Half-year financial report 2019

JANUARY 1 TO JUNE 30, 2019
KNORR-BREMSE AG

Knorr-Bremse Group key performance indicators (IFRS)

KNORR-BREMSE GROUP KEY PERFORMANCE INDICATORS (IFRS)

		1st half year 2019	1st half year 2018
Revenues	€ million	**3,601.5**	**3,322.2**
EBITDA	€ million	**669.0**	**582.2**
EBITDA margin	%	18.6	17.5
Operating EBITDA margin	%	19.0	18.0
EBIT	€ million	**533.2**	**472.3**
EBIT margin	%	14.8	14.2
Operating EBIT margin	%	15.6	15.3
Net income	€ million	**363.7**	**307.0**
Earnings per share (basic)	€	**2.13**	**1.76**
Incoming orders	€ million	3,581.2	3,517.0
Order book (June 30)	€ million	**4,542.3**	**4,371.8**
Operating cash flow	€ million	310.5	249.1
Free cash flow	€ million	178.1	150.2
Cash conversion rate	%	49.0	48.9
Capital expenditure (before acquisitions)	€ million	165.6	106.1
Capital expenditure (before IFRS 16 and acquisitions)	€ million	133.7	106.1
Capital expenditure as % of revenues (before IFRS 16 and acquisitions)	%	3.7	3.2
R&D costs	€ million	202.1	189.7
R&D as % of revenues	%	5.6	5.7

		June 30, 2019	Dec. 31, 2018
Total assets	€ million	6,793.7	6,262.2
Equity (including non-controlling interests)	€ million	1,651.2	1,607.1
Equity ratio	%	24.3	25.7
ROCE (annualized)	%	31.3	36.4
Net financial (debt) / cash	€ million	(364.6)	250.2
Net working capital	€ million	1,142.5	861.9
Employees (as of June 30, including leased personnel)	FTE	29,812	28,452

1st half year 2019 highlights

- Best first half-year revenues in Company history: Revenues up 8.4% year on year to €3,601.5 million (+6.1% at constant exchange rates)
- Healthy earnings performance: EBITDA up 14.9% to €669.0 million
- EBITDA margin increased by 110 basis points to 18.6% of revenues; operating margin 19.0%
- EBIT up 12.9% to €533.2 million
- EBIT margin 14.8%, up 60 basis points year on year; operating margin 15.6%
- EPS up 21.1% to €2.13 per share
- Operating cash flow up 24.6% to €310.5 million
- Free cash flow €178.1 million, up 18.6% year on year despite increased capital expenditure
- Full-year guidance for 2019 confirmed:
  - Revenues: €6,875 million to €7,075 million (2018: €6,616 million)
  - EBITDA margin: 18.5% to 19.5% (2018: 17.8%)

Interim Group Management Report

BUSINESS REPORT

Macroeconomic and industry-specific conditions

Economic activity and industry environment

Economic growth

Global growth slowed over the course of the previous year 2018. The economic weakness, which was most pronounced in the second half of 2018, continued in the first half of 2019. Many international economic institutes regard the ongoing tensions in world trade as one of the most serious risks to economic growth. Since May, the USA has stepped up tariffs on specific Chinese imports and China has responded by raising tariffs on some U.S. imports. Further escalation has been averted for the time being following the G20 summit in June but there is no sign of letting up so far. On the contrary, the latest developments point to further tensions. U.S. sanctions continue to affect global technology supply chains and the uncertainty due to Brexit is ongoing. Overall, geopolitical tensions persisted in the first half of 2019 and drove up energy prices.

Alongside political events, the lack of inflation and its expectations are currently considered to be the key factors influencing developments and fluctuations on both the equity and bond markets (Bund yields are quoted at low levels, share prices at a relatively high level). The EUR/USD exchange rate moved in a stable band between 1.11 and 1.15 during the first half year. Central banks hold out the prospect of further interest rate cuts.

Rail vehicle market

The rail vehicle market remained very robust over the course of the first half of 2019 so far, mainly driven by a positive demand trend from European and Asian rail transport, particularly for multiple unit passenger trains.

Europe/Africa

Following very high levels of new business in previous years, the UK market weakened; this was, however, more than offset by other European markets such as Germany, France and Italy.

North America/South America

Knorr-Bremse saw a strong first half of 2019 in the North American market, but expectations are for temporarily weaker orders in the passenger business.

Asia-Pacific

New project awards increased in the Asia-Pacific market, driven by India and Taiwan. China continues to be the largest single rail market and remains on a stable trend.

These market assessments are based on the Company’s own analyses.

Commercial vehicle market

The global commercial vehicle market, on the basis of the truck production rate, was virtually unchanged in the first half of 2019 (down 1%). The North and South American truck market, on the other hand, continued to grow strongly (up 16%).

Europe/Africa

Production in the Western European commercial vehicle market was at the same high level in the first half of 2019 as in the prior-year period. In Eastern Europe, by contrast, production fell in the same period by 13%.

North America/South America

The commercial vehicle market in North America (truck classes 6–8) grew by 18% compared with the second half of 2018. Despite the announced closure of Ford Brazil, truck and bus production in South America went up by 8%.

Asia-Pacific

Commercial vehicle production went down by 5% in the first half of 2019 compared with 2018. The decrease was by 3% in China, 7% in Japan and 14% in India.

These market assessments are based on the Company's own analyses and numerous analysis reports on the truck sector.

Corporate management indicators

The most significant financial key performance indicators at Knorr-Bremse are revenues, (operating) EBITDA/ (operating) EBITDA margin, (operating) EBIT/ (operating) EBIT margin, net working capital in days' sales and ROCE. Other key performance indicators, in particular at Group level, include incoming orders, the order book, and capital expenditure as a percentage of revenues. These are explained in detail on page 67 of the Annual Report 2018.

MANAGEMENT INDICATORS

	1st half year 2019	1st half year 2018
Revenues (€ million)	3,601.5	3,322.2
EBITDA (€ million)	669.0	582.2
EBITDA margin (% of revenues)	18.6	17.5
Operating EBITDA margin (% of revenues)	19.0	18.0
EBIT (€ million)	533.2	472.3
EBIT margin (% of revenues)	14.8	14.2
Operating EBIT margin (% of revenues)	15.6	15.3
ROCE, annualized (%)	31.3	35.4
Net working capital in days' sales	57.1	55.0
Employees (as of June 30, including leased personnel)	29,812	29,326

DIVISIONAL REVENUES AND EBITDA

	1st half year 2019	1st half year 2018
Rail Vehicle Systems		
Revenues(€ million)	1,876.0	1,744.2
EBITDA margin (% of revenues)	22.2	18.5
Operating EBITDA margin (% of revenues)	22.2	19.4
Commercial Vehicle Systems		
Revenues(€ million)	1,726.7	1,577.3
EBITDA margin (% of revenues)	15.3	16.5
Operating EBITDA margin (% of revenues)	16.3	16.5

The operating EBITDA/EBIT margins are calculated by adjusting the reported revenue and earnings figures for the effects of restructuring measures. These include the divestments made in 2018 (Blueprint/Sydac) and the closure of the Wülfrath plant announced in 2019.

ROCE shows whether we generate an appropriate return on capital employed and thus provides the basis for efficient capital allocation. Annualized ROCE for the first half year, at 31.3%, was down on the prior-year period (35.4%). The decrease was mainly due to the higher capital employed as a result of IFRS 16. Adjusted for the one-time expense for Wülfrath and the effects of IFRS 16, ROCE for the first half year was 35.5%, within the full-year target range of 35% to 40%. At 57.1 days net working capital in days' sales increased slightly compared with the prior-year reporting date (55.0 days' sales).

We also regularly measure non-financial performance indicators. These help us with the management and long-term strategic positioning of the Company. The most significant non-financial performance indicator is the number of employees (FTE). However, non-financial performance indicators are not primarily used in the management of the business.

The definitions of the key figures in this report have not changed since the 2018 Annual Report, with the exception of adjustments to accounting standards in the course of the year.

Significant events in the reporting period

Changes to the Group's portfolio and asset deals

Effective February 1, 2019, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH acquired a 50% interest in Sentient IP AB, Gothenburg, Sweden together with a 100% interest in Sentient Heavy Vehicles AB, Gothenburg, Sweden from Sentient AB, Gothenburg, Sweden. The total purchase price at the transaction date, estimated at €4.8 million, was paid. On the basis of this strategic investment, Knorr-Bremse can now continue to develop the software and IP rights contributed by Sentient AB in our steering business.

Knorr-Bremse acquired an interest in Israeli startup RailVision, Ra'anana, Israel, effective March 14, 2019 in a strategic investment with a purchase price of €4.5 million. Voting rights amounted to 21.3% as of June 30, 2019. RailVision develops video and infrared-based obstacle detection systems comprising an important technology for the implementation of automated driving functions for rail vehicles. This marks the next step for Knorr-Bremse toward providing system solutions for automated rail travel.

Effective March 15, 2019, New York Air Brake LLC (NYAB), a U.S. subsidiary of Knorr-Bremse, acquired the business of Snyder Equipment Company, Inc., Nixa, Missouri, USA for a purchase price of €16.2 million. An industry-leading manufacturer of locomotive refueling systems and service equipment, the company is also a well-established remanufacturer of locomotive components.

Knorr-Bremse Asia Pacific (Holding), Ltd. acquired Hitachi Automotive Systems, Ltd., Japan for a purchase price of €164.8 million and the assets of Hitachi Automotive Systems Asia, Ltd., Thailand for a purchase price of €9.6 million as of March 29, 2019. This acquisition augments Knorr-Bremse's portfolio of steering systems as well as of advanced driver assistance and highly automated driving system solutions. It also provides the Group with improved access to the Japanese and Southeast Asian market. The goodwill of €64.7 million results primarily from the future development potential of existing technologies, the expected broadening of the product and customer base and the know-how of the workforce. Hitachi Automotive Systems contributed €21.3 million to consolidated revenues and €-0.7 million to consolidated earnings before taxes in the first half of 2019.

Effective April 11, 2019, Knorr-Bremse signed an agreement for the acquisition of a 32% non-controlling interest in Railnova SA, Belgium. Railnova is a leading provider of telematics solutions and maintenance workflow software for the rail industry. The investment underpins Knorr-

Bremse's strategy of digitization and data-driven business solutions for applications in the rail industry.

Restructuring

On May 22, 2019, the Executive Board of Knorr-Bremse AG decided to discontinue the production of steering systems at the Wülfrath location of Knorr-Bremse Steering Systems GmbH by the end of 2020. This decision was made on the basis of a detailed analysis of various scenarios and taking into account the most recent acquisitions in the commercial vehicle steering systems business. A key factor in the decision was the termination of a large-scale order for passenger car steering systems earlier than expected. The Company plans to retain KB Steering's established expertise in an engineering center. The restructuring expenses of €26.8 million (EBIT) recognized up to the end of the first half year mainly relate to termination benefits in the amount of €16.4 million as well as to impairments of € 10.4 million. This measure does not affect the operating EBITDA and EBIT in the Group's forecast for the 2019 fiscal year. On July 31, 2019, the conciliation committee was called upon to mediate in order to lead talks between management and employee representatives on the reconciliation of interests and social compensation plan to a constructive conclusion.

Litigation

The Knorr-Bremse Group's ongoing litigation is presented on page 164 of the Annual Report 2018. As of June 30, 2019, there was no change with regard to arbitration proceedings with Robert Bosch GmbH, the investigation against Microelettrica Scientifica S.P.A. or the administrative action in Brazil against Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda.

Investigations by the U.S. Department of Justice

On April 3, 2018, the U.S. Department of Justice, Antitrust Division (hereinafter: DOJ) had 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.

Following the settlement reached with the DOJ, several law firms had 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 between the above mentioned parties not to compete for each other's employees. Knorr-Bremse AG has meanwhile reached a settlement in this litigation. The settlement remains subject to the reservations customary for the USA, including confirmation of the settlement by the competent court in the USA.

Provisions have been recognized in an amount as of June 30, 2019 for payments under the settlement as well as remaining costs.

The non-public civil law investigation against the US companies Knorr Brake Company, Westminster, Maryland/USA, New York Air Brake LLC, Watertown, New York/USA and among others, which was initiated in 2016 by the DOJ was ceased in May 2019 without any sanctions or requirements.

Dividend payment

The Annual General Meeting of Knorr-Bremse AG resolved on June 18, 2019 to distribute a dividend of €1.75 per eligible share (161,200,000 shares). The total dividend distribution thus amounts to €282.1 million or 45% of consolidated net income. This also reflects our longstanding strategy of retaining sufficient funds within the Company to be able to make important investments in the future.

Change in leadership on the Executive Board

The Chairman of the Executive Board of Knorr-Bremse AG and Member of the Executive Board responsible for labor relations as Labor Director pursuant to Section 33 of the Codetermination Act (MitbestG), Klaus Deller, left the Company by mutual agreement as of April 30, 2019.

The Supervisory Board stands fully behind the successful business strategy of Knorr-Bremse AG. Mr. Deller resigned due to differing views about leadership and collaboration. The Supervisory Board has already initiated the search for a successor. In the interim, the responsibilities of the Chairman of the Executive Board are assumed jointly by Executive Board members Ralph Heuwing, Dr. Peter Laier and Dr. Jürgen Wilder.

Related party disclosures

Related parties as defined in IAS 24 are persons or entities able to be influenced by Knorr-Bremse AG, able to influence Knorr-Bremse AG or subject to the influence of another related party of Knorr-Bremse AG. Transactions with related parties are made at arm's length. Except for the aforementioned change in leadership on the Executive Board, no material changes have arisen relative to the information disclosed with the 2018 consolidated financial statements. For further information, please see the Notes under point 12.

Other

Knorr-Bremse introduced hedge accounting from January 1, 2019 in order to avoid periodic fluctuations due to the fair value measurement of derivatives used to hedge cash flows in the statement of income. This ensures that the opposite effect of the hedging relationships is adequately reflected in the balance sheet. The Group ensures that hedge accounting is consistent with its risk management objectives and strategies and applies a high-quality, forward-looking approach in assessing hedge effectiveness. The Knorr-Bremse Group makes use of forward exchange contracts. The effective portion of changes in the fair value of hedging instruments is recognized as a separate component of equity in a cash flow hedge reserve. For further information, please see the Notes under point 8.

IFRS 16 Leases

As of January 1, 2019, Knorr-Bremse AG applies the new IFRS 16 Leases for the first time, making use of the modified retrospective approach. In accordance with IFRS 16.C7, the comparative information for fiscal year 2018 has not been restated in fiscal year 2019.

Initial application mainly affected leases previously classified as operating leases in the Knorr-Bremse Group, notably leases in the following categories: real estate, vehicles, forklifts, technical equipment and machinery. Applying the practical expedient in IFRS 16.C3(b), the Knorr-Bremse Group does not apply the standard to contracts that were not previously identified as containing a lease under IAS 17 and IFRIC 4.

In contrast to the previous approach, where operating lease expenses were recognized in full in operating earnings, only depreciation of the right-of-use asset is included in operating earnings under IFRS 16. The interest expenses on the lease liability are presented in the financial result. This improves EBITDA by €25.2 million and EBIT by €3.3 million.

For further information, please see the Notes under chapter 2 "Financial reporting standards issued by the IASB and applied for the first time."

Financial performance

GROUP KEY INDICATORS

€ million	1st half year 2019	1st half year 2018
Incoming orders	3,581.2	3,517.0
Order book (June 30)	4,542.3	4,371.8
Revenues	3,601.5	3,322.2
EBITDA	669.0	582.2
EBITDA margin	18.6	17.5
Operating EBITDA margin	19.0	18.0
EBIT	533.2	472.3
EBIT margin	14.8	14.2
Operating EBIT margin	15.6	15.3
Net income	363.7	307.0
Capital expenditure (before IFRS 16 and acquisitions)	133.7	106.1
Depreciation and amortization	135.7	109.9
R&D costs	202.1	189.7
Employees (as of June 30, including leased personnel)	29,812	29,326

At €3,581.2 million in the first half of 2019, Group incoming orders were 1.8% up on the prior-year period (H1 2018: €3,517.0 million). Although demand growth was somewhat slower, both segments recorded slight increases. This resulted in an order book totaling €4,542.3 million as of June 30, 2019 (June 30, 2018: €4,371.8 million), equating to a forward order book of 7.8 months (June 30, 2018: 7.9 months). The book-to-bill ratio—the ratio of incoming orders to revenues—was 0.99 in the first half of 2019 (H1 2018: 1.06).

Consolidated revenues increased by 8.4% in the reporting period to €3,601.5 million (H1 2018: €3,322.2 million). At constant, 2018 exchange rates, revenue growth was 6.1%. Acquisitions made since June 30, 2018 contributed €25.6 million in the first half of 2019.

Both divisions played their part in the vigorous revenue growth. The Rail Vehicle Systems division increased revenues by 7.6% relative to the prior-year period. The Commercial Vehicle Systems division recorded particularly strong growth of 9.5%. This growth was mainly organic, and was achieved across all Group operating regions.

As a result of strong OE growth, but also due to disposal of parts of the business, the aftermarket share of total revenues decreased from 33% to 32% (management reporting segmentation).

In the Europe/Africa region, revenues rose by 2.4% to €1,691.9 million (H1 2018: €1,652.6 million), corresponding to a share of 47% (H1 2018: 50%). The North America region grew in a dynamic market environment—most notably in commercial vehicles—by 23.5% to €841.2 million (H1 2018: €681.2 million). This region consequently accounted for 23% of consolidated revenues (H1 2018: 20%). In the South America region, revenues rose by 6.6% to €55.2 million (H1 2018: €51.8 million), representing a share of 2% (H1 2018: 2%). Revenues in the Asia-Pacific region increased by 8.2% to €1,013.2 million (H1 2018: €936.6 million), representing 28% of consolidated revenues (H1 2018: 28%).

CONSOLIDATED REVENUES BY GROUP COMPANY LOCATION

€ million	1st half year 2019	1st half year 2018
Europe/Africa	1,691.9	1,652.6
North America	841.2	681.2
South America	55.2	51.8
Asia-Pacific	1,013.2	936.6
Total	3,601.5	3,322.2

Cost of materials came to €1,799.6 million (H1 2018: €1,680.4 million) and thus increased by 7.1% or slightly less than revenues relative to the prior-year period. The cost of materials ratio, at 50.0%, was slightly down year on year (H1 2018: 50.6%), mainly due to efficiency measures and improvements in mix effects. Personnel expenses went up by 7.9% to €805.3 million (H1 2018: €746.5 million). The personnel expenses ratio, at 22.4% of revenues, was on a par with the prior-year period (22.5%). Other sum of operating income and expenses decreased, mainly due to the initial application of IFRS 16, by 1.2% to €357.9 million (H1 2018: €362.2 million).

KEY R&D INDICATORS

€ million	1st half year 2019	1st half year 2018
R&D costs	202.1	189.7
Of which: capitalized development costs	31.0	19.6
Amortization of capitalized development costs	4.3	4.3

Knorr-Bremse invested €202.1 million (5.6% of revenues) in research and development activities in the first half of 2019. Of this, €106.7 million (5.7% of divisional revenues) was spent in the Rail Vehicle Systems division and €95.4 million (5.5% of divisional revenues) in the Commercial Vehicle Systems division.

EBITDA was €669.0 million in the first half of 2019 (H1 2018: €582.2 million), an increase of 14.9% on a year earlier. The EBITDA margin amounted to 18.6% (H1 2018: 17.5%). Application of IFRS 16 had an EBITDA effect of €25.2 million in the first half of 2019. Adjusted for restructuring expenses for Wülfrath (€16.4 million), the operating EBITDA margin for the first half of 2019 came to 19.0%. This compares with an operating EBITDA margin of 18.0% in the first half of 2018 after adjusting for one-time expenses and operating losses incurred for the last time totaling €8.0 million and for revenues of €44.7 million from disposals made in 2018.

EBIT rose in the first half year by 12.9% to €533.2 million (H1 2018: €472.3 million). This also includes a positive effect of €3.3 million from the application of IFRS 16 and, in the opposite direction, the aforementioned one-time expense for Wülfrath. The EBIT margin stood at 14.8%, 0.6 percentage points up on the prior-year period (14.2%). Adjusted for restructuring expenses for Wülfrath (€26.8 million), the operating EBIT margin for the first half year came to 15.6%. In the first half of 2018, after adjusting for one-time expenses and operating losses from disposals totaling €29.8 million and for €44.7 million in revenues, the operating EBIT margin was 15.3%.

The negative financial result improved in the first half of 2019 by €20.7 million to €21.1 million (H1 2018: €41.8 million). This is mainly due to the introduction of hedge accounting and the smaller amount not recognized in profit or loss on the measurement of derivative financial instruments as of the reporting date.

As a result of the higher pre-tax earnings, tax expenses increased in the first half of 2019 by 20.2% to €148.5 million (H1 2018: €123.5 million). The tax ratio, at 29.0%, was slightly higher than a year earlier (28.7%), mainly due to higher non-utilisable tax losses.

Net income, at €363.7 million, increased by 18.5% year on year (H1 2018: €307.0 million). At 10.1%, return on sales after taxes was almost one percentage point higher than a year earlier (H1 2018: 9.2%). After deduction of non-controlling interests, earnings per share rose to €2.13 (H1 2018: €1.76).

EMPLOYEES (JUNE 30)

FTE (including leased personnel)	June 30, 2019	June 30, 2018
Rail Vehicle Systems division	16,558	16,674
Commercial Vehicle Systems division	12,562	12,025
Other	692	628
Total employees	29,812	29,326

EMPLOYEES (JUNE 30, BY GROUP COMPANY LOCATION)

FTE (including leased personnel)	June 30, 2019	June 30, 2018
Europe	15,789	16,185
Of which Germany	5,820	5,782
Americas	6,027	5,733
Asia-Pacific	7,996	7,408
Total employees	29,812	29,326

The Knorr-Bremse Group had a total of 29,812 employees, including leased personnel, as of June 30, 2019, an increase of 1.7% year on year (H1 2018: 29,326 including leased personnel). The figures relate to full-time equivalents (FTE). Excluding leased personnel, the Group employed 26,817 people (H1 2018: 26,014). Chiefly concentrated in the Asia and North America regions, the year-on-year increase was mainly due to revenue growth and acquisitions.

As of the June 30, 2019 reporting date, the Rail Vehicle Systems division employed a total of 16,558 people (June 30, 2018: 16,674) and the Commercial Vehicle Systems division a total of 12,562 (June 30, 2018: 12,025).

Rail Vehicle Systems division

Incoming orders for the Rail Vehicle Systems division rose by 1.9% year on year from €1,888.8 million to €1,924.7 million. Adjusted for disposals made in 2018, the increase was 5.2%. The order book totaled €3,261.1 million as of June 30, 2019 (June 30, 2018: 3,020.9 million). Most of the increase related to strong demand in Asia, above all in the service business. This more than made up for a temporary slump in incoming orders in the Europe region.

RAIL VEHICLE SYSTEMS DIVISION KEY INDICATORS

€ million	1st half year 2019	1st half year 2018
Incoming orders	1.924.7	1,888.8
Order book	3,261.1	3,020.9
Revenues	1,876.0	1,744.2
EBITDA	417.0	322.2
EBITDA margin (% of revenues)	22.2	18.5
Operating EBITDA margin (% of revenues)	22.2	19.4
EBIT	359.4	259.7
EBIT margin (% of revenues)	19.2	14.9
Operating EBIT margin (% of revenues)	19.2	17.0
Capital expenditure (before IFRS 16 and acquisitions)	57.5	39.8
Depreciation and amortization	57.7	62.5
R&D costs	106.7	105.8
Employees (as of June 30, including leased personnel)	16,558	16,674

The Rail Vehicle Systems division increased revenues by 7.6% (6.1% at constant exchange rates), or adjusted for prior-year disposals by 10.4% (8.9% at constant exchange rates) to €1,876.0 million (H1 2018: €1,744.2 million). OE business accounted for some 60% of revenues (H1 2018: 60%). The aftermarket share (RailServices) is thus 40% of revenues (H1 2018: 40%) (management reporting segmentation). Adjusted for prior-year disposals, the aftermarket share in the first half of 2018 was 39%. Growth in the RailServices business adjusted for disposals was 13.7% in the first half of 2019. Alongside growth in the service business in Europe and Asia (predominantly in China and India), there was also an increase in OE revenues in Europe (mainly in regional and commuter trains as well as metros) and in North America (locomotives and freight cars).

First-half R&D costs came to €106.7 million, representing just a slight increase on a year earlier (H1 2018: €105.8 million). The R&D ratio was consequently slightly down on the prior-year period at 5.7% (H1 2018: 6.1%). Development activities focused on solutions to increase vehicle availability and enhance vehicle operating efficiency in order to optimize life cycle costs. Efforts centered above all on automated train operation, eco-design and product digitization.

At €417.0 million, EBITDA was 29.4% up on the prior-year period (H1 2018: €322.2 million) and equated to an EBITDA margin of 22.2% (H1 2018: 18.5%). Adjusted for the revenues and losses of businesses disposed of in 2018, the operating EBITDA margin in the first half of 2018 stood at 19.4%. Application of IFRS 16 had an EBITDA effect of €13.8 million in the 2019 figures. Alongside higher volumes, the year-on-year increase in EBITDA was also due to positive revenue mix effects as a result of growth in high-margin aftermarket revenues.

Capital expenditure in the Rail Vehicle Systems division amounted to €57.5 million in the first half of 2019 (H1 2018: €39.8 million) and targeted ongoing site development projects in Munich as well as upgrading and expansion projects together with efficiency improvements at production facilities. Depreciation and amortization, at €57.7 million, showed a slight year-on-year decrease (H1 2018: €62.5 million), mainly due to disposals in the first half of 2018.

As of June 30, 2019, the Rail Vehicle Systems division had 16,558 employees (June 30, 2018: 16,674 employees including leased personnel). The lower headcount compared with the prior-year period relates among other things to disposals.

Commercial Vehicle Systems division

The Commercial Vehicle Systems division increased incoming orders by 1.8% to €1,658.5 million in the first half of 2019 (H1 2018: €1,628.5 million). At constant exchange rates and adjusted for acquisitions, however, there was a decrease of 2.2%. The emerging slowdown in demand growth in the OE business relative to revenues is also reflected in the order book, which went down by 5.2% to €1,295.6 million as of June 30, 2019 (June 30, 2018: €1,367.3 million).

COMMERCIAL VEHICLE SYSTEMS DIVISION KEY INDICATORS

€ million	1st half year 2019	1st half year 2018
Incoming orders	1,658.5	1,628.5
Order book (June 30)	1,295.6	1,367.3
Revenues	1,726.7	1,577.3
EBITDA	264.2	259.6
EBITDA margin (% of revenues)	15.3	16.5
Operating EBITDA margin (% of revenues)	16.3	16.5
EBIT	194.7	218.8
EBIT margin (% of revenues)	11.3	13.9
Operating EBIT margin (% of revenues)	12.8	13.9
Capital expenditure (before IFRS 16 and acquisitions)	61.1	50.5
Depreciation and amortization	69.5	40.9
R&D costs	95.4	84.0
Employees (as of June 30, including leased personnel)	12,562	12,025

Revenues grew by 9.5% to €1,726.7 million (H1 2018: €1,577.3 million). At constant exchange rates, the revenue growth was 6.3%. This was due to growth in North and South America and in Asia, while Europe recorded a moderate decrease, for the most part related to the aftermarket business, which was affected by inventory depletion at OE customers and independent workshops. The increase in the North and South America regions was due to a significantly higher truck production rate. In the Asian market, revenue growth was achieved despite a slightly lower truck production rate by way of increased content per vehicle, gains in market share and the revenue contribution from the Hitachi Automotive acquisition (€21.3 million). OE customers accounted for 78% of the segment's total revenues, a year-on-year increase of 3 percentage points (H1 2018: 75%). The aftermarket share of total revenues (management reporting segmentation) consequently decreased to 22% (H1 2018: 25%).

Divisional R&D costs rose to €95.4 million in the first half of 2019 (H1 2018: €84.0 million), among other things due to the continuation of ADAS/HAD development activities. The resulting R&D ratio also rose slightly from 5.3% in the first half of 2018 to 5.5% in the first half of 2019. Research and development activities focused on the megatrends of road safety, automated driving, emission reduction, e-mobility and connectivity. In June 2019, at the Transport Logistic trade show in Munich, Knorr-Bremse TruckServices and Intel subsidiary Mobileye presented a retrofittable turning assistant with integrated driver assistance systems for heavy commercial vehicles including lane departure warning, headway monitoring and warning together with forward collision warning. In situations such as when cornering, the turning assistant alerts the driver to road users in the blind spot. Using vehicle-mounted cameras, it combines vision sensors with intelligent real-time data calculation.

EBITDA in the Commercial Vehicle Systems division rose by 1.7% to €264.2 million (H1 2018: €259.6 million). At 15.3%, the EBITDA margin was 1.2 percentage points down year on year (H1 2018: 16.5%). Adjusted for the restructuring expenses for Wülfrath in the amount of €16.4 million, however, the operating EBITDA margin, at 16.3%, was only slightly down on the prior-year period (16.5%). The application of IFRS 16 had an EBITDA effect of €10.6 million in the first half of 2019.

Capital expenditure in the Commercial Vehicle Systems division increased by €10.6 million year on year to €61.1 million in the first half of 2019 (H1 2018: €50.5 million). As in the previous year, significant capital expenditure was incurred for the global provision of supplier tools. We also invested in production capacity expansion at the Huntington site in North America as well as in equipment upgrades. Depreciation and amortization in the Commercial Vehicle Systems division, at €69.5 million, was €28.6 million higher than in the prior-year period (H1 2018: €40.9 million) due to higher capital expenditure, impairments for the planned plant closure at Wülfrath and the transition to IFRS 16.

The Commercial Vehicle Systems division had 12,562 employees as of June 30, 2019, representing a rise of 537 or 4.5% on a year earlier (June 30, 2018: 12,025). Alongside the increase due to revenue growth, this mainly relates to the 395 employees added with the acquisition of Hitachi Automotive.

Financing structure, cash flows and liquidity

Financing structure of the Knorr-Bremse Group

Financial and liquidity management is described together with the financing structure of the Knorr-Bremse Group beginning on page 71 of the Annual Report 2018. Except for the introduction of hedge accounting, there were no material changes in this regard as of June 30, 2019.

FINANCIAL LIABILITIES

€ million	June 30, 2019	Dec. 31, 2018
Derivatives	(30.3)	(27.2)
Bank borrowings	(272.9)	(229.8)
Bonds and debt instruments	(1,245.3)	(1,247.5)
Liabilities from options on non-controlling interests	(379.6)	(379.6)
Purchase price liabilities	(38.0)	(38.0)
Lease liabilities	(272.8)	(33.3)
Other financial liabilities	(239.8)	(217.1)
Total	(2,478.8)	(2,172.5)
Thereof:		
Current	(860.1)	(642.9)
Non-current	(1,618.6)	(1,529.6)

CONDENSED CASH FLOW STATEMENT

€ million	1st half year 2019	1st half year 2018
Cash flow from operating activities	310.5	249.1
Cash flow from investing activities	(322.2)	(81.9)
Cash flow from financing activities	(304.0)	(301.1)
Change in cash funds	(315.6)	(133.9)
Change in cash funds from exchange rate movements and from changes in valuation procedures for cash funds	6.8	24.0
Change in cash funds resulting from changes in scope of consolidation	(0.2)	0.5
Net change in cash funds	(309.0)	(109.5)
Free cash flow (cash flow from operating activities less cash capital expenditure)	178.1	150.2

Cash flow from operating activities

The net cash inflow from operating activities went up sharply in the first half of 2019 relative to the prior-year period by €61.4 million or 24.6% to €310.5 million. In addition to the increase in net income by €56.7 million or 18.5% to €363.7 million, net working capital went up by €127.5 million or 12.6% to €1,142.5 million (June 30, 2018: €1,015.0 million). As a result, net working capital in days' sales temporarily increased by 2.1 days to 57.1 days (June 30, 2018: 55.0 days). On the other hand, higher depreciation and amortisation as well as higher provisions, due to the restructuring of Wülfrath among other things had a positive effect on cash flow from operating activities.

Cash flow from investing activities

The net cash outflow from investing activities rose in the first six months of 2019 by €240.2 million to €322.2 million. This mainly related to the acquisition of the consolidated companies Hitachi Automotive Systems Ltd. Japan (€163.4 million) and Sentient IP AB (including Sentient Heavy Vehicles AB), Gothenburg, Sweden (€4.8 million), together with the purchase of the assets of Snyder Equipment Company (€16.4 million) and the Hitachi Automotive Systems Asia, Thailand (€9.6 million). Further cash outflows resulted from the acquisition of interests in RailVision, Ra'anana, Israel (€5.2 million) and RailNova (€7.0 million). Capital expenditure on intangible assets also increased relative to the same period of the prior year by €18.1 million to €45.1 million and on property, plant and equipment by €15.4 million to €87.3 million.

Cash flow from financing activities

The net cash outflow from financing activities amounted to €304.0 million in the first half of 2019, representing a €2.9 million increase year on year. This net cash outflow in the first half of 2019 mainly related to dividend payments in a total amount of €287.9 million (H1 2018: €855.2 million), primarily offset by €706.5 million lower inflows from borrowings than in the prior-year period (a fixed-interest bond of €750 million was issued in the prior-year period, resulting in a cash inflow of €744.4 million). In addition, €21.2 million of the cash outflows from lease liabilities relate to liabilities, which were mainly reported in the cash flow from financing activities due to the transition to IFRS 16 and in the previous year in the cash flow from operating activities. In addition, net outflows from factoring amounted to €11.3 million in the reporting period. There was no share buyback in the first half of 2019 as there had been in the prior-year period (€130.6 million).

Free cash flow

Free cash flow amounted to €178.1 million in the first half of 2019, €27.9 million or 18.6% higher than in the prior-year period (€150.2 million). Increases in the purchase of intangible assets and property, plant and equipment were offset by an even greater rise in cash flow from operating activities.

Liquidity

The moderate decrease in cash funds to €1,409.7 million as of June 30, 2019 (June 30, 2018: €1,469.4 million) mainly related to the net cash outflow from investing activities (€-322.2 million), the net cash outflow from financing activities (€-304.0 million) and the net cash inflow from operating activities (€+310.5 million). Net debt increased, mostly due to the initial application of IFRS 16, from €8.2 million as of June 30, 2018 to €364.6 million as of June 30, 2019.

CASH FUNDS (JUNE 30)

€ million	1st half year 2019	1st half year 2018
Cash funds at the beginning of the period	1,718.7	1,578.8
Cash flow from operating activities	310.5	249.1
Cash flow from investing activities	(322.2)	(81.9)
Cash flow from financing activities	(304.0)	(301.1)
Other	6.6	24.5
Cash funds at the end of the period	1,409.7	1,469.4

The ratio of net debt to equity at the end of the first half year is 22.1% (June 30, 2018: 0.6%). This is mainly due to the dividend paid out in 2019 and purchase price payments for the aforementioned acquisitions and investments. The Group has access to approved credit facilities totaling €2,111.2 million (thereof €100 million in loans from the European Investment Bank and €150 million in medium-term facilities), of which €1,307.1 million were undrawn as at the end of the first half of 2019. The interest rates on these liabilities are in line with prevailing market terms and with the applicable credit ratings and maturities.

As of June 30, 2019, the undiscounted maximum liability for credit/loan guarantees and performance guarantees/bonds for third parties totaled €22.8 million (December 31, 2018: €18.7 million). Other financial commitments relate to items such as rental and lease obligations (€20.8 million), commitments for capital expenditure projects (€49.8 million) as well as for major repairs and maintenance work (€8.1 million) and other obligations (€101.7 million).

In view of our ability to generate cash inflows from operating activities, our cash and cash equivalents, undrawn credit facilities and prevailing credit ratings, we believe that we have sufficient flexibility to cover our liquidity requirements.

Rating

Two external rating agencies, Standard & Poor's and Moody's, have been rating the Knorr-Bremse Group's financial standing since 2000. The ratings were investment grade from the outset and have steadily improved over the years. In August 2019, S&P confirmed the Knorr-Bremse Group's 2016 rating of "A, outlook stable." As part of the same rating review, S&P changed the industrial classification from "automotive supplier" to "capital goods industry." The change in category attests to greater stability and reduced dependence on cyclical economic trends due to the rising revenue and earnings contributions from the rail vehicles business. Moody's continues to rate the Knorr-Bremse Group as "A2, outlook stable" and already categorizes the Group in the "capital goods industry" classification. The next regular update of the credit opinion is expected in November 2019. Both rating agencies thus acknowledge the Group's continuing stable earnings quality, continuity of management performance and strengthened competitive position, notably through high levels of research and development spending. They also underscore the Knorr-Bremse Group's substantial growth through acquisitions and the establishment of joint ventures.

Assets and capital structure

The Group's total assets rose by 8.5% to €6,793.7 million (December 31, 2018: €6,262.2 million), mainly due to the increase on both sides of the balance sheet on the initial application of IFRS 16. In addition, acquisitions, as described under *Changes to the Group's portfolio and asset deals*, as well as investments as described in the divisions' reporting, contributed to this.

BALANCE SHEET RATIOS

€ million	June 30, 2019	Dec. 31, 2018
Net debt/net cash	(364.6)	250.2
Net debt to EBITDA (%)	54.5	<0
Gearing (%)	22.1	<0
Net working capital (NWC)	1,142.5	861.9
Net working capital in days' sales	57.1	46.9
Turnover time—inventories	8.2	7.9
Receivables/days' sales outstanding	75.6	67.3
Equity ratio	24.3	25.7
Total assets	6,793.7	6,262.2

Net working capital, defined as the sum total of inventories, trade accounts receivable and contract assets less trade accounts payable and contract liabilities, stood at €1,142.5 million as of June 30, 2019 (December 31, 2018, 2018: €861.9 million). This corresponds to 57.1 days' sales (December 31, 2018: 46.9 days' sales).

The equity ratio decreased, mainly due to the dividend distribution, by 1.4 percentage points from 25.7% as of December 31, 2018 to 24.3%.

EQUITY

€ million	June 30, 2019	Dec. 31, 2018
Subscribed capital	161.2	161.2
Other equity	1,367.4	1,340.7
Equity attributable to the shareholders of Knorr-Bremse AG	1,528.6	1,501.9
Non-controlling interests	122.6	105.2
Total equity	1,651.2	1,607.1

CURRENT AND NON-CURRENT ASSETS

€ million	June 30, 2019	Dec. 31, 2018
Intangible assets and goodwill	813.9	643.2
Property, plant and equipment	1,454.0	1,167.2
Other non-current assets	316.2	281.5
Non-current assets	**2,584.1**	**2,091.8**
Inventories	877.2	836.3
Trade accounts receivable	1,512.5	1,237.4
Other financial assets	34.9	24.3
Contract assets	99.3	99.3
Cash and cash equivalents	1,426.5	1,756.0
Other current assets	259.3	217.1
Current assets	**4,209.6**	**4,170.4**

Knorr-Bremse continued its capital expenditure policy in the first half year. Alongside ongoing capital expenditure (including ongoing construction projects; upgrading and expansion expenditure on production plant and equipment), material changes in capital expenditure on property, plant and equipment also resulted from the initial application of IFRS 16. Furthermore, intangible assets increased relative to the prior-year reporting date, among other things due to additions to goodwill in the aforementioned acquisitions.

REPORT ON RISKS, OPPORTUNITIES AND EXPECTED DEVELOPMENTS

Report on risks and opportunities

Risks and opportunities specific to the Knorr-Bremse Group and the associated risk management system, which has remained unaltered in 2019, are described in detail beginning on page 76 of the Annual Report 2018.

The net risk in the Legal & Regulatory risk category of the risk portfolio has increased relative to the 2018 year-end from medium to high. This is due to increasing uncertainty surrounding the possibility of a hard Brexit as well as the political discussion of a potential carbon tax. The remaining risk categories in the Knorr-Bremse Group's risk portfolio showed no material change relative to the end of 2018.

In view of the weakening economy and the associated fall in demand growth, it cannot be ruled out that risks may increase in the second half year, especially in the Commercial Vehicle Systems division's more cyclically sensitive business.

Overall, analysis of the Group-wide risk profile at the end of the first half of 2019 showed that our risks are limited and that there are no identifiable risks that cast doubt on the Company's ability to continue as a going concern.

Report on expected developments

Global economy

After stabilizing slightly in the second quarter of 2019, the global economy has continued to slacken in recent weeks. At first, hopes of an easing in trade tensions temporarily interrupted the downtrend. With the renewed escalation of the trade dispute, however, the business climate indicator is currently trending downward again. Assessments of the current situation and future developments have significantly deteriorated. Intensification of the trade conflict is acting as a major damper on the global economy. Expectations have consequently already been revised downward by numerous analysts and are being lowered for practically all regions.

As recently as July, experts were projecting that the slowdown in the world economy would ease somewhat in the second half year and were forecasting overall global economic growth of 3.2% for 2019—a growth slowdown of 0.4 percentage points—and 3.5% for 2020. The July growth recovery forecast for 2020 was still based on the assumption that the current strains in emerging and developing economies would stabilize and that progress would be made in resolving trade policy differences before the end of 2019. In light of recent events, however, these predictions from July are unlikely to hold and we expect them to be revised downward.

For the eurozone, the Ifo Institute projects GDP growth of 1.3%, which is 0.6 percentage points down on the growth rate in 2018. According to the IMF forecast, the German economy will display particularly weak growth of just 0.7% in 2019, and that forecast may have to be marked down even further over the course of the year. The Ifo business climate index published in August likewise showed a sharp deterioration. This is at its lowest level since November 2012 and is thus likewise fueling the likelihood of a recession in Germany. The challenges in 2018—emissions scandals in the automotive industry, slightly weaker consumption and lower global demand—remain in place in 2019, are adversely impacting economic growth and could be further exacerbated during the course of the year.

In the USA, growth is initially expected to decline slightly by 0.3 percentage points to 2.6% in 2019. This reflects unexpectedly strong performance in the first quarter. The effects of high inventory levels and of weak domestic demand and imports—partly due to the increase in import tariffs—will becoming increasingly noticeable over the course of the year. All signs point to a growth slowdown as the year progresses. The IMF experts are consequently forecasting economic growth of just 1.9% in 2020.

China, too, is currently laboring under the adverse effects of trade disputes and weakening foreign demand. The Chinese economy has been under pressure since the beginning of the year and stronger regulatory intervention has followed in response. Based on expectations of further policy stimulus, the IMF forecasts growth of 6.2% for 2019 and 6.0% for 2020.

Financial markets

Several central banks have signaled a loosening of their monetary policy stance since mid-June due to increased downside risk to growth as well as low inflation. The U.S. Federal Reserve has postponed the expected cut in the federal funds rate for the time being, while the European Central Bank announced that it would keep the key interest rates as they stand until at least mid-2020. Other central banks have also become more inclined to hold back or have given a more cautious assessment of the outlook.

Global rail vehicle market

The assessment of global rail vehicle market prospects has not changed since the year-end analysis in the Annual Report 2018. In the longer term, rising demand from European and Asian rail transport operators is likely to become a major driver, notably in the passenger business.

Following very high levels of new business in previous years, the UK market will weaken presumably over the next few years, but this will be offset by market developments in other European countries such as Germany, France, and also Russia.

Knorr-Bremse expects to see stable, marginally positive development across the North American market as a whole. The passenger market is expected to weaken temporarily in 2019 as major projects come to an end. Demand will increase again in subsequent years as new large-scale projects come online. North America faces a cyclical decline in the freight market but an increase in the passenger market from 2020.

The Asia-Pacific region is expected to see moderate growth in new business. China will continue to be the largest procurement market. The aftermarket in China will be strongly influenced by the ongoing growth of vehicle fleets. India is the growth driver in new business.

These market assessments are based on the Company’s own analyses.

Global commercial vehicle production

Expectations have been revised slightly downward compared with the assessment given for global commercial vehicle production at the end of 2018. For 2019 as a whole, Knorr-Bremse expects global commercial vehicle production to decline by 7%, primarily due to a slowdown in the European economy and temporarily lower production in Asia.

Thanks to the good economic situation in North and South America, Knorr-Bremse anticipates that commercial vehicle production in that region will increase by 6% to around 584,000 units in 2019.

The economy in Western Europe, on the other hand, is expected to experience a mild slowdown. Consequently, the production forecast for 2019 stands at 500,000 units (down 3% on 2018).

The economy and commercial vehicle production in Russia will likely remain stable relative to 2018. As a result, commercial vehicle production is expected to increase slightly by 2% to around 70,000 units.

In Asia, after the boom over the last two years (especially in China and India), Knorr-Bremse anticipates a significant slowdown in production rates in 2019. Specifically, production is predicted to be down 11% relative to 2018.

The market statistics relate to truck production rates in each region as published by various organizations.

Revenues and profitability

After the healthy first half year, the full-year guidance for 2019 remains unchanged.

FULL-YEAR GUIDANCE FOR THE GROUP

		2019 target	2018
Revenues	€ million	6,875–7,075	6,616
Operative EBITDA margin (% of revenues)	%	18.5–19.5	17.8

Our outlook assumes that global economic growth will be no weaker than described above, that there will be no economic upheavals and that the political environment will remain stable. The possible impacts of macroeconomic developments such as trade wars, Brexit or a debt crisis in Italy are not directly included in the forecasts. In view of the growing cyclical risks, this assumption may turn out to be over-optimistic.

Alongside the effects of the known acquisitions (Hitachi Automotive Systems, Sentient AB, RailVision, Railnova and Snyder Equipment Company Inc.), the current outlook takes into account the effects of the transition to IFRS 16 but not structural measures such as the planned plant closure in Wülfrath. Assuming an ongoing stable macroeconomic environment, the Company continues to expect revenues of between €6,875 million and €7,075 million and an operative margin (EBITDA) of 18.5% to 19.5% for 2019 as a whole (2018: 17.8%).

The assessment for the remaining most significant key performance indicators forecast in the Annual Report 2018 has not changed relative to the 2018 year-end.

Munich, September 12, 2019

Knorr-Bremse AG

RALPH HEUWING DR. PETER LAIER DR. JÜRGEN WILDER

CONSOLIDATED STATEMENT OF INCOME

€ thousand	1st half year 2019	1st half year 2018
Revenues	3,601,516	3,322,241
Changes in inventories of unfinished/finished products	(831)	29,275
Other own work capitalized	31,047	19,773
Total operating performance	**3,631,733**	**3,371,288**
Other operating income	25,208	47,804
Cost of materials	(1,799,590)	(1,680,393)
Personnel expenses	(805,328)	(746,456)
Other operating expenses	(383,064)	(410,036)
Earnings before interest, taxes, depreciation and amortization (EBITDA)	**668,959**	**582,207**
Depreciation, amortization and impairment	(135,710)	(109,878)
Earnings before interest and taxes (EBIT)	**533,249**	**472,329**
Interest income	11,446	11,223
Interest expenses	(25,905)	(18,238)
Other financial result	(6,647)	(34,816)
Earnings before taxes	**512,143**	**430,499**
Taxes on income	(148,451)	(123,508)
Net income	**363,692**	**306,991**
Thereof:		
Profit (loss) attributable to non-controlling interests	20,336	23,456
Profit (loss) attributable to the shareholders of Knorr-Bremse AG	343,356	283,534
	363,692	**306,991**
Earnings per share in €		
Basic	2.13	1.76
Diluted	2.13	1.76

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

€ thousand	1st half year 2019	1st half year 2018
Net income	**363,692**	**306,991**
Actuarial gains and losses	(48,154)	272
Equity instruments measured through other comprehensive income	(5,909)	(1,569)
Deferred taxes	13,022	(38)
Items that will not be reclassified subsequently to profit or loss	**(41,041)**	**(1,335)**
Currency translation differences	12,193	6,198
Reserve from cash flow hedges	3,563	-
Cost of hedging reserve	(899)	-
Items that may be reclassified subsequently to profit or loss	**14,857**	**6,198**
Other comprehensive income after taxes	**(26,184)**	**4,862**
Comprehensive income	**337,508**	**311,853**
Comprehensive income attributable to non-controlling interests	21,472	14,193
Comprehensive income attributable to the shareholders of Knorr-Bremse AG	316,036	297,660

CONSOLIDATED BALANCE SHEET

€ thousand	June 30, 2019	Dec. 31, 2018
Assets		
Intangible assets and goodwill	813,916	643,159
Property, plant and equipment	1,453,992	1,167,184
Investments accounted for using the equity method	13,587	1,873
Other financial assets	63,429	74,990
Other assets	44,045	38,167
Assets arising from employee benefits	30,289	28,373
Deferred tax assets	164,885	138,101
Non-current assets	**2,584,144**	**2,091,847**
Inventories	877,213	836,326
Trade accounts receivable	1,512,470	1,237,381
Other financial assets	34,850	24,260
Other assets	147,082	123,433
Contract assets	99,254	99,284
Income tax receivables	112,230	93,650
Cash and cash equivalents	1,426,493	1,756,033
Current assets	**4,209,592**	**4,170,367**
Total assets	**6,793,736**	**6,262,213**

CONSOLIDATED BALANCE SHEET

€ thousand	June 30, 2019	Dec. 31, 2018
Equity		
Subscribed capital	161,200	161,200
Capital reserves	13,884	13,884
Retained earnings	34,329	39,924
Other components of equity	(188,344)	(161,024)
Profit carried forward	1,164,122	855,127
Profit (loss) attributable to the shareholders of Knorr-Bremse AG	343,356	592,792
Equity attributable to the shareholders of Knorr-Bremse AG	**1,528,547**	**1,501,902**
Equity attributable to non-controlling interests	122,605	105,208
Thereof: Profit (loss) attributable to non-controlling interests	20,336	36,644
Equity	**1,651,152**	**1,607,110**
Liabilities		
Provisions for pensions and similar obligations	360,177	307,547
Provisions for other employee benefits	25,074	24,511
Other provisions	255,535	243,578
Financial liabilities	1,618,635	1,529,557
Other liabilities	6,329	4,741
Income tax liabilities	97,857	92,599
Deferred tax liabilities	104,559	82,603
Non-current liabilities	**2,468,167**	**2,285,136**
Provisions for other employee benefits	26,085	11,612
Other provisions	255,376	233,213
Trade accounts payable	1,054,922	995,945
Financial liabilities	860,145	642,895
Other liabilities	139,051	133,303
Contract liabilities	291,418	315,122
Income tax liabilities	47,421	37,877
Current liabilities	**2,674,418**	**2,369,968**
Total Liabilities	**5,142,584**	**4,655,103**
Total equity and liabilities	**6,793,736**	**6,262,213**

CONSOLIDATED STATEMENT OF CASH FLOWS

€ thousand	1st half year 2019	1st half year 2018
Net income (including profit (loss) attributable to non-controlling interests)	363,692	306,991
Adjustments for		
Amortization of intangible assets, depreciation of property, plant and equipment and impairments	135,710	109,878
Change in valuation allowance on inventories	6,439	5,917
Change in valuation allowance on trade accounts receivable	1,246	973
Gain/(loss) on disposal of non-current assets	(1,692)	(3,939)
Other non-cash expenses and income	16,011	38,674
Net interest income	14,459	7,015
Net investment income	91	674
Income tax expense	148,451	123,508
Income tax payments	(97,946)	(106,440)
Changes in		
inventories, trade accounts receivable and other assets not classified as investing or financing activities	(345,007)	(383,364)
trade accounts payable and other liabilities not classified as investing or financing activities	5,688	107,710
Provisions	63,394	41,535
Cash flow from operating activities	**310,537**	**249,131**
Disbursements for investments in intangible assets	(45,122)	(27,023)
Proceeds from the sale of property, plant and equipment	11,591	11,910
Disbursements for investments in property, plant and equipment	(87,269)	(71,872)
Proceeds / (disbursements) from the sale of financial assets	-	6,261
Disbursements for financial assets	(12,177)	-
Disbursements for the acquisition of consolidated companies and other business units	(194,252)	-
Interest received	6,418	3,438
Disbursements for investments in plan assets (pensions)	(1,342)	(4,651)
Cash flow from investing activities	**(322,153)**	**(81,936)**

€ thousand	1st half year 2019	1st half year 2018
Proceeds from borrowings	38,337	744,818
Cash repayments of borrowings	(3,825)	(1,922)
Disbursements for lease liabilities (until 2018 disbursements for finance lease liabilities)	(24,522)	(3,288)
Interest paid (as of 2019 including interest paid for IFRS 16)	(14,806)	(5,264)
Dividends paid to shareholders of the parent company	(283,750)	(851,289)
Dividends paid to non-controlling interests	(4,109)	(3,939)
Repurchase of own shares	-	(130,615)
Net proceeds from factoring	(11,347)	(49,625)
Cash flow from financing activities	**(304,022)**	(301,124)
Change in cash funds	**(315,638)**	**(133,930)**
Change in cash funds from exchange rate movements and from changes in valuation procedures for cash funds	6,837	23,966
Change in cash funds resulting from changes in the scope of consolidation	(195)	490
Net change in cash funds	**(308,996)**	**(109,475)**
Cash funds at the beginning of the period	1,718,695	1,578,829
Cash funds at the end of the period	**1,409,699**	**1,469,355**
Cash funds are composed as follows:	**1,409,699**	1,469,355
Cash and cash equivalents	1,426,493	1,551,330
Short-term marketable securities	51	54
Short-term bank debt (less than 3 months)	(16,845)	(82,030)

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

				OTHER COMPONENTS OF EQUITY								
€ thousand	SUBSCRIBED CAPITAL	CAPITAL RESERVES	RETAINED EARNINGS	GROUP EARNINGS	CURRENCY TRANSLATION	HEDGE COST RESERVE	HEDGE RESERVE	EQUITY INSTRUMENTS MEASURED THROUGH OTHER COMPREHENSIVE INCOME	REMEASUREMENT OF DEFINED BENEFIT OBLIGATIONS (IAS 19)	EQUITY ATTRIBUTABLE TO THE SHAREHOLDERS OF KNORR-BREMSE AG	EQUITY ATTRIBUTABLE TO NON-CONTROLLING INTERESTS	TOTAL EQUITY
As of December 31, 2018	**161,200**	**13,884**	**39,924**	**1,447,918**	**(89,198)**	**-**	**-**	**(23,672)**	**(48,154)**	**1,501,902**	**105,208**	**1,607,110**
Initial application of IFRS 16			(5,768)							(5,768)	(13)	(5,780)
As of January 1, 2019	**161,200**	**13,884**	**34,156**	**1,447,918**	**(89,198)**	**-**	**-**	**(23,672)**	**(48,154)**	**1,496,134**	**105,196**	**1,601,330**
Dividend payment				(283,750)						(283,750)	(4,109)	(287,859)
Net income				**343,356**						**343,356**	**20,336**	**363,692**
Other comprehensive income after taxes					11,277	(899)	3,563	(5,909)	(35,352)	(27,320)	1,136	(26,184)
Comprehensive income				**343,356**	**11,277**	**(899)**	**3,563**	**(5,909)**	**(35,352)**	**316,036**	**21,472**	**337,508**
Acquisition of non-controlling interests				(46)						(46)	46	0,00
Other changes			173							173		173
As of June 30, 2019	**161,200**	**13,884**	**34,329**	**1,507,478**	**(77,921)**	**(899)**	**3,563**	**(29,581)**	**(83,506)**	**1,528,547**	**122,605**	**1,651,152**
As of January 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 retained earnings	93,600		(93, 600)									
Contributions from shareholders		3,354								3,354		3,354
Allocation to retained earnings			94,058	(94,058)								
Acquisition of non-controlling interests			(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 of June 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**

Notes to the condensed interim consolidated financial statements of Knorr-Bremse AG

1. Accounting principles

The Company

Knorr-Bremse AG (the "Company") is a German stock corporation ("Aktiengesellschaft") domiciled in Germany. The Company's registered office and headquarters address is Moosacher Str. 80, 80809 München (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 (collectively 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 policies

The interim consolidated financial statements for the period January 1 to June 30, 2019 are condensed and have been prepared in accordance with IAS 34 Interim Financial Reporting and hence in accordance with the International Financial Reporting Standards (IFRS) as published by the International Accounting Standards Board (IASB) and adopted by the European Union (EU). The interim consolidated financial statements are based on and should be read in conjunction with the consolidated financial statements as of December 31, 2018.

The interim consolidated financial statements were released for publication by the Executive Board on September 11, 2019.

Hedge accounting

Since January 1, 2019, the Group has designated certain derivatives as hedging instruments in order to hedge exchange rate-driven variations in cash flows relating to highly probable transactions. At the inception of the designated hedging relationship, the Group documents the risk management objectives and strategies for undertaking the hedge. The Group also documents the economic relationship between the hedged item and the hedging instrument and the expectation that changes in cash flows from the hedged item will be offset by changes in cash flows from the hedging instrument.

If a derivative is designated as a cash flow hedge, the effective portion of the change in fair value is recognized in other comprehensive income and the hedge reserve adjusted for the cumulative change. The ineffective portion of the change in fair value of the derivative is recognized immediately in profit or loss.

Only the change in the fair value of the spot element of the forward contract is recognized in other comprehensive income; the change in the forward element is accounted for separately as cost of hedging reserve in other comprehensive income.

If a hedged transaction results in recognition of a non-financial item, such as inventory, the cumulative amount of the hedge reserve and the hedge cost reserve is offset directly against the cost of the non-financial item when the latter is recognized.

For all other hedges, the cumulative amounts of the hedge reserve and the hedge cost reserve are recognized in profit or loss in the period in which the hedged item affects profit or loss.

If a hedge no longer meets the criteria for hedge accounting or the hedging instrument expires or is sold, terminated or exercised, hedge accounting is discontinued prospectively.

If the hedged transaction is no longer expected to occur, the hedge reserve and hedge cost reserve are directly reversed to and thus recognized in profit or loss.

Other disclosures

Except for the requirements of IFRS 16, which are applied for the first time and are described under heading 2, the judgments, estimates and assumptions affecting accounting policies made for the half-year financial report as of June 30, 2019 do not differ from those made for the consolidated financial statements as of December 31, 2018.

The applicable nominal tax rate for the Group amounts to 32.3 % as of December 31, 2018. The calculation of the Group's income tax expenses for the first six months of 2019 was based on the expected effective tax rate for the full financial year of 29.0 % (prior period: 28.7 %). The difference to the nominal tax rate is mainly related to different tax rates among the group companies (decrease of tax rate), non-deductible operating expenses (increase of tax rate) 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 (increase of tax rate).

The interim consolidated financial statements are presented in euros (€), the euro being the functional and reporting currency of Knorr-Bremse AG. Unless otherwise indicated, all figures in the consolidated financial statements and the notes are commercially rounded to thousand euros (€ thousand). Rounding differences may therefore arise in tables in the condensed notes to the consolidated financial statements.

2. Financial reporting standards issued by the IASB and applied for the first time

IFRS 16 Leases was published in January 2016 and replaces 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 new standard sets out the principles for the recognition, measurement, presentation and disclosure of leases. It requires lessees to recognize all leases as well as associated contractual rights and obligations in the balance sheet, similar to the accounting for finance leases under IAS 17. IFRS 16 contains two exceptions for lessees: leases of "low-value" assets (such as PCs) and short-term leases (leases with a lease term of 12 months or less).

At the inception of a lease, a lessee recognizes a lease liability for the future lease payments and, for the underlying asset, a right-of-use asset that is measured at the present value of the future lease payments plus direct costs and is depreciated over its useful life. Lessees are required to present the interest expense on the lease liability separately from the depreciation charge for the right-of-use asset.

Additionally, lessees are required to remeasure the lease liability on the occurrence of certain events (such as a change in the lease term or a change in the future lease payments resulting from a change in an index or a rate used to determine those payments). Lessees normally account for the amount of the remeasurement of the lease liability as an adjustment to the recognized right-of-use asset.

The Knorr-Bremse Group applied IFRS 16 as of January 1, 2019 using the modified retrospective approach. Initial application mainly affected leases previously classified as operating leases in the Knorr-Bremse Group. Applying the practical expedient in IFRS 16.C3(b), the Knorr-Bremse Group has not applied the standard to contracts that were not previously identified as containing a lease under IAS 17 and IFRIC 4.

Making use of the exemption under IFRS 16.5, short-term leases with a lease term of 12 months or less (and without a purchase option) and leases for which the underlying asset is of low value are not accounted for in accordance with IFRS 16. Knorr-Bremse likewise applies the transitional practical expedient in IFRS 16.C10(c)(ii), under which leases for which the lease term ends within 12 months of the date of initial application are not accounted for in accordance with IFRS 16.

On the initial application of IFRS 16 with regard to operating leases, the right-of-use asset is measured at an amount equal to the lease liability discounted using the incremental borrowing rate at the date of initial application (IFRS 16.C8(b)(i)). Lease liabilities were discounted using the incremental borrowing rate as of January 1, 2019. The weighted average incremental borrowing rate was 2.51%.

In accordance with IFRS 16.C7, the comparative information for fiscal year 2018 is not restated in the Knorr-Bremse Group half-year financial statements for 2019.

On the transition to IFRS 16, right-of-use assets were recognized in the amount of € 239,588 thousand and lease liabilities in the amount of € 245,437 thousand as of January 1, 2019.

The operating lease commitments as of December 31, 2018 are reconciled to the opening carrying amount of the lease liabilities as of January 1, 2019 as follows:

€ thousand	**Jan. 1, 2019**
Operating lease commitments as of December 31, 2018	242,337
Minimum lease payments (nominal value) of finance lease liabilities as of December 31, 2018	41,949
Exemptions for short-term leases	(6,445)
Exemptions for leases of low-value assets	(4,470)
Options to extend or terminate that are reasonably certain to be exercised	54,795
Other	(6,426)
Gross lease liabilities as of January 1, 2019	**321,740**
Discounting	(43,025)
Lease liabilities as of January 1, 2019	**278,715**
Present value of finance lease liabilities as of December 31, 2018	(33,278)
Additional lease liabilities on initial application of IFRS 16 as of January 1, 2019	**245,437**

3. Changes in the scope of consolidation and acquisitions

Changes in the scope of consolidation

The following Group companies were fully consolidated for the first time in the first half of 2019: Knorr-Bremse Steering Systems Japan Ltd., Saitama, Japan, Knorr-Bremse Commercial Vehicles Systems (Thailand) Ltd., Bangkok, Thailand and Sentient Heavy Vehicles AB, Gothenburg, Sweden.

Sentient IP AB, Gothenburg, Sweden is proportional consolidated as joint operation.

The interests in RailVision Ltd., Ra'anana, Israel and Railnova SA, Brussels, Belgium were included using the equity method in the first half of 2019.

NEW YORK AIR BRAKE LLC, Watertown, USA acquired the entire business of Snyder Equipment Company, Inc., USA.

Significant business combinations

Acquisition of Hitachi Automotive Systems

On December 7, 2018, Knorr-Bremse Asia Pacific (Holding) Ltd., Hong Kong, China signed a purchase agreement with Hitachi Automotive Systems, Ltd., Japan for the acquisition of 100% of the shares in the integral power steering business (IPS business) and with Hitachi Automotive Systems Asia Ltd., Thailand for the acquisition of IPS-related assets, which are parts of the entire business combination.

The acquisition of Hitachi Automotive Systems, Ltd. on March 29, 2019, augments Knorr-Bremse's portfolio of steering systems as well as of system solutions for driver assistance and highly automated driving. It also provides the Group with improved access to the Japanese and Southeast Asian market.

Hitachi Automotive Systems, Ltd., Japan and Hitachi Automotive Systems Asia, Ltd., Thailand contributed € 21.3 million to consolidated revenues and € -0.7 million to consolidated earnings before taxes in the first half of 2019. The negative profit contribution takes into account amortization of fair value adjustments to the purchase price allocation in the amount of € 1.7 million.

a) Consideration transferred
The purchase price for Hitachi Automotive Systems was € 174.4 million, of which € 164.8 million related to Japan and € 9.6 million to Thailand. Up to the reporting date € 173.0 million were settled.

b) Acquisition-related costs
The Group has so far incurred acquisition-related costs of € 1.4 million for due diligence as well as for legal and notary fees. These costs are included in other operating expenses.

c) Identifiable assets acquired and liabilities assumed

The acquisition-date fair values of the assets acquired and liabilities assumed are summarized below:

€ thousand	
Customer relationships	51,197
Other intangible assets	17,817
Property, plant and equipment	42,125
Inventories	2,581
Provisions	(4,041)
Total identifiable net assets acquired	**109,679**

The fair values of the identified assets and liabilities also comprise the tax base.

d) Goodwill

The goodwill resulting from the acquisition was recognized as follows:

€ thousand	
Consideration transferred	**174,405**
Fair value of identifiable net assets	**(109,679)**
Goodwill	**64,726**

The goodwill primarily results from the future development potential of the technology portfolio, expected growth of the product and customer base and workforce know-how. It is allocated to the Commercial Vehicles Systems segment. The goodwill of € 55.8 million recognized on acquisition of the steering system of commercial vehicles ("IPS business") from Japan, is tax-deductible.

Had the acquisition taken place at the beginning of the fiscal year, consolidated revenue would have increased by a further € 19.7 million to € 3,621.2 million and consolidated EBIT would have decreased by € -0.8 million to € 532.4 million. In determining these figures, the Executive Board assumed that the acquisition-date fair values from the purchase price allocation would also have applied in the event of an acquisition on January 1, 2019.

Closure of Wülfrath production location

On May 22, 2019, the Executive Board of Knorr-Bremse AG decided to discontinue the production of steering systems at the Wülfrath location of Knorr-Bremse Steering Systems GmbH by the end of 2020. This decision was made on the basis of a detailed analysis of various scenarios and taking into account the most recent acquisitions in the commercial vehicle steering systems business. A key factor in the decision was the fact that a large-scale order for passenger car steering systems was terminated earlier than expected. The Company plans to retain KB Steering's established expertise in an engineering center. The restructuring expenses of € 26.8 million recognized up to the end of the first half year mainly relate to termination benefits in the amount of € 16.4 million and impairments of € 10.4 million. On July 31, 2019, the conciliation committee was called upon to mediate in order to lead talks between management and employee representatives on the reconciliation of interests and social compensation plan to a constructive conclusion.

4. Revenues

The table below breaks down consolidated revenues in the first half of 2019 by regions and timing and reconciles them to revenues in segment reporting.

ANALYSIS OF REVENUES AND RECONCILIATION TO SEGMENT REVENUES

€ thousand	IFRS REVENUES			RECONCILIATION TO SEGMENT REVENUES			SEGMENT REPORTING REVENUES		
	Rail Vehicle Systems	**Commercial Vehicle Systems**	**Total**	**Rail Vehicle Systems**	**Commercial Vehicle Systems**	**Total**	**Rail Vehicle Systems**	**Commercial Vehicle Systems**	**Total**
1. Disaggregation by segment									
a) Region (domicile of Group company)									
Europe/Africa	929,710	763,417	1,693,127	13,611	4,870	18,481	943,321	768,287	1,711,608
North America	215,093	626,065	841,158	(9,211)	5,910	(3,301)	205,882	631,975	837,857
South America	12,846	42,397	55,242	85	660	745	12,931	43,057	55,988
Asia-Pacific	718,364	294,828	1,013,192	(10,537)	(924)	(11,461)	707,827	293,904	1,001,731
Total	**1,876,012**	**1,726,707**	**3,602,719**	**(6,052)**	**10,516**	**4,464**	**1,869,960**	**1,737,223**	**3,607,183**
b) Timing of revenue recognition									
Recognition over time	651,006	-	651,006	(651,006)	-	(651,006)	-	-	-
Recognition at a point in time	1,225,006	1,726,707	2,951,713	644,954	10,516	655,471	1,869,960	1,737,223	3,607,183
Total	**1,876,012**	**1,726,707**	**3,602,719**	**(6,052)**	**10,516**	**4,464**	**1,869,960**	**1,737,223**	**3,607,183**
2. Other segments and consolidation	-	-	(1,202)	-	-	1,202	-	-	-
3. Total	**1,876,012**	**1,726,707**	**3,601,516**	**(6,052)**	**10,516**	**5,666**	**1,869,960**	**1,737,223**	**3,607,183**

The total reconciliation difference between IFRS revenues and segment reporting revenues is € 5,666 thousand. Within this, a negative difference of € 6,052 thousand relates to the Rail Vehicle Systems segment and a positive difference of € 10,516 thousand relates to the Commercial Vehicle Systems segment. A further € 1,202 thousand relates to other segments and consolidation.

The reconciliation difference is composed as follows:

RECONCILIATION DIFFERENCES BETWEEN IFRS REVENUES AND SEGMENT REPORTING REVENUES

€ thousand	**RAIL VEHICLE SYSTEMS**	**COMMERCIAL VEHICLE SYSTEMS**	**OTHER SEGMENTS AND CONSOLIDATION**	**TOTAL**
Effect of over-time revenue recognition	(18,752)	-	-	(18,752)
Recognition of rental revenues and other revenues due to the application of the German Accounting Directive Implementation Act (BilRuG) to the measurement of segment revenues	11,431	25,900	42,014	79,345
Recognition of additions to and reversals of transaction-related provisions and deferred items	(54)	(1,827)	-	(1,880)
Recognition of prototype income	(1,203)	(9,028)	-	(10,232)
Revenues of other segments and other effects	2,526	(4,529)	(40,812)	(42,816)
Total	**(6,052)**	**10,516**	**1,202**	**5,666**

The Knorr-Bremse Group's revenues increased by 8.4% from € 3,322,241 thousand in the prior-year period to € 3,601,516 thousand in the first six months of fiscal year 2019. Taking into account the divestment of Blueprint and Sydac in the first half of 2018 (€ 44.7 million) and the acquisition of Hitachi Automotive Systems and of the Snyder business (€ 25.6 million), organic growth was 9.1 %.

Knorr-Bremse's business activities are not subject to any material seasonal variations.

5. Other operating income

OTHER OPERATING INCOME

€ thousand	1st half year 2019	1st half year 2018
Insurance compensation and indemnity payments	6,141	3,582
Income from other services	5,973	8,463
Rental income	3,767	3,787
Income from government grants	2,906	3,863
Income from scrap sales	1,233	6,626
Other income	5,188	21,483
	25,208	**47,804**

The decrease in other operating income mainly relates to the decrease in other income and to income from the disposal of prototypes that was classified as other operating income in the amount of € 5,578 thousand in the prior-year period and as revenues in the reporting period.

6. Other operating expenses

OTHER OPERATING EXPENSES

€ thousand	1st half year 2019	1st half year 2018
Order-related expenses	(83,835)	(109,468)
Maintenance expenses	(54,073)	(49,306)
Personnel-related expenses	(52,180)	(50,979)
Other services	(46,023)	(39,634)
Legal, consulting and audit expenses	(44,029)	(43,754)
External research and development costs	(21,691)	(21,240)
Administrative expenses	(13,914)	(14,010)
Other taxes	(13,562)	(12,542)
Rental and lease expenses	(10,160)	(33,460)
Donations	(2,305)	(2,094)
Other expenses	(41,292)	(33,549)
	(383,064)	**(410,036)**

Other operating expenses decreased compared with the prior-year period by € 26,972 thousand to € 383,064 thousand in the first half of 2019. The change in other operating expenses notably related to the initial application of IFRS 16 as of January 1, 2019. Due to the recognition of right-of-use assets in property, plant and equipment and of lease liabilities, expenses relating to lease commitments are now accounted for in depreciation and interest expenses. This significantly reduced rental and lease expenses.

7. Other financial result

The other financial result improved basically due to the application of hedge accounting as well as due to the lower unrealized effects from the valuation at balance sheet date of derivatives compared to the first half of 2018 by € 33.3 million.

8. Financial instruments

Classification and fair values

The table below shows the unnetted carrying amounts and the fair values of financial assets and liabilities for each 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, 2018.

The financial instruments can be classified as financial instruments at fair value through profit or loss (FVTPL), financial instruments at fair value through other comprehensive income (FVOCI) and financial instruments at amortized cost.

INFORMATION IN ACCORDANCE WITH IFRS 9

	June 30, 2019							
€ thousand	CARRYING AMOUNT				FAIR VALUE			
Category	**FVTPL**	**FVOCI**	**AT AMORTIZED COST**	**TOTAL**	**LEVEL 1**	**LEVEL 2**	**LEVEL 3**	**TOTAL**
Financial assets	**15,836**	**41,417**	**2,979,990**	**3,037,242**	**32,197**	**8,223**	**3,380**	**43,801**
Derivative financial instruments (hedge accounting)[1]	-	3,625	-	3,625	-	3,625	-	3,625
Derivative financial instruments (no hedge accounting)	4,599	-	-	4,599	-	4,599	-	4,599
Equity instruments	11,237	24,341	-	35,577	32,197	-	3,380	35,577
Trade accounts receivable[2]	-	13,452	1,499,018	1,512,470	-	-	-	-
Purchase price receivables from disposal of land[2]	-	-	28,335	28,335	-	-	-	-
Other financial receivables[2]	-	-	26,144	26,144	-	-	-	-
Cash and cash equivalents[2]	-	-	1,426,493	1,426,493	-	-	-	-
Financial liabilities	**(28,312)**	**(1,985)**	**(3,503,405)**	**(3,533,702)**	**(1,292,888)**	**(302,730)**	**(379,616)**	**(1,975,233)**
Derivative financial instruments (hedge accounting)[1]	-	(1,985)	-	(1,985)	-	(1,985)	-	(1,985)
Derivative financial instruments (no hedge accounting)	(28,312)	-	-	(28,312)	-	(28,312)	-	(28,312)
Bank borrowings	-	-	(272,939)	(272,939)	-	(272,433)	-	(272,433)
Liabilities from options on non-controlling interests	-	-	(379,616)	(379,616)	-	-	(379,616)	(379,616)
Purchase price liabilities[2]	-	-	(38,000)	(38,000)	-	-	-	-
Bonds and debt instruments	-	-	(1,245,267)	(1,245,267)	(1,292,888)	-	-	(1,292,888)
Lease liabilities	-	-	(272,845)	(272,845)	-	-	-	-
Other financial liabilities[2]	-	-	(239,816)	(239,816)	-	-	-	-
Trade accounts payable[2]	-	-	(1,054,922)	(1,054,922)	-	-	-	-

[1] Not a measurement category under IFRS 9

[2] Fair value not indicated as the carrying amount is a reasonable approximation of fair value.

INFORMATION IN ACCORDANCE WITH IFRS 9

	Dec. 31, 2018							
€ thousand	CARRYING AMOUNT				FAIR VALUE			
Category	FVTPL	FVOCI	AT AMORTIZED COST	TOTAL	LEVEL 1	LEVEL 2	LEVEL 3	TOTAL
Financial assets	**17,670**	**45,698**	**3,029,295**	**3,092,663**	**33,872**	**8,102**	**5,941**	**47,915**
Derivative financial instruments	8,102	-	-	8,102	-	8,102	-	8,102
Equity instruments	9,568	30,245	-	39,813	33,872	-	5,941	39,813
Trade accounts receivable[1]	-	15,453	1,221,929	1,237,382	-	-	-	-
Purchase price receivables from disposal of land	-	-	28,335	28,335	-	-	-	-
Other financial receivables[1]	-	-	22,998	22,998	-	-	-	-
Cash and cash equivalents[1]	-	-	1,756,033	1,756,033	-	-	-	-
Financial liabilities	**(27,157)**	-	**(3,141,241)**	**(3,168,398)**	**(1,258,418)**	**(297,367)**	**(379,616)**	**(1,935,401)**
Derivative financial instruments	(27,157)	-	-	(27,157)	-	(27,157)	-	(27,157)
Bank borrowings	-	-	(229,819)	(229,819)	-	(230,546)	-	(230,546)
Liabilities from options on non-controlling interests	-	-	(379,616)	(379,616)	-	-	(379,616)	(379,616)
Bonds and debt instruments	-	-	(1,247,521)	(1,247,521)	(1,258,418)	-	-	(1,258,418)
Lease liabilities	-	-	(33,277)	(33,277)	-	(39,664)	-	(39,664)
Purchase price liabilities[1]	-	-	(38,000)	(38,000)	-	-	-	-
Other financial liabilities[1]	-	-	(217,063)	(217,063)	-	-	-	-
Trade accounts payable[1]	-	-	(995,945)	(995,945)	-	-	-	-

[1] Fair value not indicated as the carrying amount is a reasonable approximation of fair value.

Receivables at FVOCI relate to receivables in connection with factoring.

Valuation techniques used to measure fair value

The market value of derivative financial instruments is the price at which a party would assume the rights and/or obligations from another party. It is measured on the basis of the market information available at the reporting date using recognized valuation techniques.

Forward exchange contracts and interest rate hedging contracts are valued on the basis of reference rates taking into account forward premiums and discounts. Net present value calculations are performed using yield curves.

Commodity contracts are valued on the basis of quoted prices on active markets.

Options are valued using recognized option pricing models (such as Black-Scholes). Structured products are valued using the bank's valuation as of the reporting date. This is the bank's assessment of the value of the respective financial instrument under prevailing market conditions and is based either on the mid-market price or, if expressed as a bid and an ask price, on the indicative price at which the bank would have terminated and bought back or repurchased and sold the financial instrument at close of business or another time agreed with Knorr-Bremse at the relevant financial center on the above valuation date.

Credit value adjustments are additionally taken into account when measuring the fair value of financial instruments. The probability of default is determined using credit default swap spreads for each 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 measured using the discounted cash flow method. The discount rate used is the issuer's borrowing rate at the end of the reporting period. The Company's own non-performance risk was classified as low over the entire period.

The financial liability from a put option on non-controlling interests enables minority shareholders to tender their shares to Knorr-Bremse if contractually specified conditions are met. In accordance with IFRS 9, this is accounted for at amortized cost. Regarding the disclosed fair value as well as the methods and input factors for its determination, there were no changes compared to December 31, 2018, due to the arbitration.

Equity instruments also include non-consolidated companies. Kiepe Corporation, Canada, is included in the consolidated financial statements at cost in the amount of € 1,914 thousand. As the company has not yet commenced operations and essentially consists of newly acquired land and machinery, its fair value is approximately equal to cost. There is no material impact on the financial position, financial performance and cash flows of the Group. Likewise, the remaining equity instruments measured at Level 3 fair value are neither individually nor collectively considered material to the financial position, financial performance and cash flows of the Group and therefore no additional disclosures are made for them.

Transfers between levels of the fair value hierarchy

There were no transfers between levels of the fair value hierarchy in the first six months of fiscal year 2019.

Hedge accounting

The Group is exposed to transactional currency risk to the extent that sale and purchase transactions, receivables and borrowings are denominated in currencies other than the functional currencies of Group companies. Such transactions are hedged under hedge accounting in the currency pairs EUR/USD, EUR/CZK and EUR/HUF.

The portion of the FX risk that is hedged increases as a sale or purchase transaction approaches materialization. Currency risk is hedged using forward exchange contracts with terms of up to three years. These are generally designated as cash flow hedges.

The Group designates the spot element of forward exchange contracts to hedge its currency risk and applies a hedge ratio of 1:1. The forward elements of a forward exchange contract cannot be designated as a hedging instrument and are accounted for separately as hedge cost. As a fundamental rule, hedges are only designated where the hedge matches the critical terms (such as currency, life and amount) of the hedged item.

The Group uses the hypothetical derivative method to measure, prospectively and retrospectively, for each derivative designated in a hedge, the effectiveness of the hedge in offsetting changes in cash flows attributable to the hedged risk.

The potential causes of hedge ineffectiveness are as follows:

1. Differing impact of the counterparties' credit risk on the fair value of the hedged item and the hedge.
2. Changes in the timing of the hedged item.

Ineffectiveness has been measured since the designation of the hedges using the full designated changes in the market values of the derivatives in hedge accounting relationships. No material ineffectiveness was measured and recognized for hedging relationships in existence as of June 30, 2019.

The table below shows the nominal value, present value and average hedge rate in three currencies designated in hedge accounting. Hedge accounting transactions accounted for receivables of € 3,625 thousand and liabilities of € 1,985 thousand as of June 30, 2019.

OVERVIEW OF THE CURRENT CASH FLOW HEDGES AS PER JUNE 30, 2019

€ thousand				Total
Nominal amount < 1 year	61,468	77,500	150,855	289,824
Positive market value < 1 year	1,047	-	1,030	2,077
Negative market value < 1 year	-	1,677	-	1,677
Nominal amount > 1 year	18,444	20,000	126,382	164,826
Positive market value > 1 year	323	-	1,225	1,548
Negative market value > 1 year	-	308	-	308
Average hedge rate	26.34 CZK	318.97 HUF	1.16 USD	

Operating currency risk is currently the only risk category designated in hedge accounting in the Knorr-Bremse Group. The resulting effects can be read directly from the statement of changes in equity and the statement of comprehensive income.

9. Statement of cash flows

The total cash outflow increased by € 181,708 thousand year on year to € 315,638 thousand. This was mainly due to the € 240,217 thousand increase in the net cash outflow from investing activities. The main negative effects on the cash fund comprised the acquisition of Hitachi Automotive Systems (€ 172,985 thousand) and capital expenditure on property, plant and equipment such as construction projects at the Group's Munich headquarters (€ 13,227 thousand) and the Bendix headquarters (€ 9,056 thousand). A contrary effect resulted from the rise in the net cash inflow from operating activities by € 61,406 thousand to € 310,537 thousand, largely due to the increase in net income by € 56,701 thousand to € 363,692 thousand.

For the financial year 2018 a dividend of € 1.75 per bearer share was declared in the financial year 2019 and therefore an amount of € 282,100 thousand was paid.

After the first-time application of IFRS 16 in half year 2019, payment of lease liabilities of € 24,522 thousand as well as interest paid of € 3,275 thousand are included in the cash flow from financing activities. These cash flows also comprise amounts from finance leases, which were accounted under IAS 17 until last year. Compared to the prior year, the cash flow from operating activities is released.

10. Earnings per share

In accordance with IAS 33, basic earnings per share is calculated by dividing net income attributable to the shareholders of Knorr-Bremse AG by the weighted average number of shares outstanding during the period. Earnings per share amounted to € 2.13 in the first half of 2019 (H1 2018: € 1.76).

11. Other financial commitments and contingent liabilities

OTHER FINANCIAL COMMITMENTS

€ thousand	Up to 1 year	1 to 5 years	Over 5 years	Total
June 30, 2019				
Rental and lease obligations	7,403	7,202	6,213	20,818
Capital expenditure projects	37,873	5,983	5,926	49,782
Major repairs/maintenance work	6,910	1,013	163	8,086
Other obligations	72,594	25,589	3,555	101,738
	124,780	**39,787**	**15,857**	**180,424**
Dec. 31, 2018				
Rental and lease obligations	42,221	123,159	76,957	242,337
Capital expenditure projects	19,379	11,618	-	30,998
Major repairs/maintenance work	3,133	495	-	3,628
Other obligations	25,062	4,473	-	29,535
	89,796	**139,744**	**76,957**	**306,498**

CONTINGENT LIABILITIES

€ thousand	June 30, 2019	Dec. 31, 2018
Guarantees	22,486	18,353
Warranties	352	356
	22,838	**18,709**

The future rental and lease obligations relate to a rental agreement that has already been signed but does not commence until 2020, after which it will be accounted for in accordance with IFRS 16, and to short-term or low-value rental agreements and leases that are not recognized under the exemption in IFRS 16.5.

The commitments for capital expenditure projects mainly relate to ongoing construction projects as well as to upgrading and expansion expenditure on production plant and equipment.

Commitments for major repairs and maintenance work mostly comprise commitments in connection with building refurbishment and maintenance at the Munich location.

Other obligations chiefly consist of outstanding purchase commitments with logistics service providers and under supplier agreements, loan commitments and bank guarantees.

The Company's contingent liabilities mainly consist of guarantees and warranties. Guarantees have been issued to subsidiaries for outstanding bank bonds, performance guarantees for banks and a rental guarantee for commercial/factory buildings.

The warranties mostly relate to certain customer contracts.

12. Related party disclosures

Related parties as defined in IAS 24 are persons or entities able to be influenced by Knorr-Bremse AG, able to influence Knorr-Bremse AG or subject to the influence of another related party of Knorr-Bremse AG. Transactions with related parties are made at arm's length.

Except for the transactions presented in the following, no material changes have arisen relative to the information disclosed with the 2018 consolidated financial statements.

Change in leadership on the Executive Board

The Chairman of the Executive Board of Knorr-Bremse AG and Member of the Executive Board responsible for labor relations as Labor Director pursuant to Section 33 of the Codetermination Act (MitbestG), Klaus Deller, left the Company by mutual agreement as of April 30, 2019. The responsibilities of the Chairman of the Executive Board are assumed in the interim by Executive Board members Ralph Heuwing, Dr. Peter Laier and Dr. Jürgen Wilder.

In this connection, payments were made to Mr. Deller in the amount of € 7,029 thousand. This includes short-term incentive compensation for 2019 to 2021 on the basis of 100% corporate target attainment. If 100% target attainment is exceeded, Mr. Deller will be paid additional compensation for the difference.

13. Legal risks

Investigations by the U.S. Department of Justice

On April 3, 2018, the U.S. Department of Justice, Antitrust Division (hereinafter: DOJ) had 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.

Following the settlement reached with the DOJ, several law firms had 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 between the above mentioned parties not to compete for each other's employees. Knorr-Bremse AG has meanwhile reached a settlement in this litigation. The settlement remains subject to the reservations customary for the USA, including confirmation of the settlement by the competent court in the USA.

The relevant disclosures according to IAS 37 are not made since it can be anticipated, that appropriate disclosures could significantly impact the outcome of the litigation.

Provisions have been recognized in an amount as of June 30, 2019 for payments under the settlement as well as remaining costs.

The non-public civil law investigation against the US companies Knorr Brake Company, Westminster, Maryland/USA, New York Air Brake LLC, Watertown, New York/USA and among others, which was initiated in 2016 by the DOJ was ceased in May 2019 without any sanctions or requirements.

Other legal risks

For all other legal risks described in section H.9 of the 2018 Annual Report, no new facts or additional information had arisen up to June 30, 2019.

14. Number of employees

AVERAGE NUMBER OF EMPLOYEES

	1st half year 2019	1st half year 2018
Wage earners	15,761	15,503
Of which: leased personnel	*2,632*	*2,780*
Salary earners	13,540	13,226
Of which: leased personnel	*261*	*395*
Trainees	193	207
Total	**29,494**	**28,936**

15. Segment reporting

INFORMATION ON REPORTABLE SEGMENTS

€ thousand	REPORTABLE SEGMENTS			RECONCILIATION TO IFRS			
	Rail Vehicle Systems	**Commercial Vehicle Systems**	**TOTAL**	**Rail Vehicle Systems**	**Commercial Vehicle Systems**	**Other segments and consolidation**	**Group**
June 30, 2019							
External revenues	1,860,843	1,728,632	3,589,475	14,138	(2,629)	531	3,601,516
Intersegment revenues	9,117	8,591	17,708	(8,086)	(7,888)	(1,734)	-
Segment revenues	**1,869,960**	**1,737,223**	**3,607,183**	**6,052**	**(10,516)**	**(1,202)**	**3,601,516**
EBITDA*	372,701	239,511	612,212	44,344	24,672	(12,270)	668,959
Depreciation and amortization	(46,253)	(57,549)	(103,802)	(11,399)	(11,922)	(8,586)	(135,710)
EBIT*	326,448	181,962	508,410	32,945	12,750	(20,856)	533,249
Interest income	5,207	813	6,020	1,287	3,390	750	11,446
Interest expenses	(6,721)	(2,440)	(9,162)	(7,634)	(2,869)	(6,240)	(25,905)
Other financial result	300	(687)	(387)	(593)	765	(6,433)	(6,647)
Of which: Share of profit or loss of companies accounted for using the equity method	-	-	-	-	*(687)*	*116*	*(571)*
EBT	**325,233**	**179,649**	**504,882**	**26,005**	**14,036**	**(32,779)**	**512,143**
Net Working Capital	**735,690**	**358,207**	**1,093,897**	**50,058**	**(2,177)**	**719**	**1,142,496**
June 30, 2018							
External revenues	1,741,200	1,590,993	3,332,193	1,288	(14,086)	2,846	3,322,241
Intersegment 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)
Of which: Share of profit or loss of companies accounted for using the equity method	-	*(914)*	*(914)*	-	-	-	*(914)*
EBT	**261,225**	**206,974**	**468,199**	**371**	**9,456**	**(47,528)**	**430,499**
Net Working Capital	**684,277**	**371,856**	**1,056,133**	**47,097**	**(60,231)**	**(7,026)**	**1,035,973**

*) Not explicitly included in management reporting to the CODM

Reconciliation

Internal reporting does not contain any segment-specific information on assets and liabilities; this is therefore not included in segment reporting.

RECONCILIATION OF REVENUES

€ thousand	1st half year 2019	1st half year 2018
Revenues of reportable segments	3,607,183	3,347,092
Revenues of other segments (German GAAP)	91,393	94,320
Intersegment consolidation and other effects	(36,466)	(49,630)
Adjustment for POC accounting	18,752	6,308
Adjustment for recognition differences due to introduction of the German Accounting Directive Implementation Act (BilRuG)	(79,345)	(75,849)
Consolidated revenues	**3,601,516**	**3,322,241**

EARNINGS BEFORE TAXES

€ thousand	1st half year 2019	1st half year 2018
EBT of reportable segments (German GAAP)	504,882	468,199
EBT of other segments (German GAAP)	(30,176)	1,932
Intersegment consolidation and other effects	839	(10,430)
Adjustment for non-amortization of goodwill	11,960	24,438
Adjustment for over-time revenue recognition	3,647	6,308
Adjustment for the capitalization and amortization of development projects	26,772	19,368
Adjustment for measurement differences on pension provisions	7,521	4,510
Adjustment for measurement of inventories	6,078	-
Adjustment for provisions	(16,201)	(16,708)
Adjustment for impairment of asset held for sale	-	(20,840)
Adjustment for fair value measurement of financial instruments	(2,397)	(41,462)
Other adjustments for differences between German GAAP and IFRS	(783)	(4,816)
Earnings from continuing operations, consolidated and before taxes	**512,143**	**430,499**

Geographical information

The following table shows the Group's revenues broken down by the country of domicile of Group companies.

REVENUES BY REGION

€ thousand	1st half year 2019	1st half year 2018
Europe/Africa	1,691,924	1,652,626
North America	841,158	681,156
South America	55,242	51,833
Asia-Pacific	1,013,192	936,626
	3,601,516	**3,322,241**

Munich, September 12, 2019

Knorr-Bremse AG

The Executive Board

Ralph Heuwing Dr. Peter Laier Dr. Jürgen Wilder

Responsibility statement

To the best of our knowledge, and in accordance with the applicable reporting principles for interim financial reporting, the interim consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group's interim management report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the material opportunities and risks associated with the expected development of the Group for the remaining months of the fiscal year.

Munich, September 12, 2019

Knorr-Bremse AG

The Executive Board

Ralph Heuwing   Dr. Peter Laier   Dr. Jürgen Wilder

Review Engagement Certificate

To Knorr-Bremse Aktiengesellschaft, Munich

We have reviewed the condensed interim consolidated financial statements of the Knorr-Bremse AG – comprising consolidated balance sheet, consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of cash flows, consolidated statement of changes in equity and notes to the condensed interim consolidated financial statements – together with the interim group management report of the Knorr-Bremse AG, for the period from January 1 to June 30, 2019 that are part of the semi annual (or quarterly financial report) according to § 115 WpHG ["Wertpapierhandelsgesetz": "German Securities Trading Act"]. The preparation of the condensed interim consolidated financial statements in accordance with International Accounting Standard IAS 34 "Interim Financial Reporting" as adopted by the EU, and of the interim group management report in accordance with the requirements of the WpHG applicable to interim group management reports, is the responsibility of the Company's management. Our responsibility is to issue a report on the condensed interim consolidated financial statements and on the interim group management report based on our review.

We performed our review of the condensed interim consolidated financial statements and the interim group management report in accordance with the German generally accepted standards for the review of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW). Those standards require that we plan and perform the review so that we can preclude through critical evaluation, with a certain level of assurance, that the condensed interim consolidated financial statements have not been prepared, in material respects, in accordance with IAS 34, "Interim Financial Reporting" as adopted by the EU, and that the interim group management report has not been prepared, in material respects, in accordance with the requirements of the WpHG applicable to interim group management reports. A review is limited primarily to inquiries of company employees and analytical assessments and therefore does not provide the assurance attainable in a financial statement audit. Since, in accordance with our engagement, we have not performed a financial statement audit, we cannot issue an auditor's report.

Based on our review, no matters have come to our attention that cause us to presume that the condensed interim consolidated financial statements have not been prepared, in material respects, in accordance with IAS 34, "Interim Financial Reporting" as adopted by the EU, or that the interim group management report has not been prepared, in material respects, in accordance with the requirements of the WpHG applicable to interim group management reports.

Munich, September 12, 2019

KPMG AG
Wirtschaftsprüfungsgesellschaft

Andrejewski	Hanshen
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]