUR**
Intangible assets	(13,326)	(8,116)	-	(5,572)	(1,551)	(28,566)	25,224	(53,789)
Property, plant and equipment	(40,241)	(7,448)	-	2,782	(293)	(45,200)	2,338	(47,538)
Investments	(29,548)	14,318	-	10,217	2,796	(2,217)	2,323	(4,539)
Inventories	16,720	2,877	-	223	3,058	22,878	35,359	(12,481)
Other assets	(48,538)	(1,859)	-	(1,899)	(6,670)	(58,965)	1,216	(60,181)
Tax loss carry-forwards	13,599	1,067	-	-	150	14,816	14,816	n/a
Pension obligations	64,622	(9,157)	(1,188)	(3,305)	(6,972)	44,000	49,558	(5,558)
Other provisions	66,067	1,283	-	(4,957)	(2,854)	59,539	59,539	n/a
Liabilities	60,307	(2,135)	-	(1,880)	(4,832)	51,459	76,830	(25,371)
Tax assets (liabilities) before netting	**89,662**	**(9,170)**	**(1,188)**	**(4,391)**	**(17,166)**	**57,746**	**267,204**	**(209,458)**
Netting of taxes							(182,195)	182,195
Net tax assets (liabilities)	**89,662**	**(9,170)**	**(1,188)**	**(4,391)**	**(17,166)**	**57,746**	**85,009**	**(27,262)**
2016 fiscal year								
Intangible assets	3,158	(13,907)	-	(10)	(2,567)	(13,326)	35,709	(49,035)
Property, plant and equipment	(59,308)	11,298	-	3,143	4,625	(40,241)	421	(40,662)
Investments	(19,686)	(9,362)	-	72	(571)	(29,548)	1,314	(30,861)
Inventories	23,898	(6,641)	-	494	(1,031)	16,720	32,369	(15,649)
Other assets	(40,341)	(24,141)	-	1,497	14,448	(48,538)	12,870	(61,408)
Tax loss carry-forwards	22,549	8,673	-	(209)	(17,415)	13,599	13,599	n/a
Pension obligations	30,877	28,445	8,540	(2,660)	(580)	64,622	73,836	(9,214)
Other provisions	80,912	(10,837)	-	(1,767)	(2,241)	66,067	66,067	n/a
Liabilities	55,643	10,297	-	(713)	(4,920)	60,307	105,739	(45,432)
Tax assets (liabilities) before netting	**97,701**	**(6,175)**	**8,540**	**(153)**	**(10,251)**	**89,662**	**341,924**	**(252,262)**
Netting of taxes							(226,279)	226,279
Net tax assets (liabilities)	**97,701**	**(6,175)**	**8,540**	**(153)**	**(10,251)**	**89,662**	**115,645**	**(25,983)**
2015 fiscal year								
Intangible assets	(19,644)	22,978	-	10	(187)	3,158	35,952	(32,794)
Property, plant and equipment	(48,455)	(10,537)	-	1,415	(1,731)	(59,308)	1,023	(60,331)
Investments	(4,944)	(16,234)	-	-	1,493	(19,686)	940	(20,626)
Inventories	22,443	2,958	-	(919)	(585)	23,898	41,376	(17,477)
Other assets	(38,069)	(10,092)	-	1,290	6,530	(40,341)	28,895	(69,236)
Tax loss carry-forwards	13,658	17,900	-	(287)	(8,722)	22,549	22,549	n/a
Pension obligations	54,651	(22,558)	(3,620)	(982)	3,385	30,877	42,694	(11,818)
Other provisions	75,808	(582)	-	(277)	5,963	80,912	80,912	n/a
Liabilities	57,252	8,587	-	(872)	(9,324)	55,643	106,307	(50,665)
Tax assets (liabilities) before netting	**112,701**	**(7,579)**	**(3,620)**	**(623)**	**(3,178)**	**97,701**	**360,648**	**(262,947)**
Netting of taxes							(223,590)	223,590
Net tax assets (liabilities)	**112,701**	**(7,579)**	**(3,620)**	**(623)**	**(3,178)**	**97,701**	**137,058**	**(39,357)**

The allocation and development of deferred tax positions shows a steadily decreasing asset surplus. The changes in other comprehensive income relate to pension obligations; changes in tax rates and effects from the previous year are reported under "Other".

E.9.6. Unrecognized deferred tax assets

Deferred tax assets were not reported with regard to the following items, as it is not likely that taxable income, against which the Company can settle deferred tax assets, will be available in the future.

Unrecognized deferred tax assets

	12/31/2017		12/31/2016		12/31/2015	
	Gross TEUR	Tax effect TEUR	Gross TEUR	Tax effect TEUR	Gross TEUR	Tax effect TEUR
from deductible temporary differences	10,335	3,390	16,822	5,518	18,410	6,039
from tax losses	107,762	35,346	83,024	27,232	106,570	34,955
	118,097	**38,736**	**99,846**	**32,749**	**124,980**	**40,993**

The non-recognized tax loss carry-forwards expire as follows:

Non-capitalized tax loss carry-forwards

	12/31/2017		12/31/2016		12/31/2015	
	TEUR	Expiration date	TEUR	Expiration date	TEUR	Expiration date
Expirable	14,109	1-10 years	88	2-11 years	18,934	3-12 years
Non-expirable	93,653	-	82,936	-	87,636	-
	107,762		**83,024**		**106,570**	

E.9.7. Non-recognized deferred tax liabilities

As of December 31, 2017, the Group parent company recorded deferred tax liabilities In the amount of EUR 8.3 million (2016: EUR 0.6 million, 2015: EUR 0 million) for temporary differences on future dividend payments. No other deferred tax liabilities in connection with temporary differences in the amount of EUR 12.7 million (2016: EUR 35.0 million, 2015: EUR 53.2 million) in connection with investments in subsidiaries, associated companies or jointly controlled companies were reported as of the reporting date.

The Group is the opinion that the tax liabilities formed are adequate for the years where the tax audit is not closed in consideration of all available information, including the interpretation of tax law and previous experience.

E.10. Earnings per share

EBITA of the Group increases by 19.7% in 2015 namely by TEUR 209,167 from TEUR 1,059,874 to TEUR 1,269,041. After a decline in 2016, EBITA increases by 6.0% namely by TEUR 63,407 from TEUR 1,052,103 to TEUR 1,115,510 in the reporting period.

Earnings before interests and taxes (EBIT) of the Group also increase by 17.6% in 2015 namely by TEUR 164,350 from TEUR 934,207 to TEUR 1,098,557. After a decline in 2016, Earnings before interests and taxes (EBIT) increase by 2.0% or TEUR 17,587 from TEUR 886,444 to TEUR 904,031 in the reporting period.

The group’s net income also follows this trend and increased in 2015 by 6.6% or TEUR 44,245 from TEUR 666,405 to TEUR 710,650. After the decline in 2016, the group’s net income also rose again in the reporting period and was 3.5% or TEUR 20,060 higher than the previous year’s figure of TEUR 567,160 at TEUR 587,220.

Basic earnings per share are calculated in accordance with IAS 33 from the earnings attributable to Knorr-Bremse Aktiengesellschaft shareholders and the weighted average number of shares outstanding during the year.

Earnings per share

	2017	2016	2015
Earnings after taxes from continuing operations (attributable to Knorr-Bremse shareholders) (in TEUR)	535,504	526,330	652,768
Weighted average outstanding shares (in thous. pieces)	161,200	161,200	161,200
Earnings per share in EUR (undiluted)	3.32	3.27	4.05
Earnings per share in EUR (diluted)	3.32	3.27	4.05

The number of shares for the years 2015 to 2017 remains unchanged at 2,600,000. As a result of a share split and a capital increase from corporate funds in 2018, the number of shares changed as follows.

	in thous. pieces	Nominal amount in EUR	Subscribed capital in TEUR
Shares January 1, 2018	2,600	26.00	67,600
Share split (reduction of par value to EUR 1) June 21, 2018	67,600	1.00	67,600
Capital increase from corporate funds, June 21, 2018	93,600	1.00	93,600
Shares June 21, 2018	161,200	1.00	161,200

As a result of the share split and the capital increase from corporate funds, earnings per share are calculated on the basis of a retrospective adjustment to the number of shares. The number of shares in circulation thus amounts to 161,200,000 and also corresponds to the weighted average.

Diluted earnings per share correspond to basic earnings per share.

For further information on the share split and capital increase, see chapter H.2 Events after the balance sheet date.

F. Notes to the consolidated statements of financial position

F.1. Intangible assets

	Goodwill TEUR	Licenses and acquired rights TEUR	Brands and customer relations TEUR	Internally generated intangible assets TEUR	Advance payments on intangible assets TEUR	Other assets TEUR	Total TEUR
Acquisition and production costs							
As at January 1, 2015	**97,439**	**308,353**	**8,329**	**48,289**	**1,526**	**6,245**	**470,181**
Currency translation differences	1,142	19,675	36	1,307	373	574	23,107
Additions	-	9,623	5	19,174	2,705	(25)	31,482
Disposals	-	(24,266)	(14)	(1)	-	-	(24,281)
Acquisitions classifying as business combinations	80,942	-	22,626	-	-	10,317	113,885
Reclassification in assets held for sale	-	-	-	-	-	-	-
Reclassifications	-	1,672	-	7	(1,679)	-	-
As at December 31, 2015	**179,523**	**315,056**	**30,981**	**68,776**	**2,925**	**17,112**	**614,373**
As at January 1, 2016	**179,523**	**315,056**	**30,981**	**68,776**	**2,925**	**17,112**	**614,373**
Currency translation differences	180	4,366	773	617	616	(4,335)	2,217
Additions	-	15,395	6,732	21,163	2,701	-	45,991
Disposals	-	(2,182)	(1)	(111)	2	-	(2,291)
Acquisitions classifying as business combinations	106,350	120	21,351	-	-	9,948	137,769
Reclassification in assets held for sale	-	-	-	-	-	-	-
Reclassifications	-	3,354	-	39	(3,393)	-	-
As at December 31, 2016	**286,053**	**336,109**	**59,836**	**90,485**	**2,850**	**22,725**	**798,057**
As at January 1, 2017	**286,053**	**336,109**	**59,836**	**90,485**	**2,850**	**22,725**	**798,057**
Currency translation differences	(16,890)	(20,446)	(6,189)	(2,721)	58	(1,364)	(47,551)
Additions	-	9,591	-	30,788	4,821	-	45,200
Disposals	-	(7,418)	-	(630)	(173)	(7,890)	(16,111)
Acquisitions classifying as business combinations	30,575	2,656	44,413	-	-	7,162	84,805
Reclassification in assets held for sale	-	-	-	-	-	-	-
Reclassifications	-	(1,445)	-	-	(2,420)	-	(3,865)
As at December 31, 2017	**299,737**	**319,047**	**98,060**	**117,921**	**5,136**	**20,633**	**860,535**

	Goodwill TEUR	Licenses and acquired rights TEUR	Brands and customer relations TEUR	Internally generated intangible assets TEUR	Advance payments on intangible assets TEUR	Other assets TEUR	Total TEUR
Accumulated amortization and impairment expenses							
As at January 1, 2015	**-**	**(253,050)**	**(1,863)**	**(3,482)**	**-**	**(1,428)**	**(259,823)**
Currency translation differences	-	(13,888)	(138)	(42)	-	(517)	(14,585)
Additions	-	(15,368)	(6,568)	(5,899)	-	(2,172)	(30,008)
Disposals	-	23,878	14	(163)	-	-	23,728
Reclassification in assets held for sale	-	-	-	-	-	-	-
Reclassifications	-	-	-	-	-	-	-
Reversal of impairment	-	-	-	-	-	-	-
As at December 31, 2015	**-**	**(258,429)**	**(8,555)**	**(9,587)**	**-**	**(4,117)**	**(280,688)**
As at January 1, 2016	**-**	**(258,429)**	**(8,555)**	**(9,587)**	**-**	**(4,117)**	**(280,688)**
Currency translation differences		(4,648)	(89)	3	-	1,372	(3,363)
Additions		(14,700)	(7,976)	(6,842)	63	(2,326)	(31,781)
Disposals	-	2,142	14	92	-	-	2,248
Reclassification in assets held for sale	-	-	-	-	-	-	-
Reclassifications	-	-	-	-	-	-	-
Reversal of impairment	-	-	-	-	-	-	-
As at December 31, 2016		**(275,635)**	**(16,606)**	**(16,335)**	**63**	**(5,071)**	**(313,584)**
As at January 1, 2017		**(275,635)**	**(16,606)**	**(16,335)**	**63**	**(5,071)**	**(313,584)**
Currency translation differences	-	17,725	1,167	619	-	426	19,937
Additions	-	(15,148)	(13,645)	(10,369)	-	(4,191)	(43,353)
Disposals	-	7,559	-	128	-	7,985	15,672
Reclassification in assets held for sale	-	-	-	-	-	-	-
Reclassifications	-	1,289	-	-	-	-	1,289
Reversal of impairment	-	-	-	-	-	-	-
As at December 31, 2017	**-**	**(264,211)**	**(29,084)**	**(25,957)**	**63**	**(850)**	**(320,039)**
Book value as at January 1, 2015	**97,439**	**55,303**	**6,466**	**44,807**	**1,526**	**4,817**	**210,358**
Book value as at December 31, 2015	**179,523**	**56,628**	**22,426**	**59,189**	**2,925**	**12,995**	**333,685**
Book value as at December 31, 2016	**286,053**	**60,474**	**43,230**	**74,150**	**2,913**	**17,654**	**484,473**
Book value as at December 31, 2017	**299,737**	**54,836**	**68,976**	**91,965**	**5,198**	**19,783**	**540,495**

To explain the development of goodwill, please refer to chapter C.3.1 Business combinations as well as F.2. Goodwill. The net currency translation difference from the acquisition of the assets of Bosch Transmission Systems Division (TRS) in Musashi/Japan in 2017 amounted to TEUR 3,037.

Additions to intangible assets increased in 2015 by 2.1% or TEUR 636 from TEUR 30,846 to TEUR 31,482. After a further increase in 2016, additions to intangible assets in the reporting period decreased by 1.7% or TEUR 791 from TEUR 45,991 to TEUR 45,200.

Additions to brands and customer relationships in 2015, 2016 and 2017 in particular resulted from business combinations in these years. For more detailed information, please refer to chapter C.3.1. Business combinations. Acquired brands and customer relationships are amortized according to their useful life.

The intangible assets internally generated relate primarily to the capitalized costs of the Group's development activities. Development costs are capitalized if the requirements defined in IAS 38 are met. Intangible assets internally generated are amortized according to their useful life.

The rise in other intangible assets in 2015 and 2016 is largely due to the assets acquired as part of business combinations. Please refer to chapter C.3.1. Business combinations for more information.

The consolidated statement of income is prepared based on the total cost method. Hence, expenditures assigned to the function research and development which were recognized as expense cannot be directly determined. The research and development costs recognized in the income statement as expense are retroactively determined on a simplified basis as presented in the following table:

Research and development costs recognized as expense

	2017 TEUR	2016 TEUR	2015 TEUR
Research and development expenses according to HGB	(358,827)	(328,449)	(347,341)
Other own work capitalized	31,768	21,075	19,207
Revenues-related expenditures for research and development	291,751	277,593	251,303
	(35,308)	**(29,781)**	**(76,831)**

F.2. Goodwill

According to IFRS, goodwill essentially has an unlimited useful life. Goodwill is divided between the group's cash-generating units and the value is assessed annually.

As a group of cash-generating units, Knorr-Bremse has identified regions within the divisions until fiscal 2016. These were Rail Vehicle Systems Europe/Africa, Rail Vehicle Systems North America, Rail Vehicle Systems South America, Rail Vehicle Systems Asia-Pacific[1], Commercial Vehicle Systems Europe/Africa, Commercial Vehicle Systems North America, Commercial Vehicle systems South America, Commercial Vehicle Systems Asia-Pacific. Due to the realignment of corporate management according to divisions, only the groups of cash-generating units, Rail Vehicle Systems (RVS) and Commercial Vehicle Systems, (CVS) will be defined from the 2017 financial year.

For the purpose of impairment testing, the following goodwill is allocated to the groups of cash-generating units of the Group as follows:

Goodwill

	31/12/2017 TEUR
Rail Vehicle Systems	**181,521**
Commercial Vehicle Systems	**118,216**
	299,737

Goodwill

	12/31/2016 TEUR	12/31/2015 TEUR
Europe/Africa	169,219	153,017
North America	8,362	8,149
South America	-	-
Asia-Pacific	8,622	-
Rail Vehicle Systems	**186,203**	**161,167**
Europe/Africa	93,996	12,667
North America	5,854	5,690
South America	-	-
Asia-Pacific	-	-
Commercial Vehicle Systems	**99,850**	**18,356**
	286,053	**179,523**

The calculation is based on cash flow forecasts based on projections for a period of five years. Knorr-Bremse uses a weighted average cost of capital (WACC) after tax. Cash flows after the five-year period are extrapolated using a growth rate based on the long-term growth rate of the segments.

[1] Asia-Pacific contains Australia, China, Japan and South Korea

The following table shows the valuation parameters used to determine the recoverable amount of the cash-generating units.

Assumptions from January 1, 2017 - all groups of cash-generating units (CGU group)

Figures in percent	12/31/2017
CGU Group Rail Vehicle Systems	
Weighted average cost of capital (WACC)	8.2
Compound annual growth rate (CAGR) detailed planning period	3.7
Average EBITDA-margin detailed planning period	18.1
Compound annual growth rate - long-term planning period (CAGR)	2.0
Sustainable growth rate	1.0
CGU Group Commercial Vehicle Systems	
Weighted average cost of capital (WACC)	8.4
Compound annual growth rate (CAGR) detailed planning period	4.3
Average EBITDA-margin detailed planning period	17.1
Compound annual growth rate - long-term planning period (CAGR)	1.8
Sustainable growth rate	1.0

Assumptions until December 31, 2016 - all groups of cash-generating units (CGU group)

Figures in percent	12/31/2016	12/31/2015
CGU Group Rail Vehicle Systems Europe/Africa		
Weighted average cost of capital (WACC)	8.2	8.8
Compound annual growth rate - detailed planning period (CAGR)	4.8	5.0
Average EBITDA-margin detailed planning period	14.3	14.7
Compound annual growth rate - long-term planning period (CAGR)	2.0	2.0
Sustainable growth rate	1.0	1.0
CGU Group Rail Vehicle Systems North America		
Weighted average cost of capital (WACC)	8.1	8.0
Compound annual growth rate - detailed planning period (CAGR)	5.1	4.5
Average EBITDA-margin detailed planning period	15.6	16.9
Compound annual growth rate - long-term planning period (CAGR)	2.0	1.0
Sustainable growth rate	1.5	1.5
CGU Group Rail Vehicle Systems Asia-Pacific		
Weighted average cost of capital (WACC)	9.1	n/a
Compound annual growth rate - detailed planning period (CAGR)	4.5	n/a
Average EBITDA-margin detailed planning period	23.8	n/a
Compound annual growth rate - long-term planning period (CAGR)	2.0	n/a
Sustainable growth rate	1.0	n/a
CGU Group Commercial Vehicle Systems Europe/Africa		
Weighted average cost of capital (WACC)	8.5	9.1
Compound annual growth rate - detailed planning period (CAGR)	3.9	2.4
Average EBITDA-margin detailed planning period	15.7	14.4
Compound Annual growth rate - long-term planning period (CAGR)	1.8	1.8
Sustainable growth rate	1.0	1.0
CGU Group Commercial Vehicle Systems North America		
Weighted average cost of capital (WACC)	9.9	9.8
Compound annual growth rate - detailed planning period (CAGR)	8.4	7.3
Average EBITDA-margin detailed planning period	18.8	20.3
Compound annual growth rate - long-term planning period (CAGR)	1.8	1.8
Sustainable growth rate	1.5	1.5

The determination of the recoverable amount for the respective group of cash-generating units is based in each case on the fair value less the costs of disposal, which was estimated by discounted future cash flows of the cash-generating unit. The measurements at fair value were classified as fair values in level 3 based on the input factors of the valuation technique used (see chapter A.5.).

The key assumptions used to estimate the recoverable amount are defined below. The values assigned to the key assumptions represent the management board's assessment of the future developments in the relevant industries and are based on historical values from external and internal sources.

The discount rate used was the historically calculated weighted average cost of capital (WACC) after company taxes based on a peer group.

The cash flow forecasts contained specific estimates for each group of cash-generating units for three years, a subsequent rough planning period of two years and a sustainable growth rate for the period thereafter. The sustainable growth rate was calculated based on the estimate of long-term inflation expectations by the management board and is based on the assumptions that a market participant would make.

The EBITDA forecast in the detailed planning phase takes account of past experiences and current data from the specific contracted order backlog.

Knorr-Bremse reviews the book value of goodwill at the end of each fiscal year for impairment.

The impairments tests did not indicate any need for impairment.

F.3. Property, plant and equipment

	Land, land rights and buildings, including buildings on land owned by others TEUR	Technical equipment and machinery TEUR	Other equipment, factory and office equipment TEUR	Advance payments and plant under construction TEUR	Total TEUR
Acquisition and production costs					
As at January 1, 2015	**520,535**	**675,384**	**565,029**	**103,841**	**1,864,788**
Currency translation differences	1,718	14,732	20,988	3,130	40,568
Additions	7,267	59,037	40,718	100,739	207,762
Disposals	(4,496)	(47,930)	(8,688)	(5,642)	(66,755)
Acquisitions classifying as business combinations	2,987	-	-	-	2,987
Reclassification in assets held for sale	(4,137)	-	-	-	(4,137)
Reclassifications	3,270	22,991	14,289	(40,550)	-
As at December 31, 2015	**527,145**	**724,214**	**632,338**	**161,518**	**2,045,214**
As at January 1, 2016	**527,145**	**724,214**	**632,338**	**161,518**	**2,045,214**
Currency translation differences	7,261	9,005	6,125	3,694	26,085
Additions	26,024	56,704	54,583	65,647	202,958
Disposals	(4,473)	(29,393)	(14,436)	(8,294)	(56,596)
Acquisitions classifying as business combinations	6,213	18,228	2,039	522	27,003
Reclassification in assets held for sale	(4,561)	-	-	-	(4,561)
Reclassifications	46,017	30,409	17,130	(93,556)	-
As at December 31, 2016	**603,626**	**809,167**	**697,779**	**129,531**	**2,240,102**
As at January 1, 2017	**603,626**	**809,167**	**697,779**	**129,531**	**2,240,102**
Currency translation differences	(16,135)	(31,276)	(38,724)	(7,451)	(93,586)
Additions	29,531	49,701	43,029	67,755	190,017
Disposals	(17,194)	(25,976)	(50,597)	(12,584)	(106,350)
Acquisitions classifying as business combinations	18,702	2,426	17,321	571	39,021
Reclassification in assets held for sale	(2,611)	(3,661)	(25,271)	-	(31,543)
Reclassifications	3,554	45,373	16,315	(61,376)	3,865
As at December 31, 2017	**619,473**	**845,754**	**659,852**	**116,446**	**2,241,526**
Accumulated depreciation and impairment expenses					
As at January 1, 2015	**(142,979)**	**(392,214)**	**(373,419)**	**(7,287)**	**(915,899)**
Currency translation differences	(2,486)	(6,506)	(12,545)	(90)	(21,627)
Additions	(17,402)	(61,879)	(60,821)	(374)	(140,477)

	Land, land rights and buildings, including buildings on land owned by others TEUR	Technical equipment and machinery TEUR	Other equipment, factory and office equipment TEUR	Advance payments and plant under construction TEUR	Total TEUR
Disposals	4,583	33,564	7,894	1,688	47,729
Reclassification in assets held for sale	-	-	-	-	-
Reclassifications	-	-	-	-	-
Reversal of impairment	-	-	-	-	-
As at December 31, 2015	**(158,284)**	**(427,036)**	**(438,891)**	**(6,064)**	**(1,030,274)**
As at January 1, 2016	**(158,284)**	**(427,036)**	**(438,891)**	**(6,064)**	**(1,030,274)**
Currency translation differences	(878)	(5,700)	(6,048)	193	(12,433)
Additions	(15,658)	(54,996)	(62,643)	(581)	(133,878)
Disposals	1,086	22,287	12,522	-	35,896
Reclassification in assets held for sale	-	-	-	-	-
Reclassifications	(149)	(466)	616	-	-
Reversal of impairment	-	(186)	186	-	-
As at December 31, 2016	**(173,883)**	**(466,097)**	**(494,259)**	**(6,451)**	**(1,140,690)**
As at January 1, 2017	**(173,883)**	**(466,097)**	**(494,259)**	**(6,451)**	**(1,140,690)**
Currency translation differences	4,276	17,500	28,356	176	50,308
Additions	(17,944)	(63,361)	(61,274)	(180)	(142,758)
Disposals	13,334	21,443	50,502	3,836	89,115
Reclassification in assets held for sale	415	1,218	18,552	-	20,185
Reclassifications	11	10,020	(11,320)	-	(1,289)
Reversal of impairment	-	-	-	-	-
As at December 31, 2017	**(173,791)**	**(479,276)**	**(469,443)**	**(2,619)**	**(1,125,128)**
Book value as at January 1, 2015	**377,555**	**283,170**	**191,610**	**96,554**	**948,889**
Book value as at December 31, 2015	**368,861**	**297,178**	**193,447**	**155,454**	**1,014,940**
Book value as at December 31, 2016	**429,742**	**343,070**	**203,520**	**123,080**	**1,099,413**
Book value as at December 31, 2017	**445,683**	**366,478**	**190,410**	**113,828**	**1,116,398**

Additions to PPE increased in 2015 by 28.9% or TEUR 46,585 from TEUR 161,177 to TEUR 207,762 and reached a peak. In the following years, investments in property, plant and equipment decreased continuously and decreased in the reporting periods by 6.4% or TEUR 12,941 from TEUR 202,958 to TEUR 190,017.

The advance payments and construction in progress amounted to TEUR 155,454 as at December 31, 2015, which corresponds to an increase of TEUR 58,900 from the previous year. TEUR 23,279 of this resulted from the construction of the new research and development center TCK3, commenced in the previous year, which was completed in 2016.

In fiscal year 2017, property, plant and equipment with a total book value of TEUR 11,358 was reclassified as assets held for sale (see chapter F.8. Assets held for sale).

Other changes to PPE resulted from business combinations. Please refer to chapter C.3.1. Business combinations for more information.

The PPE item is subject to annual scheduled depreciation and amortization. Additions to depreciation and amortization include impairment losses of TEUR 7,185 as of December 31, 2016 and TEUR 13,652 as of December 31, 2015 (see chapter E.7. Depreciation and amortization).

As of December 31, 2017 land of the leasing companies K&D Progetto, MORCAR and Sanctor are encumbered by land charges. The land charge regarding K&D Progetto amounts to TEUR, 13,450,

MORCAR amounts to TEUR 55,000 and Sanctor amounts to TEUR 28,924. The land charge of Megalith in the amount of TEUR 6,768 was deleted from the land register in 2018.

The carrying amounts of the land and buildings, as well as the values of the land charges, have developed as follows:

	2017		2016		2015	
	Carrying amount TEUR	Value land charge TEUR	Carrying amount TEUR	Value land charge TEUR	Carrying amount TEUR	Value land charge TEUR
K&D Progetto	8,828	8,829	9,326	9,327	9,800	9,800
Megalith	-	-	2,536	2,234	2,802	2,511
MORCAR	50,089	43,821	51,186	45,146	52,305	46,446
Sanctor	26,195	27,396	27,028	27,398	27.860	27,407
	85,112	**80,046**	**90,076**	**84,105**	**92,767**	**86,164**

F.4. Other financial assets

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Derivatives	17,401	7,491	2,337
Equity instruments	56,467	88,686	2,574
Securities and other debt securities	2	51	11
Purchase price receivables from disposal of land	27,735	-	-
Other financial assets	4,015	4,359	4,121
	105,620	**100,587**	**9,043**
Current	12,518	6,425	1,757
Non-current	93,102	94,161	7,286

F.5. Trade accounts receivable and other assets

Trade accounts receivable

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Accounts receivable due from associated companies and related companies and parties	54,531	32,641	22,431
Trade accounts receivable	1,093,348	938,806	924,873
Current	1,147,879	971,447	947,304
Non-current	-	-	-

Trade accounts receivable increase by TEUR 42,985 from TEUR 904,319 to TEUR 947,304 in 2015. This trend continued unchanged in the 2016 fiscal year. Trade accounts receivable increased again in the reporting period by a further TEUR 176,432 to TEUR 1,147,879.

The increase in trade accounts receivable is mainly due to an increase in sales, which resulted in part from business combinations. Changes in impairments and a breakdown of trade accounts receivable by industry can be found in chapter F.14.2.

Other current and non-current assets

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Non-current			
Deposits	2,727	3,028	2,819
Other	2,432	1,402	1,014
Prepaid expenses	1,474	1,234	1,323
Tax receivables	4,906	-	-
Other non-current assets	**11,539**	**5,663**	**5,157**

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Current			
Receivables from other taxes	58,935	58,396	58,594
Advance payments	5,817	15,807	5,918
Prepaid expenses	27,115	28,349	29,254
Deposits	5,288	3,396	3,268
Advance payments to third parties	3,754	2,805	3,465
Advanced on wages	1,114	1,812	2,947
Creditors with debit balances	2,176	1,417	2,038
Advance on travel expenses	170	289	228
Securities	-	74	82
Other	27,747	34,112	28,851
Other current assets	**132,118**	**146,458**	**134,646**
Other assets	**143,657**	**152,121**	**139,803**

F.6. Inventories

	Materials and supplies TEUR	Unfinished goods TEUR	Finished goods TEUR	Merchandise TEUR	Goods in transit TEUR	Advance payments TEUR	Total TEUR
Gross inventory as at December 31, 2015	**336,151**	**83,653**	**101,684**	**90,010**	**48,591**	**3,590**	**663,678**
Impairment to net realizable value	(21,959)	(585)	(8,015)	(7,622)	-	-	(38,181)
Currency translation differences	215	15	351	(557)	-	-	24
As at December 31, 2015	**314,406**	**83,083**	**94,020**	**81,831**	**48,591**	**3,590**	**625,520**
Gross inventory as at December 31, 2016	**339,987**	**86,627**	**97,404**	**101,210**	**45,242**	**3,557**	**674,027**
Impairment to net realizable value	(35,305)	(2,552)	(15,451)	(9,010)	-	-	(62,319)
Currency translation differences	(124)	(15)	(440)	-		-	(578)
As at December 31, 2016	**304,558**	**84,060**	**81,512**	**92,201**	**45,242**	**3,557**	**611,130**
Gross inventory as at December 31, 2017	**371,994**	**107,398**	**115,620**	**99,642**	**63,893**	**45,765**	**804,312**
Impairment to net realizable value	(26,664)	(4,752)	(13,940)	(8,140)	-	-	(53,496)
Currency translation differences	(1,438)	(417)	(442)	305	-	-	(1,993)
As at December 31, 2017	**343,891**	**102,228**	**101,238**	**91,807**	**63,893**	**45,765**	**748,823**

Inventories amounted to TEUR 748,823 as of December 31, 2017. Compared to the end of 2016, this represents an increase of TEUR 137,693 or 22.5%. The reason for this is the general increase in inventories in all areas, with raw materials and supplies in particular increasing by TEUR 39,333. As of December 31, 2016, inventories totaled TEUR 611,130, a decrease of TEUR 14,390 compared to 2015. The decrease of TEUR 12,508 is mainly due to a decrease in finished goods. In addition, the TEUR 13,346 higher impairments for raw materials and supplies compared to the previous year 2015 lead to a decrease in inventories. The increase of TEUR 10,370 in merchandise had the opposite effect In the 2016 fiscal year. As of December 31, 2015, inventories totaled TEUR 625,520, a decrease of TEUR 54,426.

F.7. Cash and cash equivalents

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Cash and cash equivalents	**1,600,033**	**1,720,827**	**1,360,548**

On all balance sheet dates, there were no cash and cash equivalents of the categories “fair value through profit and loss” or “recognition of remeasurement gains or losses in OCI”.

Cash and cash equivalents include cash on hand and, primarily, at-call bank balances.

The cash and cash equivalents are measured at acquisition cost and adapted by an adjustment for the probability of default in relation to the banks (“expected credit loss”) based on a public issuer rating for core and principal commercial banks. For the small percentage of liquid funds outside the core and principal banks, these balances are adjusted based on the average values of the probabilities of default of the core and principal commercial banks. Further information on the rating is provided in chapter H.1.4 Credit risks.

F.8. Assets held for sale or disposal groups

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Assets from disposal groups	28,624	1,077	-
Assets held for sale	3,492	4,561	4,137
Total	**32,116**	**5,638**	**4,137**
Liabilities directly related to assets from disposal groups	38,524	763	-

F.8.1. Assets or disposal groups held for sale

As at December 31, 2017, the two disposal groups "Sydac" and "Blueprint" were classified as held for sale.

Sydac

On September 30, 2015, the management board submited to sell the simulation business in the Rail Vehicles segment. The disposal plan was specified by preparing a sales prospectus and establishing initial talks with potential buyers in July 2017. Since the sale of the existing simulation business does not pertain to a separate segment, this continues to be presented as a component of the segment Rail Vehicles until a sale occurs.

The simulation business is comprised of Sydac Australia, including the subsidiary Sydac UK. The Sydac disposal group also includes the assets belonging to the simulation business, which are owned by Train Dynamic Systems in the USA and Knorr-Bremse Technology Center India in India as at Sunday, December 31, 2017. The assets will be released to a new company as soon as a buyer is identified.

Regarding the status of the negotiations about the sale see chapter H.2.

The assets and liabilities are recognized at the book values as at December 31, 2017. A fair value measurement on the basis of existing non-binding purchase price offers resulted in an impairment of the assets in the amount of TEUR 5,322. The need for write-downs was recorded under depreciation and write-downs.

The Sydac disposal group includes the following assets and liabilities, measured at fair value less costs to sell:

Sydac

	12/31/2017 TEUR
Inventories	35
Other financial assets	354
Trade accounts receivable and other assets	2,123
Income tax assets	568
Assets held for sale	**3,080**
	TEUR
Other provisions	1,202
Trade accounts payable and other liabilities	2,435
Income tax liabilities	75
Liabilities directly related to assets from disposal groups	**3,712**

Blueprint

On February 24, 2017, the management board resolved to sell the vehicle maintenance business in the Rail Vehicles segment. The vehicle maintenance business bundled in the "Blueprint" disposal group comprises Kiepe Electric UK Holding Ltd. including Kiepe UK Ltd., Knorr-Bremse RailService UK Ltd. and Swedtrac RailService AB Sweden. Following the preparation of the sales prospectus, initial contacts and discussions with potential buyers took place at the end of July 2017. Since the sale of the existing vehicle maintenance business does not pertain to a separate segment, this continues to be presented as a component of the segment Rail Vehicles until a sale occurs.

The Swedish part of the vehicle maintenance business as part of the Blueprint disposal group was sold to the purchaser Stadler Service Sweden AB on January 12, 2018. A sales price of TEUR 6,261 was achieved for Swedtrac RailService AB Sweden.

With regard to the status of the negotiation about sale of the remaining vehicle maintenance business based in the United Kingdom (Kiepe Electric UK Holding Ltd. including Kiepe UK Ltd. and Knorr-Bremse RailService UK Ltd.) see chapter H.2.

The assets and liabilities are recognized at the book values as at December 31, 2017. A fair value measurement on the basis of existing, non-binding purchase price offers resulted in a write-down requirement of TEUR 20,046 for the assets, which was recorded under other operating expenses.

The Blueprint disposal group includes the following assets and liabilities, measured at fair value less costs to sell:

Blueprint

	12/31/2017 TEUR
Property, plant and equipment	1,162
Inventories	7,293
Other financial assets	945
Trade accounts receivable and other assets	15,804
Income tax assets	340
Assets held for sale	**25,544**

	TEUR
Provisions for pensions	183
Other provisions	1,095
Other financial liabilities	285
Trade accounts payable and other liabilities	33,249
Liabilities directly related to assets from disposal groups	**34,812**

F.8.2. Assets held for sale

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Land	-	4,561	4,137
Property, plant and equipment	3,492	-	-
Assets held for sale	**3,492**	**4,561**	**4,137**

In December 2017, the ,management board decided to dispose of logistics assets not required for operations. The sale took place on February 9, 2018.

In the 2015, and 2016 fiscal years, the Group sold properties that were not used in the operating business. The properties identified as assets held for sale on the respective cut-off dates were all sold in the following year.

F.9. Equity

F.9.1. Subscribed capital

The Company’s share capital of TEUR 67,600 is divided into 2,600,000 fully voting bearer shares with a par value of EUR 26.00 each and fully paid up. Stella Vermögensverwaltungs-GmbH, Grünwald/Germany, TIB Vermögens- und Beteiligungsholding GmbH, Grünwald/Germany, and KB Holding GmbH, Grünwald/Germany, have informed the Company that they hold a majority interest in the Company, either directly or indirectly. According to the management board, the shares of Stella are mainly held by Mr. Heinz Hermann Thiele since July 6, 2017.

With regard to the Company’s residual assets, all shares have the same rank.

F.9.2. Capital reserves

The Company's capital reserves as at December 31, 2017 amount to TEUR 1,310 (December 31, 2016: TEUR 1,860; December 31, 2015: TEUR 1,860).

In 1988, TDM 6,725 was transferred to the capital reserve, which was achieved in excess of the nominal amount in the capital increase in connection with the merger with Carl Hasse & Wrede GmbH, Berlin. In 1989, an amount of TDM 6,425 from the capital reserves was converted to capital stock pursuant to the resolution of the Annual Shareholders' Meeting of April 27, 1989. As at December 31, 1989, capital reserves amounted to TDM 300, which translates to TEUR 153.

In addition, an amount of TEUR 1,707 was transferred as of January 1, 2014 to capital reserves as part of a share-based payment with compensation through equity instruments in connection with the issue of shares in two "Black Empowerment Companies".

In 2017 changes were made to the shareholding structure according to which the shares of a "Black Empowerment Entity" were repurchased for a price of TEUR 550. The capital reserve decreased as of December 31, 2017 by this amount to TEUR 1,310 (see Note H.11.).

F.9.3. Retained earnings

Retained earnings contain the legal reserve as well as the accumulated earnings of the companies included in the consolidated financial statements, if they have not been distributed. Moreover, this item reflects all group influences on equity.

Retained earnings

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Legal reserves	6,607	6,607	6,607
Other retained earnings	100,349	88,249	74,577
	106,956	**94,856**	**81,184**

F.9.4. Other equity components

Other equity components contain the changes in equity with no effect on profit and loss. This includes currency translation differences as a result of the translation of annual financial statements of foreign businesses, changes in the measurement of financial assets whose changes in valuation are optionally recognized in OCI, the actuarial gains and losses from the measurement of benefits to employees reported in the fiscal year, as well as taxes recognized directly in equity.

F.9.5. Dividends

In the fiscal years, Knorr-Bremse AG declared and paid the dividends summarized in the following table:

Dividends

	2017 TEUR	2016 TEUR	2015 TEUR
140 EUR per bearer share (2016: 140 EUR, 2015: 120 EUR)	**364,000**	**364,000**	**312,000**

The dividends relate in all cases to the prior year. For the 2017 fiscal year, in the 2018 fiscal year a dividend of 327 EUR per bearer share was declared and therefore paid in the total amount of TEUR 850,200.

F.9.6. Capital management

The group's objective is to maintain a strong capital base and ensure the sustainable development of the Company.

To this end, the Group prepares short-term and long-term liquidity planning. Short-term liquidity planning covers a three-month planning horizon with precise expected cash flows including currency changes. Long-term liquidity planning is carried out twice a year with a planning horizon of three years.

To manage free cash flow, the Group has established a net working capital management and investment process. Demand-oriented investments, which serve to maintain and further develop the Company, can be made within the annual target of around 3.5% to 4.5% of annual sales. The goal of 40 to 50 days for net working capital is achieved by closely monitoring the divisions' working capital positions and liquidity management programs such as factoring and the Supplier Early Payment Program.

In addition, Knorr-Bremse makes targeted use of retained earnings to maintain a stable equity ratio. In future, the Group plans to distribute between 40% and 50% of consolidated net income as dividends and to retain the remaining profit. This serves to strengthen the equity ratio with a target figure of between 20% and 30%. The Group defines the equity ratio as the ratio of equity to total assets.

F.10. Employee benefits

In various countries Knorr-Bremse makes pension commitments to its employees based on defined benefit plans, the benefits of which depend either on the employee's pensionable remuneration or contain other guarantees. Pension commitments are measured based on actuarial principles using the projected unit credit method. The pension plan accruals reported in the balance sheet correspond to the present value of the defined benefit obligation in consideration of future salary and pension increases as at the reporting date, less the fair value of the plan assets. An excess of plan assets beyond the present value of the defined benefit obligation is limited to the present value of the benefit attributable to the Company, from the reimbursement of contributions or the reduction of future contribution payments.

The defined benefit plans in Germany and United Kingdom represent the majority of the total gross obligation at approximately 85%. Pension obligations from defined benefit pension schemes also exist in France, India, Italy, Japan, Mexico, Austria, Sweden, Switzerland, South Korea, Turkey and the USA. In Germany, United Kingdom, Japan, South Korea, Austria (in some cases), and the USA, the benefits are granted on a voluntary basis, while, in the other countries, the benefits are based on statutory regulations.

Germany:

Employees benefits are granted from pension schemes for which the benefits in old age, in the event of disability or death are calculated depending on the period of employment, the salary at the time of commencement of the annuity, and the relevant assessment ceiling in the statutory pension insurance scheme (BBG), as well as a defined benchmark figure. The benefits are paid in the form of a pension. The plan was closed to new admissions with effect from January 1, 2003. Plan participants primarily include beneficiaries. Moreover, individual plans also exist, especially amongst managers, which were concluded on an individual contractual basis.

The obligations in Germany are largely completely unfunded, which means that no plan assets exist, which are solely intended to meet pension commitments – with the exception of one company for which a pledged reinsurance policy exists.

In Germany, the interest rate risk as well as the life expectancy of the plant participants play a major role as part of a risk consideration, as the benefits are primarily paid in the form of an annuity. However, the risk was reduced by closing the pension plan to new admissions.

United Kingdom:

In United Kingdom, the employees and managers benefit from defined benefit plans, which are closed to new admissions; in addition, existing plan participants are no longer entitled to any increase in entitlements, with the exception of a few special cases for which the benefits continue to increase together with the salary. At the time, the plan was introduced on a voluntary basis. The plan provides for benefits upon retirement and death, which depend on the salary and period of employment up to the closure of the plan in 2012. Payment essentially occurs in the form of an annuity, whereby part of the benefit can also be paid out as a one-off capital payment at the request of the plan participant.

In the United Kingdom, a board of trustees, which is comprised of company and employee representatives, is responsible for asset management. The investment strategy targets long-term earnings with low volatility.

The pension schemes in the United Kingdom are exposed to the interest rate risk, due to the payment as a lifelong pension, as well as the risk of a higher life expectancy than assumed so that the pensions will have to be paid out for longer than planned. However, the risks were reduced by closing the pension plan. Moreover, an investment risk also exists, in that the plan assets may not develop as expected and that the plan assets may therefore only be able to partially offset changes to the scope of obligations.

Employee benefits

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Assets from employee benefits	**21,625**	**13,799**	**7,637**
Provisions for pensions	(310,234)	(316,654)	(284,764)
Other personnel related provisions	(43,639)	(42,087)	(43,781)
Provisions for employee benefits	**(353,873)**	**(358,741)**	**(328,545)**
Non-current	(338,667)	(345,235)	(313,575)
Current	(15,206)	(13,506)	(14,970)

Please refer to chapter E.5. with regard to expenses in connection with defined benefit plans.

F.10.1. Change in net debt

	Defined benefit obligation			Fair value of plan asset			Net debt (net assets) from defined benefit plans		
	2017 TEUR	2016 TEUR	2015 TEUR	2017 TEUR	2016 TEUR	2015 TEUR	2017 TEUR	2016 TEUR	2015 TEUR
As at January 1	**(548,323)**	**(495,096)**	**(470,433)**	**245,468**	**217,968**	**175,542**	**(302,855)**	**(277,128)**	**(294,891)**
Current service costs	(10,031)	(7,343)	(7,480)				(10,031)	(7,343)	(7,480)
Past service costs	(301)	-	1,861				(301)	-	1,861
Interest income				5,965	7,465	7,259	5,965	7,465	7,259
Interest expense	(11,222)	(12,798)	(15,144)				(11,222)	(12,798)	(15,144)
Net cash flow	7,342	5,033	9,605	1,447	8,557	9,328	8,789	13,590	18,932
Remeasurements	**10,763**	**(75,188)**	**16,918**	**4,884**	**37,826**	**(6,210)**	**15,647**	**(37,363)**	**10,708**
a) Return on plan assets				4,884	37,826	(6,210)	4,884	37,826	(6,210)
b) Actuarial gains / losses (change in demographic assumptions)	1,182	834	460				1,182	834	460
c) Actuarial gains / losses (change in financial assumptions)	13,073	(75,531)	22,173				13,073	(75,531)	22,173
d) Effect of experience adjustments	(3,493)	(491)	(5,715)				(3,493)	(491)	(5,715)
Effect of changes in foreign exchange rates	11,771	27,642	(15,747)	(10,517)	(28,598)	12,864	1,253	(956)	(2,883)
Employer contributions	12,345	13,037	12,426	-	-	-	12,345	13,037	12,426
Participant contributions	(846)	(745)	(562)	846	745	562	-	-	-
Increase / decrease due to effect of business combinations / divestitures	(16,620)	(2,865)	(26,538)	8,419	1,505	18,623	(8,200)	(1,360)	(7,915)
As at December 31	**(545,122)**	**(548,323)**	**(495,096)**	**256,513**	**245,468**	**217,968**	**(288,609)**	**(302,855)**	**(277,128)**
thereof									
Germany	(254,955)	(256,550)	(231,267)	1,575	1,534	-	(253,380)	(255,017)	(231,267)
United Kingdom	(193,742)	(206,669)	(187,791)	215,145	214,933	193,536	21,403	8,263	5,745
Other countries	(96,425)	(85,104)	(76,038)	39,793	29,002	24,432	(56,632)	(56,102)	(51,606)

F.10.2. Plan assets

Some of pension obligations are secured by assets that correspond to the definition of plan assets in accordance with IAS 19. For these pension obligations, the net debt is reported from the defined benefit obligation and the fair value of the plan assets.

For plans with a positive excess of the fair value of plan assets over the present value of the related obligation, the resulting asset is tested for impairment and, if necessary, limited to the present value of the economic benefits that the Group can derive from refunds or reductions in future contributions.

The plan assets primarily contain debt securities, equity instruments, and qualifying insurance policies, which are largely held by long-term, external carriers (funds). Plan assets are mainly held in the United Kingdom and Switzerland.

In order to reduce asset and liability risks (Asset-Liability-Matching, ALM), Knorr-Bremse has developed a risk minimization program in cooperation with trustees. The investment strategy is transferred to a qualified actuary who implements the investment strategy in relation to the pension plans and carries out the investment strategy.

The assets controlled as part of this transfer are allocated to an “Growth” or “Liability Hedging” portfolio. The allocation ratio is agreed at regular intervals.

The “Growth” portfolio comprises a combination of equities, fixed-income securities and other available funds that are available in the manager’s portfolio. The fund manager determines the investment mix.

The liability hedging portfolio comprises LDI funds (Liability Driven Investment), fixed-income securities, index-linked funds and other available funds that are available in the manager’s portfolio. The fund manager determines the investment mix.

The objectives of the risk minimization strategy are to minimize the risk from the pension plans by increasing the allocation of assets to the liability hedging portfolio. Such reallocation must take place if agreed key figures are exceeded in order to make it possible to align assets with liabilities.

The pension obligations in Switzerland are largely covered by legally independent pension schemes. Any return of funds to the employer is precluded. The contracts meet the requirements for qualifying insurance policies pursuant to IAS 19.8.

The plan assets include:

Plan assets

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Cash and cash equivalents	1,866	273	1,054
Equity instruments	39,496	42,985	48,486
Debt instruments	139,622	133,715	112,674
Real estate	-	-	4,175
Assets held by insurance companies	36,425	29,723	23,778
Other	39,105	38,772	27,802
Fair value of plan assets	**256,513**	**245,468**	**217,968**
thereof			
United Kingdom	215,145	214,933	193,536
Other countries	41,368	30,536	24,432
Return on plan assets (incl. interest income)	**10,849**	**45,291**	**1,048**
thereof			
United Kingdom	8,599	44,626	979
Other countries	2,250	665	70

Debt securities include government bonds, which are essentially linked to an inflation index, and government bonds with a savings target, which is achieved through interest payments.

F.10.3. Actuarial assumptions

The following lists the key actuarial assumptions (in the form of weighted averages in %) used on the reporting date.

Actuarial assumptions

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Defined benefit obligation			
Discount rate	2.15%	2.09%	2.97%
Salary increase rate	3.06%	3.12%	3.04%
Pension increases	1.97%	2.11%	2.05%
Immediate trend rate	n/a	8.10%	8.40%
Ultimate trend rate	n/a	3.89%	3.89%

The most important defined benefit plans exist in Germany and the United Kingdom. In Germany, the generation-dependent RT 2005 G mortality tables by Prof. Dr. Klaus Heubeck are used as the biometric basis for measuring these obligations, while the S2PA mortality tables with forecast CMI 2014 are used in the United Kingdom. Age-dependent turnover tables are also taken into account.

Starting in 2017, the consideration of current and long-term growth trends no longer has relevance for the Group, since all recipients of the US "Post-Retirement Medical Plan" receive solely benefits which are independent of growth trends.

F.10.4. Future cash flows

In the following fiscal year, employer payments into the plan assets are expected to amount to TEUR 9,302. As of December 31, 2017, average annual benefit payments from pension plans in the amount of TEUR 21,360 (2016: TEUR 19,290 and 2015: TEUR 18,815) are expected for the next ten years.

As of December 31, 2017, the weighted average term of the defined benefit obligation was 16.19 years (2016: 16.59 years and 2015: 15.20 years).

F.10.5. Sensitivity analysis

The following sensitivity analysis presents the effects of reasonable changes of individual factors on the defined benefit obligation as at the reporting date.

Sensitivity analysis

	12/31/2017 TEUR		12/31/2016 TEUR		12/31/2015 TEUR	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
Present value of defined benefit obligation						
Change in discount rate 0.5%	(42.914)	45.021	(40.634)	50.870	(34.740)	41.423
Change in salary increase rate 0.5%	4.553	(7.655)	7.546	(2.991)	5.451	(3.245)
Change in future pension increases 0.5%	25.998	(24.490)	30.337	(21.108)	24.514	(18.276)
Average duration of defined benefit obligation (in years)						
Change in discount rate 0.5%	15,75	16,55	16,19	17,00	14,84	15,55

Although the analysis does not take account of the complete distribution of the expected cash flows according to the plan, it provides an approximate value of the sensitivity of the presented assumptions.

F.11. Other provisions

	Warranty provisions TEUR	Contractual provisions TEUR	Other provisions TEUR	Total TEUR
As at January 1, 2015	**337,599**	**33,259**	**88,905**	**459,763**
Currency translation differences	14,005	259	(64)	14,200
Additions	113,917	11,552	32,929	158,397
Disposals	(222)	-	(581)	(803)
Utilization	(88,660)	(10,210)	(46,817)	(145,687)
Reclassifications	(1,744)	-	(79)	(1,824)
Reversals	(28,670)	(18,137)	(4,094)	(50,901)
Compounding	5,487	4	150	5,641

	Warranty provisions TEUR	Contractual provisions TEUR	Other provisions TEUR	Total TEUR
As at December 31, 2015	**351,712**	**16,727**	**70,349**	**438,788**
thereof current	153,493	10,006	16,724	180,223
thereof non-current	198,219	6,721	53,625	258,565
As at January 1, 2016	**351,712**	**16,727**	**70,349**	**438,788**
Currency translation differences	(3,821)	(14)	(67)	(3,903)
Additions	203,806	8,465	80,960	293,231
Disposals	215	-	-	215
Utilization	(151,155)	(6,555)	(54,959)	(212,669)
Reclassifications	-	-	(21)	(21)
Reversals	(39,219)	(6,170)	(2,453)	(47,842)
Compounding	5,324	-	103	5,427
As at December 31, 2016	**366,861**	**12,453**	**93,911**	**473,225**
thereof current	187,403	8,065	31,457	226,925
thereof non-current	179,458	4,388	62,454	246,301
As at January 1, 2017	**366,861**	**12,453**	**93,911**	**473,225**
Currency translation differences	(13,464)	(69)	10	(13,524)
Additions	256,078	33,369	63,157	352,604
Disposals	(1,095)	-	18	(1,077)
Utilization	(227,778)	(7,143)	(50,352)	(285,273)
Reversals	(48,402)	(7,146)	(9,468)	(65,016)
Compounding	3,782	10	1,130	4,922
As at December 31, 2017	**335,981**	**31,475**	**98,406**	**465,862**
thereof current	189,396	9,480	32,839	231,714
thereof non-current	146,585	21,995	65,568	234,148

The provisions for warranty obligations cover obligations from cases that have already occurred as well as future obligations that are based on empirical values. The latter are essentially directly related to the development of revenues. The provisions are based on estimates of historical warranty data of similar products and services.

Contract accruals contain onerous contract provisions (2017: TEUR 26,218; 2016: TEUR 4,593; 2015: TEUR 7,749) as well as provisions based on agreed contractual penalties (2017: TEUR 5,257; 2016: TEUR 7,860; 2015: TEUR 8,978). The increase in provisions for onerous contracts is mainly due to additions to provisions for onerous rental contracts.

Other provisions relate to individual identifiable risks and obligations, especially environmental protection obligations and process risks.

Expenses of TEUR 4,922 in 2017, TEUR 5,427 in 2016, and TEUR 5,641 in 2015 have been recognized in the income statement from compounding provisions.

F.12. Trade accounts payable and other liabilities

Trade accounts payable

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Trade accounts payable	**(894,119)**	**(754,458)**	**(727,042)**
Current	(894,119)	(754,458)	(727,042)
Non-current	-	-	-

Other liabilities

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Advance payments received	(14,454)	(10,409)	(10,315)
Deferred income	-	(5,962)	(6,844)
Other	(2,892)	(9,567)	(8,967)
Non-current	**(17,346)**	**(25,938)**	**(26,125)**
Advance payments received	(91,536)	(95,953)	(80,915)
Liabilities from other taxes	(44,831)	(42,901)	(53,838)
Outstanding invoices	(33,817)	(34,062)	(34,822)
Deferred income	(19,077)	(18,184)	(15,914)
Social security liabilities	(16,023)	(15,842)	(14,852)
Debtors with credit balances	(4,606)	(1,585)	(3,513)
Other	(59,492)	(76,947)	(67,160)
Current	**(269,382)**	**(285,475)**	**(271,014)**
Other liabilities	**(286,729)**	**(311,413)**	**(297,139)**

Trade accounts payable increase by TEUR 47,478 from TEUR 679,564 to TEUR 727,042 in 2015. This trend continued unchanged in the 2016 fiscal year. Trade accounts payable increased again in the reporting period by a further TEUR 139,661 to TEUR 894,119.

Both a significant increase in sales in the years 2015 and 2017 and the business combinations in 2015, 2016 and 2017 lead to an increase in trade accounts payable.

Advance payments received decreased by TEUR 14,584 in 2015 from TEUR 105,814 to TEUR 91,230. In 2016, advance payments received increased once again with an amount of TEUR 106,362 to a similar level and remained in the reporting period with TEUR 105,990 relatively constant.

Other liabilities are valued as described in chapter D.19.

F.13. Financial liabilities

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Derivates	(7,308)	(23,660)	(22,291)
Bank loans	(230,567)	(227,303)	(245,149)
Bonds and debt instruments	(497,390)	(496,701)	-
Liabilities resulting from options for minority interests	(379,616)	(367,143)	(327,019)
Lease liabilities	(35,977)	(27,448)	(21,478)
Other financial liabilities	(158,843)	(145,301)	(136,721)
	(1,309,701)	**(1,287,556)**	**(752,658)**
Current	(570,955)	(531,287)	(490,717)
Non-current	(738,746)	(756,269)	(261,941)

Effective December 8, 2016, Knorr-Bremse AG issued a bond with a volume of EUR 500 million, a term of five years (final maturity) and a nominal interest rate of 0.5% p.a. on the EURO MTF stock exchange in Luxembourg. The proceeds of the bond will be used to finance the growth of the Knorr-Bremse Group. In addition, the existing Debt Issuance Program from 2016 was extended for another year in fiscal 2017. This opens up the possibility for the Group to issue new bonds with a total volume of up to EUR 1 billion on the Euro MTF exchange in Luxembourg in 2018 on the basis of standardized documentation.

	Liabilities				Derivative financial Instruments (assets) / liabilities	Equity		
	Liabilities to credit institutions TEUR	Bonds and debt instruments TEUR	Liabilities resulting from options for minority interests TEUR	Lease liabilities TEUR	Interest rate swaps - liabilities TEUR	Retained earnings TEUR	Non-controlling interests TEUR	Total TEUR
Balance as of January 1, 2017	**227,303**	**496,701**	**367,143**	**27,448**	**7,505**	**94,856**	**152,574**	**1,373,531**
Change in cash flow from financing activities								
Proceeds from the equity contributions by minority shareholders	-	-	-	-	-	-	151	151
Proceeds from borrowings	2,983	-	-	-	-	-	-	2,983
Disbursements from the repayment of borrowings	(18,272)	-	-	-	-	-	-	(18,272)
Disbursements for finance lease liabilities	-	-	-	(5,332)	-	-	-	(5,332)
Interest paid	(16,145)	(2,500)	-	(1,507)	-	-	-	(20,152)
Dividends paid to parent company shareholders	-	-	-	-	-	(385,073)	-	(385,073)
Dividends paid to minority shareholders	-	-	-	-	-	-	(48,017)	(48,017)
Net proceeds from factoring	13,645	-	-	-	-	-	-	13,645
Cash flow from financing activities	**(17,789)**	**(2,500)**	**-**	**(6,839)**	**-**	**(385,073)**	**(47,866)**	**(460,067)**
Changes arising from obtaining or losing control of subsidiaries or other businesses	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**3**
Effects in foreign exchange rates	**(486)**	**-**	**-**	**(631)**	**-**	**-**	**-**	**(1,116)**
Other changes relating to liabilities								
Other non-cash expenses and income	5,272	-	12,472	-	-	-	-	17,744
Interest income	-	-	-	-	(1,272)	-	-	(1,272)
Interest expense	16,264	3,189	-	1,507	-	-	-	20,960
New finance leases	-	-	-	14,491	-	-	-	14.491
Total other changes, relating to liabilities	**21,535**	**3,189**	**12,472**	**15,998**	**(1,272)**			**51,923**
Total other changes, relating to equity						**397,173**	**43,242**	**440,415**
Balance as of December 31, 2017	**230,567**	**497,390**	**379,616**	**35,977**	**6,233**	**106,956**	**147,951**	**1,404,689**

F.14. Financial instruments

F.14.1. Financial instruments

The following table presents the non-netted book values and the fair values of the financial assets and liabilities as well as the categorization of the individual items. For the classification (hierarchy levels) of the fair value pursuant to IFRS 13, please refer to the chapter on the accounting and measurement methods.

Information in accordance with IFRS 9

	12/31/2017							
	Book value TEUR				Fair value TEUR			
Category	**FVTPL**	**FVOCI**	**At amortized cost**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Total**
Financial assets	**34,026**	**46,084**	**2,773,422**	**2,853,532**	**46,765**	**17,401**	**9,702**	**73,868**
Derivative financial instruments	17,401	-	-	17,401	-	17,401	-	17,401
Equity instruments	16,625	39,842	-	56,467	46,765	-	9,702	56,467
Securities and debt instruments	-	-	2	2	-	-	-	-
Receivables*	-	6,242	1,141,637	1,147,879	-	-	-	-
Purchase price receivables from sale of land	-	-	27,735	27,735	-	-	-	-
Other financial receivables*	-	-	4,015	4,015	-	-	-	-
Cash and cash equivalents*	-	-	1,600,033	1,600,033	-	-	-	-
Financial liabilities	**(7,308)**	**-**	**(2,196,512)**	**(2,203,820)**	**(505,700)**	**(245,203)**	**(379,616)**	**(1,130,519)**
Derivative financial instruments	(7,308)	-	-	(7,308)	-	(7,308)	-	(7,308)
Bank loans	-	-	(230,567)	(230,567)	-	(237,895)	-	(237,895)
Liabilities resulting from options for minority interests	-	-	(379,616)	(379,616)	-	-	(379,616)	(379,616)
Bonds and debt instruments	-	-	(497,390)	(497,390)	(505,700)	-	-	(505,700)
Lease liabilities	-	-	(35,977)	(35,977)	-	-	-	-
Other financial liabilities*	-	-	(158,843)	(158,843)	-	-	-	-
Trade accounts payable*	-	-	(894,119)	(894,119)	-	-	-	-

* without information on fair value based on the fact that net book value approximately equals fair value

	12/31/2016							
	Book value TEUR				Fair value TEUR			
Category	**FVTPL**	**FVOCI**	**At amortized cost**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Total**
Financial assets	**15,746**	**88,830**	**2,688,284**	**2,792,860**	**88,051**	**7,491**	**635**	**96,177**
Derivative financial instruments	7,491	-	-	7,491	-	7,491	-	7,491
Equity instruments	8,255	80,431	-	88,686	88,051	-	635	88,686
Securities and debt instruments	-	-	51	51	-	-	-	-
Receivables*	-	8,399	963,048	971,447	-	-	-	-
Purchase price receivables from sale of land	-	-	-	-	-	-	-	-
Other financial receivables*	-	-	4,359	4,359	-	-	-	-
Cash and cash equivalents*	-	-	1,720,827	1,720,827	-	-	-	-
Financial liabilities	**(23,660)**	**-**	**(2,018,354)**	**(2,042,015)**	**(505,300)**	**(258,606)**	**(367,143)**	**(1,131,050)**
Derivative financial instruments	(23,660)	-	-	(23,660)	-	(23,660)	-	(23,660)
Bank loans	-	-	(227,303)	(227,303)	-	(234,946)	-	(234,946)
Liabilites resulting from options for minority interests	-	-	(367,143)	(367,143)	-	-	(367,143)	(367,143)
Bonds and debt instruments	-	-	(496,701)	(496,701)	(505,300)	-	-	(505,300)
Lease liabilities	-	-	(27,448)	(27,448)	-	-	-	-
Other financial liabilities*	-	-	(145,301)	(145,301)	-	-	-	-
Trade accounts payable*	-	-	(754,458)	(754,458)	-	-	-	-

* without information on fair value based on the fact that net book value approximately equals fair value

Category	12/31/2015 Book value TEUR				Fair value TEUR			
	FVTPL	FVOCI	At amortized cost	Total	Level 1	Level 2	Level 3	Total
Financial assets	**4,911**	**6,116**	**2,305,868**	**2,316,894**	**1,966**	**2,337**	**608**	**4,911**
Derivative financial instruments	2,337	-	-	2,337	-	2,337	-	2,337
Equity instruments	2,574	-	-	2,574	1,966	-	608	2,574
Securities and debt instruments	-	-	11	11	-	-	-	-
Receivables*	-	6,116	941,188	947,304	-	-	-	-
Purchase price receivables from sale of land	-	-	-	-	-	-	-	-
Other financial receivables*	-	-	4,121	4,121	-	-	-	-
Cash and cash equivalents*	-	-	1,360,548	1,360,548	-	-	-	-
Financial liabilities	**(22,291)**	**-**	**(1,457,409)**	**(1,479,700)**	**-**	**(276,337)**	**(327,019)**	**(603,356)**
Derivative financial instruments	(22,291)	-	-	(22,291)	-	(22,291)	-	(22,291)
Bank loans	-	-	(245,149)	(245,149)	-	(254,046)	-	(254,046)
Liabilities resulting from options for minority interests	-	-	(327,019)	(327,019)	-	-	(327,019)	(327,019)
Bonds and debt instruments	-	-	-	-	-	-	-	-
Lease liabilities	-	-	(21,478)	(21,478)	-	-	-	-
Other financial liabilities*	-	-	(136,721)	(136,721)	-	-	-	-
Trade accounts payable*	-	-	(727,042)	(727,042)	-	-	-	-

* without information on fair value based on the fact that net book value approximately equals fair value

The market value of financial derivatives is the price at which a party would take over the rights and/or obligations from another party. The market values are calculated based on the market information available at the reporting date using recognized measurement methods:

Forward exchange contracts and interest rate hedging contracts are valued on the basis of reference rates, taking forward premiums and discounts into account. Net present value calculations are performed using yield curves.

Commodity contracts are valued on the basis of quoted prices on active stock exchanges.

Options are measured using recognized option pricing models (incl. Black-Scholes). The bank valuation as at the reporting date is used for structured products. The valuation reflects the Bank's assessment of the value of the financial instrument concerned under prevailing market conditions and is derived either from the mid-market price or, if expressed as bid and ask prices, from the indicative price at which the Bank would have terminated and bought back or repurchased and sold the financial instrument at the close of business or at another time agreed with Knorr-Bremse at the relevant financial center on the valuation date indicated above.

In addition, default risks are taken into account when measuring derivatives at fair value ("credit value adjustments"). The calculation basis for the probabilities of default are the credit default spreads per counterparty and for the Company.

The Group measures long-term receivables/loans based on parameters such as interest rates, certain country-specific risk factors, creditworthiness of the individual customers, and the risk characteristics of the financed project.

The fair values of the group's interest-bearing loans are calculated using the discounted cash flow method. This is based on a weighted average cost of capital (WACC), which reflects the issuer's borrowing rate at the end of the reporting period. In line with Knorr-Bremse's rating, the Company's own default risk was classified as low over the entire period.

The financial liability from a put option on minority interests gives minority shareholders the option of tendering their shares to Knorr-Bremse if contractually defined conditions are met. These are carried at amortized cost in accordance with IFRS 9. The fair value stated is based on unobservable input parameters and is therefore assigned to level 3 of the fair value hierarchy.

The determination of the purchase price is defined in the contract and is calculated using a multiplier method based on the results of the Knorr-Bremse companies. The multiplier is defined in the contract and only changes if reference multiples are subject to strong changes, the result variables have a direct influence on the fair value of the liability. Historical EBIT figures of the relevant Knorr-Bremse companies were used as result figures.

For two newly-founded companies, as of the December 31, 2017 balance sheet date no fair value was determined. Kiepe Corporation, Canada and Freios Bre Coahuila, Mexico, are included at acquisition cost in the amount of TEUR 1,914 respectively TEUR 6,254 in the financial statements. The companies have not yet started operations and consist primarily of newly acquired land and machines, so that the acquisition costs represent the fair value. No significant effects arise regarding the net assets, financial position or results of operations of the Group. The remaining equity instruments measured at the fair value level 3 are individually and in total considered to be immaterial for the net assets, financial position and results of operations of the Group, so that also for these no further disclosures are made.

Offsetting

The table "Offsetting financial assets and financial liabilities" shows the extent to which financial assets and financial liabilities were offset in the balance sheet as well as the possible effects from the offsetting of instruments, which are subject to a legally enforceable global netting agreement or a similar agreement.

Derivative trading is subject to a global netting agreement. However, the German framework agreement and the ISDA agreements do not meet the criteria for an offsetting obligation in the group balance sheet. The right to offset is only enforceable in the event of future events (e.g. the insolvency of one of the contracting parties).

Offsetting financial assets and financial liabilities:

Global offsetting assets

Financial assets	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Gross and net values in the statement of financial position	17,401	7,491	2,337
Potential netting capability	1,472	7,472	2,970
Net value	15,928	19	(633)

Financial liabilities	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Gross and net values in the statement of financial position	(7,308)	(23,660)	(22,291)
Potential netting capability	(1,472)	(7,472)	(2,970)
Net value	(5,836)	(16,188)	(19,321)

Factoring

The Group participates in a receivables sales program, in which trade accounts receivable are sold to a financial services provider. Through these measures, the Group pursues the goal to improve the liquidity situation, especially in relation to customers with extended payment terms. At Knorr-Bremse, a distinction is made between factoring with a disposal on the balance sheet and without a disposal in the balance sheet.

In the case of factoring with disposal, essentially all opportunities and risks associated with ownership of the financial asset are transferred to the financial service providers. The intention is to hold the non-transferred receivables in a portfolio until final payment and to collect the contractual cash flows. The business model for these receivables is therefore classified as hold and sell and recognized at fair value with no effect on income.

In the case of factoring without disposal in the balance sheet, this is also transferred to the financial service providers. The Knorr-Bremse Group bears the credit risk until the receivable has been settled, so that not all opportunities and receivables are essentially transferred. These receivables are not

derecognized and the corresponding portfolios are reported in the "Hold" category and are carried at "amortized cost". Since factoring is carried out without disposal from the balance sheet until the customer settles its liabilities with the financial services provider by agreed payment dates, the credit risk remains with Knorr-Bremse (see chapter H.1.4.).

Factoring

	2017 TEUR	2016 TEUR	2015 TEUR
Book value of transferred receivables (factoring with balance sheet disposal)	205,816	129,427	143,474
Transaction price	(1,439)	(974)	(1,278)
Book value of transferred receivables (factoring without balance sheet disposal)	87,930	74,105	44,226
Transaction price	(1,133)	(953)	(549)
Book value of liabilities from factoring without balance sheet disposal	87,930	74,105	44,226

Due to the short term, the fair value of the receivables sold roughly corresponds to the book value of the receivables prior to the transfer.

The notes on the financial result (Chapter E.8) provide information on the net gains and net losses from financial instruments by measurement categories.

F.14.2. Impairments

The following table shows the impairment losses recognized in accordance with IFRS 9 due to credit risks for debt instruments that are measured at amortized cost and at fair value with no effect on income.

Financial instruments in impairment scope

2017 fiscal year	Impairment 12/31/2015 TEUR	Net change TEUR	Derecognition TEUR	Impairment 12/31/2016 TEUR	Net change TEUR	Derecognition TEUR	Impairment 12/31/2017 TEUR
Cash and cash equivalents	10	8	0	18	2	0	20
Trade accounts receivable (AC)	6,558	421	(1,978)	5,002	8,768	(9,670)	4,100

Breakdown of accounts receivable trade by sectors

	Rail vehicles TEUR	Commercial vehicles TEUR	Other TEUR	Total TEUR
December 31, 2015	600,104	346,603	597	947,304
December 31, 2016	572,886	388,759	9,803	971,447
December 31, 2017	714,136	433,729	14	1,147,879

The customers were divided into various categories. The calculated probabilities of default of the respective customer groups estimate the creditworthiness and the ability to meet commitments from receivables within the next 12 months.

For the 1st group, the adjustment takes place according to the public rating (S&P/Moody's or the implied rating according to the Thomson Reuters valuation model) and the associated probability of default on the respective cut-off dates.

For the 2nd group, the probability of default is determined by a credit agency.

For the 3rd group, an average probability of default is determined on the basis of a comparison group with similar risk parameters.

F.14.3. Equity instruments

The Company holds various investments in third companies as well as non-consolidated investments in affiliated/associated companies. These equity participations are essentially reported at fair value.

Since 2016, the Company holds an investment in Haldex AB, which is of a long-term strategic nature. The Company exercises a voting right for this investment and assigns it to the "at fair value through equity" category. For this investment, changes to the fair value are reported in the reserve for

adjustments in other results. No OCI release or OCI recycling will occur for these adjustments in future. In 2017 shares in Haldex AB were sold. The sales price of the shares amounted to TEUR 17,961. A cumulative loss of TEUR 7,228 was realized for the shares via OCI with no effect on net income.

Knorr-Bremse received no dividends from the aforementioned instrument in the reporting period.

The following table shows the changes in equity:

Changes in equity

Investments at FVOCI	12/31/2017 TEUR	Fair value 12/31/2016 TEUR	12/31/2015 TEUR
HALDEX SE	39,842	80,431	-

Adjustments*	12/31/2017 TEUR	Income / Expense 12/31/2016 TEUR	12/31/2015 TEUR
HALDEX SE	(22,629)	1,326	-

* Reported in the OCI with no effect on income

G. Notes on the cash flow statement

The group's statements of cash flows show the origin and use of cash flows and the net increase/decrease in cash and cash equivalents in fiscal years 2015 to 2017, and are prepared in compliance with IAS 7 (Statement of Cash Flows).

A distinction is made between cash flows from operating activities and from investment and financing activities. The cash flows from operating activities are derived indirectly based on the net profit of the year. By contrast, the cash flows from investment and financing activities are determined based on payments.

Interest expenses, grants and subsidies received, other investment income, as well as tax payments, are reported in operating activities.

G.1. Cash flow from operating activities

The cash flow from operating activities is calculated by adjusting the result for the period before taxes (including the earnings share of minority interests) by non-cash variables, especially by depreciation and amortization and appreciation on intangible assets and fixed assets, impairment of inventories and trade accounts receivable, profits and losses from the disposal of assets, and interest expenses, and supplementing it with other changes to short-term assets, liabilities not related to investment and financing activities, as well as accruals. After taking account of the interest expenses and tax payments as well as the grants and subsidies received and other investment income, this results in a cash inflow from operating activities.

Change between 2016 and 2015

The cash inflow from operating activities decreased by TEUR 190,305 to TEUR 769,178 in 2016 compared to the previous year. The main reason for this was the decrease of TEUR 143,490 to TEUR 567,160 in the result for the period, mainly due to the 6 % decline in sales compared to the previous year. The net working capital increased by TEUR 9,670 from TEUR 709,653 to TEUR 719,323.

Change between 2017 and 2016

In 2017, the cash inflow from operating activities decreased by a further TEUR 89,292 to TEUR 679,886 compared to the previous year. The net working capital increased by TEUR 62,691 from TEUR 719,323 to TEUR 782,014.

G.2. Cash flow from investing activities

The cash outflow from investing activities results from the cash outflow for investments in intangible assets, property, plant and equipment, financial assets and for the acquisition of consolidated companies and the cash inflow from the disposal of intangible assets, property, plant and equipment and financial assets.

Interest received and cash outflows from investments in plan assets for pensions are also reported in investment activities.

In the event of changes to the group of consolidated companies by selling or buying companies, the purchase price paid (not including acquired debt) is reported as cash flow from investment activities.

Change between 2016 and 2015

The TEUR 145,561 increase in cash outflows from investment activities in the 2016 fiscal year compared to the previous year primarily resulted from the cash outflows for the acquisition of consolidated companies (TEUR 160,083) and for disbursements for investments in financial assets in the amount of TEUR 86,820.

The cash outflows for the acquisition of consolidated companies (less acquired liquid funds) of TEUR 104,020 in 2015, were mainly due to the acquisition of 100% of the shares and voting rights in Selectron Systems AG, Lyss/Switzerland, as well as its subsidiaries Selectron Systems Pvt. Limited, Gurgaon/India, and Selectron Systems (Beijing) Co. Ltd., Beijing/China as at January 1, 2015, which accounted for TEUR 97,989. Moreover, the contingent consideration for Knorr-Bremse Powertech GmbH, Berlin/ Germany (formerly PCS Power Converter Solutions GmbH Berlin/Germany), acquired in 2014, of TEUR 6,000 was also paid in 2015. The contingent consideration was reported as a liability at the fair value, excluding discount, of TEUR 6,000 as at December 31, 2014. The payment of the contingent consideration was therefore reported in the cash flow from investment activities pursuant to IAS 7.39.

The cash outflows for the acquisition of consolidated companies of TEUR 160,083 in 2016 were primarily due to the following transactions:

- TEUR 102,683 from the acquisition of 100 % of the shares and voting rights in GT Group Ltd, Peterlee/United Kingdom, on July 5, 2016
- TEUR 23,341 from the acquisition of 100 % of the shares and voting rights in tedrive Steering Systems GmbH, Wülfrath/Germany, as of September 8, 2016
- TEUR 18,532 from the acquisition of the remaining 50 % of the shares and voting rights in Icer Rail S.L., Pamplona/Spain on November 21, 2016

A further TEUR 15,527 was invested in further company acquisitions that were individually and in total insignificant.

Investments in property, plant and equipment and intangible assets without changes due to acquisitions in the scope of consolidation amounted to TEUR 246,311 (previous year: TEUR 236,288), with a moderate increase above the level of the previous year after a significant increase of 25.0% from TEUR 188,957 in 2014 to TEUR 236,288 in 2015. Capital expenditure in 2016 focused on the expansion of the Budapest plant, machinery and equipment as part of the introduction of new product generations, the new location of the French rail subsidiary in Tinqueux near Reims and the equipment of the new development center in Munich. Replacement investments were also made. In 2015, the focus of investment activity was on the expansion of global production capacities and replacement investments.

The cash outflows for financial investments in 2016 primarily resulted from the acquisition of the strategic investment in Haldex AB.

Changes between 2017 and 2016

In the 2017 fiscal year, cash outflow from investment activities decreased by TEUR 168,368. This is mainly due to the decrease of TEUR 63,570 to TEUR 96,513 in cash outflows for the acquisition of

consolidated companies, the decrease of TEUR 78,119 in investments in financial assets to TEUR 8,701 and the decrease of TEUR 15,635 in investments in property, plant and equipment to TEUR 184,685.

The cash outflows for business combinations (less acquired cash and cash equivalents) in 2017 in the amount of TEUR 96,513 resulted mainly from the following transactions:

- TEUR 29,392 from the acquisition of 100% of the shares and voting rights in Vossloh Kiepe GmbH, Düsseldorf, as of February 1, 2017
- TEUR 65,539 from the acquisition of all assets of the Bosch Transmission Systems Division (TRS) in Musashi/Japan on March 31, 2017.

In addition, a contingent purchase price payment of TEUR 4,029 was due in 2017 for the Selectron Group acquired in 2015.

The decrease in investments in property, plant and equipment and intangible assets in 2017 (excluding changes in the scope of consolidation) was caused by time shifts. The focus was on investments in machinery and equipment as part of the introduction of new product generations and in the expansion of capacity in high-growth business areas and locations. In addition, investments were made in the expansion of the Guo Tong site in China and in the new Business Services Center in Liberec, Czech Republic, as well as in global IT infrastructure projects. In addition, regular replacement investments were made.

G.3. Cash flow from financing activities

The cash flow from financing activities is calculated from the balance of paid shareholder dividends, proceeds and disbursements from issued bonds, proceeds from equity contributions, established bank debt, and loans and their repayment and interest payments, as well as disbursements for the repayment of finance lease obligations. In addition, also shown under cash inflows from financing activities are proceeds from factoring with recourse and disbursements for the resulting liabilities. The cash inflows from proceeds due to the settlement of the receivables underlying the factoring are shown in cash flows from operating activities.

Change between 2016 and 2015

In December 2016, a fixed-interest euro-denominated bond of TEUR 500,000 was issued, which led to a cash inflow of TEUR 498,738. This cash inflow particularly exceeds the cash outflows for dividends paid to shareholders and minority shareholders of TEUR 428,695, and the TEUR 30,330 higher cash outflows from the repayment of financial loans compared to the previous year. In total, there was a cash inflow from financing activities of TEUR 41,171 in 2016.

Change between 2017 and 2016

In fiscal year 2017, there was a cash outflow from financing activities in the amount of TEUR 460,067, which represents a TEUR 501,239 higher cash outflow compared to the previous year. In 2016, the cash outflow from financing activities was dominated by the issuance of the fixed-interest euro-denominated bond in the amount of TEUR 500,000. In 2017, the cash outflow from financing activities resulted mainly from dividends paid to shareholders and minority shareholders in the amount of TEUR 433,090 with simultaneous decrease of TEUR 22,900 to TEUR 18,272 in payments for the repayment of financial loans.

Within the cash flows from investment activities, the accounting for the put option described in chapter B.1.9 according to the so-called “anticipated acquisition method” according to IFRS in comparison to the presentation according to HGB leads to a shift from the dividends paid to minority shareholders to the dividends paid to the shareholders of the parent company in the amount of TEUR 21,073.

G.4. Composition of the cash funds

In 2015, after adjustment for exchange rate-related effects (TEUR +21,406), the group’s cash funds increased by TEUR 272,110.

In 2016, the development of the individual cash flows, after adjustment for exchange rate-related effects (TEUR +9,532) in the group, resulted in an increase of TEUR 371,680 in cash funds.

In 2017, the cash funds decreased by TEUR 132,162. This includes adjustments for exchange rate-related effects in the amount of TEUR -72,147.

The cash funds reported in the statement of cash flows include the cash and cash equivalents reported under F.7. as well as short-term marketable securities and bank debt from overdraft facilities with maturities of up to three months, which must be paid upon request at any time.

The cash funds are comprised as follows on the cut-off dates:

Financial funds at end of period

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Cash and cash equivalents	1,600,033	1,720,827	1,360,548
Short-term securities available for sale	51	51	11
Short-term liabilities to banks (less than 3 months)	(21,255)	(9,887)	(21,248)
	1,578,829	**1,710,991**	**1,339,311**

H. Other information

H.1. Risk management

As a result of its global operating activities, the Group is exposed to various financial risks, especially market risks, credit risks, and liquidity risks. The group-wide risk management is focused on the unpredictable nature of developments on the financial markets and aims to minimize the potential negative effects on the group’s financial situation. The objective of the company policy is to limit risks through systematic financial management. To do so, the Group specifically uses financial derivatives to hedge against market risks.

The central Group Finance Department is responsible for risk management in accordance with the guidelines adopted by the management board. It identifies, assesses, and hedges financial risks in close cooperation with the group’s operating units. The management board provides guidelines for risk management as well as fixed principles for certain risk areas.

H.1.1. Currency risks

Currency risks arise from future transactions involving both the purchase of intermediate products and the sale of end products. Receivables and liabilities recognized in the balance sheet as well as highly probable expected cash flows in foreign currencies are examined. Risk positions also arise in a minor role from financing in foreign currencies.

The objective of the group’s hedging transactions is to reduce the risks from exchange rate fluctuations. For this purpose, currency exposure is centralized and the aggregated position is hedged with external banks using forward exchange transactions and options. The terms are based on the terms of the underlying transactions, whereby the planning and hedging horizon generally extends over three years. Currency futures and option transactions are exclusively entered into to hedge existing and future foreign currency receivables and payables from the purchase and sale of goods, as well as to eliminate the currency risk for financing transactions. Hedge accounting is not applied here.

Currency exposure

	12/31/2017 TEUR			12/31/2016 TEUR			12/31/2015 TEUR		
	USD	HUF	CZK	USD	HUF	CZK	USD	HUF	CZK
Operative Exposure	169,386	-120,801	-82,077	129,502	-113,642	-47,146	161,810	-127,449	-43,448
Derivate	-122,000	76,250	37,000	-128,000	63,750	17,600	-133,000	79,000	23,000

An increase or appreciation or depreciation of the exchange rates (USD, HUF, CZK) in relation to the EUR by 10% would have the following impact on earnings:

Effect on earnings

	12/31/2017 TEUR		12/31/2016 TEUR		12/31/2015 TEUR	
	+10%	-10%	+10%	-10%	+10%	-10%
USD	-4,308	7,051	-137	167	-2,619	4,201
HUF	4,050	-4,950	4,536	-5,544	4,404	-5,383
CZK	4,098	-5,009	5,862	-7,164	1,859	-2,272

Both the recognized and planned exposures and hedging transactions are included in the sensitivity analysis.

Exposures to other currencies exist, which however do not have a material effect on earnings.

H.1.2. Interest rate risks

Interest rate risks arise as a result of market-related fluctuations in the interest rates. They affect the level of the group's interest expenses. These arise in the Knorr-Bremse Group from variable-interest financial obligations. Interest rate risks are aggregated at headquarters and hedges are made at individual case level, taking into account the hedging period and nominal volume of the risk position.

To hedge the variable components of obligations under a leasing agreement, the Group has two interest rate swaps with a nominal volume of TEUR 35,522 in its portfolio for which hedge accounting is not applied.

The interest rate risk position, which includes variable-interest credit balances and liabilities, is shown below on the respective reporting date:

Interest rate exposure

	12/31/2017 TEUR	Nominal 12/31/2016 TEUR	12/31/2015 TEUR
Fixed-interest financial debt	674,633	678,846	183,377
Variable-interest financial debt	57,804	49,909	66,570
Lease liabilities	35,977	27,448	21,478
Interest rate derivatives	35,522	35,522	35,522

The following list shows the sensitivity of the group earnings to a change in interest rates (by a rise of 100 basis points and a fall of 25 basis points) based on the impact on variable-rate loans and balances as well as on the present value of interest rate derivatives.

Effect on earnings

	12/31/2017 TEUR		12/31/2016 TEUR		12/31/2015 TEUR	
	+100 Bp	-25 Bp	+100 Bp	-25 Bp	+100 Bp	-25 Bp
Variable-interest financial debt	-578	145	-499	125	-666	166
Interest rate derivatives	1,910	-477	2,224	-556	2,534	-635
Total	**1,332**	**-333**	**1,725**	**-431**	**1,868**	**-468**

H.1.3. Commodity price risks

Commodity price risks arise from the fact that raw materials (especially metals) required in the production process can only be procured at higher costs due to fluctuating market prices, without a full price adjustment in sales transactions. The planned purchases of raw materials or components with raw material contents as well as the corresponding sales contracts are taken into account for the analysis of the commodity price risk. The risk position determined in this way, the so-called exposure, is continuously monitored and hedged on a case-by-case basis using commodity swaps. Hedge accounting is not applied here.

The volume of the underlying transactions is calculated from the highly probable need for commodities over a rolling 2-year planning period. The following table lists the quantities of commodity exposures on the purchasing side and commodity swaps for hedging them. The remaining open position can essentially be passed on the sales side.

Commodity exposure

	12/31/2017 in Mt	12/31/2016 in Mt	12/31/2015 in Mt
Procurement of aluminum	5,167	3,566	6,874
Derivative financial instruments	-	1,195	1,380

The following list shows the sensitivity of group earnings to commodity prices (10% increase/decrease in the market price):

Effect on earnings

	12/31/2017 TEUR		12/31/2016 TEUR		12/31/2015 TEUR	
	+10%	-10%	+10%	-10%	+10%	-10%
Aluminum	-1,167	1,167	-551	551	-1,103	1,103
Derivative financial instruments	-	-	185	-213	221	-221
	-1,167	**1,167**	**-366**	**338**	**-882**	**882**

H.1.4. Credit risks

On the investment side, credit risks arise from investments with banks and operating trade receivables from customers. On the credit institutions' side, the risk relates to counterparty default. On the customer side, late payment of receivables without compensation and non-payment.

The book value of the financial assets reported in the consolidated financial statements represents the maximum default risk. Regular monitoring is carried out both on the bank side and on the customer side. Decisions on financial transactions are made on the basis of this monitoring. Contracts on financial derivatives and financial transactions are only concluded with financial institutions with high credit ratings in order to keep the counterparty default risk as low as possible.

In principle, commercial transactions are exposed to the risk of a possible loss of value due to the defaulting of business partners, such as banks, suppliers, and customers.

Screening process for banks

The monitoring of core banks, including their rating and CDS development, as well as the diversification of the group's business activities and investments, takes place on a quarterly basis. Compliance with the regulations in the guideline on the management of banking relationships is also reviewed at the same time. This specifies that no more than 40% of total deposits may be held by an individual bank and that business relationships may essentially only be maintained with banks with an investment grade rating. Financial investments are fine-tuned and adjusted as required on this basis. As a result, the assumption of low credit risk is supported by the investment guidelines only for investment-grade rated banks through regular controls.

Impairment of deposits

All of the Company's deposits are held in the business accounts of a small number of selected banks, most of which belong to the group of core and principal commercial banks used by the group. A public issuer rating is provided by established rating agencies for all core and principal commercial banks. For the Impairment of these cash holdings, the probability of default is calculated according to the rating scale. The rating indicators and probabilities of occurrence are updated annually.

Ratings

	12/31/2017 TEUR	12/31/2016 TEUR	12/312015 TEUR
AAA to A-	1,030,081	742,154	721,206
A- to BBB-	233,602	747,872	421,328
Below BBB- but in the investment grade range	336,350	230,801	218,014
	1,600,033	**1,720,827**	**1,360,548**

Screening process for customers and suppliers

When establishing new business relationships, public sources, such as credit agencies, are used to obtain an economic business evaluation and credit opinion in advance. During the business relationship, a regular monitoring process occurs via the automated, system-based analyses of supplier portfolios. This takes account of the probabilities of occurrence and sales volumes. While suppliers are monitored as a group, major customers are reviewed on an individual basis.

Impairment of receivables

The credit rating structure of the Company's receivables portfolio is illustrated below.

Credit rating structure of the receivables profile

	12/31/2017 TEUR	12/31/2016 TEUR	12/31/2015 TEUR
Top costumers AAA to A-	272,999	198,891	185,149
Top costumers A- to BBB-	161,397	117,014	126,748
Top costumers Below BBB-	107,471	149,525	139,970
Other receivables without a rating classification on an individual basis	606,012	506,017	495,437
	1,147,879	**971,447**	**947,304**

As at the reporting date, there were no material agreements that limit the maximum default risk. No significant collateral was received in the period under review.

According to the sales analysis of the customer structure, the 30 largest customers (top customers) per division (Rail and Commercial Vehicles) together account for the majority of total sales. The assessment and calculation of the probabilities of default for the receivables of these customers take place on a detailed individual basis via the public issuer rating, if this was provided by the rating agencies or credit agencies.

There was no significant concentration of default risk with respect to individual business partners.

The data on the rating and probability of default, as well as the identification of the 30 largest customers per division is updated annually.

The calculated default probabilities reflect the creditworthiness of the respective company. The due dates of receivables play a subordinate role in the impairment, as the underlying average term of receivables in the Company is essentially short-term.

For large customers, the assessment of the country risks flowed into the rating via their own group-wide country structure or via the assessment by credit agencies. This Group is responsible for the majority of the total receivables. For the group of small customers without a rating, the probability of default is assessed based on the calculated benchmark spreads for all customers.

No fully written-off assets, which are still enforceable, exist.

There was no material concentration of a default risk with regard to a business partner or a clearly distinguishable group of business partners. As at the reporting date, there were no material agreements that limit the maximum default risk.

H.1.5. Liquidity risks

Liquidity risks exist in that funds required to satisfy payment obligations cannot be procured on time.

Within the Knorr-Bremse group, liquidity risks arise from payment obligations arising from operating transactions or financing obligations. The management of liquidity within the Group is intended to ensure that sufficient cash and cash equivalents are always available to meet payment obligations at maturity under both normal and tense conditions without incurring unacceptable losses or damaging the reputation of the group. Liquidity requirements from business activities over the next three months are determined on a rolling weekly basis and differentiated by currency in short-term liquidity planning. This planning takes into account the more precise expected cash flows.

As part of the medium-term planning, which takes place twice a year and has a planning horizon of three years, the liquidity requirement is determined on the basis of the forecast cash flows. This process allows appropriate actions to be taken at an early stage in case of changes to the financing requirement.

The Group has sufficient cash and cash equivalents available to meet its payment obligations. In addition there are not yet drawn down credit, current and guarantee facilities (thereof EUR 150 million midterm facilities spread over the core banks). On September 21, 2017, the Luxembourg Stock Exchange approved the increase of the Company's existing Debt Issuance Program to a total of EUR 1,500 million with a program term until September 30, 2018. This is a documentation platform for issuing bonds and other debt instruments. In December 2016, the Company had already issued a fixed-interest euro-denominated bond in the amount of EUR 500 million which matures in 2021 and will be fully repaid, on this basis.

The remaining free volume from the Debt Issuance Program, further loans and, if required, the use of the capital market represent additional financing instruments that ensure a long-term supply of liquidity at all times. There are certain concentrations of risk for the repayment of the final repayment of the European Investment Bank promotional loan (EUR 100 million) in 2020 and the final repayment of the bond (EUR 500 million) in 2021. These repayment obligations are taken into account as part of regular liquidity planning in order to initiate appropriate measures in good time. From today's perspective, no further major cash outflows are known or expected.

The following shows the remaining contractual maturities of the financial liabilities as at December 31, 2017, including the estimated interest payments. This relates to undiscounted gross amounts, including estimated interest payments.

Maturities

	Book value TEUR	Contractually agreed cash flows TEUR	Up to 1 year TEUR	1 to 5 year TEUR	Over 5 years TEUR
2017 fiscal year					
Derivative financial instruments	(7,308)	(7,308)	(994)	(82)	(6,233)
Bank loans	(230,567)	(240,722)	(46,142)	(175,582)	(18,998)
Liabilities resulting from options for minority interests	(379,616)	(379,616)	(379,616)	-	-
Bonds and debt instruments	(497,390)	(510,000)	(2,500)	(507,500)	-
Lease liabilities	(35,977)	(45,640)	(6,680)	(19,360)	(19,601)
Other financial liabilities	(158,843)	(158,843)	(150,611)	(8,232)	-
Trade account payables	(894,119)	(894,119)	(894,119)	-	-
Total	**(2,203,820)**	**(2,236,248)**	**(1,480,662)**	**(710,755)**	**(44,831)**
2016 fiscal year					
Derivative financial instruments	(23,660)	(23,660)	(14,805)	(1,143)	(7,712)
Bank loans	(227,303)	(241,469)	(18,704)	(179,532)	(43,234)
Liabilities resulting from options for minority interests	(367,143)	(367,143)	(367,143)	-	-
Bonds and debt instruments	(496,701)	(512,500)	(2,500)	(510,000)	-
Lease liabilities	(27,448)	(33,896)	(5,652)	(15,224)	(13,021)
Other financial liabilities	(145,301)	(146,796)	(145,588)	(1,208)	-
Trade account payables	(754,458)	(754,458)	(754,458)	-	-
Total	**(2,042,015)**	**(2,079,923)**	**(1,308,851)**	**(707,106)**	**(63,967)**
2015 fiscal year					
Derivative financial instruments	(22,291)	(22,291)	(12,638)	(1,963)	(7,690)
Bank loans	(245,149)	(264,953)	(33,732)	(187,056)	(44,164)
Liabilities resulting from options for minority interests	(327,019)	(327,019)	(327,019)	-	-
Bonds and debt instruments	-	-	-	-	-
Lease liabilities	(21,478)	(26,678)	(4,367)	(12,286)	(10,025)
Other financial liabilities	(136,721)	(138,084)	(129,413)	(8,670)	-
Trade account payables	(727,042)	(727,042)	(727,042)	-	-
Total	**(1,479,700)**	**(1,506,067)**	**(1,234,212)**	**(209,975)**	**(61,880)**

H.2. Events after the reporting date

Changes in the management board of Knorr-Bremse AG

The Company's management board member responsible for the Finance, Controlling and IT departments will change with effect from January 1, 2018. The Company's Supervisory Board appointed Ralph Heuwing as the successor to Dr. Lorenz Zwingmann. Ralph Heuwing had joined the Company on November 1, 2017 and the handover of the departments was supervised by Dr. Zwingmann.

Investigations U.S. Department of Justice

On April 3, 2018, the U.S. Department of Justice, Antitrust Division (hereinafter: DOJ) announced that it reached a settlement with Knorr-Bremse AG and Westinghouse Air Brake Technologies Corporation (Wabtec) on allegations of unlawful agreements not to compete for each other´s employees.

The settlement provides for the following framework points:

- no criminal liability for all facts disclosed by Knorr-Bremse AG,
- no fine for disclosed matters,
- requirements for the implementation of controls and other compliance requirements for a period of seven years; and
- annual declaration by Knorr-Bremse AG that there were no violations in this context.

Following the settlement reached with the DOJ in April 2018, several law firms filed class action lawsuits on behalf of employees against Knorr-Bremse AG, Wabtec and some of their subsidiaries. The aim of the class action lawsuits is to obtain damages to compensate employees for reduced payment on the basis of the alleged unlawful agreements not to compete for each other´s employees between the above mentioned parties.

Due to the very early stage of the class action and the unforeseeable number of potential claimants, it is not possible to determine a reliable amount for a provision for potential claims. For this reason, no provisions were formed as of December 31, 2017.

In addition, in fiscal year 2016, the DOJ initiated a non-public civil law investigation against Knorr Brake Company, Westminster, Maryland/USA and New York Air Brake LLC, Watertown, New York/ USA and one competitor, which has not yet been completed.

Acquisition of minority interest in Knorr Brake Holding Corporation

With effect from April 20, 2018, all non-voting preference shares held by Ursus Vermögensverwaltungs GmbH, Grünwald, Germany in Knorr Brake Holding Corporation, Delaware, USA, were repurchased by Knorr Brake Holding Corporation for a purchase price of TUSD 159,600. At the same time, these preference shares were canceled by Knorr Brake Holding. The rights associated with the preference shares no longer exist as of this date.

Change in the Supervisory Board of Knorr-Bremse AG

With effect from May 29, 2018, Kathrin Dahnke, residing in Bielefeld, member of Wilh. Werhahn KG, was unanimously elected to the Supervisory Board. The election was for a term of office until the end of the Annual Shareholders' Meeting that resolves on the ratification of the actions of the Supervisory Board for fiscal year 2020, i.e. until the end of the Annual Shareholders' Meeting in 2021.

Change in equity, creation of Authorized Capital 2018, issue of convertible bonds and/or bonds with warrants, profit participation rights and/or income bonds in connection with Conditional Capital 2018

At the Extraordinary Shareholders' Meeting on May 29, 2018, the following changes to equity were resolved, which were entered in the Commercial Register on June 21, 2018:

The capital stock of Knorr-Bremse AG has been newly divided. Accordingly, one share with a par value of EUR 26.00 each will be replaced by 26 shares with a par value of EUR 1 each. The voting rights were adjusted accordingly.

In this context, the previous capital stock was increased by issuing 93,600,000 new no-par value bearer shares through a capital increase from company funds in accordance with § 207 ff. of the German Stock Corporation Act. AktG of TEUR 93,600 from TEUR 67,600 to TEUR 161,200 by converting the other revenue reserves shown under revenue reserves. The new shares carry dividend rights as of January 1, 2018.

In addition, the Extraordinary Shareholders' Meeting on May 29, 2018 resolved the following changes to equity, which were entered in the Commercial Register on July 10, 2018:

Authorized capital 2018 was created. The management board is authorized, with the approval of the Supervisory Board, to increase the capital stock of the Company on one or more occasions in the period up to May 28, 2023 by up to TEUR 40,300 by issuing up to 40,300,000 new bearer shares against cash and/or non-cash contributions (Authorized Capital 2018). These are to be offered directly or indirectly to the shareholders for subscription. The management board is, however, entitled, under certain circumstances, to completely or partially exclude the subscription right with the consent of the Supervisory Board.

Furthermore, subject to the approval of the Supervisory Board, the management board was authorized until May 28, 2023 to issue convertible bonds and/or bonds with warrants, profit participation rights and/or income bonds (or combinations of these instruments) to exclude the subscription right to create conditional capital (Conditional Capital 2018). To this end, the capital stock of Knorr-Bremse AG is

conditionally increased by up to TEUR 16,120 by issuing up to 16,120,000 new bearer shares (Conditional Capital 2018). The conditional capital increase is only to be implemented to the extent that conversion or option rights are exercised.

Corporate bond

On June 14, 2018, a corporate bond with a volume of EUR 750 million and a fixed interest coupon of 1.125% p.a. with a term of seven years was issued. The new bond is rated 'A2' by Moody's. With a denomination of TEUR 1, the security is designed for both private and institutional investors. The new corporate bond was listed on the EURO MTF Luxembourg Stock Exchange.

Bosch option

In a letter dated June 21, 2018, Robert Bosch GmbH declared the exercise of a put option regarding its minority shareholding in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH. Negotiations are currently underway between Knorr-Bremse and Robert Bosch GmbH on the terms and conditions for exercising options.

Acquisition of Rail Friction Know-How from Federal Mogul

As of June 29, 2018, Knorr-Bremse signed a purchase agreement with Federal Mogul for the acquisition of intangible rights in the form of know-how for the development and production of products in the area of rail vehicles and industry friction for a purchase price of EUR 63 million in total. On August 2, 2018, the consent of the antitrust authorities was given and thereby the agreement for the real transfer of the rights.

Publication of the new HEUBECK-RICHTTAFELN 2018 G

On July 20, 2018, HEUBECK AG published new HEUBECK Mortality Tables 2018 G. These tables are based on the newest statistics of the statutory pension insurance and the Federal Statistics Office and thereby reflect the most recent developments regarding mortality, disability, marriage and fluctuation probabilities. Since the average life expectancy has further increased, however more slowly than in the past, a moderate increase in the overall pension provision is expected according to HEUBECK.

The Group has so far not applied the new HEUBECK Mortality Tables 2018 G. The resulting change in the pension obligation in the event of the first-time application of the new mortality tables will to be recognized in OCI.

Sale Sydac

The simulation business in the Rail Vehicles segment (Sydac; see chapter F.8.1.), which was classified as a disposal group as of December 31, 2017, was sold when the purchase agreement was signed on July 31, 2018. An additional loss of approximately EUR 5.5 million is expected from the sale. Of the total expected loss of EUR 10.8 million, EUR 5.3 million was already recognized through the income statement as of the December 31, 2017 balance sheet date as an impairment loss. On the other hand, the Group anticipates for 2019 a tax relief In the amount of approximately EUR 0.4 million from the total losses.

Sale Blueprint

With the signing of two sales contracts as of January 12, 2018 and August 3, 2018, the Vehicle Maintenance business classified as a disposal group as of December 31, 2017 in the Rail Vehicle segment (Blueprint; see chapter F.8.1) was sold. An additional loss of EUR 13.6 million is expected from the sale. Of the expected total loss of EUR 33.6 million, EUR 20.0 million, as of December 31, 2017, was already realized as an impairment loss through the income statement.

Otherwise, there were no additional events of particular significance subsequent to the end of the fiscal year.

H.3. Number of employees

Average number of employees

	2017	2016	2015	2014
Wage earners	13,920	12,522	12,846	12,007
thereof leased personnel	*2,469*	*2,275*	*2,679*	*2,697*
Salaried employees	12,792	11,952	11,796	10,779
thereof leased personnel	*432*	*420*	*462*	*412*
Trainees	198	190	237	273
	26,910	**24,664**	**24,879**	**23,059**

H.4. Auditor fees

The following fees were reported as expenses for the group auditor services provided in the fiscal year:

Auditor fees

	2017	2016	2015
	TEUR	TEUR	TEUR
Audit services	2,083	500	514
Other attestation services	11,353	129	33
	13,436	**629**	**547**

H.5. Relationships with related parties

Related parties within the meaning of IAS 24 are natural persons or companies that can be influenced by Knorr-Bremse AG that can exert an influence on Knorr-Bremse AG or that are under the influence of another related party of Knorr-Bremse AG. Transactions with related parties were conducted at arm's length.

H.5.1. Parent company and ultimate parent entity

The Group is directly controlled by KB Holding GmbH, Grünwald, Germany (hereinafter "KB Holding"), which holds 95% of the shares of the group. The remaining 5% of the shares are held by URSUS Vermögensverwaltungs GmbH, Grünwald, Germany (hereinafter "URSUS").

The shares in KB Holding GmbH are held by TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Germany (herein-after "TIB"), of which Stella Vermögensverwaltungs GmbH, Grünwald, Germany (hereinafter "Stella") in turn holds a majority interest.

The ultimate parent entity of the Group is Heinz Hermann Thiele.

H.5.2. Related parties

All related parties that can be controlled by the Group or over which the Group can exercise significant influence are listed in the Notes under chapter H.12. List of shareholdings.

Balances and transactions between Knorr-Bremse AG and its subsidiaries included in the consolidated financial statements that are related parties have been eliminated in the course of consolidation and are not explained in these notes.

In addition to the companies included in the consolidated financial statements, in the course of its normal business activities the group also has relationships with other non-consolidated companies and associates and joint ventures that are considered to be related parties within the meaning of IAS 24.

H.5.3. Remuneration of key management personnel

Management in key positions consists of the management board and the Supervisory Board. The remuneration of members of management in key positions includes:

Remuneration of key management personnel

	2017	2016	2015
	TEUR	TEUR	TEUR
Compensation of the executive board			
Short-term compensation	6,306	5,976	5,332
Post-employment benefits	1,582	1,615	939
Termination benefits	-	-	825
	7,888	**7,591**	**7,096**
Compensation for the Members of the supervisory board			
Fixed compensation and attendance fees	620	720	236
	620	**720**	**236**
	8,508	8,311	7,331

The remuneration of the members of the management board includes salaries, benefits in kind and contributions in defined benefit and defined contribution plans for post-employment benefits. The post-employment benefits relate to the additions and reversals of pension provisions for active members of the Board of Management in the financial year.

Total remuneration of the Supervisory Board and the management board in accordance with chapter 314 (1) No. 6 in connection with chapter 315e (3) HGB

The total remuneration of the members of the Supervisory Board in 2017 amounted to TEUR 620 (2016: TEUR 720, 2015: TEUR 236) and the total remuneration of the management board 2017 TEUR 6,306 (2016: TEUR 5,976, 2015: TEUR 6,157).

Pension obligations to former members of the management board and their surviving dependents totaled TEUR 51,345 as of December 31, 2017 (2016: TEUR 52,511, 2015: TEUR 41,734). Current pension payments amounted to TEUR 3,376 (2016: TEUR 3,221, 2015: TEUR 3,252).

H.5.4. Sale of goods and services

Sale of goods and services

	2017	2016	2015
	TEUR	TEUR	TEUR
Sale of goods and services			
Parent company (recharge of consulting costs)	3,179	-	-
Companies under joint control or significant influence by the Company (various services)	167	-	-
Associated companies	72,152	55,751	40,378
Ultimate parent entity (various services)	172	182	64
Other related companies and persons	7,415	13,456	15,422
	83,085	**69,389**	**55,864**

The sale of goods and services to related parties comprises legal transactions within and outside the scope of normal delivery and service relationships.

H.5.5 Purchase of goods and services

Purchase of goods and services

	2017	2016	2015
	TEUR	TEUR	TEUR
Purchase of goods and services			
Associated companies	3,792	2,819	9,141
Member of Management in key positions	659	843	413
Ultimate parent entity (consulting services)	1,861	1,772	1,688
Ultimate parent entity (rents)	2,308	2,042	1,982
Other related companies and persons (rents)	825	571	536
Other related companies and persons (goods)	-	1,646	387
	9,445	**9,693**	**14,147**

The purchase of goods and services comprises legal transactions within the framework of and outside normal delivery and service relationships.

Goods and services (including rents) were purchased from related parties at arm's length conditions.

Consulting services obtained from the supreme controlling party related in particular to advising the management board on current matters and supporting and maintaining important customer relationships.

The consulting services were provided to and remunerated by Knorr-Bremse AG and other group companies under the existing consulting agreement with Knorr-Bremse AG, last amended on March 31, 2016.

H.5.6 Miscellaneous business transactions

Miscellaneous business transactions

	2017	2016	2015
	TEUR	TEUR	TEUR
Disposal of land and other assets			
Related companies	29,520	1,578	-
Ultimate parent entity	5,135	318	-
	34,655	**1,896**	**-**
Donations to			
Related companies (Knorr-Bremse Global Care e. V.)	1,503	1,551	1,500
	1,503	**1,551**	**1,500**
Dividends			
Parent company (KB Holding)	345,800	345,800	296,400
Minority shareholders (Ursus)	26,205	27,307	24,386
Ultimate parent entity	1,214	1,214	1,214
	373,219	**374,321**	**322,000**
Further business transactions			
Acquisition of shares in Vossloh Kiepe	73,619	-	-
	73,619	**-**	**-**
	482,996	**377,768**	**323,500**

The purchase price for the Kiepe Electric companies acquired from Vossloh AG was negotiated on the basis of internal valuation scenarios.

H.5.7. Balances and transactions with related parties, persons and management

Open items with related parties, persons and management

	12/31/2017	12/31/2016	12/31/2015
	TEUR	TEUR	TEUR
Receivables from			
Associated companies	30,078	29,224	18,187
Parent company (KB Holding)	3,179	-	-
Minority shareholders (Ursus)	167	-	-
Related companies	20,558	2,456	2,889
Ultimate parent entity	549	961	1,355
	54,531	**32,641**	**22,431**
Liabilities to			
Associated companies	1,218	1,283	896
Related companies	-	239	60
Members of the Management in key positions	1,140	1,139	477
	2,358	**2,661**	**1,433**

Receivables from related parties result from trade receivables and from the sale of land.

The receivables are unsecured and are settled in cash. No guarantees have been given or obtained. No impairment losses were recognized for unrecoverable or doubtful receivables from related parties in the current fiscal year or previous fiscal years.

Liabilities to related parties result from trade payables and Supervisory Board compensation. The liabilities are interest-free.

H.6. Executive bodies

H.6.1. Management board of Knorr-Bremse AG

Klaus Deller

Member of the management board since May 1, 2009, Chairman of the Management Board since January 1, 2015, responsible for the Rail Vehicle Systems division since July 1, 2016.

Dr. Peter Laier

Member of the management board since January 1, 2016, responsible for the Commercial Vehicle Systems division.

Dr. Lorenz Zwingmann

Member of the management board from December 1, 2008 to December 31, 2017, responsible for the Finance, Controlling and IT departments.

Ralph Heuwing

Member of the management board since November 1, 2017, responsible for the Finance, Controlling and IT departments since January 1, 2018.

H.6.2. Supervisory Board of Knorr-Bremse AG

Heinz Hermann Thiele, Munich/Germany

Honorary chairman

Chairman of the Supervisory Board until March 11, 2016

Entrepreneur

Dr. Bernd Bohr, Stuttgart/Germany,

Chairman of the Supervisory Board since March 11, 2016, departed July 4, 2016

Chairman of Kraftfahrzeugtechnik Robert Bosch GmbH (retired)

Hans-Georg Härter, Munich/Germany

Chairman of the Supervisory Board since July 5, 2016,

former Chairman of ZF Friedrichshafen AG (retired)

Dr. Eduard Gerum*, Rosenheim/Germany

1st Deputy Chairman of the Supervisory Board, departed March 11, 2016

Management Consultant, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

Franz-Josef Birkeneder*, Aldersbach/Germany

1st Deputy Chairman of the Supervisory Board since March 11, 2016

Plant Manager Knorr-Bremse, Aldersbach location

Manfred Wennemer, Bensheim/Germany

2nd Deputy Chairman of the Supervisory Board, departed March 11, 2016

Chairman of Continental AG (retired)

Kathrin Dahnke; Bielefeld/Germany

Member of the Supervisory Board since May 29, 2018

Member of the management board of Wilh. Werhahn KG

Michael Jell*, Munich/Germany

Full-time Deputy Chairman of the Works Council of

Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Knorr-Bremse AG

KB Media GmbH

Dr. Wolfram Mörsdorf, Essen/Germany

Retired member of the management board of ThyssenKrupp AG

Werner Ratzisberger*, Aldersbach/Germany

Project Engineer for mechanical processing/surfaces,

Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

Sebastian Roloff*, Munich/Germany

Attorney at law at IG Metall trade union, Munich office

Julia Thiele-Schürhoff, Munich/Germany

Member of the Supervisory Board since March 11, 2016

Chairman of the management board of Knorr-Bremse Global Care e.V.

Erich Starkl*, Passau/Germany

2nd Authorized Representative of IG Metall trade union, Passau office

Wolfgang Tölsner, Uetersen/Germany

Management Consultant

Georg Weiberg, Stuttgart/Germany

Retired Head of Development Daimler Trucks

Günter Wiese*, Berlin/Germany

Full-time Works Council member of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Berlin plant

* Employee representative

H.7. Other financial commitments

Other financial commitments

	Up to 1 year	1 to 6 years	Over 6 years
	TEUR	TEUR	TEUR
12/31/2017			
Rent and lease obligations	36,896	81,207	64,328
Investment projects	11,890	825	-
Other obligations	16,773	859	-
	65,559	**82,891**	**64,328**
12/31/2016			
Rent and lease obligations	38,966	90,545	62,675
Other obligations	732	3,126	3,978
	39,699	**93,671**	**66,653**
12/31/2015			
Rent and lease obligations	37,756	89,109	61,814
Other obligations	696	3,290	4,222
	38,452	**92,399**	**66,036**

The Company's other financial obligations are primarily comprised of lease agreements. The Company predominantly holds leasing contracts for commercial and production buildings. In addition, lease agreements exist for company cars and fork lifts. No special termination or extension options exist in the lease agreements. Further information on operating leases and finance leases is provided in chapter H.10.

Operating leases enable alternative financing to borrowed capital from banks, whereby the lease agreements are not reflected in the balance sheet, as they are assigned to the lessor. The leasing instalments are taken into account in the statement of income as operating expenses.

The decline in leasing agreements in 2017, especially for terms of 1-6 years, is due to the fact that newly concluded leases are more than compensated by expiring and non-extended agreements.

The other liabilities item includes loan commitments and bank guarantees.

H.8. Contingent liabilities

Contingent liabilities

	2017	Probability of occurrence	2016	Probability of occurrence	2015	Probability of occurrence
	TEUR	%	TEUR	%	TEUR	%
Guarantees	23,226	14%	23,592	15%	36,603	14%
Warranties	1,451	10%	2,743	11%	2,975	10%
Other	2,352	15%	1,058	10%	695	10%
	27,028		**27,393**		**40,274**	

Contingent liabilities or commitments lead to possible obligations, which cannot be influenced due to the occurrence of potential future events. The amount of these obligations can also not be adequately calculated.

The Company's contingent liabilities primarily involve guarantees and warranties. Guarantees are issued for outstanding bank bonds, performance warranties for banks, as well as a rent guarantee for commercial/factory buildings. In particular, the amount of the rent guarantee is significant (2015: TEUR 3,900; 2016: TEUR 3,200; 2017: TEUR 2,600), which each was assessed with a probability of occurrence for utilization at 50% in these years.

Guarantees exist mainly in Hungary with regard to customer contracts for products. In this case, the guarantee exceeds the statutory warranty obligations.

H.9. Government grants

Government grants include grants for structural support and business development as well as funding for research and development projects.

Grants for assets in the 2017 fiscal year amounted to TEUR 1,697 (2016: TEUR 1,788; 2015: TEUR 1,809).

Performance-related grants in 2017 amounted to TEUR 3,568 (2016: TEUR 2,782; 2015: TEUR 3,468), and were recognized in income. Performance-related grants are fundamentally reported in other operating income. In fiscal years 2016 and 2015, TEUR 1,016 of the grants recognized in income were recorded as a wage cost subsidy to reduce expenses.

H.10. Leases

The Company is a lessee in finance lease agreements as well as in operating lease agreements.

H.10.1. Finance leases

The net book value of assets as a result of finance leases as at December 31, 2017 is provided below. The Company essentially concluded finance leases for land and commercial/production buildings with a term of 10 to 20 years. A signi-ficant portion of these land and buildings is owned by Knorr-Bremse GmbH/Austria, Knorr-Bremse Systemes Ferroviaires France S.A./France, Knorr-Bremse Commercial Vehicle Japan Ltd, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH/Germany and Knorr-Bremse Rail Systems Ltd/United Kingdom.

A rise in the net book value of the land and buildings of 28%, to TEUR 17,470, was reported in the 2016 fiscal year. This rise is due to the conclusion of a new finance lease agreement for a commercial building by Knorr-Bremse Systemes Ferroviaires France S.A./France. The net book value of land and buildings increased by 54% to TEUR 9,401 in 2017, due in part to finance leases integrated into the Group as part of the asset deal of Knorr-Bremse Commercial Vehicle Systems Japan Ltd. Secondly, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH has entered into new finance leases.

As at December 31 2017, the total net book value of the assets from finance leases amounted to TEUR 32,063 (2016: TEUR 24,461; 2015: TEUR 17,510).

Finance leases

	12/31/2017
	TEUR
Land and buildings	26,871
Technical equipment and machinery	1,273
Other assets	3,919
Assets	**32,063**

	12/31/2016
	TEUR
Land and buildings	17,470
Technical equipment and machinery	2,706
Other assets	4,284
Assets	**24,461**

	12/31/2015
	TEUR
Land and buildings	13,649
Technical equipment and machinery	102
Other assets	3,758
Assets	**17,510**

	2017
	TEUR
Depreciation and amortization/impairment test	4,159
Interest expenses	1,507
Expenses	**5,665**
Contingent rents reported as expense	43

	2016
	TEUR
Depreciation and amortization/impairment test	4,087
Interest expenses	1,522
Expenses	**5,609**
Contingent rents reported as expense	6

	2015
	TEUR
Depreciation and amortization/impairment test	3,320
Interest expenses	1,408
Expenses	**4,727**
Contingent rents reported as expense	10

The following table shows the reconciliation of the total future minimum lease payments to their present value on the reporting date.

The total future minimum lease payments primarily result from the obligations from finance leases for land and commercial/production buildings of Knorr-Bremse GmbH/Austria, Knorr-Bremse Systemes Ferroviaires France S.A./France, Knorr-Bremse Commercial Vehicle Systems Japan Ltd., Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and Knorr-Bremse Rail Systems/United Kingdom. As at December 31, 2017, the minimum lease payments for land and buildings amount to TEUR 26,871. No atypical termination or extension options exist.

The Group did not conclude any new sale and lease-back transaction in years 2015 to 2017. An existing sale and lease-back relationship, in place since 2009, is classified as a finance lease and is shown in the table.

Finance leases - reconciliation of the sum of future minimum lease payments to the present value

	Up to 1 year	1 to 5 years	Over 5 years	Total
	TEUR	TEUR	TEUR	TEUR
December 31, 2017				
Minimum lease payments as at the reporting date	6,577	19,136	19,601	45,314
./. Included interest	1,245	4,187	3,905	9,338
Present value of the minimum lease payment	5,332	14,949	15,696	35,976
Future minimum lease payments, whose receipt is expected based on non-terminable subleases	**-**	**-**	**-**	**-**
December 31, 2016				
Minimum lease payments as at the reporting date	5,617	15,203	13,021	33,841
./. Included interest	1,175	3,556	1,663	6,394
Present value of the minimum lease payment	4,443	11,647	11,358	27,448
Future minimum lease payments, whose receipt is expected based on non-terminable subleases	**-**	**284**	**-**	**284**
December 31, 2015				
Minimum lease payments as at the reporting date	4,367	12,286	10,025	26,678
./. Included interest	1,024	3,146	1,030	5,200
Present value of the minimum lease payment	3,343	9,139	8,996	21,478
Future minimum lease payments, whose receipt is expected based on non-terminable subleases	**-**	**202**	**-**	**202**
January 1, 2015				
Minimum lease payments as at the reporting date	4,129	12,425	12,131	28,685
./. Included interest	1,172	3,395	1,667	6,234
Present value of the minimum lease payment	2,956	9,031	10,464	22,451
Future minimum lease payments, whose receipt is expected based on non-terminable subleases	**-**	**332**	**-**	**332**

H.10.2. Operating lease relationships

As at December 31, 2017, the following future minimum lease payments were outstanding within the scope of non-terminable leases.

Operating Lease

	Up to 1 year	Between 1 and 5 years	Over 5 years	Total
	TEUR	TEUR	TEUR	TEUR
December 31, 2017				
Outstanding minimum lease payments	36,896	81,207	64,328	182,430
Outstanding minimum lease payments from subletting (non-terminable)	389	360	-	749
December 31, 2016				
Outstanding minimum lease payments	38,912	90,599	62,675	192,186
Outstanding minimum lease payments from subletting (non-terminable)	136	185	-	321
December 31, 2015				
Outstanding minimum lease payments	37,715	89,150	61,814	188,679
Outstanding minimum lease payments from subletting (non-terminable)	106	222	-	328

Income and expenses

	2017		2016		2015	
	Income	Expenses	Income	Expenses	Income	Expenses
	TEUR	TEUR	TEUR	TEUR	TEUR	TEUR
Minimum lease payments	38	41,142	122	41,287	134	38,989
Contingent rent payments	-	2,390	-	9	-	7
	38	**43,531**	**122**	**41,295**	**134**	**38,997**

The Group leases a range of production buildings and plants within the scope of long-term operating leases. Another material part of the minimum lease payments arises from operating leases for forklift trucks and company cars, which generally have a term of 3 to 5 years. The decline in outstanding minimum lease payments in 2017, particularly for terms between 1-5 years, is due to the fact that the effect of newly concluded leases is more than offset by expiring, non-extended agreements. No atypical termination or extension options exist.

H.11. Share-based payments

Shares in two “Black Empowerment Entities” were issued in South Africa in 2009. This relates to share-based payments within the meaning of IFRS 2, which must be classified as transactions with equity settlement.

Knorr-Bremse (South Africa) (Pty) Ltd has fully financed the issuance of its treasury stock. The financing should be paid by collecting dividends on these shares. The rights transferred to the “Black Empowerment Entities” were measured at fair value. In the event that this exceeds the fair value of the payments received and the other assets, the difference is reported as an expense.

As no financial contributions were to be made by the shareholders of the “Black Empowerment Entities”, the costs and the issued equity instrument were equal.

The fair value was calculated as follows:

- The Black-Scholes model was used to calculate the costs with regard to the option pricing model in accordance with IFRS 2.
- The option has a term of twelve years.
- The cash value represents 25% of the discounted cash flow of the company’s equity valuation as at January 1, 2009.
- The exercise price on the expiry date.
- The risk-free interest rate was assumed to be 8.9%.
- A volatility of 30% was assumed based on an analysis of the sector in which the company operates.
- A dividend yield of 5.5% was assumed based on prudent dividend forecasts and corporate growth of 10% per annum.

On this basis, the equity effect of the share-based payment as of January 1, 2014 amounted to TEUR 1,707.

In 2017, changes in the shareholder structure were made according to which the shares of a “Black Empowerment Entity” were repurchased for a price of TEUR 550.

H.12 List of shareholdings

The following table shows the list of shareholdings in accordance with chapter 313 (2) HGB:

1. Consolidated affiliated companies	Share of capital (%)	Currency and unit	Equity	Income	Total assets
Albatros GmbH, Munich/Germany	100.0	TEUR	21	-3	21
Aldona Seals Ltd., Peterlee/United Kingdom	100.0	TGBP	993	260	1,179
Alpha Process Controls (International) Ltd., Peterlee/United Kingdom	100.0	TGBP	539	-168	680
Anchor Brake Shoe Company LLC, West Chicago, Illinois/USA	100.0	TUSD	28,985	2,018	37,634
APS electronic AG, Niederbuchsiten/Switzerland	100.0	TCHF	2,357	-15	4,985
BCVS Canadian Holdings LLC, Anjou, Québec/Canada	100.0		0	0	0
BCVS Mexican Holdings LLC, Cd Acuna, Coah/Mexico	100.0		0	0	0
Bendix Commercial Vehicle Systems LLC, Elyria, Ohio/USA	100.0	TUSD	797,367	104,659	911,991
Bendix CVS Canada Inc., Anjou, Québec/Canada	100.0		0	0	0
Bendix CVS de Mexico SA de CV, Cd Acuna, Coah/Mexico	100.0		0	0	0
Bendix Spicer Foundation Brake Canada, Inc., Kingston, Ontario/Canada	100.0		0	0	0
Bendix Spicer Foundation LLC, Elyria, Ohio/USA	80.0	TUSD	86,382	33,311	149,301
Black River Logistics Company LLC, Watertown, New York/USA	100.0	TUSD	19,025	-3,282	22,634
BSFB Holdings, Inc., Elyria, Ohio/USA	100.0				
Casram Rail S.p.A., Crimido/Italy	100.0	TEUR	621	-429	3,388
Comet Fans S.r.l., Solaro, Mailand/Italy	100.0	TEUR	4,149	272	7,850
Distribuidora Bendix CVS (de) Mexico SA de CV, Cd Acuña, Coah/Mexico	100.0				
Dr. techn. Josef Zelisko Ges.m.b.H., Mödling/Austria	100.0	TEUR	5,163	0	36,651
G.T. Group Ltd., Peterlee/United Kingdom	100.0	TGBP	4,201	-225	5,239
GT Emission Systems Ltd., Peterlee/United Kingdom	100.0	TGBP	18,374	4,323	27,435
GT Project Engineering Ltd., Consett/United Kingdom	100.0	TGBP	163	-352	956
Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong/China [1)]	49.0	TCNY	45,730	10,134	271,576
Hasse & Wrede CVS Dalian, China Ltd., Dalian/China	70.0	TCNY	99,067	45,685	213,068
Hasse & Wrede GmbH, Berlin/Germany	100.0	TEUR	8,656	0	24,886
Heine Resistors GmbH, Dresden/Germany	100.0	TEUR	4,644	152	5,559
Icer Rail S.L., Pamplona/Spain	100.0	TEUR	13,163	5,234	29,031
IFE North America LLC, Westminster, Maryland/USA	100.0	TUSD	4,700	669	7,456
IFE-CR a.s., Brünn/Czech Republic	100.0	TCZT	529,100	68,084	1,305,018
IFE-Tebel Technologies B.V., Leeuward/Netherlands	100.0	TEUR	18,573	-954	22,320
IFE-VICTALL Railway Vehicle Door Systems (Qingdao) Co., Ltd., Qingdao/China	59.0	TCNY	145,098	17,255	526,733
IGE-CZ s.r.o. , Brno/Czech Republic	100.0	TCZT	37,359	5,970	38,529
Kalmar Tågkompetens AB, Kalmar/Sweden	100.0	TSET	3,632	646	8,106
KB Gamma Beteiligungs GmbH, Munich/Germany	100.0	TEUR	21	-2	21
KB Lambda Beteiligungs GmbH, Munich/Germany	100.0	TEUR	26	1	26
KB Media GmbH Marketing und Werbung, Munich/Germany	100.0	TEUR	0	0	3,857
KB Omikron Beteiligungs GmbH, Munich/Germany	100.0	TEUR	24	-2	24
KB Sigma Beteiligungs GmbH, Munich/Germany	100.0	TEUR	26	1	26
Kiepe Electric Ges. m. b. H., Vienna/Austria	100.0	TEUR	10,932	-1,308	22,188
Kiepe Electric GmbH, Düsseldorf/Germany	100.0	TEUR	28,432	0	84,969
Kiepe Electric Inc., Alpharetta/USA	100.0	TUSD	4,731	294	11,320
Kiepe Electric Ltd., Birmingham/United Kingdom	100.0	TGBP	-4,115	-3,205	895
Kiepe Electric UK Limited, Birmingham/United Kingdom	100.0	TGBP	-8,803	173	11,250
Knorr Brake Company LLC., Westminster, Maryland/USA	100.0	TUSD	45,725	16,119	91,464
Knorr Brake Corporation Canada Holdings Ltd., Montreal, Québec/Canada	100.0	TCAD	3,767	5,024	13,978
Knorr Brake Holding Corporation, Watertown, New York/USA	89.3	TUSD	519,113	172,258	988,888
Knorr Brake Ltd., Kingston, Ontario/Canada	100.0	TUSD	11,702	1,331	12,446
Knorr Brake Realty, LLC, Westminster, Maryland/USA	100.0	TUSD	3,600	225	17,350
Knorr Brake Truck Systems Company, Watertown, New York/USA	100.0	TUSD	584,127	59,313	784,673
Knorr-Amabhiliki (Pty.) Ltd., Kempton Park/South Africa	100.0	TZAR	163	0	163

1. Consolidated affiliated companies	Share of capital (%)	Currency and unit	Equity	Income	Total assets
Knorr-Bremse / Nankou Air Supply Unit (Beijing) Co., Ltd., Nankou/China	55.0	TCNY	70,357	34,313	187,879
Knorr-Bremse 1520 OOO, Burashevskoe/Russland	100.0	TRUB	72,102	-712,037	2,462,674
Knorr-Bremse Asia Pacific (Holding) Limited, Hongkong/China	100.0	THTD	647,638	1,766,154	6,004,307
Knorr-Bremse Australia Pty. Ltd., Granville/Australia	100.0	TAUD	20,162	5,303	77,828
Knorr-Bremse Benelux B.V.B.A., Heist-op-den-Berg/Belgium	100.0	TEUR	1,312	90	6,219
Knorr-Bremse Beteiligungsgesellschaft mbH, Munich/Germany	100.0	TEUR	26	0	31
Knorr-Bremse Braking Systems for Commercial Vehicles (Dalian) Co. Ltd., Dalian/China	100.0	TCNY	252,254	122,013	659,495
Knorr-Bremse Brasil (Holding) Administração e Participação Ltda., Itupeva/Brazil	100.0	TBRL	188,306	16,453	230,785
Knorr-Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co. Ltd., Daxing/China	50.0	TCNY	361,647	311,525	1,190,376
Knorr-Bremse Commercial Vehicle Systems (Shanghai) Co., Ltd., Shanghai/China	100.0	THTD	68,547	17,109	235,820
Knorr-Bremse Commercial Vehicle Systems Japan Ltd., Tokio/Japan	80.0	TYEN	4,458,203	1,023,482	16,799,239
Knorr-Bremse DETC Commercial Vehicle Braking Technology Co., Ltd., Shiyan/China	51.0	TCNY	117,356	36,449	373,692
Knorr-Bremse España, S.A.,Getafe/Spain	100.0	TEUR	0	0	0
Knorr-Bremse Fékrendszerek Kft., Kecskemét/Hungary	100.0	THUF	15,464,355	3,158,513	27,760,907
Knorr-Bremse Ges.m.b.H., Mödling/Austria	100.0	TEUR	52,141	44,937	159,062
Knorr-Bremse Ibérica S.L., San Fernando de Henares/Spain	100.0	TEUR	5,549	884	11,476
Knorr-Bremse India Pvt. Ltd., Faridabad/India	100.0	TINR	5,816,961	2,063,063	9,321,483
Knorr-Bremse Investment GmbH, Munich/Germany	100.0	TEUR	1,001	0	1,002
Knorr-Bremse KAMA Systems for Commercial Vehicles OOO, Naberezhnye Chelny/Russia	50.0	TRUB	916,801	255,319	1,251,372
Knorr-Bremse Nordic Rail Services AB, Lund/Sweden	100.0	TSET	51,552	-27,283	220,430
Knorr-Bremse Pensionsgesellschaft mbH, Munich/Germany	100.0	TEUR	24	0	24
Knorr-Bremse Polska SfN Sp. z o.o., Warschau/Polend	100.0	TPLN	4,391	1,487	4,575
Knorr-Bremse Powertech Corporation USA, Atlanta/USA	100.0	TEUR	2,921	1,041	14,570
Knorr-Bremse Powertech GmbH & Co. KG, Holzkirchen/Germany	100.0	TEUR	-12,024	-4,825	15,560
Knorr-Bremse Powertech GmbH, Berlin/Germany	100.0	TEUR	-15,515	-11,352	57,216
Knorr-Bremse Powertech Verwaltungs GmbH, Berlin/Germany	100.0	TEUR	70	4	71
Knorr-Bremse Rail Systems (UK) Ltd., Melksham, Wiltshire/United Kingdom	100.0	TGBP	20,036	13,671	80,415
Knorr-Bremse Rail Systems CIS Holding OOO, Moskau/Russia	100.0	TRUB	782,248	119,592	792,549
Knorr-Bremse Rail Systems Italia S.r.l., Campi Bisenzio/Italy	100.0	TEUR	29,762	9,017	74,215
Knorr-Bremse Rail Systems Japan Ltd., Tokio/Japan	94.0	TYEN	2,160,024	456,174	4,042,234
Knorr-Bremse Rail Systems Korea Ltd., Seoul/South Korea	100.0	Mio WON	5,618,459	786,642	10,428,635
Knorr-Bremse Rail Systems OOO, Moskau/Russiaa	100.0	TRUB	607,007	315,734	1,141,669
Knorr-Bremse Rail Systems Schweiz AG, Niederhasli/Switzerland	100.0	TCHF	8,379	3,084	17,194
Knorr-Bremse RailServices (UK) Ltd., Melksham, Wiltshire/United Kingdom	100.0	TGBP	-31,452	-3,094	32,276
Knorr-Bremse Railway Technologies (Shanghai) Co., Ltd., Shanghai/China	100.0	TCNY	-74,915	-1,028	34,658
Knorr-Bremse Raylı Sistemler Turkey Sanayi ve Ticaret Limited Şirketi, Ankara/Turkey	100.0	TTRY	3,953	2,031	5,110
Knorr-Bremse S.A. (Pty.) Ltd., Kempton Park/South Africa	75.0	TZAR	142,674	-4,600	321,642
Knorr-Bremse S.R.L., Bukarest/Romania	100.0	TLEU	983	42	2,238
Knorr-Bremse SA Holding Company (UK) Ltd., Melksham, Wiltshire/United Kingdom	100.0	TGBP	5,590	0	5,590
Knorr-Bremse Services Europe s.r.o., Stráž nad Nisou/Czech Republic	100.0	TCZT	-102,634	-102,644	49,363
Knorr-Bremse Services GmbH Munich/Germany	100.0	TEUR	4,737	0	36,660
Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda., Itupeva/Brasil	100.0	TBRL	86,625	10,915	151,832

1. Consolidated affiliated companies	Share of capital (%)	Currency and unit	Equity	Income	Total assets
Knorr-Bremse Sistemas para Veículos Ferroviários Ltda., Itupeva/Brasil	100.0	TBRL	56,519	11,068	88,383
Knorr-Bremse Sistemi per Autoveicoli Commerciali S.p.A., Arcore/Italy	100.0	TEUR	8,673	409	18,716
Knorr-Bremse Steering Systems GmbH, Wülfrath/Germany	100.0	TEUR	19,839	2,770	33,638
Knorr-Bremse System för Tunga Fordon AB, Malmö/Sweden	100.0	TSET	13,291	9,274	17,255
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich/Germany	80.0	TEUR	326,929	83,435	649,261
Knorr-Bremse Systeme für Nutzfahrzeuge Pensionsgesellschaft mbH, Munich/Germany	100.0	TEUR	24	0	24
Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich/Germany	100.0	TEUR	36,000	0	793,190
Knorr-Bremse Systeme für Schienenfahrzeuge Ibero Holding GmbH, Munich/Germany	100.0	TEUR	47,307	0	77,995
Knorr-Bremse Systemes Ferroviaires S.A., Tinqueux/France	100.0	TEUR	11,738	3,166	25,713
Knorr-Bremse Systèmes pour Véhicules Utilitaires France S.A., Lisieux/France	100.0	TEUR	47,473	22,620	92,679
Knorr-Bremse Systems for Commercial Vehicles (Chongqing) Ltd., Chongqing/China	66.0	TCNY	99,543	26,629	296,101
Knorr-Bremse Systems for Commercial Vehicles India Pvt. Ltd., Pune/India	100.0	TINR	170,889	-202,648	2,423,291
Knorr-Bremse Systems for Commercial Vehicles Ltd., Bristol/United Kingdom	100.0	TGBP	17,027	2,833	26,748
Knorr-Bremse Systems for Commercial Vehicles OOO, Moskau/Russia	100.0	TRUB	331,407	76,117	686,728
Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd., Suzhou/China	100.0	TCNY	1,280,212	1,079,122	2,975,123
Knorr-Bremse Systems for Rail Vehicles Kazakhstan LLP, Astana/Republic of Kazakhstan	100.0	TTZT	51,566	11,298	60,837
Knorr-Bremse Systemy Kolejowe Polska Sp. z o.o., Krakau/Poland	100.0	TPLN	51,099	7,544	72,816
Knorr-Bremse Systémy pro užitková vozidla ČR s.r.o.,Stráž nad Nisou/Czech Republic	100.0	TCZT	658,509	164,343	1,563,298
Knorr-Bremse Technology Center India Private Limited, Pune/India	100.0	TINR	91,497	25,499	239,759
Knorr-Bremse Ticari Arac Fren Sistemleri Limited Sirketi, Istanbul/Turkey	100.0	TTRY	3,789	1,225	4,411
Knorr-Bremse US Beteiligungs GmbH, Munich/Germany	100.0	TEUR	50	0	498
Knorr-Bremse US Investment GmbH, Munich/Germany	100.0	TEUR	25	0	25
Knorr-Bremse Vasúti Jármű Rendszerek Hungária Kft., Budapest/Ungarn	100.0	THUF	29,768,018	6,952,121	61,486,214
Knorr-Bremse Verwaltungsgesellschaft mbH, Munich/Germany	100.0	TEUR	28	-2	28
M.S. Resistances S.A., Saint Chamond/ France	51.0	TEUR	2,315	245	3,956
Merak Jinxin Air Conditioning Systems (Wuxi) Co., Ltd., Wuxi/China	51.0	TCNY	107,068	51,818	461,075
Merak Knorr Climatización S.A., Buenos Aires/Argentina	100.0	TARS	2,709	-256	7,535
Merak North America LLC, Westminster, Maryland/USA	100.0	TUSD	-3,739	-335	19,046
Microelettrica do Brasil Comercialização e Importação de Produtos Eletromecânicos Ltda.,Barueri, São Paulo/Brazil	100.0	TBRL	-983	-1,383	4,185
Microelettrica Heine (Suzhou) Co., Ltd., Suzhou/China	100.0	TCNY	55,776	9,351	95,822
Microelettrica Power (Pty) Ltd., Johhannesburg/South Africa	74.0	TZAR	24,090	5,107	81,871
Microelettrica Scientifica (Pty) Ltd., Johannesburg/South Afirca	100.0	TZAR	52,120	17,043	66,184
Microelettrica Scientifica S.p.A., Buccinasco/Italy	100.0	TEUR	29,459	2,500	69,919
Microelettrica USA LLC, Randolph, New Jersey/USA	100.0	TUSD	4,267	735	5,414
MST Electroteknik Sanayi ve Ticaret Limited Şirketi, Şerifali, Istanbul/Turkey	100.0	TTRY	-4,826	-4,424	5,209
New York Air Brake LLC, Watertown, New York/USA	100.0	TUSD	197,965	19,508	260,569
Selectron Systems (Beijing) Co., Ltd., Peking/China	100.0				
Selectron Systems AG, Lyss/Switzerlans	100.0	TCHF	26,236	7,505	39,464
Selectron Systems Private Limited, Gurgaon/India	100.0				
Semiconductor Solutions (Pty.) Ltd., Pretoria/South Africa	60.0	TZAR	14,797	3,282	26,187

1. Consolidated affiliated companies	Share of capital (%)	Currency and unit	Equity	Income	Total assets
Sigma Air Conditioning Pty. Ltd., Granville/Australia	100.0	TAUD	11,526	1,803	41,459
Sigma Transit Systems Pty. Ltd., Granville/Australia	100.0	TAUD	9,598	0	9,598
Skach Ges.m.b.H., Mödling/Austria	100.0	TEUR	66	0	2,410
STE Schwingungs-Technik GmbH, Klieken/Germany	100.0	TEUR	-2,131	119	42
Swedtrac RailServices AB, Solna/Sweden	100.0	TSET	3,454	2,645	52,933
Sydac Ltd., Manchester/United Kingdom	100.0	TGBP	1,811	6	2,205
Sydac Pty. Ltd., Granville/Australia	100.0	TAUD	-3,659	-2,453	6,985
Technologies Lanka Inc., La Pocatière, Québec/Canada	100.0	TCAD	12,551	3,974	21,271
tedrive Yönlendirme Sistemleri Sanayi ve Tic.Ltd.Şti. , Istanbul/ Turkey	100.0	TTRY	11,845	650	27,654
Unicupler GmbH, Niederurnen/Switzerland	100.0	TCHF	3,226	-219	3,595
Zelisko Elektrik Sanayi ve Ticaret Limited Şirketi, Istanbul/ Turkey	100.0	TTRY	4,776	-651	-8,002

2. Associated companies valued using the equity method	Share of capital (%)	Currency and unit	Equity	Income	Total assets
Alltrucks GmbH & Co. KG, Munich/Germany	33.3	TEUR	785	-2,859	1,426
Alltrucks Verwaltungs GmbH, Munich/Germany	33.3	TEUR	32	1	37
Knorr-Bremse DETC Commercial Vehicle Braking Systems (Shiyan) Co., Ltd., Shiyan/China	49.0	TCNY	10,000	5,162	231,496
Westinghouse Platform Screen Doors (Guangzhou) Ltd., Guangzhou/China	15.0	TCNY	50,100	14,420	170,191

3. Not consolidated associated companies	Share of capital (%)	Currency and unit	Equity	Income	Total assets
Di-Pro LLC., Fresno, Kalifornien/USA	100.0	TUSD	0	0	0
Dyno-Inno Test Center for Brake Equipment (Suzhou) Ltd., Suzhou/China	100.0	TCNY	3,500	0	3,500
EKA DOOEL, Skopje/Mazedonia	100.0	TMTD	22,400	653	39,093
Foro Verwaltungs GmbH & Co. KG, München/Deutschland (unbesch. haft. Ges. ist Knorr-Bremse Systeme für Schienenfahrzeuge Ibero Holding GmbH, Munich/Germany)	100.0	TEUR	6	0	6
Freios Bre Coahuila, S.A. de C.V., Cd. Acuña, Coah/Mexico	100.0	TUSD	7,473	-27	7,473
Heiterblick Projektgesellschaft mbH, Leipzig/Germany	49.0	TEUR	25	512	40,795
KB Investment UK Ltd., Chippenham/United Kingdom	100.0	TGBP	0	6,759	22,000
Kiepe Electric Corporation, Vancouver/canada	100.0	TCAD	1,260	487	2,512
Kiepe Electric d.o.o., Niš/Serbia	100.0	TRSD	1,703	-299	1,794
Kiepe Electric (Pty) Ltd. South Africa, Woodstock/South Africa	100.0	TZAR	-283	-96	41
Kiepe Electric S.r.l., Cernusco sul Navigilio/Italy	100.0	TEUR	267	40	1,006
Knorr-Bremse Systems for Rail Vehicles Enterprise Management (Beijing) Co., Ltd. Peking/China	100.0	TCNY	4,645	0	4,645
Metco Technical Consulting AG, Zug/Switzerland	100.0	TCHF	71	-17	1,582
SCI pour I'Industrie, Pau/France	100.0	TEUR	93	0	93
Sichuan Knorr-Bremse Guo Tong Railway Transportation Equipment Co., Ltd., Chengdu/China	100.0	TCNY	10,000	0	10,000
Sydac Simulation Technologies India Private Limited, Pune/ India [2]	100.0				
tedrive Steering Systems Inc., Wixom, Michigan/USA (Gesellschaft wurde mit Wirkung zum 02.02.2018 liquidiert)	100.0	TUSD	0	-29	0
RBL-Technologie Ltd., Naberezhnye Chelny/Russia	100.0	TRUB	5,073	5,230	14,304

1) Control based on enforceability of management decisions and control of operations

2) Due to the lack of significant influence on the net assets, financial position and results of operations by Knorr-Bremse AG, disclosure has not been made regarding capital and results of this company

In accordance with IFRS, the following companies are consolidated in addition to the regulations of HGB:

- Megalith Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz/Germany
- MORCAR Grundstücksgesellschaft mbH & Co. oHG, Munich/Germany
- Sanctor Grundstücks-Vermietungsgesellschaft mbH & Co. KG Objekt Marzahn KG, Düsseldorf/ Germany
- K&D Progetto Srl, Bolzano/Italy

I. Segment information

I.1. Basics of segmentation

The Group has two reportable segments, which are the group's operating segments, as described below. The divisions offer different products and services and are managed separately as they require different technology and marketing strategies.

The following summary describes the reportable segments of the group.

In the **Rail Vehicle Systems (RVS)** segment, the Company plays a key role in the development, production, sales and service of modern braking systems and related subsystems for rail vehicle systems. In addition, the product fields of platform screen doors, boarding systems, power supply systems, driver assistance systems, air conditioning systems, control technology, friction material, simulators and control components are served.

The **Commercial Vehicle Systems (CVS)** segment is also characterized by the development, production, sales and service of modern braking systems. In addition to the complete braking system including driver assistance systems, the product range of the Commercial Vehicle Systems Division also includes steering systems, torsional vibration dampers, powertrain-related solutions and transmission controls for improving efficiency and saving fuel.

Other business areas mainly include leasing, holding and logistics activities as well as media and IT services.

For each segment, the group's management board reviews internal management reports on a monthly basis.

Transfer prices between the segments are determined on an arm's length basis.

I.2. Information on reportable segments

Information regarding the results of each reportable segment is given below. The profit (loss) of a segment before tax is used to measure profitability, as the management board believes that this is the most relevant information for assessing the results of the individual segments in relation to other industry companies.

Reporting to the management board as of December 31, 2017 is based on German GAAP (HGB) figures. Revenues within the segment are already presented on a pre-consolidation basis.

Information on reportable segments

	Reportable segments			Reconciliation to IFRS		Remaining segments and consolidation	Group
	RVS	CVS	Total	RVS	CVS		
	TEUR	TEUR	TEUR	TEUR	TEUR	TEUR	TEUR
December 31, 2017							
External revenues	3,308,512	2,918,937	6,227,450	(50,213)	(29,059)	5,365	6,153,543
Inter segment revenues	16,705	9,036	25,741	(14,886)	(8,293)	(2,562)	-
Segment revenues	**3,325,217**	**2,927,973**	**6,253,191**	**(65,099)**	**(37,352)**	**2,803**	**6,153,543**
EBITDA*)	659,785	475,174	1,134,959	(20,467)	28,569	(27,551)	1,115,510
Depreciation and amortization	(112,749)	(83,559)	(196,307)	(3,259)	1,307	(13,220)	(211,479)
EBIT*)	547,037	391,615	938,652	(23,726)	29,876	(40,771)	904,031
Interest income	8,569	1,708	10,277	4,222	3,446	6,091	24,036
Interest expense	(12,580)	(7,780)	(20,360)	(8,825)	(2,808)	(6,808)	(38,801)
Other financial result	-	(953)	(953)	394	331	(36,570)	(36,797)
thereof: Share of profit or loss from companies accounted for using the equity method	*-*	*(953)*	*(953)*	*-*	*-*	*-*	*(953)*
EBT	**543,026**	**384,591**	**927,617**	**(27,935)**	**30,845**	**(78,058)**	**852,469**
December 31, 2016							
External revenues	2,974,954	2,516,192	5,491,146	3,090	(24,143)	1,163	5,471,256
Inter segment revenues	15,387	6,991	22,378	(14,743)	(6,057)	(1,578)	-
Segment revenues	**2,990,342**	**2,523,182**	**5,513,524**	**(11,653)**	**(30,200)**	**(415)**	**5,471,256**
EBITDA*)	607,693	402,489	1,010,182	16,274	23,233	2,413	1,052,103
Depreciation and amortization	(96,871)	(71,402)	(168,272)	20,475	3,458	(21,320)	(165,659)
EBIT*)	510,822	331,088	841,910	36,749	26,692	(18,907)	886,444
Interest income	7,625	1,449	9,074	3,049	4,332	2,757	19,212
Interest expense	(9,352)	(3,896)	(13,248)	(8,152)	(3,711)	(3,571)	(28,681)
Other financial result	3,305	(685)	2,620	10,080	(7,852)	(40,549)	(35,701)
thereof: Share of profit or loss from companies accounted for using the equity method	*3,305*	*(685)*	*2,620*	*-*	*-*	*20*	*2,640*
EBT	**512,401**	**327,955**	**840,356**	**41,726**	**19,461**	**(60,269)**	**841,274**
December 31, 2015							
External revenues	3,339,492	2,490,964	5,830,456	(10,070)	-	3,122	5,823,508
Inter segment revenues	1,577	875	2,452	-	-	(2,452)	-
Segment revenues	**3,341,069**	**2,491,839**	**5,832,908**	**(10,070)**	**-**	**670**	**5,823,508**
EBITDA*)	769,893	396,077	1,165,969	27,389	72,018	3,665	1,269,041
Depreciation and amortization	(120,972)	(68,420)	(189,392)	47,646	(1,718)	(27,022)	(170,484)
EBIT*)	648,920	327,657	976,578	75,035	70,301	(23,357)	1,098,557
Interest income	10,464	1,624	12,088	2,247	3,941	3,422	21,698
Interest expense	(11,405)	(4,913)	(16,318)	(6,388)	(3,372)	(3,081)	(29,159)
Other financial result	2,987	(631)	2,356	(12,987)	(16,962)	(15,471)	(43,065)
thereof: Share of profit or loss from companies accounted for using the equity method	*2,987*	*(631)*	*2,356*	*-*	*-*	*(1,554)*	*802*
EBT	**650,966**	**323,737**	**974,703**	**57,907**	**53,908**	**(38,487)**	**1,048,031**

*) Not explicitly presented in management reporting to CODM

Internal reporting does not contain any segment-specific information on assets and liabilities, this is therefore not included in the segment information.

i. Revenues	2017 TEUR	2016 TEUR	2015 TEUR
Revenues of reportable segments (German GAAP)	6,253,191	5,513,524	5,832,908
Revenues of other segments (German GAAP)	163,287	147,490	73,309
Inter-segment consolidation and other effects	(85,838)	(85,432)	(72,638)
Adjustment PoC-Accounting	(38,310)	17,689	(10,070)
Adjustment based on disclosure differences due to implementation of BilRuG	(138,787)	(122,015)	-
Consolidated revenues	**6,153,543**	**5,471,256**	**5,823,508**

ii. Earning before tax	2017 TEUR	2016 TEUR	2015 TEUR
Earnings before tax of reportable segments (German GAAP)	927,617	840,356	974,703
Earnings before tax of other segments (German GAAP)	593,693	528,678	476,829
Inter-segment consolidation and other effects	(678,994)	(538,394)	(490,950)
Adjustment due to amortization not recognized on Goodwill	50,023	34,918	60,239
Adjustment PoC-Accounting	(38,310)	17,689	(10,070)
Adjustment due to capitalization and amortization of development projects	20,789	13,843	12,678
Adjustment due to valuation differences in pension liabilities	17,863	14,116	32,999
Adjustment due to purchase options NCI	(12,543)	(40,125)	(30,865)
Adjustment inventory valuation	3,709	(1,429)	14,926
Adjustment provisions	10,669	(10,889)	17,893
Adjustment impairment of assets held for sale and disposal groups	(25,368)	-	-
Other adjustments based on differences between German GAAP and IFRS	(16,679)	(17,489)	(10,351)
Earnings from continued operations, consolidated and before taxes	**852,469**	**841,274**	**1,048,031**

I.3. Geographical information

The following table shows the group's sales revenues and non-current assets, broken down by country of domicile of the group company.

i. Revenues	2017 TEUR	2016 TEUR	2015 TEUR
Europe/Africa	**3,076,353**	**2,677,016**	**2,567,898**
thereof Germany	*1,536,024*	*1,339,736*	*1,295,832*
North America	**1,294,040**	**1,141,042**	**1,366,623**
thereof USA	*1,280,050*	*1,124,436*	*1,355,747*
South America	**92,778**	**99,511**	**100,084**
Asia-Pacific	**1,690,372**	**1,553,687**	**1,788,903**
thereof China	*1,235,805*	*1,187,162*	*1,407,727*
	6,153,543	**5,471,256**	**5,823,508**

ii. Non-current assets	2017 TEUR	2016 TEUR	2015 TEUR
Europa/Africa	**909,959**	**1,100,925**	**883,334**
thereof Germany	*537,849*	*469,493*	*419,790*
North America	**230,695**	**283,150**	**283,769**
thereof USA	*228,729*	*266,614*	*267,478*
South America	**36,407**	**41,044**	**34,278**
Asia-Pacific	**180,094**	**158,767**	**147,243**
thereof China	*86,089*	*86,134*	*84,181*
Goodwill	**299,737**	**-**	**-**
thereof Rail Vehicle Systems (Global)	*181,521*	*n/a*	*n/a*
thereof Commercial Vehicle Systems (Global)	*118,216*	*n/a*	*n/a*
	1,656,893	**1,583,886**	**1,348,625**

Non-current assets consist of property, plant and equipment, goodwill and other intangible assets.

Neither division is significantly dependent on external third parties. Neither in the year under review nor in the prior years did the Company generate more than 10% of its sales with one customer.

Regarding the change in the allocation of goodwill please refer to chapter F.2.

Munich, August 22, 2018

Knorr-Bremse AG

Management Board

Klaus Deller	Ralph Heuwing	Dr. Peter Laier

Auditor's Report

The following auditor's report, prepared in accordance with § 322 HGB "Handelsgesetzbuch": "German Commercial Code", refers to the complete consolidated financial statements, comprising of consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of financial position, consolidated statement of cash flows, consolidated statement of changes in equity and notes to the consolidated financial statements of Knorr-Bremse AG for the financial years from 1 January 2017 to 31 December 2017, 1 January 2016 to 31 December 2016 and 1 January 2015 to 31 December 2015. The above-mentioned auditor's report and consolidated financial statements are both translations of the respective German-language documents.

To the Knorr-Bremse Aktiengesellschaft, Munich

We have audited the consolidated financial statements prepared by the Knorr-Bremse Aktiengesellschaft, Munich, comprising consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of financial position, consolidated statement of cash flows, consolidated statement of changes in equity and notes to the consolidated financial statements for the financial years from 1 January to 31 December 2017, 1 January 2016 to 31 December 2016 and 1 January 2015 to 31 December 2015. The preparation of the consolidated financial statements in accordance with International Financial Reporting Standards (IFRS), as adopted by the EU, are the responsibility of the Company's management. Our responsibility is to express an opinion on the consolidated financial statements based on our audit.

We conducted our audit of the consolidated financial statements in accordance with § 317 HGB ("Handelsgesetzbuch: German Commercial Code") and German generally accepted standards for the audit of financial statements promulgated by the German Institute of Public Auditors (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the consolidated financial statements in accordance with the applicable financial reporting framework are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements give a true and fair view of the net assets, financial position and the results of operations of the Group in accordance with International Financial Reporting Standards (IFRS), as adopted by the EU.

Munich, 23 August 2018

KPMG AG
Wirtschaftsprüfungsgesellschaft
(Original German version signed by:)

Rupprecht	Engelmann
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

23.3 Audited Unconsolidated Financial Statements of Knorr-Bremse Aktiengesellschaft Prepared in Accordance with the German Commercial Code (*Handelsgesetzbuch*) as of and for the Fiscal Year Ended December 31, 2017

Statement of financial position of Knorr-Bremse AG as of December 31, 2017

Assets

	Note	12/31/2017 TEUR	12/31/2016 TEUR
Intangible assets	(2)	11	23
Property, plant and equipment	(3)	8,373	13,023
Financial assets	(4)	343,727	368,878
Fixed assets	**(1)**	**352,111**	**381,924**
Trade accounts receivable		5	3
Receivables from affiliated companies		752,346	589,164
Other assets		76,119	17,576
Cash and cash equivalents		1,029,064	968,214
Current assets	**(5)**	**1,857,533**	**1,574,957**
Prepaid expenses	(6)	1,378	1,855
Total assets		**2,211,022**	**1,958,736**

Equity and liabilities

	Note	12/31/2017 TEUR	12/31/2016 TEUR
Subscribed capital		67,600	67,600
Capital reserve		153	153
Revenue reserve		7,183	7,182
Retained earnings		944,258	676,137
Equity	**(7)**	**1,019,194**	**751,072**
Pension provisions	(8)	70,874	67,965
Other provisions	(9)	56,218	36,816
Provisions		**127,092**	**104,781**
Third party bonds		500,000	500,000
Liabilities to banks		117,333	122,000
Trade accounts payable		2,545	1,479
Liabilities to affiliated companies		442,679	476,989
Other liabilities		2,179	2,415
Liabilities	**(10)**	**1,064,736**	**1,102,883**
Total equity and liabilities		**2,211,022**	**1,958,736**

Statement of profit or loss of Knorr-Bremse AG from January 1 through December 31, 2017

	Note	12/31/2017 TEUR	12/31/2016 TEUR
Revenues	(12)	63,383	58,036
Other operating income	(13)	93,018	77,662
Cost of materials	(14)	-20,585	-23,247
Personnel expenses	(15)	-24,108	-18,292
Amortization and depreciation of intangible assets and property, plant and equipment	(16)	-457	-478
Other operating expenses	(17)	-197,757	-68,895
Result from financial assets	(18)	733,754	442,442
Interest result	(19)	-2,507	1,888
Taxes on income	(20)	-12,620	-47,235
Result after taxes		**632,121**	**421,881**
Profit carried forward		312,137	254,256
Retained earnings		**944,258**	**676,137**

Notes to the Annual Financial Statements of Knorr-Bremse AG

Basis of presentation

Knorr Bremse Aktiengesellschaft, located in Munich, is registered at the Local Court of Munich (HRB 42031). As in the prior year, the annual financial statements of Knorr-Bremse AG were prepared according to German Accepted Accounting principles in observance of the accounting rules of the German Commercial Code (HGB) for large capital companies and supplementary regulations. The financial statements have been prepared in thousands of euro (TEUR). In order to enhance the clarity of presentation, various items in the balance sheet and income statement are combined. These items are separately explained in the notes to the financial statements.

Accounting policies

The measurement of intangible assets is performed at acquisition cost less amortization, using a useful life of 3 years. Property, plant and equipment are carried at acquisition or production cost. Assets subject to wear and tear are depreciated on a scheduled basis. Impairments are made if required.

Scheduled depreciation is carried out according to commercial principles. Additions prior to January 1, 2008, in 2009 and 2010 are depreciated on an accelerated basis. For additions in 2008 and beginning January 1, 2011, depreciation is performed on a straight-line basis. The depreciation method changes from accelerated to straight line as soon as the latter results in a higher depreciation. Beginning in the 2008 fiscal year, low-value assets with acquisition or production costs up to and including EUR 150 are recognized as expense in total as other operating expenses. Assets having acquisition or production cost in excess of EUR 150 up to and including EUR 1,000 are recorded to a year-specific aggregated account and depreciated on a straight-line basis over 5 years. Shares in affiliated companies, investments, and other financial assets are carried at cost or their lower fair value. With respect to receivables and other assets, identifiable risks are considered through appropriate write-downs. Cash and bank balances are measured at their nominal value. Balances denominated in a foreign currency included in the bank balances are carried at the average spot exchange rate as of the balance sheet date.

Equity is carried at nominal value.

All identifiable risks and all uncertain are considered with respect to provisions. The measurement of provisions is carried out in accordance with Section 253 (1) and (2) HGB. The Company makes use of the option not to discount provisions with a term of one year or less.

Provisions for pensions and similar obligations are recognized according to actuarial principles on the basis of realistic assumptions. Future salary increases and future adjustments to pension benefits (according to Section 16 of the German Companies Pensions Law = “BetrAVG”) as well as assumptions regarding termination rates are included in the calculation. The calculations are based on biometric values according to Klaus Heubeck (Mortality Tables RT 2005 G). The Company exercises the option according to Section 253 (2) Sentence 2 HGB, whereby the discount rate over an assumed remaining term of 15 years can be applied.

The following parameters served as a basis for the calculation of the pension provision:

Interest rate:	3.68% (prior year: 4.01%)
Salary increase:	3.00% (prior year: 3.00%)
Pension increase:	1.50% (prior year: 1.50%)
Fluctuation:	1.80% (prior year: 1.80%)

The measurement of the pension provisions is performed according to the projected unit credit method. Entitlements to survivor’s pension are measured in the benefits plan according to the collective method and in the case of individual commitments are principally measured according to the individual method. The present value of the future payments is recognized as the provision for commitments under the employee-financed deferred compensation program.

Deferred balance sheet items are recognized for payments received or disbursed which represent period-related income or expenses after the balance sheet date. Liabilities are recognized at their settlement amount. Foreign currency receivables and liabilities are measured at acquisition cost or at

the respective less favorable exchange rate as of the balance sheet date. As long as foreign currency positions are hedged, they are valued at the respective hedging price. In the case of a remaining term of one year or less, foreign currency receivables and liabilities are measured at the average spot exchange rate at the balance sheet date. Hedging and options transactions are carried out selectively and solely for hedging purposes. Derivative financial instruments which have been concluded for the planned revenues of the next fiscal years and for other pending transactions are combined into a valuation unit to the extent possible.

With respect to the accounting for the net excess of deferred tax assets over deferred tax liabilities, the Company has exercised the option under Section 274 (1) Sentence 2 HGB.

The recognition of sales revenues is carried out according to the underlying contractual and other agreements.

Income received and losses to be compensated due to a profit transfer agreement, are recognized if the result to be transferred can be unequivocally quantified, even in the event that the annual financial statements of the subsidiary have not yet been formally adopted.

Income from investments is principally recognized at the point in time at which the claim has arisen and the receipt of the income is expected based on based on reasonable commercial judgment.

1. Development of fixed assets

	Acquisition cost			
	Balance 1/1/2017	**Additions**	**Disposals**	**Balance 12/31/2017**
	TEUR	**TEUR**	**TEUR**	**TEUR**
Purchased industrial property rights	889	2	162	729
Intangible assets	**889**	**2**	**162**	**729**
Land, leasehold rights and buildings, including buildings on third-party land	30,049	0	11,180	18,869
Technical equipment and machinery	1,612	0	289	1,323
Other equipment, factory and office equipment	9,769	233	3,847	6,155
Advance payments and assets under construction	0	117	0	117
Property, plant and equipment	**41,430**	**350**	**15,316**	**26,464**
Shares in affiliated companies	289,865	0	0	289,865
Investments	36	0	0	36
Securities included in fixed assets	78,987	0	25,151	53,836
Financial assets	**368,888**	**0**	**25,151**	**343,737**
FIXED ASSETS	**411,207**	**352**	**40,629**	**370,930**

	Amortization and depreciation			
	Balance 1/1/2017	**Additions**	**Disposals**	**Balance 12/31/2017**
	TEUR	**TEUR**	**TEUR**	**TEUR**
Purchased industrial property rights	866	14	162	718
Intangible assets	**866**	**14**	**162**	**718**
Land, leasehold rights and buildings, including buildings on third-party land	18,351	36	6,911	11,476
Technical equipment and machinery	1,395	56	283	1,168
Other equipment, factory and office equipment	8,661	351	3,565	5,447
Advance payments and assets under construction	0	0	0	0
Property, plant and equipment	**28,407**	**443**	**10,759**	**18,091**
Shares in affiliated companies	0	0	0	0
Investments	10	0	0	10
Other financial assets	0	0	0	0
Financial assets	**10**	**0**	**0**	**10**
FIXED ASSETS	**29,283**	**457**	**10,921**	**18,819**

	Net carrying amount	Net carrying amount
	12/31/2017	12/31/2016
	TEUR	TEUR
Purchased industrial property rights	11	23
Intangible assets	**11**	**23**
Land, leasehold rights and buildings, including buildings on third-party land	7,393	11,697
Technical equipment and machinery	155	218
Other equipment, factory and office equipment	708	1,108
Advance payments and assets under construction	117	0
Property, plant and equipment	**8,373**	**13,023**
Shares in affiliated companies	289,865	289,865
Investments	26	26
Other financial assets	53,836	78,987
Financial assets	**343,727**	**368,878**
FIXED ASSETS	**352,111**	**381,924**

2. Intangible assets

This balance sheet item comprises primarily purchased EDP software.

3. Property, plant and equipment

The development of property, plant and equipment can be found in the table shown above. The additions of TEUR 233 (prior year: TEUR 146) to other equipment, factory and office equipment relate primarily to IT hardware and office furnishings in the amount of TEUR 100. Included in land and buildings are disposals from the sales of the southern section of the grounds in Munich in the amount of TEUR 3,846 and the conference center in Aldersbach in the amount of TEUR 423.

4. Financial assets

The schedule of shareholdings according to Section 285 No.11 HGB is attached as an appendix to these notes. The securities are shown at a carrying amount of TEUR 53,836 (prior year: TEUR 78,987), which is in excess of their fair value in the amount of TEUR 39,842 as of the balance sheet date. No impairment was made as of the balance sheet date, since there is a temporary decline in value.

5. Current assets

Trade accounts receivable have a remaining term of less than 1 year. Other assets include mainly receivables from the sale of the southern section of the grounds in Munich in the amount of TEUR 19,210, tax receivables of TEUR 36,709 (prior year: TEUR 0) and option premiums paid of TEUR 1,071 (prior year: TEUR 1,729).

Receivables from affiliated companies relate in particular to receivables in connection with the Group financing. In this connection, the financing surpluses/deficits of subsidiaries are balanced out by way of a netting procedure via Knorr-Bremse AG as well as the payment transactions between subsidiaries. Of the receivables from affiliated companies, TEUR 1,160 relate to trade receivables (prior year: TEUR 423).

In addition, other assets include receivables from affiliated companies in the amount of TEUR 22,635. Other assets which have a remaining term of more than one year amount to TEUR 27,736 (prior year: TEUR 9,125), thereof from affiliated companies TEUR 18,611 (prior year: TEUR 0).

6. Deferred expenses

Deferred expenses include a disagio in the amount of TEUR 1,374 (prior year: TEUR 1,723) from the issuance of a bond, which is deferred and amortized over the term of the bond of 5 years.

7. Equity

The share capital of Knorr-Bremse AG is divided into 2,600,000 bear shares with a par value of EUR 26.00 each. Stella Vermögensverwaltungs GmbH, Grünwald, TIB Vermögens- und Beteiligungsholding

GmbH, Grünwald, and KB Holding GmbH, Grünwald, have informed us that they indirectly and directly hold a majority interest in our company. According to information obtained of the management board, the majority of Stella's shares have been held since July 6, 2017 by Mr. Heinz Hermann Thiele.

The statutory reserve of the AG amounts unchanged to TEUR 6,607. Taking into account capital reserves of TEUR 153 it is fully endowed. As in the prior year, other revenue reserves amount to TEUR 576.

Through the application of the statutorily mandated 10-year average interest rate in connection with the calculation of the pension provision, there is a distribution restriction for the difference using the 7-year average rate according to Section 253 (6) Sentences 1 and 3 HGB in the amount of TEUR 9,384 (prior year: TEUR 7,368).

8. Pension provisions

The pension provisions contain the full value according to the Accounting Law Implementation Act (Bilanzrichtlinie-Umsetzungsgesetz - BilRUG).

9. Other provisions

	12/31/2017	12/31/2016
	TEUR	TEUR
Tax provisions	20,735	20,955
Other provisions	35,483	15,861
	56,218	**36,816**

Other provisions relate essentially to personnel expenses (TEUR 4,943; prior year: TEUR 5,019), outstanding invoices (TEUR 5,597; prior year: TEUR 4,110) and provisions from obligations in connection with sales of land (TEUR 22,171; prior year: TEUR 2,966).

10. Liabilities

	12/31/2017	12/31/2017	12/31/2017	12/31/2017	12/31/2016
	TEUR	TEUR	TEUR	TEUR	TEUR
	Remaining term less than 1 year	Remaining term 1-5 years	Remaining term more than 5 years	Total	Total
Bonds	0	500,000	0	500,000	500,000
Liabilities to banks	6,333	111,000	0	117,333	122,000
Trade payables	2,545	0	0	2,545	1,479
Liabilities to affiliated companies	442,679	0	0	442,679	476,989
Other liabilities	2,179	0	0	2,179	2,415
thereof for taxes	*(448)*	*(0)*	*(0)*	*(448)*	*(583)*
thereof in connection with social security	*(97)*	*(0)*	*(0)*	*(97)*	*(130)*
	453,736	**611,000**	**0**	**1,064,736**	**1,102,883**

Effective December 8, 2016, Knorr-Bremse AG issued a bond on the EURO MTF Market of the Luxembourg Stock Ex-change. The cash flow from the bond serves the financing of the growth of the Knorr-Bremse Group. It amounts to a volume of EUR 500 million with a term of 5 years (final maturity) and a nominal interest rate of 0.5% p.a.

Furthermore, in the 2017 fiscal year the existing debt issuance program of 2016 was extended by a further year. This opens the possibility for Knorr-Bremse AG to newly issue bonds in a total volume of up to EUR 1 billion in 2018 on the EURO MTF Market of the Luxembourg Stock Exchange on the basis of a standardized documentation.

Liabilities to affiliated companies relate especially to liabilities from the Group financing. Trade liabilities to affiliated companies amount to TEUR 858 (prior year: TEUR 221).

11. Contingent liabilities / other financial obligations

Other financial obligations to affiliated companies	12/31/2017	12/31/2016
	TEUR	TEUR
Leasing obligations		
2018 (prior year: 2017)	907	1,336
2019-2022 (prior year: 2018-2021)	3,630	5,323
later	1,210	2,283

The leasing obligations relate to a factory and administration building in Berlin.

Sureties and guarantees have been provided to third parties in the amount of TEUR 17,540 (prior year: TEUR 14,196); the exercise of these is not anticipated, since no well-founded indications exist.

In addition, in connection with the ordinary course of business, sureties and guarantees have been provided for subsidiaries in the amount TEUR 12,540 (prior year: TEUR 6,046), the exercise of which is not anticipated due to their capital resources and order situation.

An accession commitment exists in the amount of TEUR 10,957 (prior year: TEUR 14,944) for a leasing contract of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH. Due to the capital resources and order situation, an exercise is not expected.

Furthermore, profit-and-loss transfer agreements exist with the companies Knorr-Bremse Beteiligungsgesellschaft mbH, Munich/Germany, Knorr-Bremse Investment GmbH, Munich/Germany, Knorr-Bremse Services GmbH, Munich/Germany, Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich/Germany und Knorr-Bremse US Beteiligungs GmbH, Munich/Germany. A loss transfer obligation exists with Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich/Germany. An exercise is not anticipated due to the positive earnings situation.

Knorr-Bremse AG has issued letters of comfort in favour of affiliated companies in the amount of EUR 18.7 million (prior year: EUR 0.0 million), which are generally limited to a term of 1 year.

12. Revenues

Revenues include primarily rental income in the amount of TEUR 8,474 (prior year: TEUR 8,864) and revenues from Group services in the amount of TEUR 54,760 (prior year: TEUR 49,007).

13. Other operating income

Other operating income includes mainly income from other accounting periods with respect to disposals of fixed assets in the amount of TEUR 6,713 (prior year: TEUR 9,990) and currency exchange gains in the amount of TEUR 81,504 (prior year: TEUR 65,708). In addition, other operating income includes income from other accounting periods resulting from the release of provisions in the amount of TEUR 307 (prior year: TEUR 882) and extraordinary income in the amount of TEUR 3,347.

14. Cost of materials

In the fiscal year, expenses of TEUR 17,670 are presented as cost of materials incurred in connection with the recognition of revenue. These expenses were previously disclosed as other operating expenses. In order to improve the comparability to the prior year, the previous period's amounts were accordingly adjusted in the amount of TEUR 20,324.

15. Personnel expenses / employees

	2017	2016
	TEUR	TEUR
Wages and salaries	16,806	16,212
Social security contributions and expenses for pensions and benefits	7,302	2,080
Personnel expense	24,108	18,292
thereof for pensions	*(6,058)*	*(806)*
	Number	**Number**
Yearly average salaried employees	92	95

The interest portion of the addition to the pension provision is presented as the interest result in the amount of EUR 2.7 million (prior year: EUR 2.7 million).

16. Amortization and depreciation

In the fiscal year only amortization and depreciation were recorded.

17. Other operating expenses

Other operating expenses comprise mainly currency exchange losses in the amount of TEUR 129,336 (prior year: TEUR 60,620), legal, consulting, travel and advertising expenses of TEUR 22,183, maintenance and Group services of TEUR 1,227, lease expenses of TEUR 1,815 (prior year: TEUR 1,552) and other administrative expenses. Included in other operating expenses are extraordinary expenses in the amount of EUR 75 million for the attempted Haldex acquisition and the conversion of the Group financial reporting to IFRS, as well as expenses for other accounting periods in the amount of TEUR 5,246 (prior year: TEUR 433).

18. Result from financial assets

	2017	2016
	TEUR	TEUR
Expenses from the absorption of losses	-1	-4.381
Income from profit transfer agreements with affiliated companies	300,200	142,367
Dividends from affiliated companies	433,555	304,456
	733,754	**442,442**

19. Interest result

	2017	2016
	TEUR	TEUR
Other interest and similar income	11,954	7,664
thereof from affiliated companies	*(5,186)*	*(5,978)*
Interest and similar expenses	14,461	5,777
thereof to affiliated companies	*(578)*	*(756)*
thereof from the compounding of interest on provisions	*(2,725)*	*(2,672)*
	-2,507	**1,887**

Other interest and similar income includes interest for other accounting periods in the amount of TEUR 2,190 (prior year: TEUR 0), interest and similar expenses includes interest for other accounting periods in the amount of TEUR 6,200 (prior year: TEUR 0).

20. Taxes on income

Tax expenses include primarily the current corporation and trade taxes, as well a foreign withholding taxes.

21. Deferred taxes

Temporary differences of the Company exist primarily from the recognition of pension provisions and non-recognition of provisions for onerous contracts and other provisions for tax purposes which are not recognized or are recognized in a different amount for tax purposes.

In connection with the recognition of the net excess of deferred tax assets over deferred tax liabilites, these would have had to be measured at the applicable tax rate for the tax group of 32.3% (prior year: 32.8%). With respect to the recognition of the net excess of deferred tax assets over deferred tax liabilities, the company has exercised the option provided by Section 274 (1) Sentence 2 HGB.

22. Derivative financial instruments

No financial instruments are held for trading purposes. Within the Knorr-Bremse Group guidelines exist with respect to the use of derivative financial instruments. This requires among other matters, that

the transactions are generally to be conducted and coordinated via Knorr-Bremse AG and that risk assessments and controls are to be continuously performed. Related underlying transactions and derivatives are combined into valuation units by application of the net hedge presentation method.

Knorr-Bremse AG uses currency futures, currency options and interest rate swaps as hedging instruments.

Currency futures and currency option transactions are utilized exclusively to hedge existing and future currency receivables and payables from sales and purchases of goods, from services within the Knorr-Bremse Group and to eliminate the currency risk for selected assets and expected cash flows. The objective of the hedging transactions of Knorr-Bremse AG is the reduction of risks from exchange rate fluctuations. The volume of open positions, respectively cash flows, arising or expected from the underlying transactions forms the basis for the currency hedging. The terms are oriented towards the terms of the underlying transactions, whereby the transactions with a high probability of occurrence are hedged over a rolling planning period of 3 years. Changes in value or in cash flows broadly offset each other due to corresponding conditions and parameters of the underlying and hedging transaction. This takes place in connection with the currency hedging carried out within the valuation units in a period of 1-3 years, depending upon the parameters and the structure of the underlying transactions. Proof of the effectiveness of the valuation units is obtained where possible through the critical terms match method, otherwise with the support of forming hypothetical derivatives.

For one real estate leasing contract, the leasing payments were hedged by an annual interest rate swap. The cash flows offset each other entirely due to corresponding conditions and parameters of the underlying and hedging transaction depending upon the term of the financing underlying the leasing contract after 6.5 years.

Currency risks with a nominal volume in the amount of EUR 387 million and a market value of EUR 14.8 million result from the takeover of the hedging of underlying transactions of subsidiaries due to the service function of Knorr-Bremse AG. Derivatives of a nominal volume of EUR 111.2 million and a market value of EUR -6.5 million serve to hedge assets of Knorr-Bremse AG, of which EUR 75.7 million in nominal volume with a market value of EUR 0.1 million relate to currency risks and EUR 35.5 million in nominal volume with a market value of EUR -6.3 million relate to interest rate risks.

The nominal amounts and market values of the financial instruments as of December 31, 2017 are as follows:

	2017 Nominal amount	**2017 Market value**	**2016 Nominal amount**	**2016 Market value**
	TEUR	**TEUR**	**TEUR**	**TEUR**
Currency-related contracts:				
Currency futures	733,997	7,377	692,753	158
Currency options	70,250	1,081	76,000	220
Interest-rate-related contracts:				
Interest rate swaps	35,522	-6,383	35,522	-7,712
Raw material-related contracts:				
Swaps	0	0	3,826	0

The market value of derivative financial instruments represents the price at which a party would resume the rights and/or obligations from another party. The market values are based on market information available on the balance sheet date and measured according to normal market valuation methods, as follows:

- Currency hedging contracts are valued on the basis of the reference prices, taking into consideration the forward premium and forward discount.

- Options are valued using recognized models for calculating option prices (e.g. Black-Scholes). In the case of structured products, the bank valuation as of the balance sheet date is utilized.

The option premiums paid and received are presented as other liabilities. As of the balance sheet date, the carrying amount of paid and received option premiums amounts to EUR 1.0 million.

23. Publication / auditor's fee

As the parent company, Knorr-Bremse AG, Munich (Commercial Register Munich HRB 42031) prepares consolidated financial statements which are published in the Federal Gazette. Disclosure of the auditor's total fee has been omitted in accordance with Section 285 No. 17 HGB, since the disclosure is made in the consolidated financial statements of Knorr-Bremse AG.

The disclosures pertaining to Section 285 No. 10 HGB are presented below in Notes 25 and 26.

24. Total remuneration of the Supervisory Board and the Management Board

The total remuneration of the members of the Supervisory Board amounted to TEUR 620 (prior year: TEUR 720) and the total remuneration of the members of the management board amounted to TEUR 6,306 (prior year: TEUR 5,976). A total provision of TEUR 37,163 (prior year: TEUR 34,921) has been recognized for pension obligations of former members of the management board and their survivors; the compensation in the fiscal year amounted to TEUR 1,715 (prior year: TEUR 1,634).

25. Management Board of Knorr-Bremse AG

Klaus Deller

Chairman of the management board, responsible for the Rail Vehicle Systems division.

Dr. Peter Laier

Member of the management board, responsible for the Commercial Vehicle Systems division.

Dr. Lorenz Zwingmann

Member of the management board until December 31, 2017, responsible for the Finance, Controlling and IT departments.

Ralph Heuwing

Member of the management board since November 1, 2017, responsible for the Finance, Controlling and IT departments.

26. Supervisory Board of Knorr-Bremse AG

Heinz-Hermann Thiele

Honorary chairman

Entrepreneur

Hans-Georg Härter, Munich

Chairman of the Supervisory Board

former Chairman of ZF Friedrichshafen

Franz-Josef Birkeneder*, Aldersbach

1st Deputy Chairman of the Supervisory Board

Plant Manager Knorr-Bremse, Aldersbach location

Michael Jell*, Munich

Deputy Chairman of the Works Council of

Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Knorr-Bremse AG,

KB Media GmbH, Knorr-Bremse Services GmbH

Dr. Wolfram Mörsdorf, Essen

Member of the management board of ThyssenKrupp AG, i. R.

Werner Ratzisberger*, Munich

Project Engineer for mechanical processing/surfaces,

Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

Sebastian Roloff*, Munich

Attorney at law at IG Metall trade union, Munich office

Julia Thiele-Schürhoff, Munich

Chairman of the management board of Knorr-Bremse Global Care e.V.

Erich Starkl*, Passau

2nd Authorized Representative of IG Metall trade union, Passau office

Wolfgang Tölsner, Uetersen

Management Consultant

Georg Weiberg, Stuttgart

Head of Development Daimler Trucks, i. R.

Günter Wiese*, Berlin

Chairman of the Works Council of Knorr-Bremse

Systeme für Schienenfahrzeuge GmbH, Berlin plant

---

* Employee representative

27. Proposal for the appropriation of retained earnings

We propose to the Annual General Meeting to appropriate the retained earnings in the amount of EUR 944,257,789.26 as follows:

EUR 327.00 dividend per dividend-bearing share
having a nominal value of EUR 26.00 EUR 850,200,000.00
Carry forward to new account EUR 94,057,789.26

28. Events of particular significance

There were no events of particular significance in the period from the balance sheet date to the end of the period of the preparation of the financial statements.

Munich, March 2, 2018

Knorr-Bremse AG

Klaus Deller Ralph Heuwing Dr. Peter Laier

List of shareholdings of Knorr-Bremse AG

as of December 31, 2017

	Share of capital %	Currency and unit	Equity	Result	Total assets
1. Direct investments of Knorr-Bremse AG					
KB Lambda Beteiligungs GmbH, Munich/Germany	100.0	TEUR	26	1	26
Knorr Brake Holding Corporation, Watertown, New York/USA	89.3	TUSD	519,113	172,258	988,888
Knorr-Bremse Asia Pacific (Holding) Limited, Hong Kong/China	100.0	THKD	647,638	1,766,154	6,004,307
Knorr-Bremse Beteiligungsgesellschaft mbH, Munich /Germany	100.0	TEUR	26	0	31[1)]
Knorr-Bremse Brasil (Holding) Administração e Participação Ltda., Itupeva/Brazil	100.0	TBRL	188,306	16,453	230,785
Knorr-Bremse Investment GmbH, Munich/Germany	100.0	TEUR	1,001	0	1,002[1)]
Knorr-Bremse Services GmbH Munich /Germany	100.0	TEUR	4,737	0	36,660[1)]
Knorr-Bremse Pensionsgesellschaft mbH, Munich/Germany	100.0	TEUR	24	0	24
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich/ Germany	80.0	TEUR	326,929	83,435	649,261

	Share of capital %	Currency and unit	Equity	Result	Total assets
Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich/ Germany	100.0	TEUR	36,000	0	793,190[1]
Megalith Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz/Germany --the voting rights are held by Deutsche-Anlagen- Leasing GmbH--	100.0	TEUR	-33	14	2.590
Sanctor Grundstücks-Vermietunggesellschaft mbH & Co. Objekt Mahrzahn KG, Dusseldorf/Germany (Unlimited liability shareholder is Knorr-Bremse AG Munich/Germany. The voting rights are held by SABIS Grundstücks- Vermietungsgesellschaft mbH, Düsseldorf/Germany.)	99.0	TEUR	-4.651	-229	31,908
2. Indirect investments of Knorr-Bremse AG					
Albatros GmbH, Munich/Germany	100.0	TEUR	21	-3	21
Aldona Seals Ltd., Peterlee/Great Britain	100.0	TGBP	993	260	1,179
Alpha Process Controls (International) Ltd., Peterlee/Great Britain	100.0	TGBP	539	-168	680
Alltrucks GmbH & Co. KG Munich/Germany	33.3	TEUR	785	-2,859	1,426
Alltrucks Verwaltungs GmbH, Munich/Germany	33.3	TEUR	32	1	37
Anchor Brake Shoe Company LLC, West Chicago, Illinois/USA	100.0	TUSD	28,985	2,018	37,634
APS electronic AG, Niederbuchsiten/Switzerland	100.0	TCHF	2,357	-15	4,985
BCVS Canadian Holdings LLC, Anjou, Québec/Canada	100.0				[3]
BCVS Mexican Holdings LLC, Cd Acuna, Coah/Mexico	100.0				[3]
Bendix Commercial Vehicle Systems LLC, Elyria, Ohio/USA	100.0	TUSD	797,367	104,659	911,991
Bendix CVS Canada Inc., Anjou, Québec/Canada	100.0				[3]
Bendix CVS de Mexico SA de CV, Cd Acuna, Coah/Mexico	100.0				[3]
Bendix Spicer Foundation Brake Canada, Inc., Kingston, Ontario/ Canada	100.0				[4]
Bendix Spicer Foundation LLC, Elyria, Ohio/USA	80.0	TUSD	86,382	33,311	149,301
Black River Logistics Company LLC, Watertown, New York/USA	100.0	TUSD	19,025	-3,282	22,634
BSFB Holdings, Inc., Elyria, Ohio/USA	100.0				[4]
Casram Rail S.p.A., Crimido/Italy	100.0	TEUR	621	-429	3,388
Comet Fans S.r.l., Solaro, Milan/Italy	100.0	TEUR	4,149	272	7,850
Distribuidora Bendix CVS (de) Mexico SA de CV, Cd Acuña, Coah/Mexico	100.0				[3]
Di-Pro, LLC, Fresno, California/USA	100.0	TUSD	0	0	0
Dr. techn. Josef Zelisko Ges.m.b.H., Mödling/Austria	100.0	TEUR	5,163	0	36,651[1]
Dyno-Inno Test Center for Brake Equipment (Suzhou) Ltd., Suzhou/China	100.0	TCNY	3,500	0	3,500
EKA DOOEL,Skopje/Macedonia	100.0	TMKD	22,400	653	39,093
Foro Verwaltungs GmbH & Co. KG, Munich/Germany	100.0	TEUR	6	0	6
Freios Bre Coahuila, S.A. de C.V. , Cd. Acuña, Coah/Mexico	100.0	TUSD	7,473	-27	7,473
G.T. Group Ltd., Peterlee/Great Britain	100.0	TGBP	4,201	-225	5,239
GT Emission Systems Ltd., Peterlee/ Great Britain	100.0	TGBP	18,374	4,323	27,435
GT Project Engineering Ltd., Consett/ Great Britain	100.0	TGBP	163	-352	956
Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong/China	49.0	TCNY	45,730	10,134	271,576
Hasse & Wrede CVS Dalian, China Ltd., Dalian/China	70.0	TCNY	99,067	45,685	213,068
Hasse & Wrede GmbH, Berlin/Germany	100.0	TEUR	8,656	0	24,886[1]
Heine Resistors GmbH, Dresden/Germany	100.0	TEUR	4,644	152	5,559
Heiterblick Projektgesellschaft mbH, Leipzig/Germany	49.0	TEUR	25	512	40,795
Icer Rail S.L., Pamplona/Spain	100.0	TEUR	13,163	5,234	29,031
IFE-CR a.s., Brünn/Czech Republic	100.0	TCZK	529,100	68,084	1,305,018
IFE North America LLC, Westminster, Maryland/USA	100.0	TUSD	4,700	669	7,456
IFE-Tebel Technologies B.V., Leeuwarden/Netherlands	100.0	TEUR	18,573	-954	22,320
IFE-VICTALL Railway Vehicle Door Systems (Qingdao) Co., Ltd., Qingdao/China	59.0	TCNY	145,098	17,255	526,733
IGE-CZ s.r.o. , Brno/ Czech Republic	100.0	TCZK	37,359	5,970	38,529
IFB Institut für Bahntechnik GmbH, Berlin/Germany	6.7	TEUR	181	73	456
Kalmar Tågkompetens AB, Kalmar/Sweden	100.0	TSEK	3,632	646	8,106
KB Gamma Beteiligungs GmbH, Munich/Germany	100.0	TEUR	21	-2	21
KB Investment UK Ltd.,Chippenham/Great Britain	100.0	TGBP	0	6,759	22,000

	Share of capital %	Currency and unit	Equity	Result	Total assets
KB Media GmbH Marketing und Werbung, Munich/Germany	100.0	TEUR	0	0	3,857[1)]
KB Omikron Beteiligungs GmbH, Munich/Germany	100.0	TEUR	24	-2	24
KB Sigma Beteiligungs GmbH, Munich/Germany	100.0	TEUR	26	1	26
Kiepe Electric Corporation, Vancouver/Canada	100.0	TCAD	1,260	487	2,512
Kiepe Electric d.o.o., Niš/Serbia	100.0	TRSD	1,703	-299	1,794
Kiepe Electric Ges. m. b. H., Wien/Austria	100.0	TEUR	10,932	-1,308	22,188
Kiepe Electric GmbH, Düsseldorf/Germany	100.0	TEUR	28,432	0	84,969
Kiepe Electric Inc., Alpharetta/USA	100.0	TUSD	4,731	294	11,320
Kiepe Electric(Pty) Ltd. South Africa, Woodstock/South Africa	100.0	TZAR	-283	-96	41
Kiepe Electric S.r.l., Cernusco sul Navigilio/Italy	100.0	TEUR	267	40	1,006
Kiepe Electric Ltd., Birmingham/ Great Britain	100.0	TGBP	-4,115	-3,205	895
Kiepe Electric UK Limited, Birmingham/ Great Britain	100.0	TGBP	-8,803	173	11,250
Knorr-Amabhiliki (Pty.) Ltd., Kempton Park/South Africa	100.0	TZAR	163	0	163
Knorr Brake Company LLC., Westminster, Maryland/USA	100.0	TUSD	45,725	16,119	91,464
Knorr Brake Corporation Canada Holdings Ltd., Montreal, Québec/ Canada	100.0	TCAD	3,767	5,024	13,978
Knorr Brake Ltd., Kingston, Ontario/Canada	100.0	TUSD	11,702	1,331	12,446
Knorr Brake Realty, LLC, Westminster, Maryland/USA	100.0	TUSD	3,600	225	17,350
Knorr Brake Truck Systems Company, Watertown, New York/ USA	100.0	TUSD	584,127	59,313	784,673
Knorr-Bremse 1520 OOO, Burashevskoe/Russia	100.0	TRUB	72,102	-712,037	2,462,674
Knorr-Bremse / Nankou Air Supply Unit (Beijing) Co., Ltd., Nankou/China	55.0	TCNY	70,357	34,313	187,879
Knorr-Bremse Australia Pty. Ltd., Granville/Australia	100.0	TAUD	20,162	5,303	77,828
Knorr-Bremse Benelux B.V.B.A., Heist-op-den- Berg/Belgium	100.0	TEUR	1,312	90	6,219
Knorr-Bremse Braking Systems for Commercial Vehicles (Dalian) Co. Ltd., Dalian/China	100.0	TCNY	252,254	122,013	659,495
Knorr-Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co. Ltd., Daxing/China	50.0	TCNY	361,647	311,525	1,190,376
Knorr-Bremse Commercial Vehicle Systems Japan Ltd., Tokyo/ Japan	80.0	TYEN	4,458,203	1,023,482	16,799,239
Knorr-Bremse Commercial Vehicle Systems (Shanghai) Co., Ltd., Shanghai/China	100.0	THKD	68,547	17,109	235,820
Knorr-Bremse DETC Commercial Vehicle Braking Systems (Shiyan) Co., Ltd., Shiyan/China	49.0				[2)]
Knorr-Bremse DETC Commercial Vehicle Braking Technology Co., Ltd., Shiyan/China	51.0	TCNY	117,356	36,449	373,692
Knorr-Bremse España, S.A.,Getafe/Spain	100.0	TEUR	27,471	16,898	115,331
Knorr-Bremse Fékrendszerek Kft., Kecskemét/Hungary	100.0	THUF	15,464,355	3,158,513	27,760,907
Knorr-Bremse Ges.m.b.H., Mödling/Austria	100.0	TEUR	52,141	44,937	159,062
Knorr-Bremse Ibérica S.L., San Fernando de Henares/Spain	100.0	TEUR	5,549	884	11,476
Knorr-Bremse India Pvt. Ltd., Faridabad/India	100.0	TINR	5,816,961	2,063,063	9,321,483
Knorr-Bremse KAMA Systems for Commercial Vehicles OOO, Naberezhnye Chelny/Russia	50.0	TRUB	916,801	255,319	1,251,372
Knorr-Bremse Nordic Rail Services AB, Lund/Sweden	100.0	TSEK	51,552	-27,283	220,430
Knorr-Bremse Polska SfN Sp. z o.o., Warsaw/Poland	100.0	TPLN	4.391	1,487	4,575
Knorr-Bremse Powertech Corporation USA, Atlanta/USA	100.0	TEUR	2,921	1,041	14,570
Knorr-Bremse Powertech GmbH, Berlin/Germany	100.0	TEUR	-15,515	-11,352	57,216
Knorr-Bremse Powertech Verwaltungs GmbH, Berlin/Germany	100.0	TEUR	70	4	71
Knorr-Bremse Powertech GmbH & Co. KG, Holzkirchen/ Germany	100.0	TEUR	-12,024	-4,825	15,560
Knorr-Bremse Rail Systems CIS Holding OOO, Moscow/Russia	100.0	TRUB	782,248	119,592	792,549
Knorr-Bremse Rail Systems Italia S.r.l., Campi Bisenzio/Italy	100.0	TEUR	29,762	9,017	74,215
Knorr-Bremse Rail Systems Japan Ltd., Tokyo/Japan	94.0	TYEN	2,160,024	456,174	4,042,234
Knorr-Bremse Rail Systems Korea Ltd., Seoul/South Korea	100.0	Mil.WON	5,618,459	786,642	10,428,635
Knorr-Bremse Rail Systems OOO, Moscow/Russia	100.0	TRUB	607,007	315,734	1,141,669
Knorr-Bremse Rail Systems Schweiz AG, Niederhasli/Switzerland	100.0	TCHF	8,379	3,084	17,194
Knorr-Bremse Rail Systems (UK) Ltd., Melksham, Wiltshire/Great Britain	100.0	TGBP	20,036	13,671	80,415
Knorr-Bremse RailServices (UK) Ltd., Melksham, Wiltshire/ Great Britain	100.0	TGBP	-31,452	-3,094	32,276

	Share of capital %	Currency and unit	Equity	Result	Total assets
Knorr-Bremse Railway Technologies (Shanghai) Co., Ltd., Shanghai/China	100.0	TCNY	-74,915	-1,028	34,658
Knorr-Bremse Raylı Sistemler Turkey Sanayi ve Ticaret Limited Şirketi, Ankara/Turkey	100.0	TTRY	3,953	2,031	5,110
Knorr-Bremse SA Holding Company (UK) Ltd., Melksham, Wiltshire/ Great Britain	100.0	TGBP	5,590	0	5,590
Knorr-Bremse S.A. (Pty.) Ltd., Kempton Park/South Africa	75.0	TZAR	142,674	-4,600	321,642
Knorr-Bremse S.R.L., Bukarest/Rumania	100.0	TLEU	983	42	2,238
Knorr-Bremse Services Europe s.r.o., Stráž nad Nisou/Czech Republic	100.0	TCZK	-102,634	-102,644	49,363
Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda., Itupeva/Brazil	100.0	TBRL	86,625	10,915	151,832
Knorr-Bremse Sistemas para Veículos Ferroviários Ltda., Itupeva/ Brazil	100.0	TBRL	56,519	11,068	88,383
Knorr-Bremse Sistemi per Autoveicoli Commerciali S.p.A., Arcore/Italy	100.0	TEUR	8,673	409	18,716
Knorr-Bremse Steering Systems GmbH, Wülfrath/Germany	100.0	TEUR	19,839	2,770	33,638
Knorr-Bremse Systems for Commercial Vehicles (Chongqing) Ltd., Chongqing/China	66.0	TCNY	99,543	26,629	296,101
Knorr-Bremse System för Tunga Fordon AB, Malmö/Sweden	100.0	TSEK	13,291	9,274	17,255
Knorr-Bremse Systeme für Nutzfahrzeuge Pensionsgesellschaft mbH, Munich/Germany	100.0	TEUR	24	0	24
Knorr-Bremse Systeme für Schienenfahrzeuge Ibero Holding GmbH, Munich/Germany	100.0	TEUR	47,307	0	77,995[1)]
Knorr-Bremse Systemes Ferroviaires S.A., Tinqueux/France	100.0	TEUR	11,738	3,166	25,713
Knorr-Bremse Systèmes pour Véhicules Utilitaires France S.A., Lisieux/ France	100.0	TEUR	47,473	22,620	92,679
Knorr-Bremse Systems for Commercial Vehicles India Pvt. Ltd., Pune/India	100.0	TINR	170,889	-202,648	2,423,291
Knorr-Bremse Systems for Commercial Vehicles OOO, Moscow/ Russia	100.0	TRUB	331,407	76,117	686,728
Knorr-Bremse Systems for Commercial Vehicles Ltd., Bristol/ Great Britain	100.0	TGBP	17,027	2,833	26,748
Knorr-Bremse Systems for Rail Vehicles Enterprise Management (Beijing) Co., Ltd.	100.0	TCNY	4,645	0	4,645
Knorr-Bremse Systems for Rail Vehicles Kazakhstan LLP, Astana/ Republic of Kazakhstan	100.0	TKZT	51,566	11,298	60,837
Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd., Suzhou/China	100.0	TCNY	1,280,212	1,079,122	2,975,123
Knorr-Bremse Systemy Kolejowe Polska Sp. z o.o., Krakow/ Poland	100.0	TPLN	51,099	7,544	72,816
Knorr-Bremse Systémy pro užitková vozidla ČR s.r.o.,Stráž nad Nisou/Czech Republic	100.0	TCZK	658,509	164,343	1,563,298
Knorr-Bremse Technology Center India Private Limited, Pune/ India	100.0	TINR	221,174	61,945	542,692
Knorr-Bremse Ticari Arac Fren Sistemleri Limited Sirketi, Istanbul/Turkey	100.0	TTRY	3,789	1,225	4,411
Knorr-Bremse US Beteiligungs GmbH, Munich/Germany	100.0	TEUR	50	0	498[1)]
Knorr-Bremse US Investment GmbH, Munich/Germany	100.0	TEUR	25	0	25[1)]
Knorr-Bremse Vasúti Jármű Rendszerek Hungária Kft., Budapest/ Hungary	100.0	THUF	29,768,018	6,952,121	61,486,214
Knorr-Bremse Verwaltungsgesellschaft mbH, Munich/Germany	100.0	TEUR	28	-2	28
Merak Jinxin Air Conditioning Systems (Wuxi) Co., Ltd., Wuxi/ China	51.0	TCNY	107,068	51,818	461,075
Merak Knorr Climatización S.A., Buenos Aires/Argentina	100.0	TARS	2,709	-256	7,535
Merak North America LLC, Westminster, Maryland/USA	100.0	TUSD	-3,739	-335	19,046
Metco Technical Consulting AG, Zug/Switzerland	100.0	TCHF	71	-17	1,582
Microelettrica do Brasil Comercialização e Importação de Produtos Eletromecânicos Ltda.,Barueri, São Paulo/Brazil	100.0	TBRL	-983	-1,383	4,185
Microelettrica Heine (Suzhou) Co., Ltd., Suzhou/China	100.0	TCNY	55,776	9,351	95,822
Microelettrica Power (Pty) Ltd., Johhannesburg/South Aftrica	74.0	TZAR	24,090	5,107	81,871
Microelettrica Scientifica (Pty) Ltd., Johannesburg/South Africa	100.0	TZAR	52,120	17,043	66,184

	Share of capital %	Currency and unit	Equity	Result	Total assets
Microelettrica Scientifica S.p.A., Buccinasco/Italy	100.0	TEUR	29,459	2,500	69,919
Microelettrica USA LLC, Randolph, New Jersey/USA MORCAR Grundstücksgesellschaft mbH & Co. oHG,	100.0	TUSD	4,267	735	5,414
Munich/Germany (Unlimited liability shareholder is Knorr-Bremse Beteiligungsgesellschaft mbH, Munich/Germany)	5.0	TEUR	6,082	0	51,600
MST Electroteknik Sanayi ve Ticaret Limited Şirketi, Şerifali, Istanbul/Turkey	100.0	TTRY	-4,826	-4,424	5,209
M.S. Resistances S.A., Saint Chamond/ France	51.0	TEUR	2,315	245	3,956
New York Air Brake LLC, Watertown, New York/USA	100.0	TUSD	197,965	19,508	260,569
RBL-Technologie Ltd., Naberezhnye Chelny/Russia	100.0	TRUB	5,073	5,230	14,304
SCI pour l'Industrie, Pau/France	100.0	TEUR	93	0	93
Selectron Systems AG, Lyss/Switzerland	100.0	TCHF	26,236	7,505	39,464
Selectron Systems Private Limited, Gurgaon/India	100.0				6)
Selectron Systems (Beijing) Co., Ltd., Peking/China	100,0				6)
Semiconductor Solutions (Pty.) Ltd., Pretoria/South Africa	60.0	TZAR	14,797	3,282	26,187
Sichuan Knorr-Bremse Guo Tong Railway Transportation Equipment Co., Ltd. Chengdu/China	100.0	TCNY	10,000	0	10,000
Sigma Air Conditioning Pty. Ltd., Granville/Australia	100.0	TAUD	11,526	1,803	41,459
Sigma Transit Systems Pty. Ltd., Granville/Australia	100.0	TAUD	9,598	0	9,598
Skach Ges.m.b.H., Mödling/Austria	100.0	TEUR	66	0	2,410 1)
STE Schwingungs-Technik GmbH, Klieken/Germany	100.0	TEUR	-2,131	119	42
Swedtrac RailServices AB, Solna/Sweden	100.0	TSEK	3,454	2,645	52,933 5)
Sydac Ltd., Manchester/Great Britain	100.0	TGBP	1,811	6	2,205
Sydac Pty. Ltd., Granville/Australia	100.0	TAUD	-3,659	-2,453	6,985
Sydac Simulation Technologies India Private Limited, Pune/India	100.0				2)
Technologies Lanka Inc., La Pocatière, Québec/Canada	100.0	TCAD	12,551	3,974	21,271
tedrive Steering Systems Inc., Wixom/USA	100.0	TUSD	0	-29	0 7)
tedrive Yönlendirme Sistemleri Sanayi ve Tic.Ltd.Şti. , Istanbul/ Turkey	100,0	TTRY	11,845	650	27,654
Unicupler GmbH, Niederurnen/Switzerland	100.0	TCHF	3,226	-219	3,595
Westinghouse Platform Screen Doors (Guangzhou) Ltd., Guangzhou/China	15.0				2)
Zelisko Elektrik Sanayi ve Ticaret Limited Şirketi, Istanbul/Turkey	100.0	TTRY	4,776	-651	-8,002

1) Profit-and-loss transfer agreement

2) Due to the lack of significant influence on the net assets, financial position and results of operations by Knorr-Bremse AG, disclosures regarding capital and results of these companies has been waived.

3) The companies are included in the sub-consolidation of Bendix Commercial Vehicle Systems LLC.

4) The companies are included in the sub-consolidation of Bendix Spicer Foundation LLC.

5) The companies are included in the sub-consolidation of SWT Swedtrac Sverige AB, Solna/Sweden.

6) The companies are included in the sub-consolidation of Selectron Systems AG, Lyss/Switzerland. Due to materiality reasons, individual disclosures are waived.

7) The company was liquidated, effective February 2, 2018.

Auditor's Report

The following auditor's report, prepared in accordance with § 322 HGB "Handelsgesetzbuch": "German Commercial Code", refers to the complete financial statements, comprising of statement of financial position, statement of profit and loss and notes to the annual financial statements of Knorr-Bremse AG, together with the combined management report of Knorr-Bremse AG for the financial year from 1 January to 31 December 2017. The combined management report is not included in this prospectus. The above-mentioned auditor's report and consolidated financial statements are both translations of the respective German-language documents.

To the Knorr-Bremse Aktiengesellschaft, Munich

We have audited the annual financial statements, comprising the balance sheet, the income statement and the notes to the financial statements, together with the bookkeeping system, and the management report of the Knorr-Bremse Aktiengesellschaft, Munich, for the business year from 1 January to 31 December 2017. The maintenance of the books and records and the preparation of the annual financial statements and management report in accordance with German commercial law (and supplementary provisions of the shareholder agreement/articles of incorporation) are the responsibility of the Company's management. Our responsibility is to express an opinion on the annual financial statements, together with the bookkeeping system, and the management report based on our audit.

We conducted our audit of the annual financial statements in accordance with § 317 HGB ("Handelsgesetzbuch": "German Commercial Code") and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the annual financial statements in accordance with (German) principles of proper accounting and in the management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Company and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the books and records, the annual financial statements and the management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the annual financial statements and management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the annual financial statements comply with the legal requirements (and supplementary provisions of the shareholder agreement/articles of incorporation) and give a true and fair view of the net assets, financial position and results of operations of the Company in accordance with (German) principles of proper accounting. The management report is consistent with the annual financial statements, complies with the German statutory requirements, and as a whole provides a suitable view of the Company's position and suitably presents the opportunities and risks of future development.

Munich, 5 March 2018

KPMG AG
Wirtschaftsprüfungsgesellschaft
(Original German version signed by:)

Rupprecht	Engelmann
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

24. RECENT DEVELOPMENTS AND OUTLOOK

24.1. Recent Developments

In June and July 2018, we entered into a cooperation agreement with Continental Automotive GmbH. With this cooperation, we aim to become a leading Tier-1 supplier for highly automated driving components and systems in our Addressable Commercial Vehicle Systems Market. Also in June 2018, we signed a know-how transfer and back licensing agreement with certain affiliates of Federal Mogul Holdings LLC for the acquisition of know-how for the development and production of products in the area of rail friction components and related technologies. Thus, we are further reinforcing our systems expertise and investing in new and improved customer-oriented products. The simulation business in the Rail Vehicles Systems segment, Sydac Pty Ltd., was sold in July 2018 to Oktal, Société par actions simplifiée. The divesture of Sydac is part of a realignment of our portfolio in the Rail Vehicle Systems segment and reflects our increased focus on connected onboard railway subsystems and related services. Furthermore, we continued the disposal of the so-called Blueprint group of companies comprising certain portions of our Rail Vehicle maintenance business in Sweden and the UK. To this end, we entered into an agreement in August 2018 to sell our U.K. Rail Vehicle business, comprising Knorr-Bremse RailServices (UK) Limited. and Kiepe Electric Limited, to mutares Holding-25 AG. With this step, we are continuing our ongoing efforts to realign our strategic focus on core competencies as a key supplier for the railway industry, offering subsystems, components and all related services.

On August 30, 2018, the Supervisory Board appointed Dr. Jürgen Wilder as a member of the Executive Board. Dr. Wilder's term runs from September 1, 2018 until August 31, 2021. Upon commencing his term of office, Dr. Wilder assumed responsibility for the Rail Vehicle Systems segment.

With effect from August 31, 2018, Mr. Georg Härter resigned from his office as member and chairman of the Supervisory board. On August 29, 2018, and with effect from September 1, 2018 Prof. Klaus Mangold was elected as a member of the Supervisory Board. On August 29, 2018, he was elected as chairman of the Supervisory Board, also with effect from September 1, 2018.

24.2. Outlook

According to the RB RV Report, the global Rail Vehicle Market is expected to grow at a CAGR of approximately 2.5% over the 2016-2022 period, to reach approximately EUR 118 billion in 2022. Growth in the OE Rolling Stock Market Segment is expected to be driven especially by the EMEA and CIS region and by North America, while growth in the Rail Aftermarket/Services Segment is expected to come mostly from North America and China, according to the RB RV Report.

We expect our Addressable Rail Vehicle Systems Market to grow across the relevant sub-systems over the next few years. We see the main reasons for the strong growth of our Addressable Rail Vehicle Systems Market in the positive development of mass transit in Asia (mainly in China, India, South East Asia, Hong Kong and Taiwan) as well as freight transport and urban transit in Europe, driven, among other factors, by the German and the recovering Russian freight market, and the French and Polish passenger market segments. The expected growth in passenger mainline and urban transit has a stronger positive impact on our Addressable Rail Vehicle Systems Market (due to the broader scope of applications of our relevant product categories in these transport segments, for which air brake systems, passenger doors and passenger HVAC systems are relevant) than growth of the freight business (which mainly has an impact on brake systems). We also expect growth in the aftermarket segment, mainly in mature markets such as Europe and North America.

According to the RB T&T Report, global TPR is expected to grow at a CAGR of approximately 2.6% over the 2016-2022 period to reach 3.2 million units in 2022. Most of the TPR growth is expected to be generated in the 2016-2018 period, with a global CAGR of 7.5%, whereas in the remaining sub-period (2018-2022), TPR is expected to grow at a much lower CAGR of 0.3%. The reasons for this difference are the massive pre-buy effect in China during 2017, as well as the effects of recovering economies and markets in North America (where the truck market improved in 2017 after a downturn in 2016) and in South America (with an upturn after a recession period).

With regard to our Addressable Commercial Vehicle Systems Market, we also expect continuing growth over the next few years. We expect particularly strong growth in the Americas, and also stable growth in Europe and Asia/Australia, respectively, over the same period. We estimate that growth in our Addressable Commercial Vehicle Systems Market will be mainly driven by increasing content per vehicle. Content per vehicle may increase both as a result of an increase in equipment rate (*e.g.*, an increasing share of trucks and buses being equipped with air disc brakes, shifting from foundation drum brakes) and from an increase in additional functions (such as ADAS). New safety and emission regulations and technology adoptions facilitated by regulatory requirements are driving an increase in the level of content per vehicle.

Against this background, we are, in the medium term (*i.e.*, within a horizon of three to four years), targeting organic growth rates of our sales (at a CAGR) in the range of approximately 4.5% to 5.5%. We expect sales to grow at a slightly stronger rate in our Rail Vehicles Systems segment, in which we target a CAGR in the range of approximately 5% to 6% over the period of three to four years, than in our Commercial Vehicles Systems segment, where we target a CAGR in the range of approximately 4% to 5% over the same period. We expect such growth to be driven by underlying market growth rates as well as our product mix, geographic mix and content growth.

Furthermore, it is our goal to expand in the medium term our EBITDA margin by approximately 150 basis points compared to the reported EBITDA margin for the fiscal year 2017. We expect that EBITDA margins of both segments will gradually increase, with the margins in our Rail Vehicles Systems segment growing at a slightly stronger rate than in our Commercial Vehicle Systems segment. We expect margin improvement in particular to be driven by our cost management and efficiency programs, performance improvements in our non-brake systems products, in particular in onboard and steering products, as well as operating leverage and by a growing Aftermarket Sales Share. Profit margins are also expected to improve due to the elimination of one-offs regarding extraordinary expenditures in the context of the attempted acquisition of Haldex AB, the conversion of Group accounting to IFRS and the preparation for the initial public offering of the Company as well as due to the elimination of one-offs and future negative operating margins referring to assets held for sale, which included the simulation business in the Rail Vehicles Systems segment and our Rail Vehicle maintenance business.

We intend to, in the medium term, maintain stable capital expenditures in line with our 2014-2017 average and are currently targeting a ratio of capital expenditures to consolidated net sales of approximately 4% of sales for each segment throughout within the next three to four years. We also expect days working capital requirements (in % of revenues) to be in line with the 2014-2017 average in the medium term.

We aim to maintain our investment grade credit ratings from Standard & Poor's (A) and Moody's (A2), both with "Outlook stable", supported by our policy to maintain a financial leverage of net debt to EBITDA of below one in the medium term. We expect to keep such leverage ratio in line with our policy at all times, including immediately post financing of any acquisitions. We expect our IFRS tax rate to be around 30% in the medium term.

All of the foregoing medium term financial ambitions and targets are based on the assumptions of constant foreign exchange rates and a stable economic environment. The impact of potential acquisitions has not been considered in these financial ambitions and targets (except with regard to our leverage ratio).

25. GLOSSARY

AAR .... Abbreviation for Association of American Railroads, an organization that represents the freight rail industry of North America. It was founded in 1934 and it is the world's leading railroad policy, research, standard setting and technology industry trade group.

ABS .... Anti-lock braking system, a safety system that allows the wheels on a motor vehicle to maintain tractive contact with the road surface according to driver inputs while braking, preventing the wheels from locking up (ceasing rotation) and avoiding uncontrolled skidding. It is an automated system that generally offers better vehicle control and shortens stopping distances on dry and slippery surfaces. On the other hand, on loose gravel or snow-covered surfaces, ABS can considerably increase braking distance, whereby steering control over the vehicle is still improved.

AC .... Abbreviation for alternating current, an electric current which periodically reverses direction.

ACC .... Adaptive cruise control is a feature that automatically regulates and maintains the speed of a vehicle keeping the correct distance from the vehicle ahead, dependent upon the speed of traveling. This helps to prevent rear-end collisions. The optional feature belongs to the ADAS level 2 functions and aims at supporting the driver in heavy traffic. Furthermore, ACC can enable a more effective use of road capacities.

ADAS .... Advanced driver assistance systems encompass functions to support the driver and increase traffic and road safety. ADAS features have become standard in today's commercial vehicles due to a variety of electronic assistance systems ranging from lane departure warning to congestion assist.

AEBS .... Automatic Emergency Brake System refers to a system which can automatically detect an emergency situation and activate the vehicle brake system, with or without driver intervention, to decelerate the vehicle with the purpose of avoiding or mitigating a collision.

AMT .... Automated manual transmission describes an automated gearbox that facilitates manual gear changes without requiring a manual clutch (pedal). However, it is important to clarify that an AMT does not change gears automatically. The process of changing gears is performed by electronic sensors, processors and actuators to engage the gears based on the input from the driver or by a computer. The electronic gear control unit is a combination of mechanical components (*e.g.*, pneumatic cylinders) as well as electrical components (*e.g.*, solenoid valves, cables, electronic control units).

ASR .... Anti-Slip Regulation describes a secondary safety feature that works with the Anti-Lock Brake System (ABS) on, among others, trucks, and is also sometimes referred to as "Traction Control System" (TCS). The ASR contributes to prevent the vehicle's wheels from losing traction. ASR helps to correct driver errors in adverse road conditions and supports the driver in maintaining control of the vehicle. ASR

stops the spinning wheel by maintaining tractive power and limiting acceleration. Most vehicles have an indicator light to warn the driver of slippery conditions.

Audited Consolidated Financial Statements .... Audited Consolidated Financial Statements are the Group's audited consolidated financial statements prepared by the Company as of and for the fiscal years ended December 31, 2017, December 31, 2016 and December 31, 2015 in accordance with IFRS, as adopted by the European Union and the additional disclosure requirements of German commercial law pursuant to Section 315e(1) HGB as of and for the fiscal years ended December 31, 2017, December 31, 2016 and December 31, 2015.

Audited Unconsolidated Financial Statements .... Audited Unconsolidated Financial Statements mean the audited unconsolidated financial statements of the Company prepared in accordance with German generally accepted accounting principles (German GAAP) as of and for the fiscal year ended December 31, 2017, prepared in accordance with the German Commercial Code (*Handelsgesetzbuch*).

BaFin .... German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*).

Bogie equipment .... The bogie equipment is the mechanic part of the overall brake system that actually generates the braking force. Bogie equipment includes, among other things, brake discs, brake pads, brake caliper units and tread brake units.

Bus communication system (computing) .... In computer architecture, a bus is a communication system that transfers data between components inside a computer, or between computers. The term comprises all related hardware components and software, including communication protocols.

CAGR .... Compound annual growth rate.

CCB-3 .... CCB-3 is a new locomotive brake system developed by Knorr-Bremse and the successor to the CCB and MBS product families. It has been designed as a modular kit for complete locomotive brake systems to serve all global market needs without the need to redesign a brake system to accommodate a different market.

Circuit breaker .... An electrical switch capable of opening and closing an electrical circuit. The main purpose of high-speed circuit breakers is to protect an electrical (power/auxiliary) circuit from failures to ground as they are designed to immediately discontinue electrical flow anytime a current overload or a short circuit occurs. High-speed circuit breakers are also able to close under normal load conditions or to insulate traction units when not in service. The main advantage of a circuit breaker compared to a fuse is that the circuit breaker can be reset and does not have to be replaced.

Contactor .... A relay used to control an electrical power circuit. Contactors are able to open and close under load conditions. Nowadays they are used to connect and

disconnect high power traction converters, auxiliary converters and auxiliary circuits (heating, climate control, compression, lighting, magnetic brakes).

D&O.. The Company's directors and officers.

D&O insurance.. Directors and Officers Liability Insurance, a liability insurance payable to the directors and officers of a company as indemnification for certain damages or advancement of defense costs in the event any such insured suffers such a loss as a result of a legal action (whether criminal, civil, or administrative) brought for alleged wrongful acts in their capacity as directors and officers or against the organization.

DC.. Abbreviation for direct current, an electric current which always flows in one direction.

Disconnector.. A disconnector is a device used to ensure that an electrical circuit is completely de-energized for service or maintenance. Such switches are often found in electrical distribution and industrial applications, where machinery must have its source of driving power removed for adjustment or repair. Disconnectors can be operated either manually or automatically.

Disk Brake.. A disc brake is a brake that operates by the action of a frictional material pressed against the sides of a rotating disc by a caliper. Air disc brakes use compressed air to apply the pressure to the brake pad needed to stop the vehicle. Air disc brakes increase the safety of transportation. Moreover, air disc brakes achieve a higher brake force in the same rim size compared to drum brakes, and enable a stable brake performance with high thermal durability and smooth braking graduation. Furthermore, air disc brakes are easy to service.

EAC .... Abbreviation for electronic air control. This Knorr-Bremse product combines the pneumatics of decisive functions with intelligent control. Its software and components result in a measurable reduction in the vehicle's fuel consumption as well as increased safety and comfort.

EBITDA .... Earnings before interest, tax, depreciation and amortization.

EBS .... Electronic brake system. These systems provide electronic activation of all brake system components including retarder and engine brake. EBS also supports trailers and communicates between the towing vehicle and trailer. EBS still relies on compressed air for braking and is only controlling the air through valves (*i.e.*, it does not depend on higher voltages such as those used by electro- mechanical or electro-hydraulic brake systems where electric power also is used to apply the brake pressure). EBS enhances the precision of the braking over conventional braking, which shortens the braking distance.

Eddy-current brake .... An eddy-current brake, like a conventional friction brake, is a device used to slow or stop a moving object by dissipating its kinetic energy as heat. However, unlike friction brakes, the drag force in an eddy-current brake is an electromagnetic force between a magnet and a nearby conductive object in relative motion, due to eddy currents (which are loops of electrical current induced within conductors by a changing magnetic field in the conductor due to Faraday's law of induction) induced in the conductor through electromagnetic induction. It operates without contact to the rail, which means that it is a wear-free brake which is unaffected by weather conditions and can be applied with great precision. The eddy-current brake is particularly advantageous at high speeds.

EEA.. European Economic Area.

ELC.. Electronic leveling control, a term that covers functionalities such as leveling control for loading or unloading of a vehicle as well as constant vehicle height while driving. With respect to axle load control, the ELC system contributes to traction improvement and control of load distribution across axles. In addition, functionalities such as lift axle handling, dumper control and kneeling for buses can be implemented based on such system. System components include cabin electronic control units, valves, a four-channel module with integrated pressure sensor, a remote control unit, a level sensor and a pressure sensor.

EP .... Abbreviation for electro-pneumatic (brakes).

EPB.. Abbreviation for Electronic Parking Brake, which can realize functions such as manual park and release as well as proportional braking.

ESP .... Electronic stability programs are based on computer technology. By detecting and reducing loss of traction, the stability of a vehicle is improved.

Eurozone .... The term "Eurozone" refers to the economic and monetary union of the EU member states that have adopted the Euro as their respective official currency.

fiscal year 2015 .... Fiscal year 2015 means the fiscal year ended December 31, 2015.

fiscal year 2016 .... Fiscal year 2016 means the fiscal year ended December 31, 2016.

fiscal year 2017 .... Fiscal year 2017 means the fiscal year ended December 31, 2017.

FSMA... Financial Services and Markets Act 2000.

FTE.. Full-time equivalent. Employees with a working time of ≥ 60% account for one employee, which the Company also refers to as one FTE. Employees working < 60% account for 0.5 employees, which the Company also refers to as 0.5 FTE.

GSBC .... Global Scalable Brake Control describes an integrated driving system, which combines EBS and ABS. Knorr-Bremse's newly-developed GSBC is a highly integrated, scalable and customer-specific brake control. Scalability enables GSBC to be adapted to the technical and regional requirements of customers.

HAD .... Highly automated driving, operating on Safety Integrity Levels 3-5. Nowadays, the technology has advanced so far that it is capable of conditional automated driving (HAD, SIL level 3), while the first fully-automated functions (SIL Level 4) have already been tested on public roads where permitted by law. Examples include driverless parking (valet parking) for passenger cars and the Autonomous Yard Maneuvering system for commercial vehicles. The basis for HAD is the full lateral and longitudinal control of the vehicle under any type of conditions, which control should be at least as good as under a driver's command.

HVAC .... Abbreviation for heating, ventilation and air conditioning.

IAA .... Abbreviation for International Motor Show, in German known as the *Internationale Automobil-Ausstellung*. It is the world's largest motor show, and is held annually, with passenger vehicles (including some motorcycles) being displayed in odd-numbered years in Frankfurt am Main, Germany, and commercial vehicles in even-numbered years in Hanover, Germany.

IATF .... International Automotive Task Force.

iCOM .... "iCOM" stands for intelligent Condition Oriented Management. iCOM is a flexible, open and scalable solution developed by the Group to transfer the philosophy of mobile digitization into the rail business by enabling high flexibility and control. This innovative platform for the digital railroad bundles a number of functions offering efficient, low-wear driving, real-time energy consumption measurement, and preventive diagnostics. The digital 4.0 iCOM platform is compatible with various train architectures and allows for connectivity with all relevant Knorr-Bremse products. In addition, its open architecture also supports third-party products. This product family includes monitoring, driver assistance and energy metering tools, among others.

IFRS .... International Financial Reporting Standards, as adopted by the European Union.

iHSA .... IHSA stands for intelligent Hydraulic Steering Assist, which describes a steering system that includes a torque overlay function. The iHSA offers an interface with modern driver assistance systems and allows the integration of lane keeping systems, side wind compensation, etc.

IRIS .... International Railway Industry Standard.

ISO .... International Organization for Standardization.

ISO/TS 16949 .... Technical Specification of the International Organization for Standardization. This specification regulated general specifications relating to quality management relating to the automobile industry. It has been replaced by the IATF 16949 standard (with a transitional period ending on September 14, 2018).

IT .... Information Technology, which refers to the application of computers and telecommunications equipment in order to store, retrieve, transmit and manipulate data, often in the context of a business.

Kinetic energy .... The energy content in a body that arises due to acceleration of the body and thus acceleration work.

Lane Departure Warning (LDW) .... See “Lane Keep Assist” below.

Lane Keep Assist (LKA) .... Lane Keep Assist (LKA) or Lane Departure Warning (LDW) systems are systems that warn the driver of an unintentional drift of the vehicle out of its travel lane. For example, the Lane Departure Warning System uses video to monitor the lane markings on the road up to 50 meters ahead of the vehicle. If it shows signs of drifting out of lane, the system uses an optical, acoustic or haptic signal to warn the driver.

LRV .... Abbreviation for light rail vehicles, light rail vehicles are a form of urban rail transport using rolling stock.

Magnetic brakes .... Magnetic brakes do not rely on wheel-rail adhesion and can be used to deliver additional braking if required. The retarding effect of wheel-brakes, such as hydraulic friction brakes, is influenced heavily by the adhesion between wheel and rail and is therefore limited. Magnetic track brakes apply the braking force directly on to the rail (in the opposite direction to that of travel). Magnetic track brakes are magnetically attracted to the rails. The braking force is built up by using the friction between the magnetic track brake and rail. Automatic braking and also emergency braking are typical tasks for magnetic track brakes. The magnetic track brake is always unregulated and applies its maximum braking force.

Monorail .... The Monorail Society defines a monorail as “a single rail serving as a track for passenger or freight vehicles. In most cases rail is elevated, but monorails can also run at grade, below grade or in subway tunnels. Vehicles either are suspended from or straddle a narrow guide way. Monorail vehicles are wider than the guide way that supports them” (http://www.monorails.org/tMspages/WhatIs.html).
The term is also used to describe the trains traveling on such a beam or track. Monorails are used, for example, in airport transfer and certain medium capacity metros.

OE .... Abbreviation for original equipment.

OEM .... Abbreviation for the original equipment manufacturer.

OES .... Abbreviation for original equipment services.

Pantograph .... An apparatus mounted on the roof of an electric train, tram or electric bus to collect power through contact with an overhead catenary wire.

R&P .... Abbreviation for rack & pinion, which describes a steering system based on a type of linear actuation. The pinion consists of a circular gear and engages linear gear called “the rack”. By this, any rotational motion of the pinion is translated into a linear movement of the rack. This technical approach is applied in a R&P steering system.

RCB .... Abbreviation for recirculating ball, used in steering gears for trucks. It consists of a fixed worm gear with a circulating ball that is connected to the steering wheel. With the rotation of the steering wheel, the fixed worm gear moves into the pitman and transmits the motion through the gear to the pitman arm.

Resistor .... An electrical component that limits or regulates the flow of electrical current in an electronic circuit. In addition, resistors may be used to provide a specific voltage for an active device such as a transistor.

S-Cam drum brake .... With the s-cam brake, the cam and camshaft are rotated as a result of the force of the brake actuator acting on the slack adjuster. The brake shoes with brake linings are thereby pressed against the brake drums.

SIL .... Safety integrity level, defined as a relative level of risk-reduction provided by a safety function.

Slack adjuster .... A slack adjuster is an automatic adjustment device (reset device) that compensates for the wear of brake linings, brake shoes, brake discs, wheel treads and joints in the brake rigging. It can be integrated into the brake cylinder or installed in the brake rigging as a separate device.

Spring brake .... Parking brakes are equipped with a disc or drum brake arrangement designed to be held in the "applied" position by spring pressure. Air pressure must be produced to release these "spring brake" parking brakes. A setting of the parking/emergency brake releases the pressurized air in the lines between the compressed air storage tank and the brakes, thus allowing the spring actuated parking brake to engage.

TCMS .... Abbreviation for train control management system. This system is programmed with comprehensive software tools that enable the train control, diagnosis, condition monitoring and other functions relating to management of rail vehicles.

TMC .... Truck Motion Control connects the different ADAS subsystems and synchronizes braking and steering maneuvers to create a safer overall system, as vehicles move towards highly automated and fully-automated driving functionality. The TMC analyzes multiple sensor data and camera feedback in different driving situations and uses the results to make dynamics driving decisions.

UIC .... International Union of Railways (the abbreviation corresponds to the French term "*Union Internationale des Chemins de fer*"), based in Paris, France. It is the worldwide professional association representing the railway sector and promoting rail transport and was founded following an international conference held in 1922.

UIC-standard .... A standard (for a product) approved by the UIC.

Upsize Option .... Option on the date of pricing for KB Holding, to be exercised in consultation with the Joint Global Coordinators, to decide upon the number of Additional Base Shares to be actually placed with investors.

VAT .... Value added tax. A type of consumption tax that is placed on a product whenever value is added at a stage of production and at final sale.

Wheelend .... A brake system consisting of the wheel brake, pads, rotor, actuator and eventually also hub and wheel bearing.