Annual Report 2020

DRIVING INNOVATION

KNORR-BREMSE

Profile

For over 115 years, Knorr-Bremse has been shaping the future of mobility as a major innovator of sustainable system solutions. We are the global market leader in braking and other systems for rail and commercial vehicles, and play a major role in improving safety, efficiency and reliability on road and rail.

Divisions
As global market leader in braking and other systems for rail and commercial vehicles, Knorr-Bremse is a supportive partner to vehicle manufacturers and operators. The Company also holds leading positions in the markets for other systems, including entrance and HVAC systems for rail vehicles, and driver assistance systems for commercial vehicles.

Knorr-Bremse Worldwide

29,500 employees

100 at over one hundred locations

30 in more than thirty countries

Key performance indicators

		2020	2019	+ / -
Revenues	**In € million**	**6,156.7**	**6,936.5**	**-11.2%**
EBITDA	In € million	1,106.9	1,328.7	-16.7%
EBITDA margin	%	18.0	19.2	
EBIT	In € million	814.0	1,062.9	-23.4%
EBIT margin	%	13.2	15.3	
EBT	In € million	750.6	907.1	-17.3%
EBT margin	%	12.2	13.1	
Net income	In € million	532.2	632.0	-15.8%
Return on sales after tax	%	8.6	9.1	
Earnings per share	€	3.07	3.65	-15.8%
Incoming orders	**In € million**	**6,441.8**	**7,065.9**	**-8.8%**
Order book (31.12.)	In € million	4,977.0	4,692.0	+6.1%
Free Cash Flow	**In € million**	**687.3**	**860.6**	**-20.1%**
Operating Cash flow	In € million	1,036.0	985.8	+5.1%
Capital expenditure	In € million	341.7	331.8	+3.0%
Capital expenditure in % of sales	%	5.6	4.8	
R&D costs	In € million	396.4	396.9	-0.1%
R&D costs in % of sales	%	6.4	5.7	
Total assets	**In € million**	**7,390.0**	**6,846.8**	**+7.9%**
Equity	In € million	1,921.7	1,901.5	+1.1%
Equity ratio	%	26.0	27.8	
ROCE	%	25.6	34.1	
Net Working Capital	days' sales	43.6	42.0	+1.6
Knorr-Bremse share				
Number of shares		161,200,000	161,200,000	
Dividend per share	€	1.52	1.80	-15.6%
Employees		29,714	28,905	+2.8%

Rail vehicle systems

		2020	2019	+ / -
Revenues	**In € million**	**3,336.8**	**3,656.1**	**-8.7%**
EBITDA	In € million	764.2	814.9	-6.2%
EBITDA margin	%	22.9	22.3	
Capital expenditure	In € million	109.0	120.9	-9.8%
R&D costs	In € million	202.6	210.0	-3.5%
R&D costs in % of sales	%	6.1	5.7	
Employees		16,074	16,094	-0.1%

Commercial vehicle systems

		2020	2019	+ / -
Revenues	**In € million**	**2,819.4**	**3,280.2**	**-14.0%**
EBITDA	In € million	381.2	503.7	-24.3%
EBITDA margin	%	13.5	15.4	
Capital expenditure	In € million	210.1	179.2	+17.2%
R&D costs	In € million	194.0	187.0	+3.7%
R&D costs in % of sales	%	6.9	5.7	
Employees		12,871	12,084	+6.5%

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DRIVING INNOVATION

The ability to innovate is one of the most important engines behind Knorr-Bremse's achievements. Innovations constantly create new opportunities for the Company as customer requirements change or disruptive technology is introduced. Knorr-Bremse's success in harnessing this capacity to innovate is reflected by the 11,000 or so individual patents currently held or applied for, and by the fact that the Company has produced so many industry-defining innovations in the rail vehicle and commercial vehicle sectors.

Even in Covid-ridden 2020, it was important to keep thinking of the future. And by maintaining our high level of investment, this is precisely what we did, reinvesting more that six percent of our annual revenues in research and development. This is vital for maintaining the Company's future viability and resilience. In effect, every innovation that is successfully launched on the market has some kind of economic impact on the future, just as disruptive technologies open up excellent opportunities for new business models. We are ideally equipped to take advantage of such disruptions thanks to our highly qualified workforce, our efficient processes, our agile working practices – and our focus on the megatrends of our time: urbanization, sustainability, digitalization and mobility. These are precisely the areas that are experiencing above-average growth, and where our development work is paying off.

This approach also helps to explain why the Group's business performance was exceptionally solid in 2020, the year of the pandemic. As we face the future, we continue to keep a tight grip on the key to this success: the ability to influence society-defining trends while swiftly adapting to changing circumstances.

Heinz Hermann Thiele

Born in Mainz on April 2, 1941,
passed away in Munich on February 23, 2021.

Heinz Hermann Thiele was one of Germany's leading entrepreneurs and business personalities. In pursuit of his entrepreneurial vision, he built up the Knorr-Bremse Group into a globally successful corporation over a period of more than 35 years.

He began his career at Knorr-Bremse in 1969, working as a legal clerk in the Patent department. In 1975, he was entrusted with the development and expansion of the Commercial Vehicles division. In 1979, he was appointed to the Company's Executive Board, on which he served for 28 years. In 1985, he started steadily acquiring the Group's shares and in 1987, was appointed Chief Executive Officer of the Group. Between 2007 and 2016, Mr. Thiele served as Chair of the Supervisory Board of Knorr-Bremse AG; he was appointed Deputy Chair in July 2020. In 2016, he was appointed Honorary Chair of the Supervisory Board.

Heinz Hermann Thiele devoted his entire life to the service of Knorr-Bremse, as well as many other entrepreneurial and philanthropic projects. He leaves behind an extraordinary – indeed, unique – life's work.

Sanding system
by the Rail Vehicle Systems division in the Knorr-Bremse Forum

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To our Shareholders

Letter from the CEO

Dear Readers,

In February of this year, we had to make a sad announcement: Heinz Hermann Thiele, for many years CEO, Supervisory Board Chair and majority shareholder of Knorr-Bremse, had passed away. One of Germany's greatest entrepreneurs and business personalities, Mr. Thiele devoted his whole life to the service of Knorr-Bremse with unflagging zeal and personal commitment. A visionary entrepreneur, Mr. Thiele placed the management of the Company in the hands of an external management team nearly 15 years ago. He was also behind Knorr-Bremse's IPO in 2018 – another important step toward safeguarding the Company's future. Together with the Supervisory Board and workforce, the Executive Board continues to ensure that Knorr-Bremse pursues a successful growth trajectory today, very much in the spirit of Mr. Thiele.

The past fiscal year was dominated by the Covid-19 pandemic, affecting all of us. It became clear at an early stage that 2020 would present serious challenges, and indeed it did. As a company, we weathered this year of crisis comparatively well, thanks to the resilience and solidity of our business model. This was primarily due to the measures we took, at very short notice, to safeguard our ability to deliver products and services to our customers, while at the same time making the protection of our employees' health our very top priority. Even so, we did not entirely escape the pandemic's negative impact on businesses and markets. Plant closures by customers, reduced traffic levels and severe restrictions on mobility all served to constrain our business development.

Despite these constraints, Knorr-Bremse made some significant progress last year in terms of business development. Following the acquisition of R.H. Sheppard in the USA, our CVS division has become one of the world's three leading suppliers of steering systems for commercial vehicles. The acquisition also created a platform for turning the division into a global systems supplier of integrated steering and braking solutions. In turn, these will form the basis of future driver assistance and highly automated driving systems. And in November, Knorr-Bremse and Schmitz Cargobull further cemented their long-standing partnership as joint developers of technologies for the future by signing a multi-year agreement for the supply of trailer braking and chassis control solutions. Our RVS division also consolidated its market-leading position last year, as customers placed a series of major orders. Siemens, for example, ordered entrance systems for 94 trains intended for London Underground's legendary "Tube" metro system. And in April 2020, even as the first wave of the pandemic reached its height, we received an order from Russian train manufacturer Transmashholding in Egypt to supply braking systems for some 1,300 passenger cars.

The entire Executive Board is very proud of the strong performance and high levels of motivation shown by the Company's workforce as a whole over the last 12 months, despite the challenges we all had to deal with. All of our employees remain very focused and committed in their work for our customers and Knorr-Bremse as a company. We believe these efforts are exceptional and would like to thank our 29,500 employees in the warmest possible terms.

»Our equity strategy is based on two key principles: growing more rapidly than our target markets, and ensuring that our business model and profitability remain highly resilient.«

— **Dr. Jan Mrosik** Chief Executive Officer

Our equity strategy is based on two key principles: growing more rapidly than our target markets, and ensuring that our business model and profitability remain highly resilient. Last year, we were able to demonstrate just how dependable these principles are. While our revenues, at € 6.16 billion, were down by around 11% on the previous year, they still came in at the upper end of the forecast range for fiscal 2020.

As a result of the Covid-19 pandemic and its impact on our target markets, both divisions reported a decline in revenues for the past fiscal year. Our RVS division's revenue fell by -8.7% to € 3,337 million, essentially due to the drop in levels of business with rail vehicle manufacturers across all regions. While declining business volumes caused EBITDA to fall by 6.2%, high-margin earnings contributions by our aftermarket business, coupled with the impact of our Covid-19 action program, raised our EBITDA margin on revenues to 22.9% from 22.3% in the previous year. At € 2,819 million, our CVS division's revenue was also down by around 14.0%, primarily as a result of a global decline in truck production that impacted Knorr-Bremse revenues in North America and Europe in particular. Similarly, EBITDA fell by 24.3% due to the drop in business volume. The EBITDA margin was 13.5%, compared with 15.4% in 2019.

However, thanks to our swift response and implementation of cost-cutting measures right at the start of the pandemic, we were able to ensure that margins remained high across both divisions. At Group level, we ultimately exceeded the EBITDA margin predicted for 2020, achieving 18.0%. In view of these results, the Executive Board and Supervisory Board will be putting a proposal for the distribution of a € 1.52 dividend per share before the Annual General Meeting.

Assuming that political and macroeconomic conditions remain stable, and that the Covid-19 pandemic produces no further setbacks, we are expecting to see revenues of € 6.5-6.9 billion for fiscal 2021, together with an EBITDA margin of 17.5-19.0% and an EBIT margin of between 13.0% and 14.5%.

Quality and innovation are what set Knorr-Bremse apart and make us such a strong partner to our customers. Indeed, we owe the resilience of our business activities to our capacity to innovate, through which we are able to contribute solutions to major societal challenges. Thus we develop products that improve travel safety and reduce emissions. By doing so, we support the global transition to greener, more sustainable forms of mobility, and are proud to be a key partner and enabler of this crucial trend. Our business activities will benefit from the EU's stated objective to become climate-neutral by 2050, because the rail industry is an important cornerstone of this initiative. Major trends that are even now shaping the future, including e-mobility and self-driving trucks, will have the greatest impact on truck markets over the next few years.

Even in challenging times, it is important to invest in innovation, digitalization and new business models. Consequently, we invested around € 400 million or 6.4% of our revenues in our research and development activities last year. Key innovations by our RVS division included, for example, our new clean[air] HVAC systems, which help to keep passengers safe in trains by providing smart air distribution, together with air filtering and purification systems. Further details of Knorr-Bremse's broad-based achievements as an innovator appear in our "Driving Innovation" magazine. Published alongside our annual report, the magazine also introduces you to the people behind Knorr-Bremse's systems.

As you can see, Knorr-Bremse's two divisions are ideally positioned for future success. We will play a leading role in these future developments while continuing to pursue our profitable growth strategy. And we look forward to the pleasure of your company on our journey!

Munich, March 30, 2021

Yours

Dr. Jan Mrosik
Chief Executive Officer

The Executive Board

Dr. Peter Laier
Executive Board Member
—
Commercial Vehicle Systems Division

Dr. Jan Mrosik
Chief Executive Officer
—
IT, HR, Strategy, Communications, Internal Audit

Frank Markus Weber
Executive Board Member
—
Finance, Controlling, Legal, Sustainability

Dr. Jürgen Wilder
Executive Board Member
—
Rail Vehicle Systems Division

Please note: this photo shoot was held in stringently hygienic conditions, as required by the Company's own Covid-19 action program.

Report of the Supervisory Board

Dear Shareholders,

We would like to preface the Report of the Supervisory Board for the past fiscal year with a few words in memory of Heinz Hermann Thiele, who passed away on February 23, 2021, just months before his 80th birthday.

The Supervisory Board mourns his loss, both as Deputy Chair and as a member of the Executive Committee. Upon the outbreak of the coronavirus pandemic, he once again showed his selfless devotion and passionate commitment to our Company by rising to the occasion and advising us how best to tackle the economic impact of the Covid-19 crisis on Knorr-Bremse AG. Thanks to his knowledge of our markets, customers and business partners, his advice proved as wise and prudent as ever, to the benefit of the Company and our employees.

For over five decades, Knorr-Bremse and Heinz Hermann Thiele were effectively one and the same thing. He left us an extraordinary legacy –an obligation which the Supervisory Board willingly acknowledges and accepts: to continue to lead the Company forward into a successful future. On March 3, 2021, at our first meeting after his death, his place at the Supervisory Board table was left empty and we took the opportunity, in silence, to thank a great entrepreneur and human being, and to express to his family our grief and heartfelt condolences.

As Chair of the Supervisory Board, I am pleased to present the Report of the Supervisory Board for the fiscal year just ended.

To a historically unprecedented degree, 2020 was dominated by the global economic impact of the Covid-19 pandemic. Managing the crisis created major challenges for the senior management and the entire management team, and the Supervisory Board was intensively involved on many occasions. The preliminary results published on March 4, 2021 show that so far we succeeded in steering the Company safely and profitably through the greatest economic crisis of recent decades. Nevertheless, it is a crisis which continues to make great demands not only of Knorr-Bremse's management teams and workforce, but also of our shareholders, suppliers, customers and competitors. The economic impact and structural ramifications are only now beginning to emerge.

On behalf of the Supervisory Board, I would like to express our heartfelt thanks to Dr. Mörsdorf, Mr. Tölsner and Mr. Weiberg, who have been members of the Supervisory Board since 2009 and 2013 respectively, and who stepped down from the board following the Annual General Meeting on June 30, 2020. The high level of technical expertise they brought to the table made a significant contribution to Knorr-Bremse's success, and their personalities also enriched the work of the Supervisory Board. To replace them as shareholder representatives, Heinz Hermann Thiele, Dr. Thomas Enders and Dr. Theodor Weimer were elected to the Supervisory Board. When selecting candidates, we used the Supervisory Board's skills profile as our guideline, the goal being to recruit a diverse range of members covering a wide range of competencies. I firmly believe that with Mr. Thiele, Dr. Enders and Dr. Weimer, we have succeeded in attracting eminently suitable and highly qualified candidates to join our Supervisory

Professor Dr. Klaus Mangold,
Chair of the Supervisory Board

Board. Not only Dr. Enders and Dr. Weimer will be on hand to give valuable advice to Knorr-Bremse AG and the Executive Board in the current challenging circumstances, they will also help us grasp the opportunities lying ahead. The five-year term of office of the Supervisory Board ends – for all Supervisory Board members – at this year's Annual General Meeting on May 20, 2021. We will set down the candidates we are proposing as shareholder representatives on the new Supervisory Board in our invitation to the Annual General Meeting, which will be sent out in early April.

The Company assists members of the Supervisory Board by providing a detailed and suitable induction course, as well as subsequent training and professional development; the Company also covers the associated costs. Following the appointment of Dr. Enders and Dr. Weimer, a standard half-day personal onboarding session was held in early September, with all members of the Executive Board in attendance. The session provided the newly elected Supervisory Board members with a complete overview of the Company and our global structures, as well as our operating activities and the products of our two divisions. For familiarization purposes, newly appointed Supervisory Board members are also given the minutes of all meetings held over the preceding 12 months, together with the Company's current Corporate Governance documentation. The Supervisory Board conducts regular reviews to establish how effectively it is fulfilling its duties in both plenary sessions and committee meetings. For the first time, we will be conducting an external efficiency review in spring 2021. This will include all members of the Executive Board and Supervisory Board, as well as the Head of our Corporate Office.

Cooperation Between the Supervisory Board and the Executive Board

The Supervisory Board performed its duties with diligence and due care as required by law, the Company's Articles of Association and the Supervisory Board's rules of procedure. The challenges thrown up by the Covid-19 pandemic required particularly close and regular exchanges between the Supervisory Board and the Executive Board. The Supervisory Board not only advised the Executive Board on fundamental operational matters, liquidity management and cost reduction, it also gave advice on matters relating to the health and safety of employees.

In addition, the Supervisory Board advised the Executive Board on managing the Company, preparing and implementing acquisitions and disposals, and on other strategic projects such as the closure of the Wülfrath plant. At the same time, the Supervisory Board monitored the Executive Board's business management with the aid of regularly updated reports on business performance, planning and the risk situation. At all times, the Supervisory Board was guided by the principles of good and responsible corporate governance. In terms of supervision and advice, it focused primarily on ensuring that the management of business operations and the Group as a whole was lawful, proper, effective and commercially robust. The individual advisory and oversight duties of the Supervisory Board are set out in the procedural rules of the Supervisory Board and the Executive Board. In accordance with the latter, the Supervisory Board is, for instance, closely involved in the business planning and review of strategic projects and issues. The rules include a list of specific Executive Board decisions that require the consent of the Supervisory Board, some of which call for detailed scrutiny in advance and require consideration of complex facts and circumstances from a supervisory and advisory perspective, according to strict rules of members' own business judgement. Several matters requiring its approval were brought before the Supervisory Board in fiscal 2020.

The Executive Board provided the Supervisory Board with regular, timely and comprehensive information at and between meetings in written and oral reports. These reports encompassed all material facts relating to the Group's strategic development, planning, business performance and financial position during the year, as well as details of the Group's risk situation and risk management, compliance (cf. p. 204 of the Annual Report), Knorr-Bremse AG's direct competitors (peers), the Group's position on the capital market – including the expectations of

1.01 Supervisory board members' attendance at meetings in fy 2020

Name	Supervisory Board (plenary)	Executive Committee	Audit Committee	Nominations Committee
Professor Dr. Klaus Mangold (Chair)	12 (12)	14 (14)	9 (9)	1 (1)
Kathrin Dahnke (Deputy Chair until June 30)	10 (12)	5 (6)	9 (9)	1 (1)
Dr. Thomas Enders (from June 30)	5 (6)			
Dr. Wolfram Mörsdorf (until June 30)	6 (6)			
Heinz Hermann Thiele (Deputy Chair from June 30 until February 23,2021)	5 (6)	8 (8)		
Julia Thiele-Schürhoff	11 (12)			1 (1)
Wolfgang Tölsner (until June 30)	6 (6)			
Georg Weiberg (until June 30)	6 (6)			
Dr. Theodor Weimer (from June 30)	6 (6)			
Franz-Josef Birkeneder (Deputy Chair)	12 (12)	14 (14)	9 (9)	
Michael Jell	12 (12)	14 (14)		
Werner Ratzisberger	12 (12)		9 (9)	
Annemarie Sedlmair	12 (12)			
Erich Starkl	12 (12)			
Günter Wiese	11 (12)			
Meeting attendance as %	96.53%	98.21%	100%	100%

(In brackets: number of meetings during the term of office of the respective Supervisory Board or committee member) analysts and investors – and current events. With the Executive Board, we discussed all significant business transactions and the Company's ongoing development. The Supervisory Board was involved in a timely manner in all decisions of fundamental importance to the Company. We were also swiftly informed of any urgent matters arising between scheduled meetings. Similarly, between meetings of the Supervisory Board, as Chair of the Supervisory Board I was also regularly updated by the Executive Board – in an in-depth, intensive dialogue – on the current business situation of and key developments within the Company. I also held regular discussions with major investors on matters of importance to the Supervisory Board.

We recorded a consistently high participation rate at our meetings during fiscal 2020. The average attendance at plenary Supervisory Board meetings was 96.53%. Only four Supervisory Board members were unable to attend one or two meetings each out of a total of twelve. The attendance table below, which shows almost 100% participation in meetings by members of the Supervisory Board and its committees, attests to their high level of commitment to the Supervisory Board's work.

Any Supervisory Board or committee members who were unable to attend meetings participated in the voting by means of notices in writing or proxies. The timely advance distribution of documents by the Executive Board facilitated preparation for meetings by Supervisory Board members and largely obviated the need for handouts on the day.

Deliberations in the Supervisory Board and its Committees

Meetings and resolutions of the plenary board are prepared by the Executive Committee and the Audit Committee. The Supervisory Board previously set up a Mediation Committee, but there was no need to convene it during the reporting period. In the first half of the year, the Nominations Committee was regularly involved in searching for and selecting suitable candidates for election as shareholder representatives at the Annual General Meeting in June 2020. As Chairs of the Audit Committee and Executive Committee respectively, Ms. Dahnke and I regularly submitted detailed reports to the Supervisory Board. The main matters covered are set out below.

Prior to Supervisory Board meetings, shareholder representatives and employee representatives regularly met in separate preliminary briefings, which were on occasion also attended by the CEO and other Executive Board members.

Key Topics Discussed by the Supervisory Board

The Supervisory Board met for a total of twelve meetings during the reporting period. These were mostly held as physical meetings in Munich and Aldersbach – observing all applicable social distancing and hygiene rules – and occasionally also as videoconferences. The Supervisory Board also regularly met without members of the Executive Board present. Here is a summary of the main topics of discussion at the meetings:

1. On March 2, 2020, the Supervisory Board deliberated on performance-related and maximum compensation for serving Executive Board members for fiscal 2020, as well as appropriate STI financial targets and strategic EPS targets for the new share-based long-term incentive. The new remuneration system for the Executive Board was submitted for the Annual General Meeting's approval on June 18, 2020 and described in detail in the relevant AGM invitation. Details of the new remuneration system are also described in the Compensation Report (starting on page 58 of the Annual Report).

The Supervisory Board also appointed Frank Markus Weber as a member of the Executive Board for a period of three years with effect from July 1, 2020. Taking over as CFO from Ralph Heuwing, who departed the Company with effect from April 30, 2020, Mr. Weber is responsible for Corporate Accounting/Taxes, Corporate Controlling, Corporate Risk Management, Corporate Treasury, Corporate Legal, Compliance & Patents, Investor Relations, Corporate M&A, Corporate Responsibility, and Corporate Real Estate Management. Bernd Eulitz assumed the duties of CFO during the interim period between May 1 and June 30, 2020. The Supervisory Board has found an excellent successor in Mr. Weber. Most recently, Mr. Weber held senior executive positions in the Daimler Group, where he was involved in numerous major business decisions. Thanks to his tenure as CFO at both Mitsubishi Fuso Truck & Buses in Tokyo, Japan, and Daimler Trucks Asia, he possesses in-depth knowledge and experience of international controlling and M&A, as well as restructuring projects.

2. At extraordinary meetings held on March 27 and April 7, 2020, the Supervisory Board repeatedly held in-depth discussions of the impact of the Covid-19 pandemic on the Company's business situation, the countermeasures developed and implemented by the Executive Board, and the crisis projection scenarios also developed by the Executive Board. Along with measures to shore up liquidity by securing further credit facilities and cutting costs by, for example, temporarily introducing short-time working in both divisions and on all the Company's sites in Germany, discussions centered on how best to protect the Company and its employees and actively manage supply chains to safeguard delivery capacity to customers at all times.

3. On April 21, 2020, the Supervisory Board considered the results of the audit of the annual financial statements and the Executive Board's proposal for the distribution of net earnings in the form of a dividend for fiscal 2019 of €1.80 per share. The Board also deliberated on other resolutions for submission to the Annual General Meeting, specifically an amendment to the Company's Articles of Association to implement the statutory transparency and disclosure requirements of the Second Shareholder Rights Directive (ARUG II), the approval of the remuneration system, and the nomination of Mr. Thiele, Dr. Enders and Dr. Weimer as members of the Supervisory Board. These resolutions were formally approved on May 7, 2020, in line with the Audit Committee's recommendation. I would like to take this opportunity to again expressly thank Dr. Mörsdorf, Mr. Tölsner and Mr. Weiberg, who left the Supervisory Board on June 30. In addition, the meeting focused on the Supervisory Board's (renewed) discussion of the economic consequences of the Covid-19 pandemic and the status of countermeasures, along with various strategic issues such as the restructuring of the Wülfrath plant, the post-merger integration (PMI) status of the minority stakes in startups Rail Vision and Railnova acquired by the RVS division, and the PMI status of the commercial vehicle steering systems business acquired from Hitachi in early 2019.

4. At the Supervisory Board meeting on May 7, 2020, as well as nominating the three shareholder representatives as discussed above, the Board resolved to revise the Supervisory Board's rules of procedure to reflect amendments to the German Corporate Governance Code (GCGC) which came into force in March, as well as the statutory provisions of ARUG II and an amendment to the German Federal Financial Supervisory Authority's (BaFin) issuer guidelines. The Supervisory Board's rules of procedure can be viewed on the Knorr-Bremse AG website under Corporate Governance.

5. At its meeting on June 29, 2020, the Supervisory Board focused on preparations for the virtual Annual General Meeting to be held the following day. Directly after the General Meeting, the Supervisory Board elected Heinz Hermann Thiele as Deputy Chair to succeed Ms. Dahnke. In this role, Mr. Thiele is also a member of the Executive Committee. The composition of the Audit Committee (Kathrin Dahnke, Prof. Dr. Klaus Mangold, Franz-Josef Birkeneder, Werner Ratzisberger) and Nominations Committee (Prof. Dr. Klaus Mangold, Kathrin Dahnke, Julia Thiele-Schürhoff) remain unchanged. The Audit Committee will continue to be chaired by Ms. Dahnke in her capacity as a financial expert.

   At the same June 29, 2020 meeting, the Supervisory Board also considered the economic impact of the Covid-19 pandemic, the status of countermeasures, and various business performance scenarios for the remainder of the year. As part of long-term liquidity and financial planning, the Supervisory Board approved the reinstatement of the Debt Issuance Program which allows Knorr-Bremse to issue its own bonds on the capital market. The Supervisory Board also discussed PMI planning for the Sheppard acquisition, the Company's global HR strategy, and the status of major legal disputes in which the KB Group is involved.

6. On August 12, 2020, the Supervisory Board held a further extraordinary meeting to discuss the early departure by mutual agreement of CEO Bernd Eulitz from the Executive Board. The Supervisory Board conducted a detailed review of the contractual conditions of his departure, the interim arrangements for assigning his responsibilities to the remaining members of the Executive Board, and the relevant notification of the capital market.

7. As part of its annual two-day strategy meeting the Supervisory Board reviewed in October the strategic direction of the Knorr-Bremse Group's two divisions and key innovation projects. Discussions focused chiefly on the Knorr-Bremse Group's global innovation management, the digitalization of operational activities and products, plus the maintenance and expansion of our market position in China in the light of the latter's "autonomous policy". As part of our sustainability strategy, the Supervisory Board decided to link ESG criteria to the Executive Board's short-term variable remuneration (STI) with effect from January 1, 2022. The required changes to the remuneration system will be submitted to this year's Annual General Meeting for approval.

8. M&A and restructuring issues are a recurring topic at Supervisory Board meetings. On October 15, 2020, the Supervisory Board considered the details of and responsibilities arising from the integration of U.S. steering systems manufacturer Sheppard, the closure and winding up of the Wülfrath plant, the arbitration proceedings with Robert Bosch, and the quality strategy of the Rail division. The Supervisory Board further discussed the Group-wide transition to IFRS-based accounting as a necessary prerequisite for the timely preparation of quarterly, half-yearly (interim) and annual financial statements. This has become even more relevant as a result of impending changes to the DAX and MDAX indexes.

9. On November 4, 2020, the Supervisory Board appointed Dr. Jan Mrosik as a member of the Executive Board and CEO for a period of three years with effect from January 1, 2021. The appointment was the result of an intensive search based on a created search profile. By virtue of his many years at Siemens AG, Dr. Mrosik possesses a great deal of experience in managing complex business units. Moreover, he has extensive expertise in the areas of automation and digitalization. As well as Corporate Strategy, Communications, Internal Audit and Knorr Excellence, in his capacity as board member for labor relations Dr. Mrosik is also responsible for Human Resources. As Chief Digital Officer and Chief Information

Officer, he is further responsible for Digitalization, Corporate Information Technology, and Business Services. On behalf of the Supervisory Board, I would like to express our thanks to Dr. Laier, Mr. Weber and Dr. Wilder for overseeing these areas in the interregnum prior to Dr. Mrosik's assumption of his role.

10. Following extensive deliberations at its meeting on December 9, 2020, the Supervisory Board approved the Executive Board's plan for fiscal 2021 and medium-term plan (2021-2023) for the Group and both divisions. Dr. Laier and Dr. Wilder presented an overview of current M&A activities to the Supervisory Board, together with plans for the implementation of the first tangible digitalization projects. The Supervisory Board also considered IT security at Knorr-Bremse as well as areas where action may be needed, and then discussed the key points of a possible employee share program. Finally, the Supervisory Board approved the Executive Board's revised areas of responsibility following the new CEO's appointment. A summary of the new areas of responsibility appears on page 204 of the Corporate Governance Statement.

Executive Committee

The Executive Committee coordinates the work of the Supervisory Board, prepares its meetings and supervises implementation of resolutions adopted by the Supervisory Board and its committees. It is further charged with drafting resolutions on business dealings with Executive Board members pursuant to Section 112 AktG, with approving contracts with Supervisory Board members in compliance with Section 114 AktG, and with long-term succession planning for the Executive Board, as well as preparations for the appointment of Executive Board members (including the terms of their employment contracts). In matters falling within the original remit of the Supervisory Board, the Executive Committee also decides on the deferral of disclosures of insider information pursuant to Section 17 (4) of the Market Abuse Regulation (MAR).

The Executive Committee met on a total of fourteen occasions during the reporting period, in particular to prepare agendas for Supervisory Board meetings and resolutions requiring Supervisory Board approval. In one urgent case, the Executive Committee took a decision using the document circulation procedure. Whenever the Supervisory Board needed to adopt a resolution, the Executive Committee concluded each of its meetings by making a recommendation to the Supervisory Board. The Committee Chair regularly reported to the Supervisory Board on the Executive Committee's work.

The Executive Committee repeatedly considered the operational impact of the Covid-19 pandemic, the scenarios developed by the Executive Committee and the resulting measures taken to protect employees and mitigate the damage to business activities.

Another high-priority issue that occupied the Executive Committee was the search for successors for Mr. Heuwing as CFO and Mr. Eulitz as CEO. The Chair of the Supervisory Board regularly updated members of the Executive Committee on the progress of the intensive selection process and the interviews conducted to date, and involved the committee in the final selection of the candidates. The evaluation of successor candidates for the two departing Executive Board members was an important focus of the Presidium's work. The Executive

Committee also looked in detail at the conditions of departure for Mr. Heuwing and Mr. Eulitz, the negotiations conducted with the two Board members, and the respective notifications of the capital market.

The Executive Committee also reviewed personnel changes on the Supervisory Board that came into effect at the 2020 Annual General Meeting.

The Executive Committee comprises the following members:
- Professor Dr. Klaus Mangold (Chair)
- Franz-Josef Birkeneder
- Kathrin Dahnke (until June 30, 2020)
- Heinz Hermann Thiele (from June 30, 2020 until February 23, 2021)
- Michael Jell

Audit Committee

The Audit Committee submits a recommendation to the Supervisory Board for the appointment of an auditor. It prepares Supervisory Board resolutions for the approval of the annual financial statements, the proposed distribution of net earnings, and the Declaration of Compliance. It also appoints the auditor on behalf of the Supervisory Board. Furthermore, the Audit Committee is responsible for overseeing the auditor, approving any additional non-audit services provided by the auditor, scrutinizing interim and quarterly financial reports, overseeing the accounting process, and monitoring risk management issues. The latter includes monitoring the effectiveness of the internal control system (ICS), the risk management system (RMS), the internal audit system, and the compliance management system (CMS). The Chair of the Audit Committee, Ms. Dahnke, is in regular contact with the auditor, in some cases bilaterally, and regularly reports to the Supervisory Board on the work of the committee.

The Audit Committee held a total of nine meetings during the year under review. Among other things, it reviewed – on the day before publication in each case – the quarterly and half-yearly figures, as well as the provisional figures for the preceding fiscal year.

At its meeting on March 10, 2020, the Audit Committee discussed the most recent reports from Internal Audit and the provisional figures for fiscal 2019, which were published the following day. On April 15, 2020, the Audit Committee examined the annual and consolidated financial statements and the findings of the external auditor, KPMG. At its meeting on April 21, 2020, the Audit Committee then signed off the reports in preparation for approval by the Supervisory Board by the Audit Committee, the consolidated non-financial report (Sustainability Report), as well as – following intensive scrutiny of the legal transactions between the Knorr-Bremse Group and Mr. Thiele and companies associated with him – the Report on Relations with Affiliated Companies (Dependent Company Report). In addition, the Audit Committee considered the Executive Board's proposal for the distribution of net earnings. As the figure of € 1.80 per share was within the bandwidth of 40-50% of distributable net income specified during the IPO, the committee recommended that the Supervisory Board should approve the proposal. Finally, the meeting covered the regular reports on the Knorr-Bremse Group's internal control system (ICS) and compliance management system (CMS), as well as the status of major legal disputes.

At its meetings on October 5 and October 15, 2020, the Audit Committee considered among other things the potential ramifications of the Wirecard affair for the work of the Audit Committee and the Supervisory Board. The agenda also included the status of and future steps toward the Group-wide transition to IFRS-based accounting, along with regular reports on risk management and internal auditing, a report by Corporate Treasury on currency management and the hedging of foreign currency risks, and the presentation of a concept for the profitable investment of the Knorr-Bremse Group's strategic liquidity (given short-term availability and low risk) by launching a special fund.

The presentation of the Q3 quarterly report was the main focus of the Audit Committee's meeting on November 17, 2020, together with a presentation by analysts. Finally, the meeting on December 9, 2020 centered on preparations for auditing the annual and consolidated financial statements, including the designation of key audit areas, planning of schedules for the financial statements and audit (with the aim of publishing the annual and consolidated financial statements within 90 days for the first time, in compliance with Section F.2 of the GCGC), and approval of the proposed auditor's fee for auditing the financial statements. The Audit Committee also reviewed the regular reports on risk management, including an update on IT security, and on internal auditing, which included details of the key findings of the CMS and RMS audit and actions initiated to date.

The Audit Committee comprises the following members:
- Kathrin Dahnke (Chair)
- Franz-Josef Birkeneder
- Professor Dr. Klaus Mangold
- Werner Ratzisberger

Nominations Committee

The remit of the Nominations Committee is to propose, whenever required, suitable candidates for the Supervisory Board to nominate for election as new Supervisory Board members at an Annual General Meeting. In the first half of the year, meetings of the Nominations Committee were repeatedly concerned with the search for and selection of suitable candidates for appointment as shareholder representatives by the Annual General Meeting in June 2020. In view of the impending re-election of the Supervisory Board in 2021, the committee also deliberated on long-term succession planning for the Supervisory Board.

The Nominations Committee comprises the following members:
- Professor Dr. Klaus Mangold (Chair)
- Kathrin Dahnke
- Julia Thiele-Schürhoff

Mediation Committee

The Mediation Committee proposes candidates for appointment to the Executive Board if a resolution on the appointment of such a board member does not obtain a two-thirds majority of votes as required by Section 31 (3) 1 of the German Codetermination Act (MitbestG). The Mediation Committee was not convened during the reporting period.

The Mediation Committee comprises the following members:
- Professor Dr. Klaus Mangold
- Franz-Josef Birkeneder
- Kathrin Dahnke
- Michael Jell

Corporate Governance

The Supervisory Board attaches great importance to good corporate governance. This includes regularly and comprehensively considering the corporate governance requirements for German listed companies, in particular the requirements of the German Stock Corporation Act (AktG), the German Codetermination Act (MitbestG), and the recently revised German Corporate Governance Code (GCGC, version dated December 16, 2019). Jointly with the Executive Board, the Supervisory Board issued the Declaration of Compliance for the reporting period on December 9, 2020, as required by Section 161 AktG and updated it March 30, 2021. The declaration was published on the Company's website and can also be found in its version of December 9, 2020 on page 191 of the Annual Report. With the exception of Recommendation F.2 of the GCGC (relating to the publication of the interim report within 45 days) and Recommendation G.11 (relating to clawback clauses in the service agreements of Executive Board members),and section G.11 (concerning subsequent changes to the target values and comparison parameters of the variable remuneration components of the Executive Board), Knorr-Bremse AG is in compliance with all GCGC recommendations and suggestions in fiscal 2021. The reasons underlying these departures from the code are explained in detail in the Corporate Governance Statement.

Conflicts of Interest

When taking its decisions, the Supervisory Board constantly watched out for potential conflicts of interest. Consequently, no conflicts of interest occurred in fiscal 2020.

Annual and Consolidated Financial Statements

The Supervisory Board took the necessary steps to ensure that the annual and consolidated financial statements and other financial reports for the 2020 fiscal year were properly audited in compliance with the statutory requirements.

KPMG AG Wirtschaftsprüfungsgesellschaft, Munich (KPMG) audited the annual financial statements of Knorr-Bremse AG prepared by the Executive Board in accordance with German GAAP (the German Commercial Code – HGB), the combined management report of Knorr-Bremse AG and the Knorr-Bremse Group, and the consolidated financial statements for the 2020 fiscal year prepared according to International Financial Reporting Standards (IFRS), and issued an unqualified audit opinion in each case. KPMG was appointed auditor for the 2020 fiscal year at the Annual General Meeting on June 30, 2020. KPMG has acted as auditor for the Knorr-Bremse Group since the IPO in 2018. Prior to the IPO, KPMG had previously been appointed to audit the Group's annual and consolidated financial statements. The independent auditor responsible for the audit within the meaning of Section 319a (1) 4 HGB has been Johannes Hanshen. Another responsible auditor is Professor Dr. Kai Andrejewski.

Prior to publication, the auditor also regularly holds detailed discussions of the half year financial statements with the Audit Committee, and reports the provisional figures on the status of the audit of the annual and consolidated financial statements before they are published. The auditor reviewed the report of the Executive Board on relations with affiliated companies (Section 312 AktG), and issued the following statement on the report: "Based on our judgement and audit, duly carried out in accordance with professional standards, we confirm that: 1. the factual statements made in the report are correct; 2. the payments made by the Company in relation to the legal transactions listed in the report were not unreasonably high, or else the negative factors were offset; 3. the measures cited in the report do not indicate any circumstances that would give rise to an assessment differing substantially from that of the Executive Board."

The above-mentioned reports, the Executive Board's proposal for the distribution of net earnings, and the auditor's reports were submitted in good time to all members of the Supervisory Board or were available for inspection at the Supervisory Board meeting on March 30, 2021. At its meetings on March 3, March 26 and March 30, 2021, the Audit Committee examined all these documents in advance and committee chair Kathrin Dahnke reported on them to the Supervisory Board at its meeting on March 30, 2021. The Executive Board presented the annual statements and reports to the Supervisory Board where they were discussed in detail. The independent auditors, who were present at the meetings, reported on their findings. The key audit areas for the fiscal year under review had been determined beforehand by the Audit Committee, as follows: the process of preparing the annual and consolidated financial statements; revenue recognition and costs associated with project business pursuant to IFRS 15; the capitalization and valuability of specific development projects pursuant to IAS 38; fraud risk associated with revenue recognition; reporting on the project-related system transition ("IFRS goes ERP"); the value of specific holdings in affiliated companies and associated receivables, plus a review of specific warranty provisions.

The Audit Committee did not identify any weaknesses in the risk management system, the internal control system, the internal audit system or the compliance management system. On the basis of our own examination of the annual financial statements, the consolidated financial statements and the combined Group management report, we did not find any grounds for objections and therefore concur with the Executive Board's evaluation of the position of Knorr-Bremse AG and the Knorr-Bremse Group. At the Audit Committee's recommendation, we approve the financial statements for 2020; the annual financial statements of Knorr-Bremse AG are thereby adopted. We discussed in detail the proposal for the distribution of net earnings with the Executive Board and are in agreement with the Executive Board's proposed dividend of € 1.52 per eligible share for the 2020 fiscal year. This brings us within the dividend payout range of 40-50% of net income which was communicated during the IPO. This year's virtual Annual General Meeting will resolve whether to accept this proposal on May 20, 2021.

Changes on the Supervisory Board and Executive Board

The composition of the Supervisory Board and the Executive Board on December 31, 2020 is set out on page 22 and page 9 respectively.

Supervisory Board

Immediately upon conclusion of the Annual General Meeting on June 30, 2020, Dr. Mörsdorf, Mr. Tölsner and Mr. Weiberg stepped down from the Supervisory Board. The General Meeting appointed Heinz Hermann Thiele, Dr. Thomas Enders and Dr. Theodor Weimer as their successors.

Executive Board

With effect from July 1, 2020, Frank Markus Weber was appointed as a member of the Executive Board and CFO of Knorr-Bremse AG. Mr. Weber succeeds Mr. Heuwing, who left the Company at his own request on April 30, 2020. On behalf of the Supervisory Board, I would like to thank Mr. Heuwing for his enormous commitment. He made a significant contribution to the ongoing development of the Company's vigorous growth strategy and financial strength. Above all, we are indebted to him for the successful IPO and the impressive positioning of Knorr-Bremse AG on the capital market.

With effect from January 1, 2021, Dr. Jan Michael Mrosik was appointed as a member and Chair of the Executive Board (CEO) for a term of three years. Dr. Mrosik takes over from Mr. Eulitz, who left the company on August 31, 2020. Mr. Weber, Dr. Laier and Dr. Wilder took on Mr. Eulitz's duties during the interregnum prior to Dr. Mrosik's assumption of his role.

Thanks

The year 2020 was dominated by the Covid-19 pandemic, presenting Knorr-Bremse with almost unprecedented challenges. The Supervisory Board would like to thank the members of the Executive Board, the various managers and all the employees of the Knorr-Bremse Group who safely and successfully steered the Company through the crisis, and continue to do so. The key performance indicators for 2020 – and especially the rise in the share price over the year – are powerful proof of this impressive achievement.

Munich, March 30, 2021

Best regards and all
the best
yours Klaus Mangold

Professor Dr. Klaus Mangold
Chair of the Supervisory Board

Supervisory board of Knorr-Bremse AG

Professor Dr. Klaus Mangold, Stuttgart
- Chair of the Supervisory Board
- Independent contractor
- Chair of Mangold Consulting GmbH, Stuttgart
- Member of the Administrative Board of Baiterek National Managing Holding JSC, Nur-Sultan, Kazakhstan
- Chair of the Advisory Board of Lürssen Maritime Beteiligungen GmbH & Co. KG, Bremen
- Chair of the Advisory Board of Cortec GmbH, Freiburg
- Vice-Chair of Rothschild Europe, Frankfurt am Main

Heinz Hermann Thiele, Munich (from June 30, 2020 to Feb. 23, 2021†)
- Deputy Chair of the Supervisory Board
- Entrepreneur
- Honorary Chair of the Supervisory Board

Franz-Josef Birkeneder*, Aldersbach
- Deputy Chair of the Supervisory Board
- Plant Manager at Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Aldersbach site

Kathrin Dahnke, Munich
- Deputy Chair of the Supervisory Board (until June 30, 2020)
- Chief Financial Officer of Osram Licht AG (from Apr. 16, 2020)
- Member of the Supervisory Board of Fraport AG (until Sept. 18, 2020)
- Member of the Supervisory Board of B. Braun Melsungen AG

Dr. Thomas Enders, Tegernsee (from June 30, 2020)
- President of the German Council on Foreign Relations
- Member of the Supervisory Board of Lufthansa AG
- Member of the Board of Directors of Linde plc
- Member of the Supervisory Board of Lilium GmbH

Michael Jell*, Munich
- Full-time Chair of the Works Councils of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Knorr-Bremse AG, KB Media GmbH, Knorr-Bremse Services GmbH
- Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH

Dr. Wolfram Mörsdorf, Essen (until June 30, 2020)
- Member of the Executive Board of ThyssenKrupp AG (retired)
- Chair of the Supervisory Board of FRITZ Winter Eisengießerei GmbH & Co. KG
- Member of the Supervisory Board of PWK Automotive GmbH
- Chair of the Supervisory Board of Gienanth GmbH
- Chair of the Supervisory Board of Silbitz Group GmbH
- Member of the Board of Directors of Sistema Capital Partner Investment Holding

Werner Ratzisberger*, Aldersbach
- Project Engineer for mechanical processing/surfaces
- Deputy Chair of the Works Council of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich
- Member of the Supervisory Board of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

Annemarie Sedlmair*, Munich
- Head of the Legal department of IG Metall, Munich office
- Member of the Supervisory Board of Bosch Sicherheitssysteme GmbH

Erich Starkl*, Passau
- First Authorized Representative of IG Metall Passau
- Deputy Chair of IG Metall

Julia Thiele-Schürhoff, Munich
- Chief Executive Officer of Knorr-Bremse Global Care e. V.

Wolfgang Tölsner, Uetersen (until June 30, 2020)
- Management consultant
- Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH
- Chair of the Administrative Board of Selectron AG
- Member of the Administrative Board of 4PL Central Station AG

Georg Weiberg, Stuttgart (until June 30, 2020)
- Head of Development at Daimler Trucks (retired)
- Member of the Supervisory Board of Mahle Behr GmbH & Co. KG
- Member of the Advisory Board of VOSS Automotive GmbH
- Member of the Supervisory Board of FRITZ Winter Eisengießerei GmbH & Co. KG

Dr. Theodor Weimer, Frankfurt am Main (from June 30, 2020)
- Chief Executive Officer of Deutsche Börse AG
- Member of the Supervisory Board of Deutsche Bank AG
- Member of the Supervisory Board of FC Bayern München AG (until June 30, 2020)

Günter Wiese*, Berlin
- Full-time Member of the Works Council of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Berlin plant
- Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH

* Employee representative

The Supervisory Board

Professor Dr. Klaus Mangold
Chair of the Supervisory Board,
independent contractor, Stuttgart

Heinz Hermann Thiele † Feb. 23, 2021
Deputy Chair of the Supervisory Board, Munich

Franz-Josef Birkeneder*
Deputy Chair of the Supervisory Board;
Plant Manager, Aldersbach

Michael Jell*
Chair of the Works Councils of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Knorr-Bremse AG, KB Media GmbH, Knorr-Bremse Services GmbH; Chair of Group Works Council, Munich

Kathrin Dahnke
Chair of the Audit Committee,
Member of the Executive Board of OSRAM Licht AG, Munich

Julia Thiele-Schürhoff
Chief Executive Officer of
Knorr-Bremse Global Care e.V., Munich

Erich Starkl*
First Authorized Representative
of IG Metall Passau

Werner Ratzisberger*
Project Engineer, Knorr-Bremse Systeme für
Nutzfahrzeuge GmbH, Aldersbach

Dr. Thomas Enders
President of the German Council on
Foreign Relations, Tegernsee

Dr. Theodor Weimer
Chief Executive Officer of
Deutsche Börse AG, Frankfurt

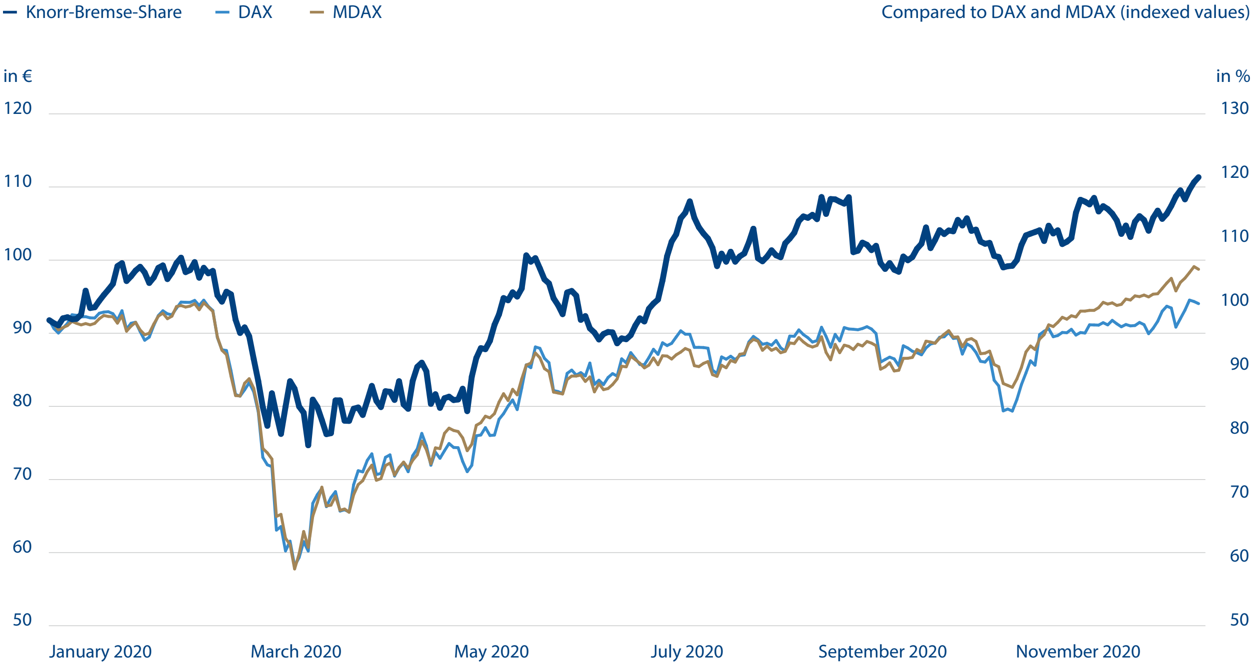
Günter Wiese*
Member of the Works Council of Knorr-Bremse
Systeme für Schienenfahrzeuge GmbH, Berlin

Annemarie Sedlmair*
Head of the Legal department of IG
Metall, Munich

* Employee representative.

Knorr-Bremse on the Capital Market

1.02 Price history of the Knorr-Bremse share in Xetra, from January 2020 to December 2020



Knorr-Bremse Share Price Performance

Knorr-Bremse's closing share price in 2020 was € 111.68, representing a total price increase of 23.1% over the closing price of € 90.75 at year-end 2019. Combined with the € 1.80 dividend, this corresponds to a total shareholder return of 25.0% in fiscal year 2020.

Starting in the first quarter of 2020, the rapid spread of the Covid-19 virus had a significant impact on stock exchanges worldwide, periodically causing prices to plummet on the international financial markets. The disruption of public life in many countries and regions heavily distorted demand and caused much anxiety in the global population. Partial production stoppages by many companies, combined with supply-chain disruptions, further dampened business sentiment. Global stock-market performance over this period was correspondingly negative. Even Knorr-Bremse's share price was not entirely immune to this negative trend, dropping by as much as 27% at one point. However, the positive influence of government stimulus programs, combined with China's swift, strong recovery, offset the first quarter's share-price slippage. Starting from an annual low of € 71.55 on March 16, 2020, Knorr-Bremse's share price rapidly rose to reach a high of € 111.68 on December 31, 2020.

As the year continued, the appointment of a new CEO combined with the sale of shares by majority shareholder Heinz Hermann Thiele had a short-term negative effect on Knorr-Bremse's share price. Good KPIs for both divisions, strong demand from China, and the rapid imple-

1.03 Knorr-Bremse Share Data as at Dec. 31, 2020/Fiscal Year 2020

		2020	2019
Earnings per share	€	3.07	3.65
PE ratio	€	36.38	24.86
Dividend per share[1]	€	1.52	1.80
Dividend yield[1]	%	1.4	2.0
Highest price (Xetra)	€	111.68	103.70
Lowest price (Xetra)	€	71.55	77.00
Closing price (Xetra)	€	111.68	90.75
Average daily trading	in € thousand	20,547.2	14,669.8
Market capitalization (Dec. 31, 2020)	in € million	18,002.8	14,628.9
Number of shares	units	161,200,000	161,200,000

[1]) Dividend proposal for Annual General Meeting

mentation of cost-cutting measures to contain the impact of the coronavirus pandemic confirmed the resilience of Knorr-Bremse's business model, boosting share price performance. The capital market as a whole regards Europe's rail industry as one of the sectors most likely to benefit from investments in green mobility over the next few years. This expectation also had a very positive effect on the performance of Knorr-Bremse's share price.

Following a plunge of around 32% in March following the outbreak of the Covid-19 pandemic, the MDAX finished 2020 by closing above the previous year's level. Overall, the MDAX grew by around 9% over the fiscal year, rising from 28,295 points to 30,796 points.

As at year-end 2020, Knorr-Bremse's MDAX ranking put the Company's shares in 5th place in terms of market capitalization (2019: 22nd place) and in 20th place in terms of trading volume (2019: 27th place). The MDAX comprises the 60 highest-ranked companies in Germany below the DAX.

In 2020, the average trading volume of Knorr-Bremse shares on the MDAX rose by around 33% on a like-for-like basis. Following an average daily turnover of 161,000 shares in 2019, daily trading in Knorr-Bremse shares rose to an average of 214,000 shares during 2020.

Analysts' Recommendations

By the end of fiscal 2020, Knorr-Bremse shares were covered by 16 leading national and international analysts. This means that the number of analysts regularly monitoring Knorr-Bremse shares has slightly increased year on year. At the end of 2020, eight analysts rated the share with a "hold" recommendation (end of 2019: nine analysts), five analysts with a "buy" recommendation (end of 2019: 0 analysts), and three analysts with a "sell" recommendation (end of 2019: five analysts). The closing price for the year was € 111.68 – some 2.9% above the average share-price target of around € 108.50 set for year-end 2020 by all analysts covering the share. Due to the proven resilience of Knorr-Bremse's business model during the Covid-19 crisis, analysts' recommendations over the past year also showed very positive development.

Shareholder Structure

As at December 31, 2020, the proportion of shares in free float [see glossary] was around 41%; some 59% of the voting rights are still held by the Thiele family.

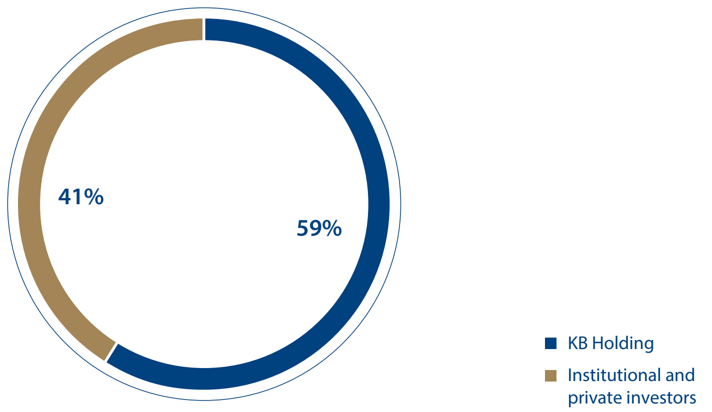
As at year-end 2020, Capital Group (3.04%) was the only other shareholder to hold more than 3% of Knorr-Bremse AG's issued shares.

Bonds issued by KnorrBremse AG

On December 8, 2016, Knorr-Bremse AG issued a € 500 million bond with an annual coupon of 0.5% on the Luxembourg EURO MTF stock exchange. The bond is due for repayment on December 8, 2021 and is currently rated "A2/outlook stable" by Moody's.

1.04 Shareholder structure (as of: 12/31/2020)

in %



Over the past fiscal year, the price of this bond (ISIN XS1531060025) fluctuated within a very narrow range of between 93.41% and 100.95%. The bond price rose to 100.90% at the beginning of 2020, finishing the year at 100.77%. During the year, the bond price reached a high of 100.95% on February 25, 2020.

In 2018, the Company issued another bond of € 750 million with an annual coupon of 1.125%. The bond is due on June 14, 2025 and is currently rated "A2" by Moody's.

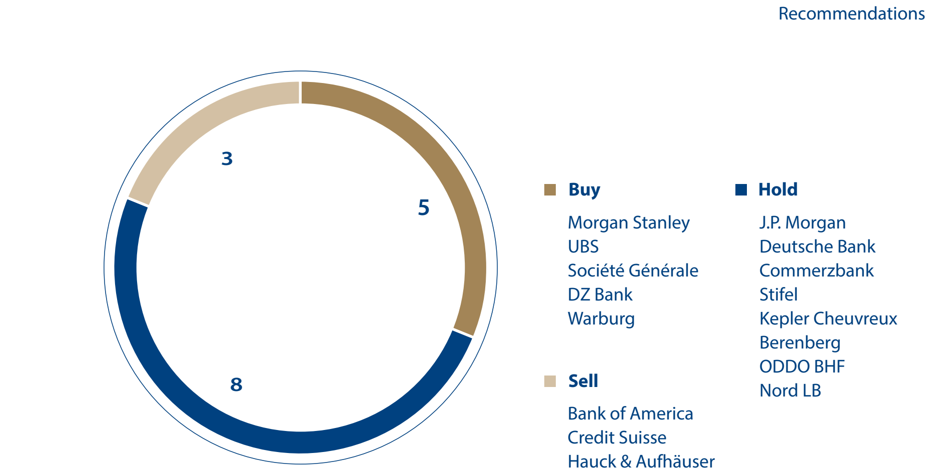
The price of this second bond (ISIN XS1837288494) held steady throughout 2020 – once again, a very positive reflection of Knorr-Bremse's resilient business model. On January 2, 2020, the bond price was 104.23%, reaching a year high of 105.97% on February 27, 2020. The price at the end of the year was slightly higher than it was at the beginning, at 104.97%.

An existing Debt Issuance Program (DIP) was updated in September 2020 and increased to a total of € 3,000 million. The Knorr-Bremse Group used the DIP to provide more room for maneuver during the Covid-19 crisis and proactively increase the flexibility with which the Group is able to respond to potential growth opportunities.

Investor Relations Activities

The Executive Board of Knorr-Bremse AG maintains an intensive dialogue with the capital market. The Executive Board and Investor Relations department both give high priority to regular, transparent communications with analysts, institutional investors and private investors. Essentially, their primary goal is to provide continuously updated information on the company's current status. To ensure that this happens, Investor Relations uses a comprehensive investors' website as a means of communication. This is part of the main Knorr-Bremse website and publishes all relevant information on the company's shares and share prices, as well as regular news of corporate or related market activities and in-depth financial reports. In particular, the department stays in constant contact with investors and analysts.

1.05 Analysts' recommendations (as of 12/31/2020)



In the course of the year – albeit not, unfortunately, in the form of physical meetings, due to the coronavirus pandemic – Knorr-Bremse organizes virtual roadshows, virtual capital market conferences and numerous conference calls to maintain the regular dialogue between Knorr-Bremse and the capital market. During 2020, the Investor Relations team, frequently accompanied by Executive Board members, paid virtual visits to key global financial centers such as London, New York, Frankfurt and Paris, arranging a total of 21 conferences and 9 roadshows. The Investor Relations department also held a large number of individual and group conference calls. More than 400 investors were in contact with the Company during the fiscal year.

In addition, all shareholders have the annual opportunity to find out more about Knorr-Bremse's ongoing development at the Annual General Meeting. In 2020, again due to the Covid-19 pandemic, Knorr-Bremse AG's AGM was held virtually on June 30, 2020.

Dividend Policy and Proposal for 2020

Knorr-Bremse believes it is very important to pay out a regular, reliable dividend so that shareholders receive an appropriate share of the Company's net income and make an attractive return. Assuming solid business development, the Company aims for a distribution ratio of between 40% and 50% of consolidated net income (according to IFRS [see glossary]) for the year. However, the actual decision as to whether and in what proportion dividends shall be distributed depends on a number of factors, including the volume of distributable net earnings for the year in question, the Company's investment policy, and the Company's financing requirements at the time.

For fiscal year 2020, the Executive Board and Supervisory Board are proposing to pay a dividend of € 1.52 (2019: € 1.80) per share and will be putting this proposal to the Annual General Meeting. If this proposal is accepted, the Company will pay out a total of € 245 million after the Annual General Meeting, representing a distribution ratio of 46% of consolidated net income according to IFRS. This would be at the upper end of the above-mentioned 40–50% range.

1.06 Knorr-Bremse in Figures

€4,977 million was the new order book record achieved on Dec. 31, 2020

€ 6,157

million in revenue was generated by the two divisions in 2020

29,714

employees were working for the Group worldwide as at Dec. 31, 2020

€ 396 million was spent on research and development activities in 2020

The Knorr-Bremse Group

Strategy, Innovation and Sustainability

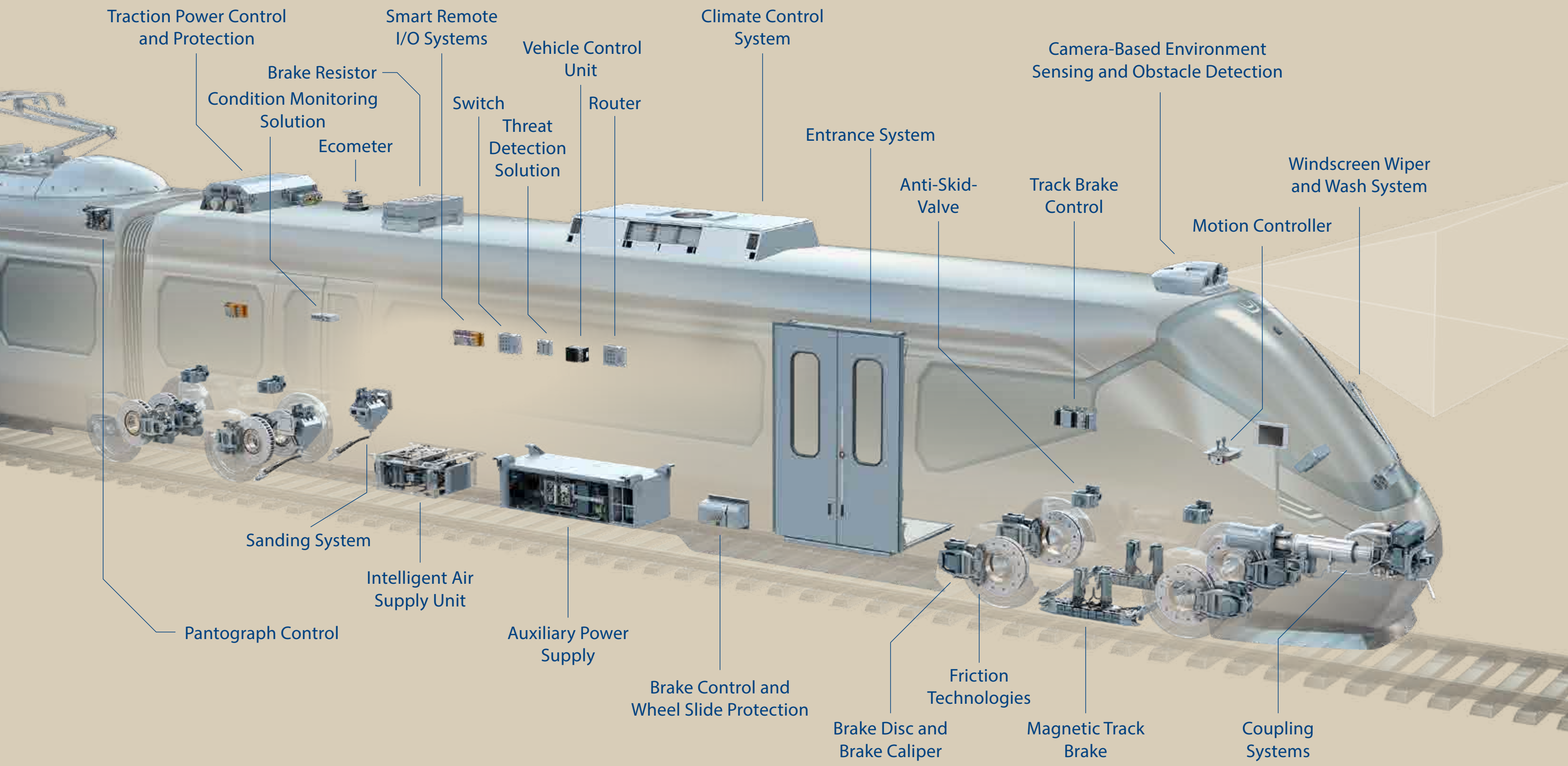
For over 115 years, Knorr-Bremse has been shaping the future of mobility as a major innovator of sustainable system solutions in the mobility sector. Driven by our sense of corporate responsibility, we are helping to overcome major societal challenges with our innovations. Every day, the world over.

The role which companies can play in helping to resolve the enormous challenges currently facing society is becoming ever more important. This is where innovative thinking and resilience play a vital role.

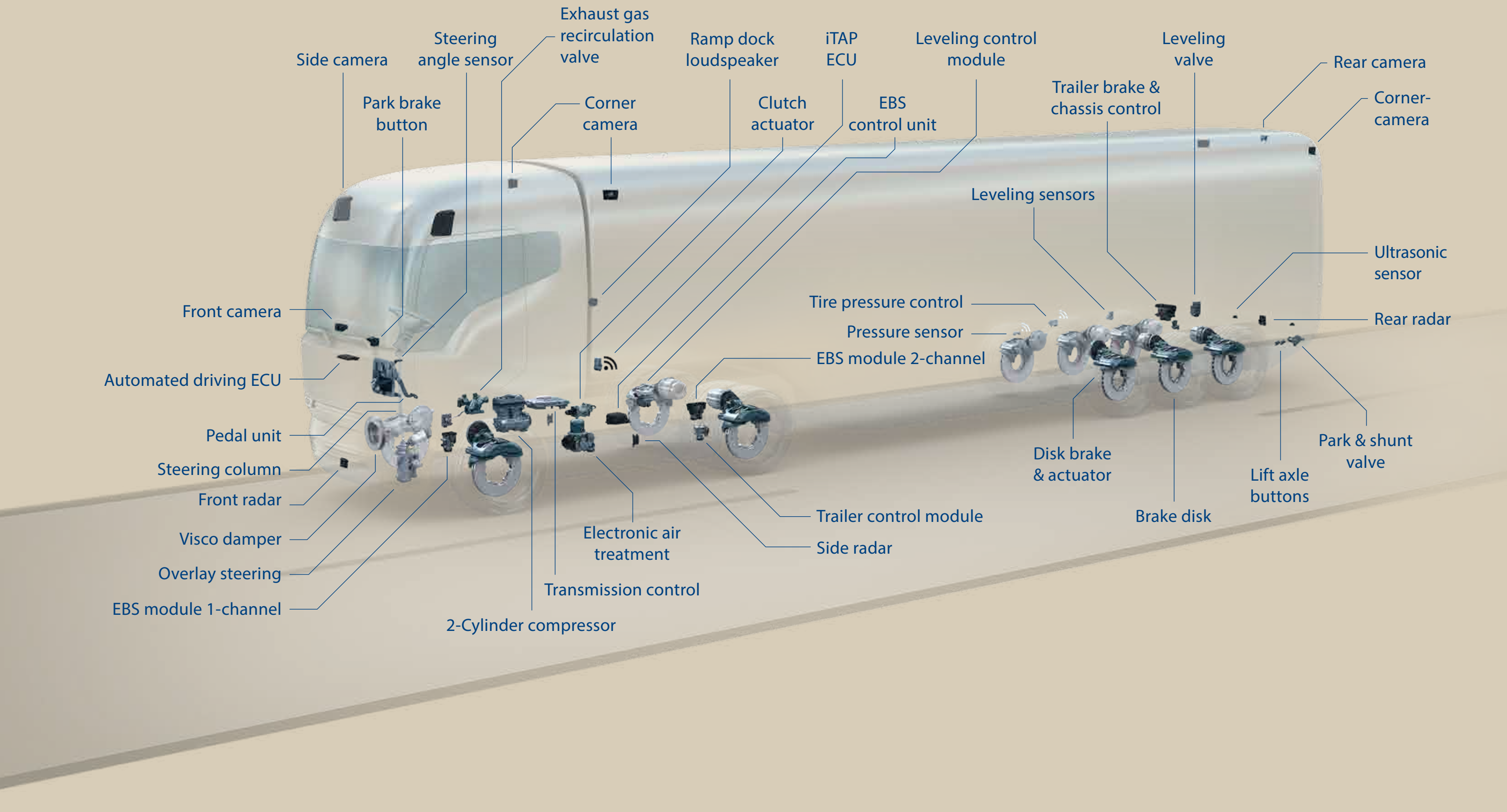
Here at Knorr-Bremse, we are determined to live up to our responsibilities. We aim to shape the future of rail and commercial vehicle transportation by improving safety, reliability and efficiency. At the same time, we seek to add value for our customers, employees and shareholders, as well as society as a whole.

1.07 Productportfolio

Rail Vehicle Systems



Commercial Vehicle Systems



Our Strategy

We firmly believe that in the light of global societal megatrends such as urbanization, sustainability, digitalization and mobility, the markets for rail and commercial vehicles offer good prospects for sustainable long-term growth. As the world market leader in braking and other systems for rail and commercial vehicles, Knorr-Bremse is a strong global partner to vehicle manufacturers and operators. Through joint ventures with our customers and partners, we aim to maintain our steady and profitable growth trajectory. Targeted acquisitions and investments in startups will also help us to expand our portfolio and strengthen our systems competencies.

1. Capturing Megatrend Opportunities

Knorr-Bremse offers sustainable system solutions that meet the mobility needs of the future. Along with regulatory requirements and government investment programs, global societal megatrends such as urbanization, sustainability, digitalization and mobility are driving up the demand for our systems. Knorr-Bremse is ideally placed to play a significant role in shaping these global trends and in doing so, generate profitable growth.

In 2020, the resilience of our strategic approach was confirmed once again. Owing to the impact of the Covid-19 pandemic on people's lives around the world during the past year, two megatrends in particular – digitalization and sustainability – assumed even greater significance and relevance. Despite some temporary restrictions, the desire and demand for mobility and logistics remain undiminished. Even at the height of the pandemic, local public transit systems all over the world continued to run more or less without interruption, while freight transportation played an even more important role in keeping the public supplied with goods.

Urbanization: Growing populations in metropolitan areas are causing inner-city traffic volumes to rise, which in turn is boosting the demand for Knorr-Bremse's safe, efficient and reliable solutions for local mass transit services. Similarly, our efficient, safe entrance systems for rail vehicles are speeding up the flow of embarking and disembarking passengers, helping to ensure that light rail vehicles, metro services and commuter trains operate more efficiently and reliably. As a result of the Covid-19 pandemic, the concept of safety has acquired a broader meaning, and now includes safeguarding the health of passengers and staff. Knorr-Bremse's advanced HVAC technology is making a significant contribution here. With our driver assistance systems, including a blind spot assistant for retrofitting to trucks, Knorr-Bremse is also helping to improve road safety in cities.

Sustainability: Sustainability, and above all climate protection, are among the most important issues of our time. Reducing levels of private transportation while encouraging wider use of various forms of mass transit is an important step toward creating a sustainable, climate-friendly society. This calls for effective, efficient, long-term solutions for both the rail and commercial vehicle industries. For instance, reducing the weight of individual components and systems greatly helps to cut fuel consumption and, as a direct result, lower the carbon footprint of trucks.

Digitalization: Digitalization must generate tangible benefits for customers. We continue to deploy digital technologies to more thoroughly interconnect and automate both our systems and our internal business processes. Among other things, our systems are helping to improve traffic safety and streamline vehicle operation and maintenance. Sophisticated driver assistance systems – all the way through to fully automated driving – are set to become increasingly important, especially in the freight transportation sector.

Mobility: An increasingly mobile and interconnected global population is driving demand for safer and more efficient mobility and logistics solutions. Our product range across both divisions is making a decisive contribution in these fields. Even though the Covid-19 pandemic resulted in temporary restrictions on individual travel, we see an unbroken demand for mobility in the medium and long term.

All these societal megatrends are manifest in the industries of greatest relevance to Knorr-Bremse. Developments in the rail vehicle sector focus on improving the transportation capacity of existing rail infrastructure, improving the availability of vehicles and systems, enhancing eco-friendliness, and streamlining product life-cycle management. In the commercial vehicle industry, as well as improving road safety and reducing emissions, we are concentrating our efforts on e-mobility, automated driving and connectivity.

2. Expanding Our Technology Leadership

In our target markets, Knorr-Bremse is a global innovation and technology leader. We implement innovative solutions that deliver clear customer benefits; we set industry-wide standards for safety, efficiency and reliability; we guarantee top levels of quality and product availability.

We aim to continually extend and strengthen our technology leadership. Consequently, we invest between 5% and 6% of our annual revenues in innovation. We work closely with our partners and customers in development partnerships to create solutions that add significant value.

In our Rail Vehicle Systems division, we are developing solutions for automated train operation (ATO) that meet the need for increasing transportation capacity on existing rail infrastructure. For our customers, improved rail vehicle availability is crucial for ensuring that investments are both efficient and effective. Using sophisticated data models, our condition monitoring solutions avoid system downtimes and enable optimized maintenance. At the same time, in line with the trend toward end-to-end lifetime management of our systems, we are extending our range of products and services to provide customers with optimal support over the entire product life cycle.

Through our Commercial Vehicle Systems division, we offer our customers solutions and systems in line with technological trends in the commercial vehicle industry. Knorr-Bremse's advanced safety technologies are helping to improve road safety. Following the expansion of our product portfolio to include steering systems, we are working with our partner Continental AG to develop a range of driver assistance systems and automated driving solutions specifically for commercial vehicles. Paying greater attention to sustainability aspects ties in with the industry trends of e-mobility and emissions reduction. Knorr-Bremse offers customers around the world a range of solutions for ensuring compliance with the growing number of regulatory requirements for reducing fuel consumption and CO_2 emissions in the various markets. Aiming to provide our customers in the commercial vehicle sector with the best possible support as they transition to e-mobility, since early 2020 we have pooled our skills in an interdisciplinary "eCubator" development unit to further boost the development and expansion of our portfolio.

As well as developing technologies in each of our two divisions, we also leverage the synergies between them. Over the next few years, we intend to systematically develop these synergies by, for example, setting up joint research centers and facilitating interdivisional technology transfers. We believe there is considerable potential for synergistic developments in digitalization, for instance in the form of applications such as predictive maintenance. This will make our innovative product solutions more efficient and generate additional benefits for manufacturers, operators and users alike.

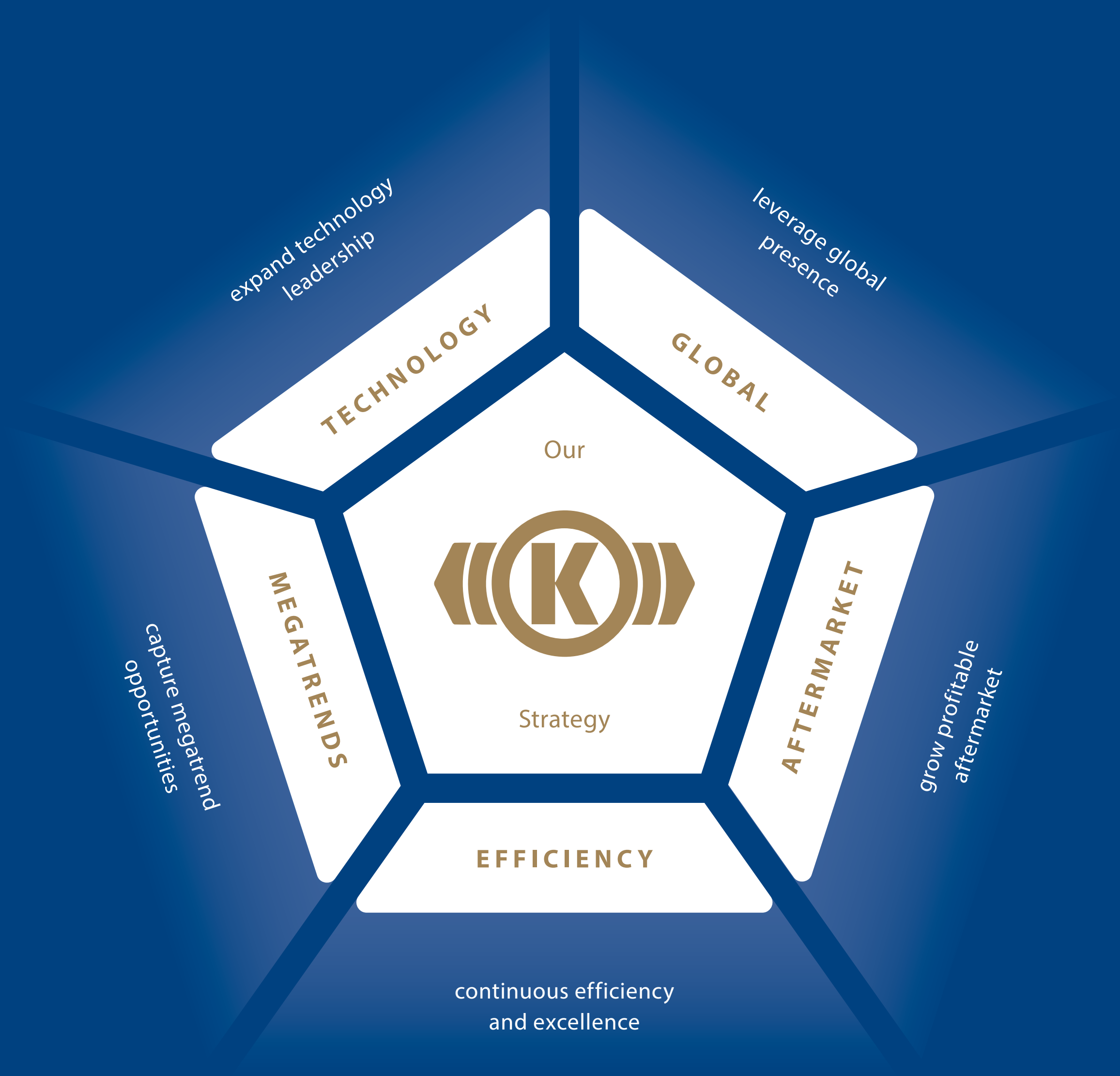
3. Leveraging Our Global Presence

With 100+ operating locations in over 30 countries, Knorr-Bremse has a strong local presence in all relevant international markets. This proximity to customers, local market expertise and business presence, coupled with global product and systems excellence, makes Knorr-Bremse the preferred partner to all major customers worldwide.

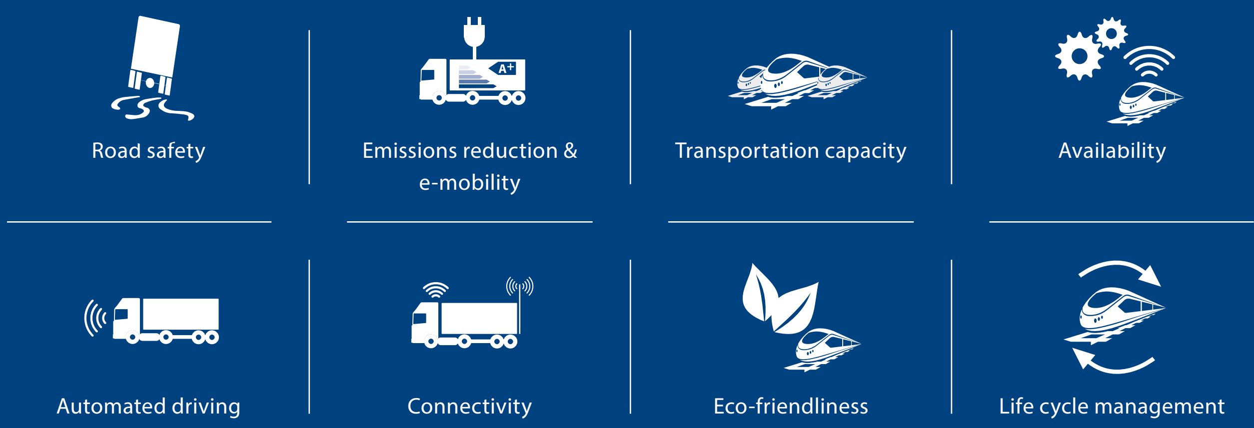
Asia continues to be one of the biggest growth markets in our target industries. The rail vehicle industry, and consequently Knorr-Bremse's Rail Vehicle Systems division, is benefiting from high government spending on infrastructure and a strong urbanization trend in China and India in particular. We also expect to see rail investment programs in Europe as part of climate protection programs such as the "Green Deal" or government stimulus measures in the wake of the Covid-19 pandemic; this should greatly boost demand for Knorr-Bremse's system solutions.

The worldwide presence of our Commercial Vehicle Systems division provides an excellent basis for further developing content per vehicle in all markets, hence the ongoing expansion of our OE business. In regions such as North America, China and India in particular, we are anticipating further increases in content per vehicle once disk brakes, electronic brake control systems and modern driver assistance systems are introduced. New safety and emissions regulations are helping to drive technology upgrades for trucks and buses.

1.08 We confirm and continue to pursue our successful strategy



Industry trends



4. Growing a Profitable Aftermarket

As well as supplying original equipment for rail and commercial vehicles, Knorr-Bremse offers comprehensive aftermarket products and services on a global scale. Thanks to the large installed base of vehicles equipped with our systems, along with our global presence and proximity to customers, we are well placed to leverage this potential and further expand our service offerings.

Rail vehicles benefit from a long life cycle – 40 years or more. In our experience, over their entire life cycle, the aftermarket potential of rail vehicle braking systems could be two to three times higher than the value of the original equipment. Regulatory bodies worldwide are prescribing regular inspections and fleet modernization, both of which directly contribute to our business volume. We will also offer aftermarket services based on new data-driven business models that support, for example, condition-based maintenance and remote diagnostics. As these concepts become increasingly established as market standards, they are both set to drive further profitable growth.

We are also seeking to leverage our large installed base in the aftermarket segment for commercial vehicles. The aftermarket offers attractive opportunities to sell specific replacement and spare parts which need replacing multiple times over a commercial vehicle's lifetime. In addition to our global aftermarket platform TruckServices, our AllTrucks service network with its extensive customer base, high availability and numerous service facilities enables us to maintain a strong local presence. Thanks to this, we can supply independent aftermarket solutions that also fit our competitors' systems.

5. Continuous Efficiency and Excellence

In a market increasingly driven by consolidation among our OEM customers and unremitting pressure to cut costs, it has become more important than ever to consistently maintain cost discipline, cost-effectiveness and profitability, while ensuring that processes remain efficient and management practices sustainable.

To ensure that we continue to grow, we have prioritized the sustainable and ongoing improvement of our productivity, the streamlining of our process efficiency (including the implementation of global process standards such as our Knorr-Bremse Production System, optimized supply chains, harmonized procurement standards and further automation), and the leveraging of our robust balance sheet. In our efforts to optimize costs, we always take care to achieve a geographical balance between our global manufacturing footprint and our R&D activities.

Sustainable business management also means being agile enough to respond quickly to changing circumstances. In the wake of the economic slump caused by the global Covid-19 pandemic in fiscal 2020, Knorr-Bremse took prompt steps to introduce wide-ranging measures to safeguard our income and cash flow. Consequently, we succeeded in significantly mitigating the pandemic's impact on our results.

Our Innovations

At Knorr-Bremse, innovations are a fundamental part of our corporate strategy and the keystone of our business success. Our goal is to continue developing products, systems and technologies that meet our customers' evolving needs and deliver the highest added value. Our innovations set industry standards. Thanks to our technological excellence, in recent decades Knorr-Bremse has created many of the industry-defining innovations in the rail vehicle and commercial vehicle sectors.

The reliability and quality of our products are the result of stringent innovation processes, years of development work, and rigorous field testing. Systematic innovation management in relevant fields, with a constant eye to technological and societal trends, is vital for planning and steering customer-focused development projects. Thus in 2019, our Commercial Vehicle Systems division set up a whole new technology and innovation management process.

Strong expertise in the digitalization of products and systems is essential, both for successfully developing our existing portfolio and for introducing new business models. Cybersecurity plays a key role here. Smart, digital transportation solutions require a high degree of product security. Knorr-Bremse addressed this trend by setting up a global cybersecurity center of excellence in 2018, and is now maximizing the synergies between its business units by adopting common architectures and standardized working methods. Wherever possible, personnel from both divisions cooperate in joint working groups. At the level of foundational technologies, there is huge potential for leveraging cross-divisional synergies in, for example, simulations, sensor technology and artificial intelligence.

We have put a systematic patent protection program in place to protect our innovations and the fruits of our R&D activities. Our extensive patent portfolio encompasses both products and processes. We exercise our right to patent employee inventions and submit these for registration. In total, we currently hold or have applications pending for over 10,900 patents worldwide, spread across approximately 2,900 patent families. In our CVS division, the number of patents granted or applied for is approximately 7,500; the figure for our RVS division is around 3,400. Patents also include utility models (e.g. relating to braking systems for commercial and rail vehicles) in Germany and other countries, as well as a number of patents and utility models registered for foreign Group companies in foreign jurisdictions only.

In some cases, however, we have elected not to register a patent relating to certain secret process technologies in order to avoid disclosing particularly sensitive know-how. Our patent strategy is another area in which we benefit from leveraging the synergies between our two divisions.

Further information can be found in Knorr-Bremse's "Innovations" magazine, which is published together with our Annual Report.

Research Results

Rail Vehicle Systems Division

In the RVS division, our development activities have focused on identifying solutions to increase transportation capacity and availability, and also to operate vehicles more efficiently and sustainably with the aim of optimizing their life cycle costs. Efforts have centered above all on automated train operation (ATO), ecodesign, digital platforms and maintenance solutions.

Knorr-Bremse enables higher track capacity utilization on existing rail networks with our integrated **Reproducible Braking Distance (RBD)** concept. This aims to achieve a marked reduction in braking distance variance caused by different environmental and weather conditions or technical factors such as wheel diameters or tolerances in load sensing and friction values. This approach is primarily based on our new “WheelGrip Adapt” wheel slide protection system and improved adhesion management for wheel-rail contact. Our innovative **CubeControl** brake control family (formerly **the EP2002 family**) enables consistent high-precision braking; this is essential for scaling up automated train operation.

Key components for reliable, safe and efficient train operation include innovative entrance systems from our subsidiary IFE that reduce the time required for passengers to embark or disembark thanks to even faster door opening and closing times. And because it is subject to minimal wear, our novel **LIFEDrive** door operating concept delivers much higher fail-safety coupled with significantly lower maintenance costs.

Our Swiss subsidiary Selectron developed the **Threat Detection Solution (TDS)** to provide comprehensive protection for all digital applications. It employs a passive security element that monitors data traffic in all electronic systems without direct intervention, performs the requisite analyses either onboard or in the cloud if preferred, and sounds an alarm if necessary. Customers can also choose to have the data processed in a Security Operations Center (SOC). Thanks to the various layers of security built into all our electronic control modules as a matter of course in line with our defense-in-depth concept, Knorr-Bremse solutions boast state-of-the-art levels of cybersecurity. By acting as an early warning system, TDS can avert major attacks on electronic systems from the outset.

Our subsidiary Merak is a leading systems innovator in the field of heating, ventilation and air conditioning (HVAC) for rail vehicles. With its **clean[air]** technology, Merak has developed a solution for air distribution, active and passive filtering and purification. It swiftly restores the air quality in trains and can significantly reduce any potential concentrations of airborne aerosols or pathogens. This technology is actively helping train operators around the world to provide safe and comfortable rail travel during the Covid-19 pandemic, and is making a vital contribution to restoring public trust in mass transit services.

The company Kiepe Electric has developed modular bridging technology that goes some way toward creating a carbon-neutral train. This involves equipping diesel trains with batteries to transform them into **e-hybrid** trains. On electrified track sections, trains can be powered directly via the overhead lines, consequently consuming much less energy. Compared with the 550 kWh consumption of a diesel-only train, this combination of overhead lines, traction battery and diesel generator can reduce energy consumption by between 20% and 25%.

In addition, Knorr-Bremse is continually expanding its network of investments in highly innovative startups.

Since March 2019, we have partnered with Israeli startup Rail Vision to develop obstacle detection systems for rail vehicles. Using sensors, artificial intelligence and deep learning, these systems identify and classify obstacles while the train is in motion, making a significant contribution to process optimization during, for example, shunting operations. SBB Cargo is currently testing a prototype that integrates electro-optical systems in shunting engines.

Through our partnership with Belgian startup Railnova, Knorr-Bremse is gaining access and insights into key operating and status data for locomotives. Sophisticated algorithms are used to identify and offer optimally tailored predictive maintenance services (for condition-based maintenance or CBM). With more than 2,200 rail-vehicle installations and revenues of € 4 million, Railnova has already become an established presence in the market for fleet management and CBM solutions for rail vehicles.

Commercial Vehicle Systems Division

In the CVS division, Knorr-Bremse's research and development activities have focused on the industry trends of road safety, automated driving, e-mobility, emissions reduction and connectivity.

Complete control over the longitudinal and lateral forces exerted by and on commercial vehicles is a fundamental prerequisite for brake control, driver assistance **(DAS)** and automated driving **(HAD)** system solutions. With the acquisition of Sheppard in the USA and Hitachi steering systems in Japan, Knorr-Bremse has become one of the world's three leading manufacturers of steering systems for commercial vehicles. The combination of Sheppard's and Hitachi's expertise in recirculating ball (RCB) steering systems with Knorr-Bremse's global systems expertise represents an ideal platform for launching torque overlay steering systems (TOS), which are a key component in many driver assistance and automated driving functions. We are currently developing a range of different TOS variants to meet the needs of different markets and customers.

The latest generation of **Global Scalable Brake Control (GSBC)** technology is the successor to our well-known ABS and EBS solutions. This technology creates a reliable backbone for the coordinated longitudinal and lateral control of automated vehicles.

Knorr-Bremse is developing various functions for driver assistance systems (SAE Levels 1 and 2) which are already making a significant contribution to improving road safety. For instance, Knorr-Bremse TruckServices introduced the retrofittable **ProFleet Assist+** blind spot assistance system, which makes unprotected road users safer by analyzing visual data from the vehicle's immediate surroundings, especially in blind spots. This retrofittable, manufacturer-independent solution is based on camera technology from Intel subsidiary Mobileye, a global leader in the development of computer vision and machine learning technologies. In addition, our **Ramp Dock Control System (RDC)** is a driver assistance system for vehicles with trailers which uses ultrasonic sensors to initiate automatic braking by the trailer's EBS when an obstacle is detected.

In 2018, Knorr-Bremse set up a technology joint venture with Continental AG to develop automated driving solutions (Level 3+). While Knorr-Bremse is responsible for systems integration and supplying redundant actuator systems for brakes and steering, Continental is developing various sensors, the vehicle environment model, a central processing unit and the human-machine interface (HMI).

The advent of e-mobility is set to fundamentally transform commercial vehicle system requirements. From traction, braking and steering all the way through to suspension, damping and system-level energy supplies, this transition is opening up many new opportunities for efficient and scalable technologies. To prepare Knorr-Bremse for the next generation of electric vehicles (EVs), we set up the **eCUBATOR**, an agile think-tank for future EV systems. This new development unit pools the Company's interdisciplinary expertise in the field of e-mobility. As many as 60 in-house and external experts will be working on innovative solutions for the future at Knorr-Bremse's Munich and Budapest R&D centers.

Sustainability

At Knorr-Bremse, we want sustainability to become a key factor in our technology leadership and market positioning. For this reason, we made a commitment many years ago to contribute to a more sustainable society, pledging to do more to protect the climate. Thus sustainability is an integral part of our corporate strategy. As a global player in the mobility sector, we aspire to be a role model in striving to fulfill this commitment – not only with our systems, but also through our interactions with the environment, society and our workforce. We attach equal importance to environmental, social and managerial aspects.

As part of our sustainability work, we also support the UN's Sustainable Development Goals (SDGs). Knorr-Bremse's global senior management team has chosen five SDGs and undertaken to pursue these goals throughout the Group as a whole. They are: “Climate action” (SDG 13), “Decent work and economic growth” (SDG 8), “Responsible consumption and production” (SDG 12), “Gender equality” (SDG 5), and “Industry, innovation and infrastructure” (SDG 9).

Ever since 2011, Knorr-Bremse has been publishing a Sustainability Report, providing our stakeholders with a detailed breakdown of our sustainability activities. Since 2018, the report has included the consolidated non-financial statement for the Knorr-Bremse Group, pursuant to Sections 315b and 315c in conjunction with Sections 289b to 289e of the German Commercial Code (HGB). Our 2020 Sustainability Report will be published on the Company's website at www.Knorr-Bremse.com/en/responsibility on March 31, 2021.

Together with the Company's corporate values and Code of Conduct, our Corporate Responsibility (CR) guidelines constitute a framework for the sustainable and responsible conduct of business at Knorr-Bremse. Knorr-Bremse is also guided by internationally recognized guidelines and conventions such as the UN Global Compact or the Guiding Principles on Business and Human Rights published by the UN Human Rights Council. Together with our employees and external stakeholders, we engage in and cultivate close relationships with networks such as Railsponsible, and also sit on committees that address sustainability issues in the German Association of the Automotive Industry (VDA) and the German Railway Industry Association (VDB).

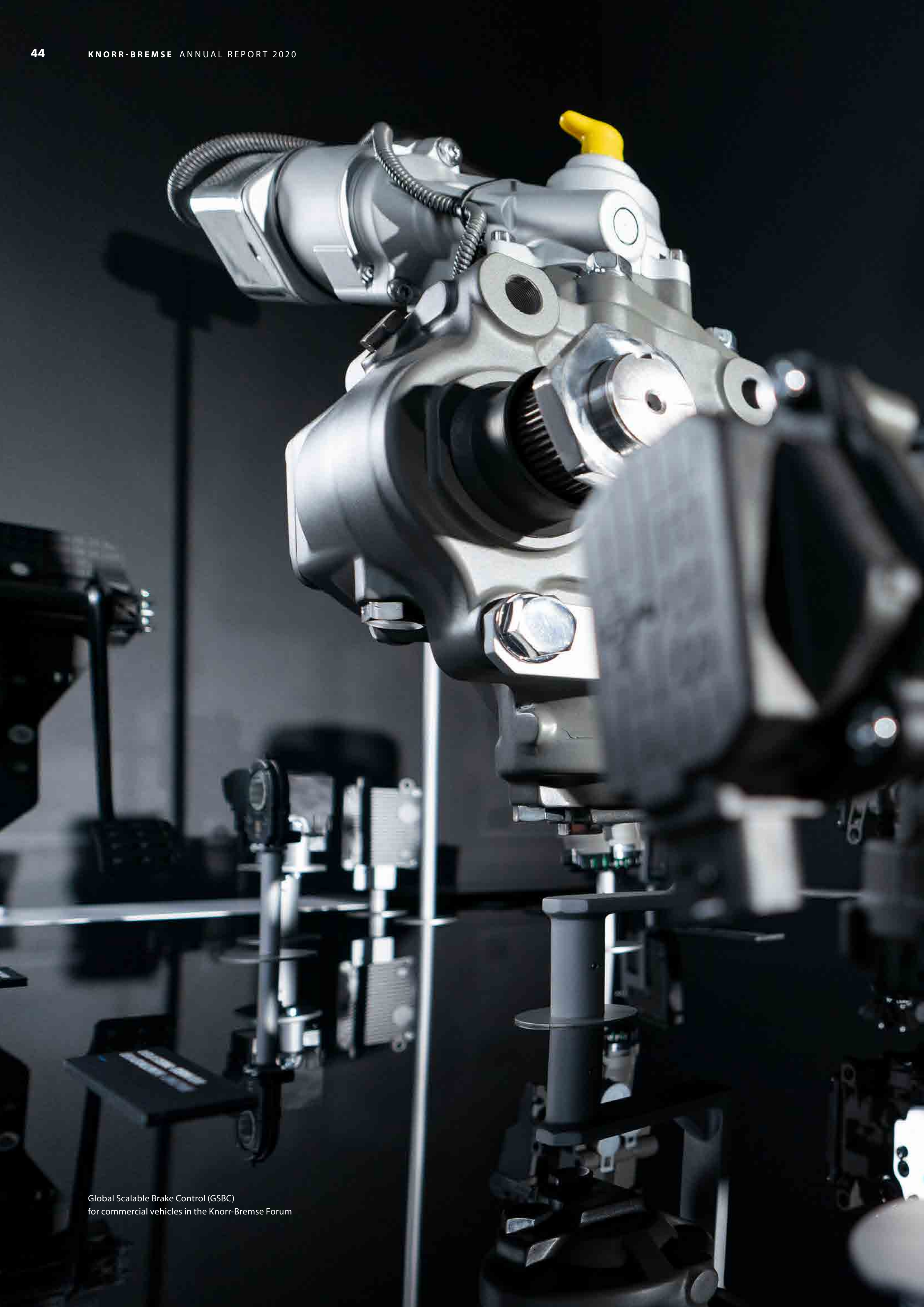
With the integration of our Group-wide CR strategy into Knorr-Bremse's corporate strategy, we are fulfilling our voluntary commitment to corporate citizenship. In recent years, we have been systematically striving to make Knorr-Bremse's structures and processes even more sustainable. Our CR strategy provides a robust framework for this and is divided into six action areas: strategy and management, products and partners, employees and leadership, environment and climate, commitment and society, plus communication and cooperation.

Since the start of 2020, Knorr-Bremse's 2030 Climate Strategy has replaced the climate protection goals we set in 2015 and is now the cornerstone of our environmental and climate policy. By 2030, Knorr-Bremse aims to reduce direct CO_2 emissions from in-house sources (Scope 1) and indirect CO_2 emissions from external energy sources (Scope 2) by 50%. This represents an average annual reduction of 4.2% compared with the initial (baseline) figure of 143,000 metric tons of CO_2 in 2018. To achieve this, Knorr-Bremse will apply three levers. First, the Company will invest in energy-saving measures, switching heating systems and the corporate vehicle fleet over to lower-carbon fuels. Second, Knorr-Bremse will make investments that aim to increase the proportion of renewable energy generated internally at Knorr-Bremse sites around the world. Third, Knorr-Bremse will ramp up procurement of renewable energy by means of long-term energy purchase agreements, green electricity products, and certificates.

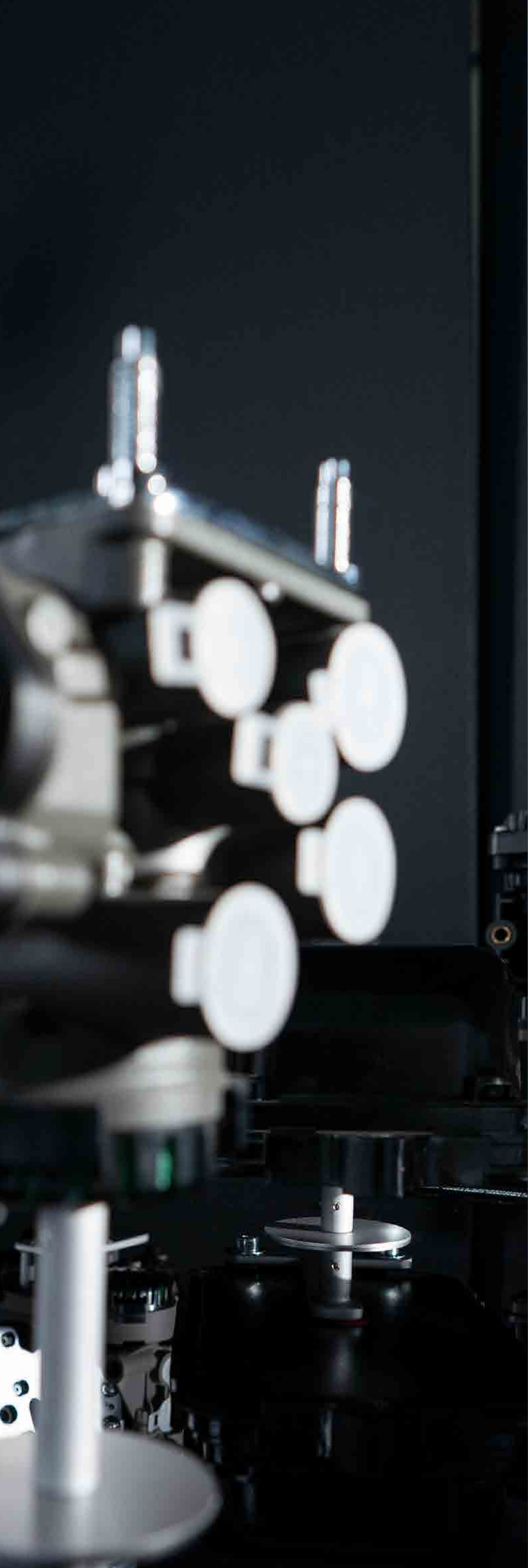
Furthermore, starting in 2022, Knorr-Bremse aims to become carbon-neutral. This will be accomplished by increasing the share of renewable energy in our energy mix beyond the 4.2% target and – where necessary – offsetting any remaining emissions with high-quality climate protection certificates, such as Gold Standard certificates.

Global non-profit environmental organization CDP awarded Knorr-Bremse an "A" rating for its climate protection activities. This takes us up to CDP's leadership level, where we rank among the top 13% in our peer group. Every year, based on an investor's perspective, CDP evaluates the transparency of companies and cities around the world in relation to climate change and the protection of forests and waterways. In 2020, more than 9,600 companies worldwide published their data and were rated by the environmental organization.

Our commitment to sustainability is recognized and confirmed by various ratings and rankings assigned by the capital market and by our customers. For instance, Knorr-Bremse shares were included in the DAX 50 ESG Index in 2020. Several international rating agencies have assessed and ranked our eco-initiatives. EcoVadis, for example, gave our sustainability performance a "Silver" rating. In 2020, MSCI ESG Research, the world's leading provider of sustainability analyses, once again awarded Knorr-Bremse an "A" rating, the third best out of seven categories. Knorr-Bremse has also retained the "Prime Status" rating first awarded by specialist agency ISS ESG (formerly ISS-oekom) in 2018, in acknowledgment of the Group's sustainability performance.



Global Scalable Brake Control (GSBC)
for commercial vehicles in the Knorr-Bremse Forum



02

Combined Management Report*

** Combined Management Report: We have combined the management report of the Knorr-Bremse Group with the management report for Knorr-Bremse AG, in accordance with Section 315 (3) of the German Commercial Code (HGB) in conjunction with Section 298 (2) HGB. The management report is therefore termed a combined management report. Unless otherwise specified, the information below is applicable to both the Knorr-Bremse Group and Knorr-Bremse AG. Statements which refer exclusively to Knorr-Bremse AG are marked as such, and appear at the end of the combined management report.*

Combined Management Report

About the Group

Overview of the Group

Organizational Structure of the Group

Knorr-Bremse AG is the management holding company of the Group. It controls the divisions and handles central functions such as strategic management, treasury, accounting, controlling, HR management, legal affairs, taxes, internal audit, compliance and corporate communications. Knorr-Bremse AG serves as the corporate center, along with the regional holding companies Knorr Brake Holding Corporation (North America), Knorr-Bremse Asia-Pacific (Holding) Limited, and Knorr-Bremse Brasil (Holding), as well as Knorr-Bremse Services GmbH and KB Media GmbH.

We manage our business operations through two business units (divisions), which also represent our reportable segments under IFRS:

- Rail Vehicle Systems (RVS division) and
- Commercial Vehicle Systems (CVS division)

Divisions, Sales Markets, Market Share, Products and Services

Rail Vehicle Systems Division

The Rail Vehicle Systems division supplies highly advanced, safety-critical products and systems for equipping mass transit vehicles such as commuter trains, metro cars and light rail vehicles as well as freight cars, locomotives and high-speed trains. Knorr-Bremse is the world market leader in the global market for rail vehicle braking systems. Knorr-Bremse is also a leading market player in entrance systems and HVAC systems. Details of the Group's market share are based on internal estimates for fiscal year 2019.

The product portfolio comprises:

- braking, entrance and HVAC systems;
- power electrics and control technology: hardware and programming tools for train control & management systems (TCMS), electromechanical components and electrical traction equipment for light rail vehicles;
- digital solutions for optimization of rail traffic;
- couplers;
- signal systems;
- stationary and mobile testing equipment;
- wiper and wash systems, sanitary systems.

In the aftermarket sector, under our RailServices brand, we offer spare parts together with maintenance, overhaul, repair and upgrade services for rail vehicles.

Commercial Vehicle Systems Division

Our Commercial Vehicle Systems division supplies products and systems for trucks, buses, trailers and agricultural machinery. Knorr-Bremse is the world market leader in the global market for disk brakes as well as pneumatic braking systems for commercial vehicles. It is also a leading supplier of products for braking systems and vehicle dynamics (including steering systems), energy supply and distribution, and fuel efficiency. Details of the Group's market share are based on internal market analyses for fiscal year 2019.

Our product portfolio comprises:

- pneumatic braking systems (i.e., brake control systems, disk brakes, drum brakes, brake cylinders, valves and pedal units) and steering systems, plus vehicle dynamics solutions (i.e. anti-lock braking systems and electronic stability programs), driver assistance systems (e.g., emergency braking systems), automated driving and electronic leveling control;
- energy supply and distribution systems, including compressors and air treatment;
- products for boosting fuel efficiency such as engine components and transmission control systems (i.e. vibration dampers, engine air management, transmission control, and gear/clutch actuation).

We supply high-quality products and service solutions for all types and ages of commercial vehicles under our aftermarket brand TruckServices.

Business Model/Structure of the Group

Legal Structure of the Group

Knorr-Bremse AG is the parent company of the Knorr-Bremse Group. As of December 31, 2020, the Group comprised 133 consolidated German and foreign subsidiaries directly or indirectly controlled by the Company. The Group is represented at more than 100 locations in over 30 countries.

Changes to the Group's portfolio and asset deals

On January 30, 2020 Knorr-Bremse signed a purchase agreement with Wabco Holdings Inc. for the acquisition of 100% of the shares of R.H. Sheppard Co., Inc. with effect as of June 1, 2020. Following the acquisition of the commercial vehicle steering business of Hitachi Automotive Systems in Japan during the past fiscal year, the acquisition of Sheppard is another step towards becoming a global provider of integrated steering and brake systems for commercial vehicles for Knorr-Bremse.

With effect from October 26, 2020, as part of a strategic follow-on investment, Knorr-Bremse Systeme für Schienenfahrzeuge GmbH acquired a further 19.8% of the shares in Israeli startup company RailVision, Ra'anana/Israel. As of December 31, 2020, the share of voting rights came to 36.8%. 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.

Bendix Commercial Vehicle Systems LLC acquired the remaining 20% of the shares in Bendix Spicer Foundation Brake, LLC from Dana Commercial Vehicle Products LLC with legal effect from October 1, 2020 (closing date). Bendix Spicer Foundation Brake LLC, was already fully consolidated in prior years because the Company held an 80% interest. Effective from December 31, 2020, Bendix Spicer Foundation Brake, LLC was merged into Bendix Commercial Vehicle Systems LLC.

Further information on changes to our portfolio may be found in the section "Events of Material Importance to Business Performance."

Business Model

Financial significance of individual products, services and sales markets

We sell our products and services to customers around the world and are partners to all major vehicle OEMs, as well as rail and fleet operators. Traditionally, Europe is our strongest sales region. In 2020, we generated 45% of our revenues by region (i.e. based on the country in which the particular vehicle for which we supply systems or components is operating) in Europe/Africa, with the remainder coming from the Asia-Pacific region (33%) and North and South America (22%). Both divisions have a substantial aftermarket business. In 2020, our aftermarket activities accounted for approximately 37% of total revenues (according to our management reporting).

Business processes and quality

As many of our products are safety-critical, a high level of availability, reliability and quality is one of the main reasons our customers choose to buy from us. We have therefore implemented integrated management systems in both divisions, based on established processes for meeting quality, environmental, and health and safety standards.

Knorr-Bremse ensures a high level of quality for the products and services. Many years ago, we introduced various initiatives in our divisions to increase quality awareness and foster a quality-oriented mindset across the Group. We employ a 360-degree management approach to help us meet all requirements during a product's life cycle – from development, testing, careful supplier selection, production and assembly, right through to how the product is used by customers. Compliance with all relevant quality indicators – such as cost of poor quality, supplier and customer delivery quality, functional test failures and product safety audit results – is monitored by monthly global reports. These management reviews prioritize the continuous improvement of our product and system quality, along with the day-to-day responsibility of each individual employee for safe production and work processes.

We review and improve the implementation of our process management system by conducting regular internal audits and assessments around the world. This is further confirmed by external certification audits based on IRIS (International Railway Industry Standard) for our Rail Vehicle Systems division and on IATF 16949 (International Automotive Task Force standard) for our Commercial Vehicle Systems division.

Customer relationships

In both divisions, we cultivate long-term relationships with our customers. These include global and regional vehicle OEMs and operators.

Around 55% of the Rail Vehicle Systems division's revenues are generated by OE business. In 2020, aftermarket sales accounted for 45% of the division's revenues (breakdown based on management reporting).

Sales to OE customers generated around 73% of revenues in the Commercial Vehicle Systems division. Aftermarket sales accounted for around 27% of the division's revenues in 2020 (breakdown based on management reporting).

The breakdown of sales revenues into OE and aftermarket segments based on management reporting for the purposes of this Management Report was not included in the audit of the consolidated financial statements.

Procurement

As well as ensuring our production sites are supplied with materials, our procurement activities focus on achieving cost savings and on establishing collaborative partnerships with innovative suppliers. The procurement organization plays a key role in the quality and on-time delivery of our end products. The material cost ratio as a percentage of Group revenues was 48.1% in 2020 (2019: 49.4%). This underscores the importance of procurement and supply chain management for Knorr-Bremse.

Our Group-wide Supplier Code of Conduct sets out the standards our suppliers are required to meet with respect to working conditions, human rights, environmental protection, health and safety, business ethics and compliance. A large part of our global purchasing volume of direct and indirect materials and services is now covered by suppliers who have signed up to our Code of Conduct. We will continue systematically rolling out the Code of Conduct to our suppliers over the coming reporting year.

The availability of raw materials and their prices are crucial procurement factors for our production and assembly units. We therefore monitor various commodity indices on a monthly basis (such as the German Bundesverband der Deutschen Gießerei-Industrie, the Metal Bulletin and the London Metal Exchange).

Our supply chain management focuses on improving our supply chain capabilities, processes and inventory levels along the entire value chain: inbound, within our plants and plant network, outbound and at the recycling stage. Our supply chain management approach is also? governed by factors such as integrated planning, parts availability, tariffs and foreign trade, logistics and material handling, transportation, short lead times and parts traceability. We have a coordinated delivery cycle with a standardized process model and synchronized supply chains across multiple locations. This allows us to guarantee reliable delivery and adequate stock levels, plus high-quality logistics and performance, while keeping costs low.

Global Sourcing

To leverage the potential of Asian supplier markets for the RVS division, we have set up a purchasing office in India to support our European and North American purchasing teams. As part of our global commodity management strategy, we have now installed a team in China which is systematically tapping into the Chinese procurement market for the RVS division's global requirements and identifying and exploiting synergies for the Group as a whole. We have implemented a supplier process for the CVS division that is now used worldwide. CVS is also working on further optimizing the proportion of our supplies sourced from best-cost countries – to this end, a global purchasing office for the CVS division was opened in Pune, India in February 2020. At the same time, we also take care to limit our dependency on individual regions and retain alternative sources of supply. Each supplier selection is presented to a multidisciplinary sourcing board (which includes representatives from various departments, i.e., Purchasing, Research & Development, Quality, Logistics and Sustainability) for the final decision. A purchasing localization strategy increases supply chain flexibility, supports the further development of local technological know-how, and reduces vulnerability to currency volatility and customs barriers thanks to the "natural hedging" provided by localized procurement. In both divisions a "dual sourcing" strategy is pursued that offers a high degree of independence from single suppliers.

For over 10 years, we have operated a Supplier Finance Program for our most important suppliers. We constantly further develop this program in order to use the opportunities of digitalization. Under this program, suppliers receive early payment from the bank in return for deducting a discount from the relevant invoices and consequently benefit from Knorr-Bremse's good rating – a clear win-win situation for all concerned.

In both divisions, a global, category-oriented organization pools order quantities, enters into framework agreements and standardizes global supplier panels. Global category-specific strategies are being continuously developed.

The Group also consistently pursues a cross-divisional category strategy to achieve volume effects and works to ensure uniform framework agreements and establish a strategic supplier panel for materials and services in its indirect purchasing. Purchasing strategies are under development and in the process of further optimization for a total of six categories in the area of IT, logistics, capital goods, building management, services and travel management in order to improve procurement costs, processes and quality.

The global procurement activities were shaped by the global Covid-19 pandemic in 2020. Despite the short-term closure of many sub-suppliers, we managed to supply our production plants and sales departments with enough material so that we did not cause any downtime for our customers. Following the clear maxim of “customer first”, we also adjusted our stocks of raw material and built in safeguards to ensure our delivery capability.

Locations and distribution of work within the Group

Knorr-Bremse operates production plants in Europe, North America, South America and the Asia-Pacific region. In recent years, alongside intensive localization initiatives, we have further expanded our global production and engineering footprint in both divisions by means of multiple acquisitions and joint ventures. Our products are manufactured all over the world, with a global balance between high-tech locations, such as Western Europe and North America, and best-cost locations such as Eastern Europe, Africa, Asia-Pacific, Latin America and Mexico.

Production at our sites is based on uniform global standards which deliver a high degree of flexibility coupled with reliable delivery capacity. At the same time, they help us to ensure a uniformly high standard of quality at each site, for example, by deploying the Group-wide Knorr-Bremse Production System (KPS) to manage production. KPS uses a variety of tools and techniques – including key performance indicators, lean management methods, shop floor management and pull principles – that are rolled out by experts and taught by an internal lean training academy.

Control System

Company-specific Leading Indicators

For many years, Knorr-Bremse has excelled at identifying signs of changes in the marketplace at an early stage and rapidly responding to them. To better control our business, we monitor a range of leading indicators. This enables us to respond to any fluctuations in the economic cycle or changes in demand and implement suitable measures in good time. We use four types of indicators for this:

- Key leading economic indicators are the money supply, commodity prices, energy prices, and procurement manager and business climate indices. Research reports and macroeconomic statistics, on transit volumes for example, also help to identify relevant economic developments at an early juncture. We also pay close attention to interest rate trends. Business performance in our commercial vehicle business clearly correlates with trends in the global economy, while the rail vehicle business, especially in the passenger segment, is usually less cyclical.
- More specific indicators for estimating future potential business include our customers’ production and sales plans, as well as **order book** and **order intake** statistics[1] and forecasts[2]. We also keep track of analysts’ expectations for publicly traded companies in the rail and commercial vehicles sector.
- The third leading indicator is actual invitations to tender issued by our customers. We collect information on these in our sales database, together with an assessment of our acquisition opportunities.
- The fourth group of indicators comprises the order books and incoming orders for our two divisions, both in absolute terms and relative to revenues. Since many orders have a relatively long lead time, both these indicators are useful for estimating capacity utilization and sales revenues over the next few quarters.

External Influencing Factors

The most important external factor influencing the rail division is order book trends among our customers – the companies that actually build the vehicles. In addition, the size and average age of our installed base and their use are primary factors for the development of our aftermarket business. Regular market studies by UNIFE (the Association of the European Rail Supply Industry), e.g., the “World Market Study, forecast 2020 to 2025,” and by SCI, e.g., the “Worldwide Market for Railway Industries 2020,” fundamentally provide orientation for the market development expected in the industry and indicate a tendency for the subsystem market relevant to Knorr-Bremse.

[1]) Incoming orders are defined as all orders for a specific period. These purchase orders are reported as incoming orders when legally binding documents exist that oblige the company to supply a certain quantity of goods or services within a certain timeframe and at a certain price. (key figure unaudited)

[2]) The order book is defined as all incoming orders that have not yet been delivered, rejected or canceled. (key figure unaudited)

In the Truck division, the truck production rate in the respective countries and regions provides information on the production volume of truck manufacturers, which are in turn among the division's main customers in the original equipment business. For the aftermarket, the vehicle fleet available in the market based on historic production rates and specially available indices (e.g., MacKay) provide insight into market development.

In certain regions, our business is affected by government regulations on emissions and safety. In general, more stringent limit values – for CO_2, for example – are driving the demand for low-emissions vehicle technology. This has a positive impact on our business.

Exchange rate fluctuations have a recognizable but moderate impact on revenues and earnings. As we have set up local development operations in major foreign markets, with local production plants and procurement structures, our requirements for exports between regions are comparatively low, which reduces transaction risks. More significant are the translation effects of converting foreign currency items into euros.

Value Management

The most important financial performance indicators for managing Knorr-Bremse are **revenues, EBITDA,** (operating) **EBITDA margin**[3)], EBIT, (operating) **EBIT margin**[4)], **net working capital**[5)] in days' sales, and ROCE, as well as the number of employees (FTEs), which is the most important non-financial performance indicator. The quarterly and annual movements of these figures are compared with the previous reporting period in each case. See the "Corporate Management Indicators" section for further details.

The revenues, EBIT and net working capital in days' sales indicators also form the basis for our performance management system for the previous financial year. Knorr-Bremse uses this performance management system to reward Executive Board members for sustained long-term improvements in the Company's performance. Up until December 31, 2019, the increase in economic value added (EVA®) over a multi-year period was used as the basis for determining performance. As of January 1, 2020, long-term executive performance will be rated by reference to absolute and relative Knorr-Bremse share price movements, and the increase in earnings per share. Further information about our remuneration policy may be found in the "Compensation Report" section.

Knorr-Bremse practices active portfolio management. The Executive Board continuously monitors the portfolio's performance and future prospects and – as in past years – makes adjustments to the portfolio as required.

For more details of the Company's performance indicators, see the "Corporate Management Indicators" section.

Research and Development

Our innovation agenda is geared to safety, customer benefits and added value and focuses primarily on technological developments that help shape the wider social megatrends of urbanization, sustainability, digitalization and mobility. For example, our divisional development activities focus on:

- RVS division: transit capacity, availability, eco-friendliness and life cycle management;
- CVS division: traffic safety, emissions reduction + e-mobility, automated driving and connectivity.

As well as state-of-the-art electronics, we also aim to provide our customers with hardware and software that can be adapted to meet changes in regulatory standards and incorporate the very latest advances in engineering methods and tools.

In our research and development activities, we leverage the potential synergies between our two divisions. Accordingly, our R&D teams work very closely with each other. Across large parts of our product portfolio, the underlying technologies can be applied in both divisions. These include, for example, driver assistance systems (adaptive cruise control (ACC)), advanced emergency braking system (AEBS), traction control system (ASR), motion control, brake control, hydraulics, wheelend/bogie equipment, and compressed air generation. Synergies between the divisions translate into a faster time to market and reduced development costs. For instance,

[3)] Ratio of operating result (EBIT) before depreciation, amortization and impairment to sales revenues.

[4)] Ratio of earnings before interest, other financial result and income taxes to sales revenues.

[5)] Net working capital is defined as the balance of inventories, trade receivables, contract assets, trade payables and contract liabilities. Net working capital in days' sales is calculated by dividing net working capital by annualized revenues, multiplied by a factor of 360.

the technology for both disk brakes and screw compressors was transferred from our RVS division to our CVS division. Our collision avoidance solution for rail vehicles is based on sensor technology expertise acquired by our Commercial Vehicle Systems division. We have also set up joint development teams to collaborate on condition monitoring and collision avoidance. In view of developments in e-mobility, fundamental changes to commercial vehicle architecture are to be expected. To push the development of innovative solutions in this field, Knorr-Bremse has set up a specialized development unit – the eCUBATOR. The **eCUBATOR** commenced work in 2020 and concentrates on the strategic evaluation and early-stage development of Knorr-Bremse's e-mobility portfolio using agile development methods.

At Group level, we invested € 396.4 million (representing 6.4% of revenues) in our R&D activities in fiscal 2020. Of this, € 202.6 million or 6.1% of associated revenues was spent in the Rail Vehicle Systems division and € 194.0 million or 6.9% of associated revenues in the Commercial Vehicle Systems division. Table → 2.01

Our most important research and development centers are located in close proximity to key customers:

- Munich and Schwieberdingen (Germany),
- Budapest (Hungary),
- Elyria (USA),
- Suzhou (China), and
- Pune (India).

We cooperate on joint research & development projects with customers, universities and technical institutes such as RWTH Aachen University, Stuttgart University, the Technical University of Berlin, the Technical University of Munich, and Budapest University. To gain access to technology and accelerate our research and development work, we are engaged in partnerships with startups – for example, through the Hackathon Techfest in Munich. In total, our external R&D network comprises more than 15 partnerships. We also regularly enter into partnerships with government bodies – for instance, as participants in the EU-funded Shift2Rail program. Among other things, cooperations like these enable us to play a part in shaping norms and standards, and to anticipate industry trends.

The Knorr-Bremse Group's innovations and research findings are regularly presented at the industry's foremost trade shows at IAA Commercial Vehicles, at InnoTrans and at Automechanika. The leading trade fairs planned in 2020 were postponed due to the Covid-19 pandemic.

In the Rail Vehicle Systems division, our development activities have focused on identifying solutions to increase vehicles' availability and enhance their operational efficiency in order to optimize life cycle costs. Efforts have centered above all on automated train operation (ATO), eco-design and product digitalization. Also featured at the last InnoTrans exhibition in 2018 was the next-generation of the decentralized brake control system family, the **CubeControl Plus** (formerly EP 2002 3.0), which now supports a broader range of applications, including regional and long-distance transportation. Our innovative digital solutions bundle a number of digital functions, such as sensor-based environment monitoring and obstacle detection, low-wear driving, a driver assistance system for reducing energy consumption, real-time measurement of energy consumption, and diagnostics. Knorr-Bremse subsidiary Kiepe Electric has developed a pioneering **in-motion charging** (IMC) concept for trolley buses. These buses are battery-powered on roads without overhead contact lines, then recharge their batteries while driving on sections of road equipped with overhead lines. Such in-motion charging considerably extends

2.01 Key R&D indicators

in € million	2020	2019
R&D costs[*)]	**396.4**	**396.9**
of which capitalized development costs	76.1	73.3
Amortization of capitalized development costs	15.7	11.5
R&D employees (Dec. 31)	3,793	3,558

*) Research and development costs: Research and development costs include all costs over a financial period (including capitalized costs) that can be allocated to research into and development of new products, further development of existing products, and pure research.

the operating radius of electric buses. With a new HVAC system – **clean[air]** technology – the air quality in trains can quickly be restored and concentrations of aerosols and pathogens that may be in the air can be left can be reduced. The three-dimensional concept of optimized air distribution, long-life passive filters, near-field active filters and air purifiers combine short-term effectiveness with sustainable long-term action and the support train operators in providing safe and comfortable rail transportation during the Covid-19 pandemic.

In our Commercial Vehicle Systems division, our research and development activities in recent years have concentrated on the key industry priorities of road safety, automated driving, reduction of emissions, e-mobility and connectivity. For instance, we developed our **Global Scalable Brake Control (GSBC)** technology to create a reliable control architecture for coordinated longitudinal and lateral control of automated vehicles. Complete control over the longitudinal and lateral forces acting on and exerted by commercial vehicles is a fundamental prerequisite for driver assistance and automated driving solutions (HAD). With the takeover of the commercial vehicle steering systems business unit of Hitachi Automotive Systems in Japan in spring 2019 and the acquisition of Sheppard, the leading North American manufacturer of commercial vehicle steering systems in spring 2020, Knorr-Bremse has taken an important step toward becoming a supplier of highly integrated systems that deliver a range of new functions for driver assistance and automated driving systems. The combination of Sheppard's and Hitachi's expertise in recirculating ball (RCB) steering systems with Knorr-Bremse's global systems expertise represents an ideal platform for launching torque overlay steering systems (TOS), together with other driver assistance and automated driving functions. In the field of driver assistance systems, the retrofittable turning assistant ProFleet Assist was developed together with Mobileye. **ProFleet Assist+** makes a contribution to traffic safety in Europe by visually assessing the vehicle environment.

Further information on our research and development activities may be found in the section entitled "Strategy, Innovations, and Sustainability."

Sustainability

Since 2011, we have been updating stakeholders on Knorr-Bremse's sustainability activities. This information is now presented in our sustainability report, but until the 2018 reporting year was presented in our UN Global Compact (UNGC) progress report. As well as providing extensive details of the Company's impact on the environment and society, this report presents key indicators, targets and measures used by Knorr-Bremse to manage its sustainability activities. As is required of listed companies, we have been producing a sustainability report since 2018, which is not audited but is reviewed by the auditor. This report includes the consolidated non-financial statement for the Knorr-Bremse Group pursuant to Sections 315b and 315c in conjunction with Sections 289b to 289e of the German Commercial Code (HGB). Our Sustainability Report, which includes the non-financial statement, will be published on the Company's website on March 31, 2021 at www.Knorr-Bremse. com/en/responsibility.

Employees

As of year-end 2020, the Knorr-Bremse Group had a total of 29,714 employees, including temporary staff – up 2.8% on the previous year (2019: 28,905). These figures represent full-time equivalents **(FTEs[6])**. Excluding temporary staff, the Group employed 27,035 people (2019: 26,355). This increase was primarily due to company acquisitions. As of December 31, 2020, the Rail Vehicle Systems division employed a total of 16,074 people (2019: 16,094) and the Commercial Vehicle Systems division employed a total of 12,871 people (2019: 12,084). **Chart → 2.02**

At year-end 2020, Knorr-Bremse employed 14,821 people (14,276 excluding temporary staff) in the Europe/Africa region, compared with 15,078 (14,470 excluding temporary staff) in the previous year. At 49.9%, the percentage of European employees in the workforce was below last year's figure of 52.2%. In Germany, the headcount fell from 5,322 (5,167 excluding temporary staff) to 5,117 (4,995 excluding temporary staff) as of December 31, 2020. Over the year under review, the number of employees in North and South America increased to 6,314 (6,041 excluding temporary staff) as of December 31, 2020 from 5,518 (5,329 excluding temporary staff) in the previous year. The percentage of the workforce in this region thus grew to 21.2% (2019: 19.1%). By the end of 2020, the headcount in the Asia-Pacific region had

[6]) The number of employees is reported in FTE. FTE represents the workload associated with a job and indicates whether the job is full-time or part-time. Only two values are possible: 0.5 FTE (less than 60% of available working hours) or 1.0 FTE (more than 60% of available working hours)

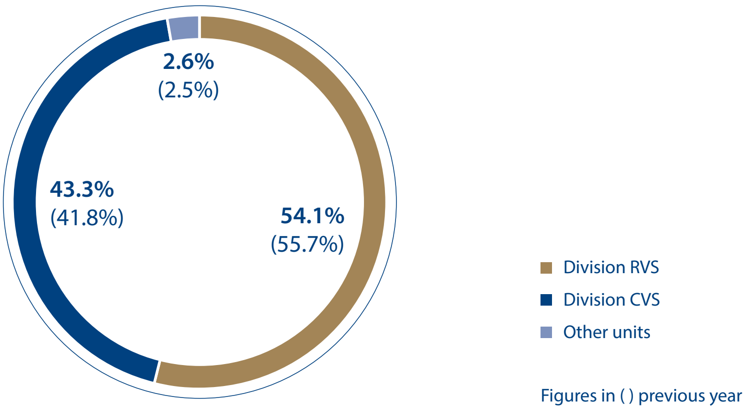
risen to 8,579 (6,719 excluding temporary staff) from 8,310 (6,556 excluding temporary staff) the year before. The number of employees in the region as a percentage of the Group's total workforce thus rose to 28.9%, compared with 28.7% in the previous year. Chart → 2.03

Personnel development

In Knorr-Bremse's view, employees' continuing development is essential, both to provide personal and professional career pathways and to provide a solid platform for the Company's ongoing success. The Group aims to foster the ongoing

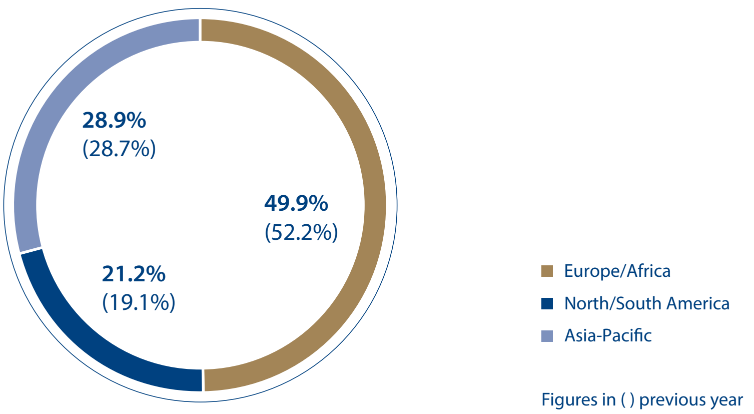
2.02 Headcount as of December 31, 2020 including temporary workers

in %



2.03 Headcount as of December 31, 2020 including temporary workers, by region

in %



professional development of its employees with targeted training initiatives that meet their individual needs.

The HR process model provides the general framework for our professional development offerings, which aim both to attract new employees and to train and upskill existing ones.

To retain young talent and prospective managers, Knorr-Bremse offers programs such as the Management Evolution Program (MEP) for trainees, or career development under the aegis of the International Management Potential Group (IMPG). In fiscal 2020, the competent department, People Development, reacted to the special requirements and conditions created by the global Covid-19 pandemic. For example, face-to-face training was converted into virtual formats. Moreover, there was a significant rise in support activities for all business units with regard to organizing and conducting virtual workshops and events.

All the Knorr-Bremse Group's workers and managers regularly complete web-based training programs on significant topics relevant to the Group, such as data protection, business & law and Group compliance.

In the area of training, virtual training tailored to the needs of all employees in Europe was offered directly at the start of the pandemic in March/April. In addition to IT topics, such as SharePoint, the focus was particularly on collaboration and leadership. This ranged from "leading remote teams" to "managing critical conversations."

In addition, Knorr-Bremse emphasized the importance of virtual learning and individual, needs-based training and, as part of the SDG 8 initiative (decent work and economic growth, see also the "Sustainability" section), used the coronavirus year as an opportunity and arranged for accelerated introduction of the self-learning tool LinkedIn Learning. This virtual learning platform with more than 16,000 courses on various work-related topics has been available to all employees in Germany since September 1, 2020 and is being rolled out across the entire Group around the world at the start of 2021.

Diversity and equal opportunities

As an internationally active company, Knorr-Bremse takes the view that the cultural diversity of employees, their different world views and life experiences are a natural part of corporate life and also contribute to the success of the Group. Accordingly, we encourage the appreciation and understanding of different cultures and life situations. We do this, for example, by supporting the integration of employees from other countries. A fundamental principle is the equal treatment of all our employees – irrespective of gender, age, country of origin, sexual identity, state of health, religion or beliefs. Discrimination of any kind is not compatible with Knorr-Bremse's values and corporate culture.

During the year under review, Knorr-Bremse decided to give a higher priority to diversity and equal opportunities and integrate them more closely into our HR and sustainability strategy. In doing so, Knorr-Bremse will pay greater attention to matters of cultural diversity, gender, age and severe disability. Our HR strategy 2025 is being expanded accordingly and measures necessary to implement it identified. Knorr-Bremse's signature of the Diversity Charter is another important signal here.

In 2020, the percentage of female employees in the workforce as a whole was 19.9% (2019: 20.5%); globally, the proportion of women in executive positions across all divisions was 13.2% (2019: 13.3%) (based on management reporting, both figures unaudited). Knorr-Bremse systematically deploys and supports programs that aim to increase the proportion of women in senior management roles.

Further information on diversity and equal opportunities may be found in the Sustainability Report at www.Knorr-Bremse.com/en/responsibility.

Apprenticeships at Knorr-Bremse

Knorr-Bremse offers apprenticeships in occupations that are required for its own operations. At our international sites, Knorr- Bremse offers vocational training in a variety of technical and commercial occupations. The most popular training courses include industrial mechanics, machining technology, electronics, mechatronics and IT. As of December 31, 2020, 254 young people (2019: 207) had completed an apprenticeship at Knorr-Bremse.

Further details of corporate governance

Corporate Governance Statement

The Corporate Governance Statement for Knorr-Bremse AG will be published on March 31, 2021, on the corporate website at https://ir.Knorr-Bremse.com/corporate-governance-en. Further details may also be found in the “Corporate Governance” section.

Takeover-related Disclosures pursuant to Sections 289a (1) and 315a (1) HGB and Explanatory Report pursuant to Section 176 (1) AktG

Composition of Subscribed Capital

The subscribed capital of Knorr-Bremse AG is divided into 161,200,000 bearer shares with full voting rights. The rights and obligations associated with the shares are governed by the German Stock Corporation Act (AktG). As of December 31, 2020, Knorr-Bremse AG did not hold any of its own shares, and nor does it currently do so.

Restrictions on Voting Rights/Transfers and Equivalent Agreements

The members of the Executive Board have agreed to be bound for the duration of their appointment by a lock-up commitment covering any Knorr-Bremse shares they hold or are obliged to acquire in accordance with the Share Ownership Guideline (SOG). The Executive Board is not aware of any agreements by Knorr-Bremse AG shareholders containing restrictions on the exercise of voting rights or transfer of shares. There are statutory restrictions on voting rights, for example, pursuant to Section 28 sentence 1 WpHG (violation of disclosure obligations), Section 71b AktG (rights associated with own shares) and Section 136 (1) AktG (exclusion of voting rights arising from certain conflicts of interest).

Shareholdings Exceeding 10% of Voting Rights

KB Holding GmbH, Grünwald/Germany holds 58.99% of Knorr-Bremse AG’s capital stock. KB Holding GmbH is indirectly controlled via TIB Vermögens- und Beteiligungsholding GmbH, Grünwald/Germany, and Stella Vermögensverwaltungs GmbH (“Stella”), Grünwald/Germany. To the knowledge of the Executive Board, the majority of shares in Stella were held by Mr. Heinz Hermann until February 23, 2021, who passed away on that day. Knorr-Bremse AG had not received an updated notification pursuant to Sections 33, 34 of WpHG by the date of preparation of the annual or consolidated financial statements. Knorr-Bremse AG has not been notified of any other direct or indirect shareholdings in the capital stock of Knorr-Bremse AG exceeding 10% of the voting rights, nor is it otherwise aware of any such shareholdings.

Shares with Special Rights

There are no Knorr-Bremse AG shares granting special rights.

Control of Voting Rights Where Employees Hold a Capital Interest and Do Not Directly Exercise Their Control Rights

There are no employee shareholdings in which control rights are not directly exercised. Like other shareholders, employees who hold shares in Knorr-Bremse AG exercise their rights of control directly, in accordance with statutory regulations and the Articles of Association.

Provisions for Appointing and Dismissing Members of the Executive Board

The applicable statutory provisions can be found in Sections 84 and 85 AktG, and in Section 31 off the German Codetermination Act (MitbestG). Knorr-Bremse AG’s Articles of Association do not contain any provisions that deviate from the statutory regulations. In addition, Article 8 (1) of the Articles of Association stipulates that the Executive Board shall consist of at least two members and that the Supervisory Board may appoint one member of the Executive Board as Chair of the Executive Board (CEO) and another member of the Executive Board as Deputy Chair.

Provisions for Amending the Articles of Association

The Annual General Meeting passes resolutions on amendments to the Articles of Association. Unless the German Stock Corporation Act (AktG) stipulates otherwise, the resolution shall, in accordance with Article 23 (2) of the Articles of Association, be passed by a simple majority of the votes cast and – to the extent that a majority of the capital represented at the time of the resolution is required – by a simple majority of the share capital represented at the time the resolution is passed. Pursuant to Section 13 (4) AktG, the Supervisory Board is authorized to resolve amendments to the Articles of Association that only affect their wording. Pursuant to Article 6 (5) of the Articles of Association, the same applies to amendments to Article 6 of the Articles of Association, according to their respective utilization of Authorized Capital 2018 and upon expiry of the authorization period.

Executive Board Powers Relating to the Possibility of Issuing or Repurchasing Shares

The powers of the Executive Board to issue shares are set down in Article 6 of the Articles of Association and in the statutory provisions:

Authorized capital

Until May 28, 2023, the Executive Board is authorized, with the Supervisory Board's approval, to increase the Company's capital stock on one or more occasions by up to a total of € 40,300,000.00 by issuing up to 40,300,000 new bearer shares against cash and/or non-cash contributions (Authorized Capital 2018). The new shares should be offered to the shareholders for subscription; they may also be acquired by banks or companies within the meaning of Section 186 (5) sentence 1 AktG with the obligation to offer them to shareholders for subscription. However, the Executive Board is authorized, with the consent of the Supervisory Board, to exclude shareholders' subscription rights in whole or in part,

- to dispose of fractional amounts under exclusion of subscription rights;
- in the event of capital increases against non-cash contributions;
- in the event of a capital increase against cash contributions pursuant to Section 186 (3) sentence 4 AktG if the issue price of the new shares is not significantly lower than the market price of the Company's listed shares at the time of the final determination of the issue price and the exclusion of subscription rights is limited to a maximum of 10% of the Company's existing share capital in total; and
- (a) to the extent necessary to service purchase obligations or purchase rights to Knorr-Bremse shares arising from or in connection with warrant-linked and/or convertible bonds and/or profit participation rights with option and/or conversion rights and/or obligations issued by the Company or Group companies, or (b) to the extent necessary to protect against dilution, in order to grant subscription rights to shares in the Company to holders or creditors of warrant-linked and/or convertible bonds and/or profit participation rights with option and/or conversion rights and/or obligations (or combinations of these instruments) issued by the Company or Group companies, to the extent that they would be entitled to such rights as shareholders after exercising their option or conversion rights or after fulfilling their option or conversion obligations.

Conditional capital

Until May 28, 2023, the Executive Board is authorized, with the Supervisory Board's approval, to issue bearer or registered subordinated or non-subordinated convertible and/or warrant-linked bonds, profit participation rights and/or income bonds (or combinations of these instruments) (hereinafter collectively referred to as bonds) in one or more tranches, or simultaneously in multiple series, in a total nominal amount of up to € 1,500,000,000.00, and to grant the holders or creditors of the bonds (hereinafter collectively referred to as the holders) conversion or option rights on a total of up to 16,120,000 no-par bearer shares in the Company with a proportionate amount of the share capital of up to € 16,120,000.00 in total, in accordance with the more detailed provisions in the terms and conditions of the bonds (hereinafter conditions of issue). The bonds may be issued against payment in cash and/or as contribution in kind. The conditions of issue may also provide for an option or conversion obligation upon expiry of the term or at an earlier date or on occurrence of a specific event.

Shareholders generally are entitled to a subscription right to the bonds. This subscription right may also be granted in such a way that the bonds are acquired by one or more banks or companies within the meaning of Section 186 (5) sentence 1 AktG selected by the Executive Board with the obligation to offer these bonds to shareholders for subscription (indirect subscription right). However, the Executive Board is authorized, with the Supervisory Board's consent, to exclude shareholders' subscription rights,

- to the extent that the bonds carrying conversion or option rights or conversion or option obligations are issued against cash payment and the Executive Board, after due examination, comes to the conclusion that the issue price of the bonds is not substantially lower than their hypothetical market value calculated using recognized mathematical, and in particular actuarial, methods. The authorization to exclude subscription rights applies to bonds with conversion or option rights or obligations for shares representing a proportionate amount of the share capital that may not exceed 10% of the Company's share capital in total;
- to the extent that the bonds are issued against contribution in kind;
- to the extent necessary to grant the holders or creditors of bonds or warrants previously issued by the Company or Group companies within the meaning of Section 18 AktG a subscription right in the amount to which they would be entitled after exercising their conversion or option rights or fulfilling their conversion or option obligations; and
- in order to remove fractional amounts from the subscription rights.

To grant shares to holders or creditors of convertible or warrant-linked bonds that were issued on the basis of the Executive Board's authorization, the Company's capital stock was conditionally increased by up to € 16,120,000.00 by issuing up to 16,120,000 new no-par bearer shares (Conditional Capital 2018). The precise details are governed by Article 7 of the Articles of Association.

Share buyback

The Company's Executive Board is authorized to repurchase its own shares and sell repurchased shares in the cases provided for in Section 71 AktG. The Annual General Meeting held on May 29, 2018, authorized the Company's Executive Board, pursuant to Section 71 (1) clause 8 AktG, to buy back Knorr-Bremse AG's own shares up to a total amount of 10% of the capital stock existing at the time of this authorization coming into effect or – where this amount is lower – of the capital stock existing at the time this authorization is exercised, up until May 28, 2023. The shares acquired on the basis of this authorization, together with other treasury shares that the Company has already acquired and are already held by or attributable to the Company, should at no time account for more than 10% of the capital stock.

At the Executive Board's discretion, shares may be acquired

- as purchases on the stock exchange, through a public purchase offer;
- by sending all shareholders a public invitation to submit sale offers; or
- by granting shareholders rights to tender.

The Annual General Meeting held on May 29, 2018, also authorized the Executive Board to act as follows with treasury shares acquired on the basis of the above or earlier authorizations:

- to sell them on the stock exchange or, subject to the Supervisory Board's approval, by means of a public offer to all shareholders in proportion to their shareholdings;
- with the consent of the Supervisory Board, to offer and transfer them in return for contributions in kind, in particular as (partial) consideration for the direct or indirect acquisition of companies, parts of companies or interests in companies or other assets, including claims against the Company, or for claims to the acquisition of assets or relating to a business combination;
- to use them to service purchase obligations or purchase rights of Knorr-Bremse AG shares arising from or in connection with warrant-linked and/or convertible bonds issued by the Company or Group companies.

Agreements in the Event of a Change of Control Resulting from a Takeover Bid

The principal Knorr-Bremse AG agreements that are subject to a change of control relate to the € 500 million Knorr-Bremse AG bond issued on December 8, 2016, which is due to mature in 2021, and the € 750 million Knorr-Bremse AG bond issued on June 14, 2018, which will mature in 2025. According to the terms and conditions of these bonds, creditors are entitled to demand repayment of the par value of the bonds by Knorr-Bremse AG in the event of a change of control if this change of control results in a downgraded credit rating within 120 days of the implementation of the change of control (change of control period), that is to say if a rating awarded to Knorr-Bremse AG or to either of the bonds is withdrawn or changed from an investment-grade rating to a non-investment-grade rating.

Compensation report

In line with the recommendations of the German Corporate Governance Code and statutory requirements, the Compensation Report describes the main features of the remuneration system for the Executive Board and Supervisory Board of Knorr-Bremse AG, as well as the remuneration packages for individual members of the Executive and Supervisory Boards over the relevant reporting period in each case.

Executive Board Compensation

Remuneration System

Principles and objectives

The Supervisory Board regularly reviews the appropriateness of the Executive Board's remuneration and remuneration system in accordance with statutory requirements and the recommendations of the GCGC, adjusting them as necessary. Such an adjustment is being made with effect from January 1, 2020, in order to take account of new statutory requirements (the revised Shareholder Rights Directive Implementation Act – ARUG II) and new recommendations in the German Corporate Governance Code. The following main changes were implemented and approved by Knorr-Bremse AG's Annual General Meeting on June 30, 2020 in accordance with Section 120a AktG. In connection with the AGM resolution, the new remuneration system for the Executive Board was explained comprehensively and in detail in the invitation to the Annual General Meeting. The description in question is available in the Corporate Governance section of Knorr-Bremse AG's website and is referred to in addition to the following description.

Overview

The new Executive Board remuneration system consists of a fixed base salary, a pension contribution, a performance-related one-year variable remuneration component (STI), a performance-related multi-year variable remuneration component (LTI) and the Share Ownership Guidelines for Executive Board members. Details are explained below in the relevant context.

The **STI** depends on the achievement of financial targets, specifically (1) revenues, (2) earnings before interest and taxes (EBIT), (3) net working capital (with a 30% weighting in each case) and (4) quality (with a 10% weighting), as well as the attainment of non-financial targets. In addition, for each fiscal year, the Supervisory Board takes account of each Executive Board member's individual performance, the Executive Board's collective performance, plus the attainment of stakeholder goals such as sustainability and diversity, by applying a multiplier ("modifier") ranging from 0.8 to 1.2. The amount paid out is limited to 180% (Executive Board Chair/CEO) or 200% (other Executive Board members) of the target amount.

The **LTI** is awarded as a performance share plan based on virtual shares, and is paid out in annual tranches. The term of a tranche is four years (the "performance period"). The amount of the LTI payout directly depends on the performance of Knorr- Bremse shares during the performance period. It also depends in equal parts on the Company's total shareholder return (TSR) over the performance period compared with the TSR of companies in three individually specified peer groups **(relative TSR)** over the same period and on the average increase in earnings per share (EPS) during this period relative to a target value set by the Supervisory Board at the start of the performance period. The amount paid out is limited to 180% (Executive Board Chair/CEO) or 200% (other Executive Board members) of the target amount.

The Share Ownership Guidelines (SOG) oblige Executive Board members to acquire shares in the Company in the amount of 100% of their respective fixed base salary over a four-year period from the date of the IPO or from the date of their appointment, and to hold these shares until the end of their appointment. Members of the Executive Board in office at the time of the IPO already made a voluntary commitment along these lines.

The percentage of non-performance-related components in total target income (non-performance-related components plus STI and LTI) is between 32% and 67% for the members of the Executive Board. The remuneration components of members of the Executive Board who left or joined the Company during the year are taken into account on a pro rata basis, but compensation payments granted in connection with them leaving or joining the Company (see section entitled "Executive Board Changes") are not taken into account. Performance-related remuneration accounts for 23–28% of total target income in the case of short-term performance-related remuneration (Short-Term Incentive – STI) and 31–41% of total target income in the case of long-term performance-related remuneration (Long-Term Incentive – LTI).

These figures relate to target remuneration levels as at January 1, 2020.

Non-performance-related component and fringe benefits

Executive Board members receive a fixed, non-performance-related annual salary **(base remuneration)**, which is paid in 12 equal installments as a monthly salary. The pro rata base remuneration for Mr. Eulitz, who left the Company at the end of August 31, 2020, came to € 800,000 (based on € 1,200,000 p.a.). For Mr. Heuwing, Dr. Laier and Dr. Wilder, the base remuneration is € 900,000 p.a.; Mr. Heuwing, who left the Group at the end of April 30, 2020, received pro rata base remuneration of € 300,000. The pro-rated base remuneration for Mr. Weber, who was appointed a member of the Executive Board with effect from July 1, 2020, came to € 400,000 in fiscal 2020 (based on € 800,000 p.a.).

In addition, Executive Board members **receive fringe benefits**. These include an annual pension contribution of € 350,000 (Executive Board Chair/CEO) and € 300,000 (other Executive Board members) for the purposes of their retirement pension. For Mr. Eulitz, the prorated pension contribution amounted to € 233,000, for Mr. Heuwing it was € 100,000 and for Mr. Weber it was € 150,000. For each member of the Executive Board, the Company also bears the costs of accident insurance for death or disability, the employer's contribution to private health and long-term care insurance, and a company car that can also be use privately. Furthermore, Executive Board members are covered by a D&O liability insurance policy. For the 12-month period, Mr. Weber and Dr. Wilder also each receive an annual accommodation allowance of € 18,000 and € 12,000, respectively; in connection with maintaining a second household, Dr. Wilder also receives 20 flights home.

Performance-related component

The performance-related remuneration component consists of two elements: a short-term incentive (STI) and a long-term incentive (LTI).

Short-term Performance-related Remuneration

Short-Term Incentive

The short-term incentive (STI) is intended to reward performance over the past fiscal year as reflected by the Company's development over the short term. The STI amount to be paid out depends on the achievement of financial targets, specifically (1) revenues, (2) earnings before interest and taxes (EBIT), (3) net working capital (with a 30% weighting in each case) and (4) quality (with a 10% weighting), as well as the attainment of non-financial targets. For the CEO and CFO, financial targets are set in relation to the Group as a whole, whereas for the Executive Board members responsible for the divisions, 50% of the financial targets are set in relation to the Group as a whole and 50% in relation to the division for which the Executive Board member is responsible (CVS in the case of Dr. Laier and RVS in the case of Dr. Wilder). At the close of the fiscal year, the Supervisory Board determines the actual extent to which targets have been achieved (target attainment level), and the amounts to be paid out as a function of target attainment.

In addition, for each fiscal year, the Supervisory Board takes account of each Executive Board member's individual performance, the Executive Board's collective performance, plus the attainment of stakeholder goals such as sustainability and diversity, by applying a multiplier ("modifier") ranging from 0.8 to 1.2. Payment is made in June of the following year. The Supervisory Board set STI financial targets for fiscal 2020 accordingly and determined the STI amounts to be paid out taking account of individual performance, collective performance and the attainment of stakeholder goals in accordance with respective target achievement.

The STI target amount is paid if the target achievement level is 100%. If an appointment to the Executive Board begins or ends during a fiscal year, the target amount is reduced pro rata temporis to the beginning or end of the appointment. If the service agreement ends with a notice period, the end of the notice period is definitive. The STI target amount for the 2020 fiscal year is € 1,300,000 p.a. for Mr. Eulitz and € 600.000 for Mr. Heuwing, Dr. Laier and Dr. Wilder. The STI target amount for Mr. Weber is € 300,000 pro rata temporis from July 1, 2020 (based on € 600,000 p.a.). Thus the target attainment corridor for the STI ranges in a straight line from 80% to 120%. The amount paid out is limited to 180% (Executive Board Chair/CEO) or 200% (other Executive Board members) of the target amount, i.e., the amount paid to Mr. Eulitz is limited to a maximum of € 2,340,000 and the amount paid to Mr. Heuwing, Dr. Laier, Dr. Wilder and Mr. Weber is limited to a maximum of € 1,200,000 in each case. Because of the Covid-19 pandemic, the Supervisory Board widened the Executive

Board's target attainment corridor for the STI for fiscal year 2020 from 80% to 120% to a range from 70% to 120%. The resulting greater weighting of the earnings contributions below the 100% level provides a performance-based adjustment to the STI amounts to be paid under the existing remuneration system.

Long-Term Incentive

The long-term incentive (LTI) is intended to reward sustained, long-term performance by Executive Board members.

The LTI for the 2018 and 2019 fiscal years was granted on the basis of a performance cash plan and is allocated in annual tranches, each with a three-year term. The respective performance is measured on the basis of the increase in the Knorr-Bremse Group's economic value added over the performance period. EVA is determined by deducting capital expenditure from net operating profit after tax. Details can be found in the 2019 Compensation Report. For the LTI tranche for the 2018-2020 performance period, the minimum EVA specified by the Supervisory Board was not reached so that no payment will be made for this tranche.

Since the 2020 fiscal year, the LTI has been awarded as a performance share plan based on virtual shares and paid out in annual tranches. The term of a tranche is four years (the "performance period"). This begins on January 1 of the respective grant year and ends on December 31 of the third year after the grant year. The LTI is paid out following approval of the consolidated financial statements for the last fiscal year of the relevant performance period.

The amount of the LTI payout directly depends on the performance of Knorr- Bremse shares during the performance period. It also depends in equal parts on the Company's total shareholder return (TSR) over the performance period compared with the TSR of companies in three individually specified peer groups (relative TSR) over the same period and on the average increase in earnings per share (EPS) during this period relative to a target value set by the Supervisory Board at the start of the performance period. The amount paid out is limited to 180% (Executive Board Chair/CEO) or 200% (other Executive Board members) of the target amount.

If an appointment to the Executive Board ends prior to the expiry of the performance period, only the LTI tranche for the grant year is reduced pro rata temporis to the end of the appointment. The outstanding tranches of the LTI will still be paid out on the regular payment dates (with no reductions). However, any claims associated with tranches that have already been awarded for current performance periods shall lapse without substitution or compensation if, prior to the end of the performance period, the service agreement is terminated for good cause by the Company, i.e. for extraordinary reasons for which the Executive Board member is responsible, or if the Executive Board member's appointment is revoked due to a gross breach of duty, or if the Executive Board member resigns from office without good cause and without the Company's consent.

With the exception of Mr. Heuwing, in the 2020 fiscal year all serving members of the Executive Board are entitled to an LTI for the 2020 grant year – of them, Mr. Eulitz pro rata temporis for the months of January to August and Mr. Weber pro rata temporis for the months of July to December. The performance period for the 2020 tranche runs from January 1, 2020 to December 31, 2023, so the LTI payout will be made in June 2024.

The LTI target amount for the 2020 tranche is € 800,000 for Dr. Laier and for Dr. Wilder, € 400,000 pro rata temporis for Mr. Weber (based on € 800,000 p.a.) and € 1,333,000 pro rata temporis for Mr. Eulitz (based on € 2,000,000 p.a.). The maximum LTI for the 2020 tranche is € 1,600,000 for Dr. Laier and Dr. Wilder, € 2,400,000 for Mr. Eulitz and € 800,000 for Mr. Weber.

In the event of extraordinary events or developments, the Company is entitled to appropriately adjust the terms of the plan at its reasonable discretion. Extraordinary events or developments may include, for example, an acquisition or a disposal of a company or parts of a company or stakes in companies, a merger of the Company with another company, significant changes in the Company's shareholder structure, changes to the legal and/or regulatory environment, significant fluctuations in the Company's share price, high inflation, or significant changes in accounting and measurement methods.

The calculated amounts payable for tranches that extend beyond the regular contractual end of an Executive Board member's appointment are paid out on the regular payout dates in pro-rated installments.

More information can be found in section F.10 "Share-based payment arrangements" in the Notes to the consolidated financial statements.

Contractual Upper Limit (Cap) of Total Remuneration

The total remuneration to be awarded for any one fiscal year (including fixed and variable remuneration components plus pension contribution) is contractually limited to an absolute maximum amount. For Dr. Laier, Dr. Wilder and Mr. Heuwing, it was limited to € 4,030,000 in 2020. For Mr. Eulitz (Chairman of the Executive Board until August 31, 2020), it was increased from € 7,490,000 to € 11,287,000, taking account of any payments in connection with taking office. For Mr. Weber, who was appointed a member of the Executive Board with effect as of July 1, 2020, the contractual maximum remuneration for the months July to December 2020 was € 3,015,000, taking account of a payment in connection with taking office. For Dr. Mrosik (Chairman of the Executive Board from January 1, 2021, the contractual maximum remuneration is € 6,370,000.

Commitments in the event of regular termination of service agreements

Pension Commitments

Generally speaking, Executive Board members receive a pension contribution of € 300,000. For Mr. Eulitz, the annual pension contribution is € 350,000, i.e., € 233,000 pro rata temporis for 2020 for the months of January to August.

Under his service agreement in force until December 31, 2018, the Company has a direct pension commitment to Dr. Laier (defined-benefit commitments), which was made noncontributory as of December 31, 2018. Due to the direct pension commitment, Dr. Laier has a vested pension entitlement upon reaching retirement at the age of 65 in the amount of 2% of his respective base annual salary per year of service. This entitlement has accrued per year of service from January 1, 2016 through to December 31, 2018. In the event of Dr. Laier's death, his widow receives his pro-rated fixed salary for a period of six months, after which she is entitled to 60% of the retirement benefits for the entitlement acquired up to this point in time. In addition, for each child under 18 years of age, the widow receives further cash benefits amounting to 10% of the acquired entitlement.

2.04 Pension contributions

in € thousand	Contribution 2019	Contribution 2020
Bernd Eulitz[1]	58	233
Ralph Heuwing	300	100
Dr. Peter Laier	300	300
Frank Markus Weber[1]	–	150
Dr. Jürgen Wilder	300	300

[1] Pro rata temporis for Mr. Eulitz in 2019 and 2020 and for Mr. Weber in 2020.

In fiscal 2019, Mr. Heuwing received defined-contribution pension benefits (lifelong annuity or capital payment) that are reinsured by an index-linked life insurance policy. The retirement age is 67. Furthermore, pension benefits are also payable in the event of occupational disability (monthly occupational disability pension) and death (survivor benefit). This pension entitlement is vested from the outset. For this defined-contribution plan, contributions were made as shown in Table → 2.04. The table also shows the pension contributions awarded to Mr. Eulitz, Dr. Laier, Mr. Weber and Dr. Wilder in fiscal years 2020 and 2019.

Table → 2.05 shows the service cost and present value of the pension entitlements acquired to date under the defined-benefit plans.

Compensatory Payment for Non-compete Clause

Upon terminating their role at the Company, Executive Board members are subject to a post-contractual non-compete clause for a period of one year. In return, for the duration of the non-compete clause, the Company shall pay half of the contractual benefits last received (base remuneration, STI, LTI), whereby 1/12 of the variable remuneration actually earned in the most recent fiscal year prior to termination,

2.05 Pension commitments

	Service cost IFRS		Service cost HGB		Projected unit credit IFRS		Projected unit credit HGB	
in € thousand	2019	2020	2019	2020	2019	2020	2019	2020
Klaus Deller	300	0	379	0	7,091	7,663	5,404	5,961
Dr. Peter Laier	0	0	0	0	1,226	1,354	851	963

multiplied by the number of months, shall serve as the basis for calculating the variable components. Any other income shall be deducted from this compensatory payment.

Premature Termination of Service Agreements

The following provisions apply in the event of premature termination of a service agreement:

- Premature termination of an Executive Board appointment and contract by mutual consent: In the event that – with the approval of the Supervisory Board – an Executive Board member's activity as a member of the Company's Executive Board is prematurely terminated by mutual agreement, and consequently the individual's service agreement is also terminated, each Executive Board member is entitled to a severance payment. This severance payment entitlement shall be null and void, however, if the premature termination of the appointment was made at the request of the Executive Board member involved, or if the Company had good cause to revoke the appointment or terminate the service agreement without notice, or if the Executive Board member involved is, following the mutually agreed termination of the appointment, subsequently reappointed to the Executive Board.
- Merger, demerger and conversion: In the event that the Company is involved in a merger or demerger as the transferring company, or is converted into another legal form as the result of a change of legal form, the service agreement shall end and each member of the Executive Board shall be entitled to a severance payment.

The amount of the severance payment is limited to the total amount of contractual remuneration (fixed base remuneration plus variable remuneration, i.e. STI and LTI) for the remaining term of the regular appointment, but in any case not exceeding 24 months. The basis for calculating the variable remuneration is 1/12 of the variable remuneration (STI and LTI) actually earned in the last fiscal year prior to termination of the Executive Board member's appointment, multiplied by the number of months for which the respective Executive Board member is entitled to severance pay. The severance payment falls due as soon as the termination of appointment takes effect.

If an appointment is prematurely revoked by the Supervisory Board, the respective service agreement ends upon expiration of a notice period pursuant to Section 622 (2) of the German Civil Code (BGB). This notice period shall be extended to a maximum of 24 months as at the end of the month (at most until the contract's regular termination date) if the respective Executive Board member is blamelessly dismissed by the Annual General Meeting due to his/her incapacity to conduct business properly or due to a vote of no confidence, or if s/he resigns prematurely, unilaterally and effectively from his/her position on the Executive Board for good cause. During the notice period, Executive Board members are entitled to base remuneration plus a proportion pro rata temporis of the short-term incentive (STI). Entitlements associated with long-term incentive (LTI) tranches that have already been granted lapse without substitution or compensation.

Other

Members of the Executive Board are included in a D&O liability insurance policy taken out by the Knorr-Bremse Group. The Knorr-Bremse D&O insurance policy provides for a deductible for Executive Board members that complies with the requirements of the German Stock Corporation Act (AktG) and the German Corporate Governance Code.

Members of the Executive Board did not receive any advances or loans from the Company in either of fiscal years 2020 or 2019. No commitments were made by third parties in respect of Executive Board members' activities as board members.

Change in leadership on the Executive Board

In connection with Ralph Heuwing's departure from the Executive Board with effect as of the end of April 30, 2020, a severance payment of € 1,800,000 was made to Mr. Heuwing. Mr. Heuwing will also receive his STI entitlement for a 24-month period, i.e. ending in April 2022, as a variable severance payment to be made on the respective STI due dates. The variable severance payment for the 2020 fiscal year amounted to € 320,000. The increase in the base remuneration of ordinary Executive Board members to € 900,000, which was resolved in the course of amending Executive Board remuneration, also applies to Mr. Heuwing for the months January to April 2020, as do the new STI arrangements for this period. For the LTI tranches already granted for performance periods 2018-2020 and 2019-2021, the contractual due dates in 2021 and 2022 apply. For the LTI tranche for the 2018-2020 performance period, the minimum EVA specified by the Supervisory Board was not reached so that no payment will be made for this tranche. There are no further LTI entitlements.

In connection with Bernd Eulitz's departure from the Executive Board with effect as of the end of August 31, 2020, a severance payment of € 2,000,000 gross was made to Mr. Eulitz. Furthermore, Mr. Eulitz received a pro-rated pension contribution of € 233,000 as of the end of the fiscal year. Mr. Eulitz will also receive his STI for the 2020 and 2021 fiscal years as a variable severance payment to be made on the respective STI due dates. This variable severance payment for the 2020 fiscal year amounted to € 347,000. The LTI tranche already granted for the 2020-2023 performance period will be paid out on a pro rata temporis basis for the months of January to August on the contractual due dates in 2024. With regard to a possible claim by Mr. Eulitz to pro rata compensation from variable remuneration components of a maximum of € 3,797,000 granted by the Linde Group and forfeited due to his move to Knorr-Bremse, a compensation option of € 2,000,000 exercisable until December 31, 2020 was agreed in the severance agreement. Following legal review, the Supervisory Board decided not to exercise this compensation option. Whether and, if so, in what amount he has a claim to compensation from forfeited variable compensation components granted by the Linde Group depends firstly on whether and to what extent Mr. Eulitz can enforce the STI and LTI claims asserted against Linde and, secondly, on whether the further conditions of his contractual claim against Knorr-Bremse are fulfilled.

In connection with the appointment of Frank Markus Weber as a member of the Executive Board as of July 1, 2020, Mr. Weber was paid gross compensation of € 1,000,000 as compensation for the LTI tranches already granted for 2017, 2018, 2019 and 2020 that were forfeited due to his move from the Daimler Group to the Company and for dividend equivalents from these LTI tranches that were forfeited and the STI for the 2020 fiscal year that was reduced to 50% for the same reason. Any payments by the Daimler Group on the aforementioned remuneration components forfeited and severance payments would be deducted from this compensation.

Executive Board Remuneration in the 2020 Fiscal Year

Executive board remuneration according to DRS 17

The total remuneration awarded to Executive Board members as well as the emoluments of individual Executive Board members are shown in individualized form in Table → 2.06, presented in each case in accordance with German Reporting Standards (DRS) 17.

2.06 Executive board remuneration according to DRS 17

	Bernd Eulitz Executive Board Chairman (from January 11, 2019 until August 31, 2020		Klaus Deller Executive Board Chairman (until April 30, 2019)		Ralph Heuwing Finance, Controlling and IT (until April 30, 2020)		Dr. Peter Laier Commercial Vehicle Systems division		Frank Markus Weber Finance, Controlling and IT (since July 1, 2020)		Dr. Jürgen Wilder Rail Vehicle Systems division	
in € thousand	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Non-performance-related remuneration												
Fixed remuneration	200	800	500	–	800	300	800	900	–	400	800	900
Compensation payment[1]	–	–	–	–	–	–	–	–	–	1,000	–	–
Fringe benefits	61[2]	246[2]	5	–	318[2]	106[2]	326[2]	328[2]	–	187[2]	323[2]	324[2]
Total fixed remuneration	**261**	**1,046**	**505**	**0**	**1,118**	**406**	**1,126**	**1,228**	**0**	**1,587**	**1,123**	**1,224**
Performance-related Components												
One-year variable remuneration												
– STI	227	693	529	0	634	160	634	482	0	300[3]	660	602
Multi-year variable remuneration												
– LTI-Tranche 2018[4]	–	–	–	–	–	–	–	–	–	–	–	–
– LTI-Tranche 2019[5]	–	–	–	–	–	–	–	–	–	–	–	–
Multi-year variable share-based payment												
– LTI tranche 2020	–	1,272	–	–	–	0[6]	–	794	–	412	–	794
Total variable remuneration	**227**	**1,965**	**529**	**–**	**634**	**160**	**634**	**1,276**	**–**	**712**	**660**	**1,396**
Total remuneration	**488**	**3,011**	**1,034**	**–**	**1,752**	**566**	**1,760**	**2,504**	**–**	**2,299**	**1,783**	**2,620**

1) Mr. Weber was paid gross compensation of € 1,000,000 as compensation for the LTI tranches already granted for 2017, 2018, 2019 and 2020 that were forfeited due to his move from the Daimler Group to the Company and for dividend equivalents from these LTI tranches that were forfeited and the STI for the 2020 fiscal year that was reduced to 50% for the same reason.
2) Fringe benefits included € 233,000 for Mr. Eulitz (2019: € 58,000), € 100,000 for Mr. Heuwing in 2020 (2019: € 300,000), € 300,000 for Dr. Laier in 2020 (2019: € 300,000), € 300,000 for Dr. Wilder in 2020 (2019: € 300,000) and € 150,000 for Mr. Weber in 2020 for expenses for pension contributions.
3) Mr. Weber has been guaranteed an STI of at least € 600 thousand for the first year, allocated pro rata to the 2020 and 2021 calendar years, because he joined the Company in the course of the year. Since target achievement was lower, he will be granted € 300 thousand.
4) For the LTI tranche for the 2018-2020 performance period, the minimum EVA specified by the Supervisory Board was not reached so that no payment will be made for this tranche.
5) Due to a condition precedent, the 2019 tranche is deemed not to have been awarded yet. Mr. Deller's entitlement has lapsed as a result of his resignation (cf. section entitled "Executive Board Changes").
6) There are no claims to LTI 2020 for the 2020-2022 performance period.

2.07 Share-based payment

	Bernd Eulitz Executive Board Chairman (from January 11, 2019 until August 31, 2020)	Dr. Peter Laier Commercial Vehicle Systems division	Frank Markus Weber Finance, Controlling and IT (since July 1, 2020)[2]	Dr. Jürgen Wilder Rail Vehicle Systems division
	2020	2020	2020	2020
Number of performance shares granted at the beginning of the fiscal year	15,095[1]	9,057	4,529	9,057
Total grant date fair value (in € thousand) in accordance with IFRSs	1,272	794	412	794
Grant date fair value per share in accordance with IFRSs	84.26	87.62	90.87	87.62
Total grant date fair value (in € thousand) in accordance with HGB[3]	1,203	751	391	751
Grant date fair value per share in accordance with HGB	79.73	82.92	86.44	82.92
Total share-based payment expense in accordance with IFRS	1,684	265	76	265
Provision as of Dec. 31, 2020 in accordance with IFRSs	1,684	265	76	265
Total share-based payment expense in accordance with HGB	1,619	255	73	255
Provision as of Dec. 31, 2020 in accordance with HGB	1,619	255	73	255

[1] Due to his departure in the course of the year, the number of shares was calculated pro rata.
[2] From the date of joining the Company, Mr. Weber received a pro-rata number of performance shares.
[3] Total of fixed and one-year variable compensation (STI) from GAS 17 (table) pus fair value when granted according to HGB results in total compensation for 2020 of € 10,824 thousand according to HGB.

2.08 Executive board income in accordance with GCGC

in € thousand	Bernd Eulitz Executive Board Chairman (from January 11, 2019 until August 31, 2020)[3] 2019	2020	2020 (Min)	2020 (Max)	Klaus Deller Executive Board Chairman (until April 30, 2019) 2019	2020	2020 (Min)	2020 (Max)
Non-performance-related remuneration								
Fixed remuneration	200	800	800	800	500	–	–	–
Compensation payment[1]	n/a	–	–	–				
Fringe benefits	61[2]	246	246	246[2]	5	–	–	–
Total fixed remuneration	**261**	**1,046**	**1,046**	**1,046**	**505**	**0**	**0**	**0**
Performance-related Components								
One-year variable remuneration								
– STI	217	867	0	1,560	500	0	0	0
Multi-year variable remuneration								
– LTI tranche 2018	–	–	–	–	–	–	–	–
– LTI tranche 2019	–	–	–	–	–	–	–	–
Multi-year variable share-based payment								
– LTI tranche 2020		1,272		2,400		–	–	–
Total variable remuneration	**217**	**2,139**	**0**	**3,960**	**500**	**0**	**0**	**0**
Pension expenses	–	–	–	–	300	–	–	–
Total remuneration	**478**	**3,185**	**1,046**	**5,006**	**1,305**	**0**	**0**	**0**

[1] Mr. Weber was paid gross compensation of € 1,000,000 as compensation for the LTI tranches already granted for 2017, 2018, 2019 and 2020 that were forfeited due to his move from the Daimler Group to the Company and for dividend equivalents from these LTI tranches that were forfeited and the STI for the 2020 fiscal year that was reduced to 50% for the same reason.
[2] Fringe benefits included € 233,000 for Mr. Eulitz (2019: € 58,000), € 100,000 for Mr. Heuwing in 2020 (2019: € 300,000), € 300,000 for Dr. Laier in 2020 (2019: € 300,000), € 300,000 for Dr. Wilder in 2020 (2019: € 300,000) and € 150,000 for Mr. Weber in 2020 for expenses for pension contributions.

The total remuneration (excluding pension service costs) for fiscal 2020 payable to members of Knorr-Bremse AG's Executive Board amounts to € 11,000,000 (previous year: € 6,817,000). Of this, € 5,491,000 (2019: € 4,133,000) related to fixed remuneration and € 5,509,000 (2019: € 2,684,000) to variable remuneration.

The remuneration of the individual Executive Board members for the 2020 and 2019 fiscal years is presented below. This includes any benefits awarded in the year under review, as well as income received in the reporting period.

As of the reporting date, the members of the Executive Board held the numbers of virtual shares shown in the table below. Table → 2.07

Benefits and Perquisites

Table → 2.08 shows the benefits, including fringe benefits, awarded during fiscal years 2020 and 2019 in individualized form. In the case of performance-related remuneration components, the minimum and maximum remuneration achievable in 2020 is shown. In addition, the performance-related remuneration is broken down into one-year (STI) and multi-year (LTI) remuneration.

In contrast to the presentation in accordance with DRS 17, the variable remuneration components are stated at target value, i.e. with a target attainment level of 100%. In addition, pension expenses – that is, service costs pursuant to IAS 19 – must be included in the total remuneration package.

	Ralph Heuwing Finance, Controlling and IT (until April 30, 2020)[3)]				**Dr. Peter Laier Commercial Vehicle Systems division**				**Frank Markus Weber Finance, Controlling and IT (since July 1, 2020)**				**Dr. Jürgen Wilder Rail Vehicle Systems division**			
	2019	**2020**	**2020 (Min)**	**2020 (Max)**	**2019**	**2020**	**2020 (Min)**	**2020 (Max)**	**2019**	**2020**	**2020 (Min)**	**2020 (Max)**	**2019**	**2020**	**2020 (Min)**	**2020 (Max)**
	800	300	300	300	800	900	900	900	0	400	400	400	800	900	900	900
										1,000	1,000	1,000				
	318[2)]	106	106	106[2)]	326[2)]	328	328	328[2)]	0	187	187	187[2)]	323[2)]	324	324	324[2)]
	1,118	**406**	**406**	**406**	**1,126**	**1,228**	**1,228**	**1,228**	**0**	**1,587**	**1,587**	**1,587**	**1,123**	**1,224**	**1,224**	**1,224**
	600	200	0	400	600	600	0	1,200	0	300	0	600	600	600	0	1,200
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	700	–	–	–	700	–	–	–	–	–	–	–	600	–	–	–
		–	–	–		794		1,600		412	–	800		794	–	1,600
	1,300	**200**	**0**	**400**	**1,300**	**1,394**	**0**	**2,800**	**0**	**712**	**0**	**1,400**	**1,200**	**1,394**	**0**	**2,800**
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2,418	**606**	**406**	**806**	**2,426**	**2,622**	**1,228**	**4,028**	**0**	**2,299**	**1,587**	**2,987**	**2,323**	**2,618**	**1,224**	**4,024**

3) Please refer to the section entitled "Executive Board Changes" for details of benefit entitlements in connection with the resignations of Mr. Eulitz and Mr. Heuwing.

Income paid

Because the remuneration awarded to Executive Board members for a fiscal year is not always accompanied by a payment made in the fiscal year itself, the amount of actual remuneration paid to Executive Board members for fiscal 2020 is shown in Table → 2.09. Here, the non-performance-related component plus one-year performance-related remuneration are stated as income paid in the respective fiscal year. Due to the condition precedent, performance-related multi-year remuneration (LTI) is deemed to have been paid in the fiscal year in which the plan term of the respective tranche ends (e.g., the 2018 tranche is deemed to have been paid in the 2020 fiscal year). Share-based payment is disclosed as paid as of the date and in the amount relevant under German tax law. Pension expenses, i.e. service costs in accordance with IAS 19, correspond to the amounts awarded, even though they do not represent actual income in the narrower sense.

2.09 Executive Board income in 2020 in accordance with GCGC

	Bernd Eulitz Executive Board Chairman (from January 11, 2019 until August 31, 2020)		Klaus Deller Executive Board Chairman (until April 30, 2019)		Ralph Heuwing Finance, Controlling and IT (until April 30, 2020)	
in € thousand	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**
Non-performance-related remuneration						
Fixed remuneration	200	800	500	–	800	300
Compensation payment[1)]	–	–	–	–	–	–
Fringe benefits	61[2)]	246[2)]	5	–	318[2)]	106[2)]
Total fixed remuneration	**261**	**1,046**	**505**	**–**	**1,118**	**406**
Performance-related Components						
One-year variable remuneration						
– STI	227	693	529	–	634	160
Multi-year variable remuneration						
– LTI-Tranche 2018[3)]	–	–	–	–	–	–
– LTI-Tranche 2019[4)]	–	–	–	–	–	–
Multi-year variable share-based payment						
– LTI tranche 2020	–	–	–	–	–	–
Total variable remuneration	**227**	**693**	**529**	**–**	**634**	**160**
Pension expenses	–	–	300	–	–	–
Total remuneration	**488**	**1,739**	**1,334**	**0**	**1,752**	**566**

1) Mr. Weber was paid gross compensation of € 1,000,000 as compensation for the LTI tranches already granted for 2017, 2018, 2019 and 2020 that were forfeited due to his move from the Daimler Group to the Company and for dividend equivalents from these LTI tranches that were forfeited and the STI for the 2020 fiscal year that was reduced to 50% for the same reason.
2) Fringe benefits included € 233,000 for Mr. Eulitz (2019: € 58,000), € 100,000 for Mr. Heuwing in 2020 (2019: € 300,000), € 300,000 for Dr. Laier in 2020 (2019: € 300,000), € 300,000 for Dr. Wilder in 2020 (2019: € 300,000) and € 150,000 for Mr. Weber in 2020 for expenses for pension contributions.
3) For the LTI tranche for the 2018-2020 performance period, the minimum EVA specified by the Supervisory Board was not reached so that no payment will be made for this tranche.

Total emoluments of former members of the Executive Board

Former members of the Executive Board and their surviving dependents were awarded total remuneration of € 6,290,000 in the fiscal year (2019: € 8,861,000). Total remuneration in 2020 includes severance payments for Mr. Heuwing and Mr. Eulitz of € 4,467,000. The pension provisions were € 71,316,000 (2019: € 68,046,000).

Dr. Peter Laier Commercial Vehicle Systems division		Frank Markus Weber Finance, Controlling und IT (since July 1, 2020)		Dr. Jürgen Wilder Rail Vehicle Systems division	
2019	**2020**	**2019**	**2020**	**2019**	**2020**
800	900	–	400	800	900
–	–	–	1,000	–	–
326[2]	328[2]	–	187[2]	323[2]	324[2]
1,126	**1,228**	**0**	**1,587**	**1,123**	**1,224**
634	482	–	300	660	602
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	–	–	–
634	**482**	**–**	**300**	**660**	**602**
–	–	–	–	–	–
1,760	**1,710**	**0**	**1,887**	**1,783**	**1,826**

[4] The 2019 tranche is only deemed to have been awarded at the end of the respective performance periods. Mr. Deller's entitlement has lapsed as a result of his resignation (cf. section entitled "Executive Board Changes").

Supervisory Board Compensation

Remuneration of Supervisory Board members is governed by Article 18 of Knorr-Bremse AG's Articles of Association. According to the Article, the following annual fixed base remuneration applies: € 250,000 for the Chair of the Supervisory Board, € 120,000 for each Deputy Chair of the Supervisory Board, and € 80,000 for the other members of the Supervisory Board. The Chair of the Executive Committee receives an additional € 60,000, each additional member of the Executive Committee is paid € 20,000, while the Chair of the Audit Committee is paid € 60,000 and each additional member of the Audit Committee receives € 20,000. The annual remuneration is paid after the Annual General Meeting which adopts the annual financial statements for the last fiscal year. Supervisory Board members who have not been members of the Supervisory Board or a Supervisory Board committee for a full fiscal year – in this case Dr. Mörsdorf, Mr. Tölsner and Mr. Weiberg (each of whom left the Supervisory Board on June 30, 2020) and Dr. Enders, Mr. Thiele and Dr. Weimer (each of whom was appointed on June 30, 2020) – or who have not been the chair or deputy chair of the Supervisory Board or a Supervisory Board committee for a full fiscal year – in this case Ms. Dahnke, who was replaced as Deputy Chair of the Supervisory Board and a member of the Executive Committee by Mr. Thiele on June 30, 2020, are paid their

2.10 Supervisory Board remuneration

	2020 fiscal year			
in € thousand netto	Fixed remuneration	Special company organ remuneration	Total company organ remuneration	Other remuneration
Prof. Dr. Klaus Mangold	250	80	330	
Franz-Josef Birkeneder	120	40	160	
Kathrin Dahnke[1]	100	70	170	
Dr. Thomas Enders[2]	40		40	
Michael Jell	80	20	100	25
Dr. Wolfram Mörsdorf[3]	40		40	
Werner Ratzisberger	80	20	100	25
Sebastian Roloff[4]				
Annemarie Sedlmair	80		80	
Erich Starkl	80		80	
Heinz Hermann Thiele[5]	60	10	70	
Julia Thiele-Schürhoff	80		80	
Wolfgang Tölsner[6]	40		40	45
Georg Weiberg[7]	40		40	60
Dr. Theodor Weimer[8]	40		40	
Günter Wiese	80		80	25
Total Supervisory Board remuneration	**1,210**	**240**	**1,450**	**180**

[1]) Additional Deputy Chair of the Supervisory Board and Member of the Executive Committee until June 30, 2020
[2]) Member of the Supervisory Board since June 30, 2020
[3]) Member of the Supervisory Board until June 30, 2020
[4]) Member of the Supervisory Board until 3/31/2019
[5]) Member and Deputy Chair of the Supervisory Board, Member of the Executive Committee since June 30, 2020 in each case

remuneration pro rata temporis, rounded up to complete months.

The Company reimburses Supervisory Board members for reasonable expenses incurred in the performance of their duties. Value-added tax is reimbursed by the Company where Supervisory Board members are entitled to invoice the Company separately for value-added tax and choose to exercise this right. Supervisory Board members have been included in the Company's D&O insurance policy without a deductible since the deletion of the relevant German Corporate Governance Code recommendation (Section 3.8 of the German Corporate Governance Code (old version)).

There are no pension commitments to members of the Supervisory Board, with the exception of pension commitments associated with employee activities.

On the basis of the remuneration system described above, Table → 2.10 shows the total remuneration paid out to executive bodies in the 2020 and 2019 fiscal years. Any additional remuneration paid to individual members of the Supervisory Board (such as consultancy fees or remuneration associated with Supervisory Board mandates in Group companies) is also stated below, under other remuneration.

Supervisory Board members did not receive any loans from the Company in either fiscal year 2020 or fiscal year 2019.

			2019 fiscal year
Fixed remuneration	Special company organ remuneration	Total company organ remuneration	Other remuneration
250	80	330	
120	40	160	
120	80	200	
80	20	100	25
80		80	
80	20	100	25
20		20	
60		60	
80		80	
80		80	
80		80	65
80		80	83
80		80	25
1,210	**240**	**1,450**	**223**

[6]) Member of the Supervisory Board until June 30, 2020
[7]) Member of the Supervisory Board until June 30, 2020
[8]) Member of the Supervisory Board since June 30, 2020

Business report

General Economic and Industry-related Conditions

Economic Activity and Industry Environment

Biggest slump in global growth since the second world war

The Covid-19 pandemic dominated the whole of 2020. Extensive measures to combat the virus and the attempt to curb its spread led to restrictions on public life in almost all areas. During the year, more than 1 million people fell victim to the pandemic. (Source: IMF).

In response to the first wave of the pandemic, large parts of the world entered a lockdown in the spring that effectively resulted in public life coming to a standstill, thus shutting down production. As a result, numerous economies slipped into recession in the second quarter of 2020.

Following a temporary recovery in the third quarter, infections flared up again in the fourth quarter to the Covid-19 virus. As a consequence, most countries reported rapidly rising numbers of new infections again and a sudden worsening of the situation. In response, governments imposed new restrictions on the public.

In addition to measures to curb the spread of the pandemic, many governments introduced a large number of countermeasures during the year to mitigate the social and economic consequences of the pandemic. Despite or indeed because of the measures, significant effects were seen, which first and foremost affected economies' economic performance and the population's standard of living. (Source: IMF, World Bank, OECD, IFO)

The development of GDP growth was homogeneous across regions and was characterized by a uniform decline. Global GDP sank from +2.8% in 2019 to -3.5% in 2020. Economic output in the same period fell from +1.3% to -7.2% in the eurozone, from +2.2% 2to -3.4% in the USA and from +6.1% to +2.0% in China. In 2020, economic activity thus experienced its largest measured decline since the Second World War. (Source: IMF).

Financial markets: significant slump at the start of the pandemic followed by a quick recovery

The rapid spread of the pandemic together with the strict containment measures in spring 2020 caused historic declines on financial markets. Overall, the prices of financial assets fell considerably, while, at the same time, volatility in the markets increased. Central banks reacted immediately with comprehensive monetary policy measures. Under the influence of a persistently low key interest rate level, the long-term yields of government bonds were also quoted in the region of the historic low in many advanced economies during the year. Share prices have since recovered across the board, supported by the expansionary fiscal policy of central banks, meaning that the temporary low was quickly overcome. Stock exchanges recovered across the board during the year and returned to historic highs. (Source: OECD)

For example, the DAX fell by 36.3% during the first wave of the pandemic and then went on to end the year 4.1% higher than it ended 2019. The MDAX fell by 36.7% in the same period and closed 2020 9.2% higher than it closed 2019. (Thomson Reuters.)

Bilateral exchange rates against the US dollar were comparatively stable, although the EUR/USD exchange rate fluctuated between 1.07 and 1.23 during the year.

Rail vehicle market

Competitive Situation and Market Position

In a highly competitive market environment, Knorr-Bremse is one of the world's leading companies in the key markets for, among other things, braking, entrance and HVAC systems for rail vehicles. Our main competitor in the relevant product segments is Wabtec Corporation, which was acquired by GE Transportation in the first half of 2019 and thus significantly reduced the relative overlap of product segments with Knorr-Bremse. Knorr-Bremse is active in multiple regions, including Europe/Africa, North and South America, and Asia-Pacific. Our leading position in our traditional European markets represents a strong foundation for our future business development. Knorr-Bremse is also well positioned in both the passenger and freight markets in North America.

According to estimates and extrapolations by a leading market research institute, the global rail vehicle market will lose around 36% of its transport volume in long-distance, regional, and local passenger transportation in 2020 due to the Covid-19 pandemic. By contrast, rail freight is only expected to be down by 7%.

2.11 Market development

Trends in rail vehicle markets

Source: Own market research of Knorr-Bremse.

Europe/Africa

— Differential burden of Corona pandemic in the countries
— Significantly reduced passenger numbers
— Project delays and postponements observed

North America / South America

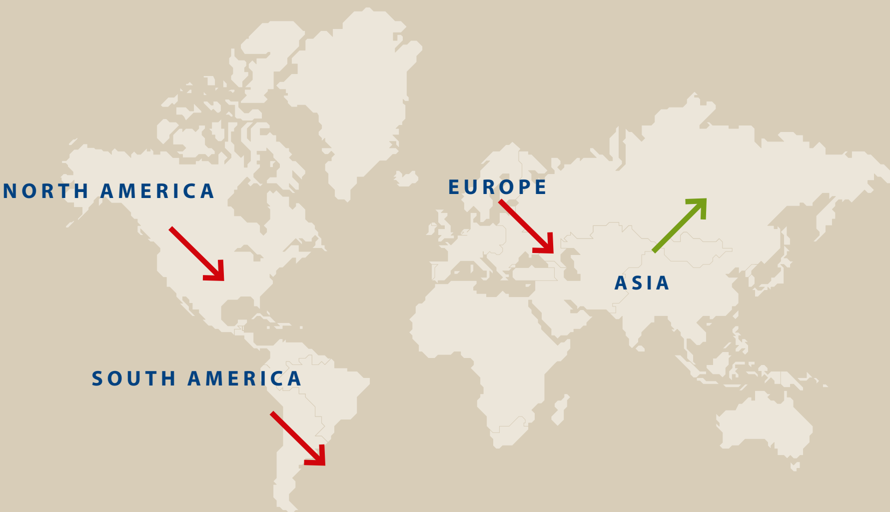
— Overall weaker due to Corona pandemic
— Cyclical downturn in freight market intensified

Asia/Pacific

— China heavily impacted in Q1, recovery in H2
— India from Q2 with strong Covid 19 constraints
— China remains largest rail vehicle market worldwide

Trends in commercial vehicle markets

Truck Production Rate in 1,000 units



Source: Own market research of Knorr-Bremse.

Western Europe

2018	517
2019	469
2020	351

North America

2018	446
2019	468
2020	288

South America

2018	106
2019	113
2020	91

Asia*

2018	1.961
2019	1.841
2020	2.140

* CN, JP, IN & KR

Overall, the Covid-19 pandemic affected the rail vehicle market at different times in different regions during 2020.

Whereas in Asia and especially in China, a lasting recovery occurred following the massive restrictions of the first half of the year, Europe was again hit by restrictions in the middle of the second half of the year.

India, South Africa, the USA and the countries of Central and South America also continued to be hit by the impact of the Covid-19 pandemic and further waves, with recurring restrictions in various forms.

Reduced vehicle mileage led to reductions in the aftermarket volume. Nevertheless, positive developments emerged over the course of the year. With supply chains largely maintained, operators used the reduced passenger numbers and freight volume for maintenance work and overhauls.

The market assessments below are based on the Company's own analyses in combination with market studies.

Europe/Africa

In Europe, the Covid-19 pandemic hit different countries to varying degrees. Because most rail operations were maintained, despite reduced passenger numbers orders were not canceled on a large scale but only postponed.

North America/South America

A weaker first half of 2020 was seen in the North American market, shaped by the cyclical decline in the freight market and impacted by the Covid-19 pandemic.

Asia-Pacific

In the Asia-Pacific market, China in particular was hit hard in Q1. India was impacted from Q2 with severe Covid-19 restrictions. China continues to be the largest rail vehicle market in the world and has increasingly recovered.

Commercial vehicle market

Competitive Situation and Market Position

With the product portfolio offered by the Commercial Vehicle Systems division, Knorr-Bremse is one of the global leaders in this sector. Alongside smaller vendors in this market, our principal competitor is Wabco Holdings, Inc., which was acquired by ZF Friedrichshafen in 2020. Wabco is thus in direct competition with Knorr-Bremse in the development of future trends such as driver assistance, automated driving and e-mobility. In our core regions, North America and Europe, Knorr-Bremse ranks as the market leader for air brake systems. The Company's leading position in highly regulated markets for disk brakes and driver assistance systems represents a strong platform with much potential for further growth in the Asia-Pacific region.

The following market statistics relate to truck production rates in each region as published by various organizations (e.g., LMC Automotive Ltd.) as of January 2021.

The global commercial vehicle market, on the basis of the truck production rate, suffered massively from the impact of the Covid-19 pandemic in almost all parts of the world in 2020. However, the extremely rapid recovery in the Chinese market largely compensated for this, meaning that global commercial vehicle production only felt by -0.5% year-on-year in 2020.

Europe/Africa

Although spring 2020 saw plant shutdowns, particularly in connection with the Covid-19 pandemic, a recovery set in in the Western European commercial vehicle market, especially in the second half of the year. Commercial vehicle production is expected to decrease by 25% year-on-year to around 351,000 units. In Eastern Europe, production in the same period only fell by 21% to around 55,000 units.

North America/South America

The commercial vehicle market in North America also initially experienced a sharp decrease due to the impact of the Covid-19 pandemic with a recovery beginning in the second half of the year, meaning production fell by 38% to around 288,000 units (Classes 6-8). Despite the crisis situation, the growing popularity of air disk brakes over drum brakes and the tendency to install driver assistance systems continues. Truck and bus production in South America fell by 19% to around 91,000 units.

Asia-Pacific

During the year 2020, China is the only large economy to have seen positive growth, leading to a 17% year-on-year increase in commercial vehicle production in the Asia region to around 2,140,000 units. This was driven by the Chinese market's rapid recovery, also supported by government incentives. Commercial vehicle production in China increased by 37% to around 1,836,000 units in 2020. In India, by contrast, production fell by 46% to around 140,000 units due to strict restrictions. The Japanese market also suffered from the consequences of the pandemic and saw a 27% reduction in commercial vehicle production year-on-year to around 166,000 units. Chart → 2.11

General Statement by the Executive Board and Achievement of Objectives

The Executive Board of Knorr-Bremse AG is satisfied with the Company's business performance in 2020, a year heavily impacted by the coronavirus pandemic. Knorr-Bremse proved its resilient business model and showed a solid level of revenues and profitability. Rapid and early stabilization measures meant it was possible to achieve solid EBITDA and EBIT margins, very strong free cash flow, and comfortable liquidity. The Group reached a new high in its order book. Knorr-Bremse's performance against key indicators in 2020 was as forecast or better. Table → 2.12, 2.13

As expected, **revenues** were down significantly compared with the previous year, falling by -11.2% to € 6,156.7 million (2019: € 6,936.5 million) in a volatile market environment shaped by the impact of the Covid-19 pandemic. Knorr-Bremse thus achieved our half-year report's revenue forecast of € 5,900 to € 6,200 million. Both the Rail Vehicle Systems division (-8.7%) and the Commercial Vehicle Systems division (-14.0%) saw decreases in revenues. On a Group level, this affected all regions except Asia. The aftermarket share of total revenues increased from 34.3% in the previous year to 36.6%.

The operating and reported **EBITDA margin** amounted to 18.0% of revenues, slightly higher than the 16.5 to 17.5% margin forecast in the half-year report and, contrary to the forecast provided in the 2019 Annual Report (significant decline), only moderately down on the prior-year level. The operating EBITDA margin in the previous year was 18.8% and was adjusted for Wülfrath restructuring expenses (€ 19.5 million) and a book profit resulting from the sale and leaseback transaction (€ 45.1 million). Reported EBITDA reached € 1,106.9 million (2019: € 1,328.7 million) or 18.0% of revenues (2019: 19.2%). At 13.2%, the operating **EBIT margin** was, as forecasted, significantly below 13.2%, below the prior-year level of 15.1%. At € 814.0 million, reported EBIT was -23.4% below the prior-year level of € 1,062.9 million.

Corporate Management Indicators

The most significant financial key performance indicators at Knorr-Bremse are revenues, (operating) EBITDA/(operating)

2.12 Achievement of objectives (target-actual comparison)

Most significant performance indicators		2020 actual	September 2020 target	April 2020 target	2019 actual
Revenues	in € million	6,157	5,900 - 6,200	significant decrease	6,937
Operating EBITDA margin (as % of revenues)	%	18.0	16.5 - 17.5	significant decrease	18.8
Operating EBIT margin (as % of revenues)	%	13.2	significant decrease	significant decrease	15.1
ROCE	%	25.6	significant decrease	significant decrease	34.1
Net working capital (in days' sales)	Days	43.6	significant increase	significant increase	42.0
Employees (FTEs as of Dec. 31)		29,714	slight increase	significant decrease	28,905
Other Performance Indicators					
Incoming orders	in € million	6,442	significant decrease	significant decrease	7,066
Order book (Dec. 31)	in € million	4,977	moderate increase	significant decrease	4,692
Capital expenditure/revenues (adjusted)	%	5.6	significant increase	significant decrease	4.8

2.13 Achievement of objectives (target-actual comparison)

Rail Vehicle Systems		2020 actual	September 2020 target	April 2020 target	2019 actual
Revenues	in € million	3,337	significant decrease	significant decrease	3,656
Operating EBITDA margin (as % of revenues)	%	22.9	slight decrease	significant decrease	22.3
Commercial Vehicle Systems					
Revenues	in € million	2,819	significant decrease	significant decrease	3,280
Operating EBITDA margin (as % of revenues)	%	13.5	significant decrease	significant decrease	16.0

EBITDA margin, (operating) EBIT/(operating) EBIT margin, net working capital in days' sales and ROCE. The capital expenditure[7)] to revenue ratio is used as another key management indicator. Up to and including the 2020 fiscal year, incoming orders and order books were also used as additional management indicators. Incoming orders and order books are taken from management reporting and are not audited. These will be dispensed with in the future in order to take account of the capital market's requirements and to place greater emphasis on the key performance indicators predominantly used in this context. **Table → 2.14, 2.15**

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). But non-financial performance indicators are not primarily used to control the Company. They are more useful as a means of gaining deeper insight into the situation within the Group and making decisions based on this information. A detailed analysis of non-financial factors and performance indicators can be found in the chapter on Sustainability and in the Knorr-Bremse Group Sustainability Report (published separately).

2.14 Management indicators

	2020	2019
Revenues (€ million)	6,156.7	6,936.5
EBITDA (€ million)	1,106.9	1,328.7
EBITDA margin (as % of revenues)	18.0%	19.2%
Operating EBITDA margin (as % of revenues)	18.0%	18.8%
EBIT (€ million)	814.0	1,062.9
EBIT margin (as % of revenues)	13.2%	15.3%
Operating EBIT margin (as % of revenues)	13.2%	15.1%
ROCE (%)	25.6%	34.1%
Net working capital in days' sales	43.6	42.0
Employees (as of Dec. 31, incl. temp. staff)	29,714	28,905

2.15 Divisional revenues and EBITDA

	2020	2019
Rail Vehicle Systems		
Revenues	3,336.8	3,656.1
EBITDA margin (as % of revenues)	22.9%	22.3%
Operating EBITDA margin (as % of revenues)	22.9%	22.3%
Commercial Vehicle Systems		
Revenues	2,819.4	3,280.2
EBITDA margin (as % of revenues)	13.5%	15.4%
Operating EBITDA margin (as % of revenues)	13.5%	16.0%

To calculate operating EBITDA/EBIT margins, the impact of restructuring measures and transaction-related one-time effects are adjusted against reported revenue and earnings figures. These included restructuring expenses for the closure of the Wülfrath plant in 2019 and the book profit realized on the sale-and-leaseback (SLB) transaction at the Munich site. There were no comparable transactions in the 2020 fiscal year that would have led to an adjustment.

ROCE shows whether we generate an appropriate return on capital employed, thus providing a benchmark for efficient capital allocation. Capital employed includes the sum total of intangible assets, net working capital, and property, plant and equipment.

As forecast, the ROCE of 25.6%, reported for fiscal 2020 was significantly down on the previous year (34.1%). This decrease resulted not only from low EBIT due to the Covid-19 pandemic but, in particular, from the higher level of capital employed.

The ROCE (in %) is calculated as follows:

$$(\text{EBIT}/\text{capital employed}) \times 100.$$

Contrary to the forecast of a significant increase, net working capital in days' sales rose slightly compared with the prior-year reporting date to 43.6 days (previous year: 42.0 days' sales); it was influenced by measures to safeguard delivery capability.

The number of employees as of December 31, 2020 was 29,714, which, as indicated in the updated forecast of the 2020 half-year financial report, is slightly higher than in the previous year (28,905) and was largely due to the acquisition of R.H. Sheppard (677 employees).

Except for the net cash balance, the definitions of the key figures in this report have not changed since the 2019 Annual Report. The definition of the net cash balance has been expanded to include securities held.

Events of Material Importance to Business Performance

The following material events should be highlighted in the 2020 fiscal year:

[7)] Capital expenditure is defined as additions to property, plant and equipment and intangible assets (before acquisitions and IFRS 16), excluding goodwill and adjusted for the additions to fixed assets accrued in the fiscal year in the context of possible sale-and-lease-back transactions.

Covid-19

The global spread of the Covid-19 pandemic that began in March 2020 has rapidly and increasingly impacted on public life, macroeconomic development, and also the business performance of the Knorr-Bremse Group. Softening demand as a consequence of the temporary closure of customer operations in the second quarter is one of the main reasons for this. Knorr-Bremse responded swiftly with an extensive action program to safeguard the Company's stability in this challenging environment and protect our employees to the best of our ability.

In addition to taking out additional lines of credit in the amount of € 750 million to increase the Company's flexibility for operations, actions chiefly included initiatives to stabilize earnings and cash flows and safeguard delivery capability. These initiatives comprised, among others, temporary cost control measures such as use of short-time working allowances and similar arrangements in other countries, insofar as these were possible at the sites of the Knorr-Bremse Group. Furthermore, we took advantage of tax breaks involving advance tax payments. Over and above this, we continuously have been monitoring our supply chains and safeguarded them as necessary by temporarily supporting selected suppliers or by stockpiling. In October, we were able to repay an amount of € 250 million of the credit facilities drawn on from the € 750 million Covid-19 action program thanks to further stabilization of our business performance.

Extensive safeguards have been implemented for our employees worldwide, including site-specific hygiene concepts and the necessary organizational and infrastructural changes. These include a strict separation of teams in both production and administration, increased mobile working, and provision of protective equipment.

The protective measures were also retained during a slight easing in the third quarter 2020 and were consistently continued with the resurgence in the fourth quarter.

Changes to the Group's portfolio

On January 30, 2020 Knorr-Bremse signed a purchase agreement with Wabco Holdings Inc. for the acquisition of 100% of the shares of R.H. Sheppard Co., Inc. with effect as of June 1, 2020. The purchase price for Sheppard of €137.6 million was fully paid in cash as of December 31, 2020. Following the acquisition of the commercial vehicle steering business of Hitachi Automotive Systems in Japan during the past fiscal year, the acquisition of Sheppard is another step towards becoming a global provider of integrated steering and brake systems for commercial vehicles for Knorr-Bremse. R. H. Sheppard contributed revenues of € 52.0 million and negative EBIT of € 9.1 million to the Group in fiscal 2020.

With effect from October 26, 2020, as part of a strategic follow-on investment, Knorr-Bremse Systeme für Schienenfahrzeuge GmbH acquired a further 19.8% of the shares in Israeli startup company RailVision, Ra'anana/Israel for $ 10 million respectively € 8.5 million. As of December 31, 2020, the share of voting rights came to 36.8%. 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.

Bendix Commercial Vehicle Systems LLC acquired the remaining 20% of the shares in Bendix Spicer Foundation Brake LLC, Elyria, Ohio/USA from Dana Commercial Vehicle Products LLC with legal effect from October 1, 2020. The purchase price is € 43.0 million, of which € 17.9 million has already been paid in cash. The remainder of the purchase price will be paid in the second half of 2021. Bendix Spicer Foundation Brake LLC, was already fully consolidated in prior years because the Company held an 80% interest. Effective from December 31, 2020, Bendix Spicer Foundation Brake, LLC was merged into Bendix Commercial Vehicle Systems LLC.

Investment of € 150 million in a special fund

Knorr-Bremse invested cash and cash equivalents of € 150 million in a special fund in November 2020. Contractual agreements mean we are able to control the activities of the special fund and thus influence the level of return. The purpose of the fund investment is to have access to the special know-how and capabilities of an investment company in order to avoid negative interest rates and to invest excess liquidity strategically with the backing of a portfolio insurance concept.

Change in the composition of the Supervisory Board

At the Annual General Meeting on June 30, 2020, Heinz Hermann Thiele, Dr. Thomas Enders, and Dr. Theodor Weimer were elected as new members of the Supervisory Board of Knorr-Bremse AG. Mr. Thiele's consultancy agreement with Knorr-Bremse AG was terminated early without severance as of June 30, 2020. Dr. Wolfram Mörsdorf, Wolfgang Tölsner, and Georg Weiberg stepped down from the Supervisory Board of Knorr-Bremse AG at the end of the AGM. The new Supervisory Board members have been appointed for the remainder of the original term of office of the departing members, i.e., until the end of the 2021 AGM.

Change in leadership on the Executive Board

Ralph Heuwing voluntarily stepped down from the Executive Board of Knorr-Bremse AG with effect from April 30, 2020. Frank Markus Weber was appointed as a member of the Executive Board and the Group's new CFO with effect from July 1, 2020.

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), Bernd Eulitz, left the Company by mutual agreement as of August 31, 2020. The reason for Bernd Eulitz's resignation was a difference of opinion regarding leadership and the active shaping of strategic corporate development. On November 4, 2020, the Supervisory Board of Knorr-Bremse AG appointed Dr. Jan Michael Mrosik as Chairman of the Executive Board of Knorr-Bremse AG and board member with responsibility for labor relations, for a period of three years with effect from January 1, 2021.

Legal disputes and litigation

Bosch arbitration proceedings: In a letter dated June 21, 2018, Robert Bosch GmbH declared its intention to exercise its put option in respect of its minority shareholding in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and initiated arbitration proceedings with the aim of enforcing this put option. In December 2020, the arbitration tribunal issued an award that affirmed this put option. The parties must now agree the purchase price at which Knorr-Bremse AG will acquire the minority stake in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH. This was confirmed again in a decision made on March 9, 2021. The extension of the lawsuit by Robert Bosch GmbH involving a claim for damages due to refusal to consent to full distribution of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH's accumulated profit was rejected. The counterclaim brought by Knorr-Bremse AG, with which the Company sought to determine that the prohibition of competition also covered products in the area of driver assistance systems/automated driving functions, was also dismissed.

Investigations by the U.S. Department of Justice – On April 3, 2018, the U.S. Department of Justice, Antitrust Division ("DOJ") announced that it had reached an agreement with Knorr-Bremse AG and Westinghouse Air Brake Technologies Corporation ("Wabtec") concerning an allegation of unlawful agreements not to poach employees. Following the agreement reached with the DOJ, employees filed lawsuits against Knorr-Bremse AG, Wabtec and its subsidiaries. The aim of the class action lawsuits was to compensate employees for reduced payment on the basis of the alleged agreement between the parties above not to poach employees. On October 16, 2019, Knorr-Bremse AG reached a settlement agreement in which it agreed to pay plaintiffs $ 12 million to settle the class action. The payment was made to an escrow account at the court in the last week of March 2020. This settlement agreement was finally confirmed by way of a court ruling handed down on August 26, 2020.

Haldex AB's complaints to the European Commission and the Brazilian competition authority – On February 13, 2020, Haldex AB filed complaints with the European Commission and the Administrative Council of Economic Defense (CADE) in Brazil. The complaints relate to the allegation that Knorr-Bremse AG had breached the relevant antitrust and merger control laws in September 2016 by acquiring and holding a minority stake in Haldex AB. Knorr-Bremse's minority shareholding in Haldex AB currently stands at 9.24%. Knorr-Bremse is defending itself against the accusations. The European Commission is currently undertaking a preliminary examination of the allegations. It is expected to decide whether to open formal proceedings during the first half of 2021. On June 23, 2020, CADE Brazil decided to open formal proceedings in respect of a possible violation of the prohibition of implementation. The proceedings are still in the investigation phase. A decision on whether to discontinue or continue the proceedings before a separate body of CADE is expected in the first half of 2021. As both investigations are still at an early stage, no reliable statement can be made at this time about the probability of success or the possible consequences of an adverse outcome of the proceedings. The risk is currently assessed as fairly low.

Termination of long-term supply agreements by Robert Bosch GmbH – After Robert Bosch GmbH terminated various long-term supply agreements for a number of electronic components during ongoing price negotiations, which could lead to interruptions in supplies to customers of the Knorr-Bremse Group and thus to losses for the Knorr-Bremse Group due to production being halted and to associated liability risks, Knorr-Bremse initiated arbitration proceedings against Robert Bosch GmbH on March 13, 2020 in order to ensure continuation of supply. After commercial negotiations showed signs of a possible resolution to the dispute, they agreed in March 2021 to suspend the proceedings until July 31, 2021 to negotiate the possibilities of an out-of-court settlement.

Administrative proceedings in Brazil – On September 27, 2016, the Brazilian antitrust authority initiated administrative proceedings against the Group company Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda., Itupeva/Brazil ("KBB") and several of its competitors in Brazil. The allegations against KBB are limited to an allegedly unlawful exchange of information and do not involve antitrust behaviour. As the investigations are still at an early stage, no reliable statement can be made at this time about the probability of success or the possible consequences of an adverse outcome of the administrative proceedings. Knorr-Bremse currently considers the risk of any fine to be rather low.

Proceedings in Italy – The Italian law enforcement authorities sent notification in their letter of March 19, 2019 that the preliminary proceedings against Microelettrica Scientifica S.p.A., Buccinasco/Italy ("Microelettrica"), prior members of the administrative board of Microelettrica and a member of the management of three Russian Group companies in conjunction with commission payments to an agent due to deliveries to a Russian customer have been concluded, and that a complaint will be filed against Microelettrica due to an alleged violation of internal regulations to avoid corrupt activities by the aforementioned individuals. The court proceedings are still at a very early stage. Since Knorr-Bremse is of the opinion that Microelettrica took suitable preventive measures against corruption and therefore fulfilled Italian law, no provision was recognized as of December 31, 2020.

Dispute with Guo Tong Railway Vehicle Systems Equipment Co. Ltd., minority shareholder of Knorr-Bremse – Together with Guangzhou Guo Tong, Knorr-Bremse Asia Pacific (Holding) Limited has an equity interest in the company Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co. Ltd. which is fully consolidated in the consolidated financial statements. In December 2020, Guangzhou Guo Tong filed an action against various companies and a General Manager of the Knorr-Bremse Group. In the statement of claim, Guangzhou Gou Tong particularly refers to lost profit on account of an alleged production and project transfer to other Knorr-Bremse companies as well as to adjustments to the structure of transfer prices. In connection with this action filed, in February 2021 Guangzhou Guo Tong obtained a court order to freeze the accounts of Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd.; the accounts had a credit balance of € 14.8 million as of the preparation date. Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd. has brought an appeal against the order. Should this action be granted, the Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co. Ltd. would receive cash and cash equivalents to the extent of the award. This might lead to an additional dividend payout to both shareholders. However, since no ruling has been handed down to date and because no concrete dividend claim by the shareholders exists, neither a provision nor a liability was recognized in the annual financial statements in relation to minority interests as at December 31, 2020. The probability of an outflow of cash and cash equivalents to Knorr-Bremse Guo Tong Railway Cehicle Systems Equipment Co. Ltd. is considered remote on the part of Knorr-Bremse. Moreover, dividend resolutions cannot be adopted without the approval of Knorr-Bremse.

Business Performance

As a rule, the charts and tables in this management report show IFRS figures. EBITDA is defined as income (loss) before interest, other financial result, income taxes, depreciation, amortization, and impairment losses; EBIT refers to earnings before interest, other financial result, and income taxes (see section entitled "Control System").

Financial performance

Despite difficult market conditions due to Covid-19 and associated temporary closures of our customers' manufacturing facilities in the second quarter, **incoming orders** in the Group amounted to € 6,441.8 million but were unable to reach the previous year's record level of € 7,065.9 million (-8.8%). This was due to declining demand in both the rail vehicle and the commercial vehicle markets. The **book-to-bill ratio**, representing the ratio of incoming orders to revenues, came to 1.05 in fiscal 2020 (2019: 1.02), representing a solid basis for the likewise challenging 2021. As at December 31, 2020, the **order book** amounted to € 4,977.0 million (2019: € 4,692.0 million) and grew to a new record level due to the good order situation at the end of 2019 and high order intake in the fourth quarter of 2020. This results in a forward order book[8] of 9.7 months. **Consolidated revenues** fell by -11.2% to € 6,156.7 million in the reporting year compared to the record revenues of the previous year (€ 6,936.5 million), there-

[8]) The order book is calculated in months by dividing the order book by annualized revenues multiplied by a factor of 12.

by meeting the forecast of € 5,900 to 6,200 million provided in the 2020 half-year report. Currency-adjusted to actual rates in 2019, the decrease in revenues amounted to -9.6%. Table → 2.16

Both divisions saw decreases in revenue in fiscal 2020. The Rail Vehicle Systems division was down -8.7% on the previous year and the Commercial Vehicle Systems division was down -14.0%. The decrease in revenues was attributable to all regions except Asia/Pacific. Table → 2.17

A more robust trend in aftermarket revenues than for OE revenues in both divisions led to an increase in the aftermarket share of total revenues from 34.3% to 36.6% (breakdown based on management reporting).

2.16 Group key indicators

in € million	2020	2019
Incoming orders	6,441.8	7,065.9
Order book	4,977.0	4,692.0
Revenues	6,156.7	6,936.5
EBITDA	1,106.9	1,328.7
EBIT	814.0	1,062.9
EBT	750.6	907.1
Net income	532.2	632.0
Capital expenditure (before IFRS 16 and acquisitions)	341.7	331.8[1]
Depreciation, amortization and impairments	292.9	265.8
R&D costs	396.4	396.9
Employees (as of Dec. 31, incl. temp. staff)	29,714	28,905

[1]) Adjusted for Munich headquarters "north sector" SLB (€ 33.2 million)

In the **Europe/Africa** region, revenues fell – particularly due to significant losses in the OE business in both divisions – by -12.7% to € 2,792.3 million (2019: € 3,198.0 million), which is equivalent to 45% (2019: 46%). The **North America region** contributed € 1,261.3 million (2019: € 1,642.5 million) or 21% (2019: 24%) to consolidated revenues. The significant decrease in revenues (-23.2%) resulted primarily from lower OE revenues in the Commercial Vehicle Systems division. In the **South America** region, revenues fell by -27.6% to € 75.8 million (2019: € 104.7 million), which is equivalent to an share of 1% (2019: 2%). In **Asia/Pacific**, by contrast, revenues increased by 1.8% to € 2,027.3 million (2019: € 1,991.3 million), which now represents 33% of consolidated revenues (2019: 29%); this was driven primarily by the Chinese OE commercial vehicle business. Table → 2.18

The **cost of materials** was € 2,961.1 million (2019: € 3,428.6 million). It fell year-on-year by 13.6% and thus more sharply than revenues. At 48.1%, the **cost of materials ratio** is significantly lower than in the previous year (2019: 49.4%), mainly due to an improved revenue mix and efficiency improvements. By contrast, the **personnel expenses ratio** increased year-on-year to 24.8% of revenues (2019: 23.0%). This is mainly due to the disproportionate decrease in revenues. In absolute terms, by contrast, personnel expenses fell by -4.3% to € 1,525.5 million (2019: € 1,593.8 million). Net **other operating expenses and income** fell by -5.5% to € 628.0 million (2019: € 664.5 million), which is partly due to Covid-19 related savings in the form of reduced expenses, such as travel and administration costs.

Research and development (R&D) spending in 2020 was € 396.4 million and is thus almost (-0.1%) at the previous year's level (2019: € 396.9 million), underscoring the Group's long-term growth and innovation priorities. Relative to revenues, the R&D ratio rose to 6.4% compared to 5.7% in the previous year.

Reported **EBITDA** in 2020 fell by -16.7% and reached € 1,106.9 million (2019: € 1,328.7 million). If exchange rates had remained unchanged (from actual rates in 2019), EBITDA would decreased by -15.0%. The reported **EBITDA margin**

2.17 Divisional key indicators

	Rail Vehicle Systems		Commercial Vehicle Systems	
in € million	2020	2019	2020	2019
Revenues	3,336.8	3,656.1	2,819.4	3,280.2
EBITDA margin (as % of revenues)	22.9%	22.3%	13.5%	15.4%
Operating EBITDA margin (as % of revenues)	22.9%	22.3%	13.5%	16.0%
EBIT margin (as % of revenues)	19.1%	19.1%	8.3%	11.4%
Operating EBIT margin (as % of revenues)	19.1%	19.1%	8.3%	12.3%

was 18.0% (2019: 19.2%) and was the same amount as the operating EBITDA margin in fiscal 2020, which was also below the previous year's level. In 2019, this amounted to 18.8% and was adjusted for the Wülfrath restructuring expenses (€ 19.5 million) and the book profit realized on the SLB transaction of € 45.1 million.

EBIT also decreased by € -248.9 million or -23.4% to € 814.0 million. At 13.2%, the reported EBIT margin was below the prior-year level of 15.3%. The operating EBIT margin, which was also 13.2%, was below the prior-year level of 15.1% (adjusted for Wülfrath restructuring expenses of € 29.7 million and for the book profit on the sale-leaseback transaction of € 45.1 million).

The **Rail Vehicle Systems** division contributed € 764.2 million to EBITDA, corresponding to an EBITDA margin of 22.9% (2019: 22.3%). The **Commercial Vehicle Systems** division generated operating EBITDA of € 381.2 million, representing an operating EBITDA margin of 13.5% (2019: 16.0%). Including consolidation adjustments, an EBITDA figure of € -38.5 million is attributable to "Other" business (2019: € 10.1 million). The previous year included the book profit realized on the sale-and-leaseback transaction.

The **number of employees** (including temporary staff) rose by 809, from 28,905 on December 31, 2019, to 29,714 on December 31, 2020. On average, the Group employed 29,004 people in the 2020 fiscal year (2019: 29,422). The main reason for this increase compared with December 31, 2019 was the acquisition of R. H. Sheppard with 677 employees.

The overall negative **financial result** improved by € 92.4 million year-on-year in fiscal 2020 to € 63.4 million (2019: € 155.8 million). The high prior-year level was particularly shaped by the sale of the Powertech Group.

The Knorr-Bremse Group's **income before taxes** also declined by -17.3% to € 750.6 million in 2020 (2019: € 907.1 million).

The **tax rate** decreased to 29.1% in fiscal 2020 compared with 30.3% in the previous year. The previous year was influenced by non-tax-deductible expenses resulting from the Powertech sale and the expenses incurred by the Wülfrath plant closure.

This resulted in **earnings after taxes** of € 532.2 million or 8.6% of revenues in the 2020 fiscal year, compared with 2019, in which the figure was € 632.0 million or 9.1% of revenues. As a result of the sale-and-lease-back transaction at the Munich site, book profit of € 45.1 million was realized in the previous year. After deduction of non-controlling interests, earnings per share reached € 3.07 (2019: € 3.65).

Our **proposed dividend** for the 2020 fiscal year comes to € 1.52 per share. The payout ratio of 46% of consolidated net earnings after taxes (2019: 46%) thus falls into the 40 to 50% range defined by our dividend policy. Knorr-Bremse AG's remaining unappropriated retained earnings, totaling € 311.8 million (2019: € 171.6 million), will be carried forward.

Segment report for divisions

Rail Vehicle Systems Division

Incoming orders for the Rail Vehicle Systems division decreased by -13.2% year-on-year from € 4,016.7 million to € 3,485.1 million. The decrease resulted from all regions. Decreasing demand had a substantial impact in the Asia/Pacific

2.18 Consolidated revenues by Group company location

in € million	2020	2019
Europe/Africa	2,792.3	3,198.0
North America	1,261.3	1,642.5
South America	75.8	104.7
Asia-Pacific	2,027.3	1,991.3
Total	**6,156.7**	**6,936.5**

2.19 Rail Vehicle Systems Division key indicators

in € million	2020	2019
Incoming orders	3,485.1	4,016.7
Order book (Dec. 31)	3,721.4	3,573.0
Revenues	3,336.8	3,656.1
EBITDA	764.2	814.9
EBITDA margin (as % of revenues)	22.9%	22.3%
Operating EBITDA margin (as % of revenues)	22.9%	22.3%
EBIT	636.6	696.7
EBIT margin (as % of revenues)	19.1%	19.1%
Operating EBIT margin (as % of revenues)	19.1%	19.1%
Capital expenditure (before IFRS 16 and acquisitions)	109.0	120.9[1]
Depreciation, amortization and impairments	127.7	118.2
R&D costs	202.6	210.0
Employees (as of Dec. 31, incl. temporary staff)	16,074	16,094

[1]) Adjusted for Munich headquarters "north sector" SLB (€ 33.2 million)

region in particular, especially in business in India. By contrast, the order book, which stood at € 3,721.4 million as of December 31, 2020, was up on the prior-year level of € 3,573.0 million, driven mainly by the positive order situation, especially in the second half of the year. Table → 2.19

The Rail Vehicle Systems division saw a decrease in **revenues** of -8.7% to € 3,336.8 million (2019: € 3,656.1 million), primarily due to Covid-19; contrary to the forecast of a significant decline, it was down only moderately year-on-year and therefore better than forecast. Of this, OE business accounted for around 55% of revenues (2019: 58%) and aftermarket business accounted for 45% of revenues (2019: 42%). The revenue trend was primarily due to decreased OE volume in all regions. This was mainly attributable to mass transit (light rail vehicles and metro cars) in the Europe region and to the freight business in the North America region. The Asia/Pacific region also saw a decrease in revenues in the high-speed trains and locomotives business that could not be compensated by higher revenues than the previous year in the metro business, particularly in China.

The Rail Vehicle Systems division's absolute **EBITDA** fell by -6.2% to € 764.2 million (2019: € 814.9 million) due to volume factors. As a result of high-margin earnings contributions from the aftermarket business (service business) and effects from the Covid-19 action program, it was, by contrast, possible to achieve a moderately higher EBITDA margin on sales revenues of 22.9% compared to the previous year's level of 22.3%. The margins achieved exceeded both the forecast of a significant decline made in the 2019 Annual Report and the adjusted forecast of a slight decline made in the half-year financial report.

The Rail Vehicle Systems division's **EBIT** also fell by -8.6% to € 636.6 million in 2020 (2019: € 696.7 million), mainly due to volume factors. The EBIT margin of 19.1% of sales revenues confirmed the previous year's level (19.1%).

The Rail Vehicle Systems division's **capital expenditure** of € 109.0 million in 2020 (2019: € 120.9 million) focused primarily on capacity expansion of high-growth product groups, automation and, additionally, replacement and expansion projects. Capital spending of € 33.2 million at the Munich site in the previous year as part of the "north sector" sale-and-lease- back transaction (SLB) was deducted from capital expenditure in 2019 as a result of the sale and consequently eliminated. At € 127.7 million, **depreciation and amortization** was moderately up on the previous year (2019: € 118.2 million).

R&D costs in 2020 came to € 202.6 million, representing a € -7.4 million or -3.5% decrease on the previous year (2019: € 210.0 million). In contrast, the R&D ratio was higher than in the previous year at 6.1% due to the disproportionate decrease in revenue (2019: 5.7%). Development activities concentrated on solutions for increasing transportation capacity, eco-friendliness, availability, life-cycle management and digitalization.

As of December 31, 2020, the Rail Vehicle Systems division had 16,074 **employees** and was thus almost (-0.1%) at the prior-year level of 16,094 employees (including temporary staff).

2.20 Commercial Vehicle Systems Division key indicators

in € million	2020	2019
Incoming orders	2,954.2	3,050.7
Order book (Dec. 31)	1,269.0	1,134.2
Revenues	2,819.4	3,280.2
EBITDA	381.2	503.7
EBITDA margin (as % of revenues)	13.5%	15.4%
Operating EBITDA margin (as % of revenues)	13.5%	16.0%
EBIT	235.1	373.8
EBIT margin (as % of revenues)	8.3%	11.4%
Operating EBIT margin (as % of revenues)	8.3%	12.3%
Capital expenditure (before IFRS 16 and acquisitions)	210.1	179.2
Depreciation and amortization	146.1	129.9
R&D costs	194.0	187.0
Employees (as of Dec. 31, incl. temporary staff)	12,871	12,084

Commercial Vehicle Systems Division

The Commercial Vehicle Systems division recorded a -3.2% decline in **incoming orders** to € 2,954.2 million (2019: € 3,050.7 million) in fiscal 2020. Adjusted for currency and acquisition effects, the decline amounted to -2.7%. This change is due to Europe and North and South America. On the other hand, there was significant growth year-on-year in the Asia/Pacific region, particularly in China. The positive demand in the second half of 2020 is also reflected in the **order book**, which increased by 11.9% year-on-year to € 1,269.0 million as of December 31, 2020 (2019: € 1,134.2 million). Table → 2.20

Revenues fell by -14.0% to € 2,819.4 million (2019: € 3,280.2 million). This decrease was attributable to a decline in truck production worldwide and the related significant decrease in revenue in the OE business, particularly in North America and Europe, which could not be offset by the Asia/Pacific region. OE customers' share of the division's total revenues fell by 1.4 percentage points year-on-year. This fall plus robust aftermarket revenues resulted in a higher aftermarket share of total revenues of 27.1% (2019: 25.7%). The acquisition of R.H. Sheppard made during the fiscal year added a further € 52.0 million to total revenues in the Commercial Vehicle Systems division. Adjusted for currency and acquisition effects, revenues were down -14.0% on the previous year. As forecast, the division's performance was thus significantly down on the previous year.

In absolute terms, due to lower volumes, **EBITDA** fell by -24.3% year-on-year to € 381.2 million with a reported EBITDA margin of 13.5% of revenues compared with 15.4% in the previous year. The acquisition of R. H. Sheppard contributed negative EBITDA of € -1.7 million in 2020. The operating EBITDA margin in the previous year, i.e. adjusted for Wülfrath restructuring expenses, was, by contrast, 16.0%. The margin generated in the 2020 fiscal year was significantly down on the prior-year level and thus in line with the forecast. Also with respect to **EBIT**, the Commercial Vehicle Systems division saw a decline of € -138.7 million or -37.1% to € 235.1 million in 2020 (2019: € 373.8 million). This in turn caused the reported EBIT margin to decline by 310 basis points to 8.3% (compared with 11.4% in 2019), so that the operating EBIT margin fell by 400 basis points (2019: 12.3%). This is due not only to the decrease in volume but also to increased depreciation and amortization partly as a result of increased investing activities. In fiscal 2020, R. H. Sheppard made a negative contribution of € -9.1 million to EBIT.

In 2019, the Commercial Vehicle Systems division's **capital expenditure** increased by € 30.8 million year-on-year to € 210.1 million. As in the previous year, major investments were made in the global provision of supplier tools. The year-on-year increase is primarily due to the expansion of manufacturing capacity at our North American site in Bowling Green and to the steering systems business in Thailand. In addition, investments were made in connection with our GSBC product platform and for the integration of R. H. Sheppard. **Depreciation and amortization** in the Commercial Vehicles Systems division increased by € 16.2 million year-on-year to € 146.1 million mainly as a result of increased investing activities (2019: € 129.9 million).

The division's **R&D costs** rose to € 194.0 million in the 2020 fiscal year (2019: € 187.0 million), partly as a result of intensified ADAS/HAD and steering development activity. The resulting R&D ratio also increased from 5.7% in the previous year to 6.9% in 2020. Research and development activities focused on the megatrends of road safety, automated driving, emission reduction, e-mobility and connectivity.

As at December 31, 2020, the Commercial Vehicle Systems division had 12,871 **employees** (2019: 12,084), that is 787 more employees (6.5%) than on December 31, 2019. This is primarily due to the acquisition of R. H. Sheppard with 677 employees.

Financial Position (Financial Development)

Financial and liquidity management

Our centralized financial and liquidity management system aims to fulfill two key objectives: the optimization of earnings and costs, and the reduction of financial risks. In addition, it makes the Group's financing and liquidity requirements more transparent. In our liquidity management, we adhere to the principle of always maintaining sufficient liquid funds to be able to meet our payment obligations at all times, while also being in a position to act whenever M&A opportunities arise.

Our most important source of finance is cash flow from operating activities. As a rule, external funds are raised by Knorr-Bremse AG – or, where required by financial law, by our respective holding companies in Asia and North America – and made available to Group companies as required. Liquidity management is also the responsibility of Knorr-Bremse AG and our respective holding companies in Asia and North America. Among other things, the latter organize a cash pooling system that – as far as legally possible – manages all the Group's cash and cash equivalents. Companies in countries with legal restrictions on the movement of capital (such as China, India and Brazil) finance themselves largely from local resources.

The investment of excess liquidity is governed by a Financial Asset Management policy and is the responsibility of the Corporate Finance & Treasury department. Our partners are exclusively banks and financial service providers with an investment-grade rating. At € 2,277.0 million, cash and cash equivalents at the end of 2020 were up 21.1% on the previous year's figure of € 1,880.7 million. This means that they accounted for 30.8% of total assets compared with 27.5% at the previous year's reporting date.

We strengthen our internal financing power and funds tied up in working capital by applying systematic net working capital management, including liquidity-optimizing instruments such as a Supplier Early Payment Program (SEPP) and factoring. This benefits key indicators such as our balance sheet structure and ROCE. Information on our utilization of financial instruments can be found in the Risk Report, in the section entitled "Currency, Interest Rate, Liquidity, Commodity Price and Credit Risks, and Financial Instruments for Minimizing Risks".

2.21 Financial liabilities (Dec. 31)

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Derivative financial instruments	(12,794)	(26,377)
Liabilities towards credit institutions	(604,567)	(196,713)
Bonds and debt instruments	(1,250,526)	(1,249,013)
Liabilities resulting from options on minority interests	(379,616)	(379,616)
Purchase price liabilities	(58,860)	(44,990)
Lease liabilities	(387,221)	(377,293)
Other financial liabilities	(283,346)	(259,755)
	(2,976,930)	**(2,533,757)**
thereof:		
Current	(1,818,194)	(875,567)
Non-current	(1,158,737)	(1,658,190)

Knorr-Bremse Group’s financing structure

Following the issue of a € 500 million corporate bond in December 2016 (maturing in December 2021), in June 2018 we issued a € 750 million bond with an annual coupon of 1.125% and a 7-year term. Rating agency Moody’s has given this bond an A2 rating. The bond is being used to finance the Knorr-Bremse Group’s growth while simultaneously optimizing our financing structure between equity and debt. The existing Debt Issuance Program (DIP) was updated in September 2020 and increased to € 3,000 million.

The DIP increases our room for maneuver, allowing us to respond quickly and adequately to the Covid-19 pandemic. At the same time, we are proactively increasing the Group’s flexibility in order to also take advantage of growth opportunities.

2.22 Abbreviated cash flow statement

in € thousand	2020	2019
Consolidated net income (including minority interests)	532,171	632,018
Adjustments for		
Depreciation, amortization and impairment losses on intangible assets and property, plant and equipment	292,897	265,780
Change of impairment on inventories	6,596	(3,105)
Reversal of impairment on trade accounts receivable	7,458	6,868
Gain on the sale of consolidated companies and other business units	111	81,885
(Gain)/loss on the sale of property, plant, and equipment	5,868	(44,032)
Reversing, adding to, and discounting provisions	145,411	186,819
Non-cash changes in the measurement of derivatives	7,992	14,619
Other non-cash expenses and income	8,237	56,185
Interest result	35,519	23,461
Investment result	(1,972)	2,236
Income tax expense	218,392	275,099
Income tax payments	(143,526)	(224,181)
Changes of		
inventories, trade accounts receivable and other assets which cannot be allocated to investment or financing activities	(25,570)	(57,865)
trade accounts payable as well as other liabilities which cannot be allocated to investing or financing activities	98,124	(53,584)
Utilization of provisions	(151,720)	(176,411)
Cash flow from operating activities	**1,035,988**	**985,791**
Cash flow from investing activities	**(576,395)**	**(353,816)**
Cash flow from financing activities	**(10,367)**	**(505,167)**
Cash flow changes	**449,226**	**126,809**
Change in cash funds resulting from exchange rate and valuation-related movements	(61,967)	8,558
Change in cash funds resulting from changes to the group structure	–	(596)
Change in cash funds	**387,259**	**134,771**
Free cash flow	**687,301**	**860,577**

In addition, we increased our financial leeways a result of the credit facilities drawn in connection with the Covid-19 action program. The effect was a significant rise in liabilities to banks. Table → 2.21

Cash flow

Cash flow from operating activities

The cash inflow from operating activities increased by € 50.2 million in 2020 compared with the previous year, to € 1,036.0 million. Compared with the previous year, net income fell by € 99.8 million to € 532.2 million, mainly due to the Covid-19 pandemic. Depreciation and amortization were up by € 27.1 million on the previous year, rising to € 292.9 million. Losses on the sale of consolidated companies and other business units declined by € 81.8 million. In the previous year, the sale of the Powertech Group had had a significant impact. The loss from the retirement of non-current assets, amounting to € 5.9 million, led to a year-on-year change of € 49.9 million. In the previous year, the book profits on a sale-und-lease-back transaction had been recognized in an amount of € 45.1 million. The reduction in other non-cash expenses and income by a total of € 47.9 million had an offsetting effect. Income tax payments were down by € 80.7 million year-on-year. This is mainly attributable to reduced advance tax payments due to Covid-19 as well as to tax refunds. The income tax expense was down by € 56.7 million year-on-year in line with the decline in pre-tax earnings throughout the Group. Inventories, trade receivables and other assets decreased by € 32.3 million compared with the previous year. Trade accounts payable and other liabilities increased by € 151.7 million. This is also reflected in the net working capital which decreased by a total of € 62.7 million to € 746.4 million (2019: € 809.1 million). As a result of the disproportionate decrease in revenues, there was, however, an increase in the commitment in days' sales by 1.6 days to 43.6 days (2019: 42.0 days). Table → 2.22

Cash Flow from investing activities

In fiscal 2020, cash outflow from investing activities rose by € 222.6 million to € -576.4 million. The main reason for the significant increase is the reduced cash inflows from the sale of property, plant and equipment, which fell by € -178.9 million to € 12.9 million as a result of the cash inflows in connection with the SLB transaction at the Munich site in the previous year. During the 2020 fiscal year, there was no transaction comparable to this cash inflow. Furthermore, the cash flow from investing activities comprises the cash outflow of € 123.2 million for the acquisition of consolidated companies, which was largely due to the acquisition of R.H. Sheppard as well as investments in financial assets made in the fiscal year amounting to € 106.6 million. This largely concerns the share already invested in the acquired special fund. The cash outflow resulting from the disposal of consolidated companies in the year under review decreased by € 20.1 million to € 8.9 million due to the sale of the Powertech Group in 2019. Cash outflows for capital expenditure on property, plant and equipment increased by € 21.1 million to € 241.3 million, whereas cash outflows for investments in intangible assets increased by € 22.4 million to € 120.3 million.

Cash Flow from financing activities

In the 2020 fiscal year, there was a cash outflow from financing activities in the amount of € 10.4 million, which represents a € 494.8 million lower cash outflow compared to the previous year. The cash from financing activities results partly from dividends of € 290.2 million paid to shareholders of the parent company, representing an € 8.1 million increase year-on-year. In addition, it also results from dividends paid out to minority shareholders totaling € 48.4 million (2019: € 55.1 million) and cash outflows for leasing liabilities in the amount of € 62.3 million – a year-on-year increase of € 8.8 million. The key drivers of the lower cash flow from financing activities are the cash inflow from borrowing € 799.9 million to increase our financial leeway as part of the Covid-19 action program and offsetting disbursements already made for the repayment of loans of € 399.3 million. These include not only the repayments of the credit facilities drawn but also the European Investment Bank's loan of € 100 million, which was repaid as scheduled. In addition, there were payments of € 17.9 million for the acquisition of non-controlling interests. They include the part of the purchase price already paid for the acquisition of the remaining 20% of the shares in Bendix Spicer Foundation Brake LLC from Dana Commercial Vehicle Products LLC.

Free cash flow

Free cash flow[9] in 2020 was € 687.3 million and was thus € 173.3 million lower than the previous year's level of € 860.6 million. This decrease was due, despite increased cash flow from operating activities, not only to higher capital expenditure but particularly to the absence of the payment received in the previous year in connection with the SLB transaction.

[9]) Free cash flow is calculated by deducting payments for investments in property, plant and equipment and intangible assets from the cash flow from operating activities, and by adding proceeds from the sale of property, plant and equipment and intangible assets to the cash flow from operating activities.

Liquidity

The increase in cash and cash equivalents to € 2,240.7 million (2019: € 1,853.5 million) was primarily the result of the positive balance of cash inflow from operating activities (€ 1,036.0 million), cash outflow from investing activities (€ 576.4 million) and cash outflow from financing activities (€ 10.4 million). **The net cash balance**[10] increased from € 57.7 million in the previous year to € 102.8 million in 2020. Table → 2.23

The ratio of the Group's net cash balance to equity is 5.3% (previous year: 3.0%). This is primarily due to the € 45.1 million increase in the net cash balance due to, among other factors, the improvement in net working capital and the fact that equity increased only slightly by € 20.1 million. The Group has access to approved credit facilities totaling € 2,336.6 million (thereof € 150 million in medium-term facilities), of which € 1,216.2 million remained undrawn as at the end of the fiscal year. Interest rates on liabilities conform with prevailing market terms, according to maturity. In fiscal 2020, the € 100 million loan was repaid to the European Investment Bank.

At year-end 2020, the undiscounted maximum level of liability for loan guarantees/sureties and contract-performance guarantees/sureties for third-party services totaled € 19.9 million (2019: € 20.7 million). Other financial obligations included rental and leasing obligations (€ 134.9 million). They also include financial obligations for capital expenditure projects (€ 47.1 million), liabilities associated with major maintenance and repair work (€ 5.6 million) and other liabilities (€ 70.6 million.). The other liabilities item includes loan commitments and bank guarantees. For further details, see also Sections H.7 and H.8 of the Notes to the consolidated financial statements.

With our ability to generate cash flows from operating activities, our cash and cash equivalents, undrawn credit facilities, and the credit ratings we were given at year-end, we are confident that we have sufficient flexibility to cover our capital requirements for achieving sustainable organic growth and making strategic acquisitions.

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 at-

2.23 Cash funds (Dec. 31)

in € million	2020	2019
Cash and cash equivalents (Jan. 1)	1,853.5	1,718.7
Cash flow from operating activities	1,036.0	985.8
Cash flow from investing activities	(576.4)	(353.8)
Cash flow from financing activities	(10.4)	(505.2)
Other	(62.0)	8.0
Cash funds (Dec. 31)	**2,240.7**	**1,853.5**

2.24 Balance sheet ratios

in € million	2020	2019
Net cash balance (Dec. 31)	102.8	57.7
Net debt to EBITDA	0	0
Gearing (Dec. 31)*)	0	0
Net working capital (NWC) (Dec. 31)	746.4	809.1
Net working capital in days' sales	43.6	42.0
Turnover rate – inventories**)	7.3	8.5
Receivables/days' sales outstanding***)	66.7	59.6
Equity ratio (Dec. 31)	26.0%	27.8%
Total assets (Dec. 31)	**7,390.0**	**6,846.8**

*) Gearing: Indicates the ratio of net financial debt to equity.
**) Turnover rate – inventories: The turnover rate of inventories indicates how often they are turned over. It is calculated by dividing annualized sales reve-nues by inventories.
***) Days' sales outstanding refers to the average number of days that elapse between the invoicing date and the settlement date (receipt of payment).

2.25 Equity

in € million	2020	2019
Subscribed capital	161.2	161.2
Other equity	1,669.5	1,623.2
Equity attributable to the shareholders	**1,830.7**	**1,784.4**
Non-controlling shares	91.0	117.1
Total equity	**1,921.7**	**1,901.5**

[10]) This is the result of offsetting (netting) cash and cash equivalents against bank loans, bonds, notes and leasing liabilities.

tests 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 Group as "A2" but changed the outlook from "stable" to "negative" in May 2020. Both rating agencies 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 underscored the Knorr-Bremse Group's substantial growth through acquisitions and establishing joint ventures.

Assets and capital structure

The Group's **total assets** rose by 7.9% to € 7,390.0 million (December 31, 2019: € 6,846.8 million), mainly due to the balance sheet expansion as a result of the credit facilities drawn in connection with the Covid-19 action program. In addition, acquisitions, as described under "Changes to the Group's Portfolio," as well as investments as described in the divisions' reporting, contributed to this. As at year-end 2020, committed assets represented 120.0% of revenues. Table → 2.24

Net working capital, defined as the sum of inventories, trade accounts receivable and contractual assets less trade accounts payable and contractual liabilities, stood at € 746.4 million at year-end (2019: € 809.1 million). Measured in terms of days' sales, this corresponds to a commitment of 43.6 days (2019: 42.0 days).

As of December 31, 2020, the Knorr-Bremse Group had an **equity ratio** of 26.0%. The decrease compared to December 31, 2019 (27.8%), despite equity slightly increasing by € 20.1 million to € 1,921.7 million (2019: € 1,901.5 million), resulted from higher total assets particularly due to increased current financial liabilities in connection with the Covid-19 action program. Table → 2.25, Chart → 2.26

Capital expenditure

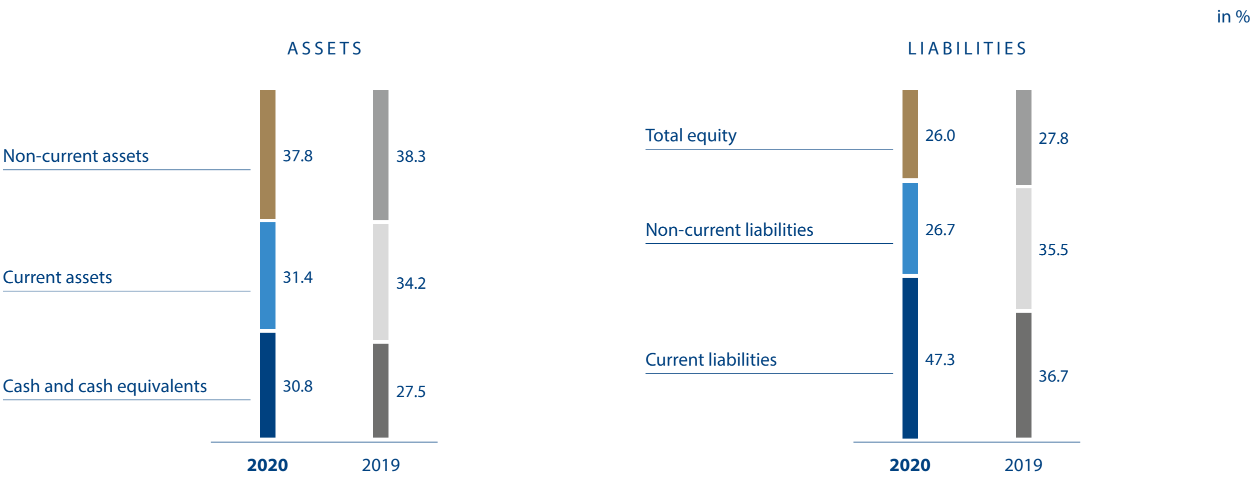
The Knorr-Bremse Group's capital expenditure on property, plant and equipment and intangible assets reflected the Group's growth and innovation priorities. **Capital expenditure** reached € 341.7 million in fiscal 2020, representing 5.6% of revenues (2019: 4.8%). Major investments were made in forward-looking research and development projects as well as in intangible assets and property, plant and equipment. Investments were made in connection with, among other things, automated driving solutions, the further development of the steering systems business and electrification. Capital spending of € 33.2 million at the Munich site in 2019 as part of the "north sector" sale-and-lease-back transaction (SLB) was deducted from capital expenditure for 2019 as a result of the sale and consequently eliminated. Table → 2.27

2.27 Capital expenditure, depreciation and amortization

in € million	2020	2019
Capital expenditure on property, plant and equipment	241.3	233.9[1]
Investments in intangible assets	100.4	97.9
Depreciation and amortization	292.9	265.8

[1] Adjusted for Munich SLB (€ 33.2 million); capital expenditure before IFRS 16 and acquisitions

2.26 Assets and capital structure



Supplementary Report

Dr. Jan Michael Mrosik took up his post as Chairman of the Executive Board of Knorr-Bremse AG and Member of the Executive Board responsible for labor relations as Labor Director within the meaning of Section 33 of the German Codetermination Act (MitbestG) on January 1, 2021.

On February 1, 2021, we were able to repay another amount of € 150 million of our drawn credit facilities from the € 750 million Covid-19 action program thanks to further stabilization of our business performance.

Heinz Hermann Thiele, who for many years was the Chairman of the Executive Board, Chairman of the Supervisory Board, and majority shareholder, passed away on February 23, 2021. The election of the members of the Supervisory Board is scheduled to be held at the Annual General Meeting of Knorr-Bremse AG, and the vacancy left by Mr. Thiele's passing will then be filled. His decease has no impacts on the consolidated financial statements of Knorr-Bremse AG as at December 31, 2020.

On March 12, 2021, Knorr-Bremse signed a purchase agreement for the acquisition of a German company and business activities in North America. The deal is expected to be closed in the second quarter of the current year. The completion date has not yet been finalized because it also depends on closing conditions that cannot be influenced by the contracting parties alone. The purchase price is in the high double-digit million euro range. The acquisition will serve to ensure future growth and expand the product and service portfolio in the Rail Vehicle Systems division.

Further details are available in Section H.2 Events after the reporting date of the Notes to the consolidated financial statements.

Report on Risks, Opportunities and Expected Developments

Report on Risks and Opportunities

Risk Management System

Principles and objectives

As an international corporate group with a global presence, Knorr-Bremse encounters both risks and opportunities in the course of its entrepreneurial activities. The goal of risk management is to identify risks across the Group and minimize their potential consequences on the Group's anticipated financial performance and position. The system should likewise identify and leverage opportunities to boost stakeholder value in the long term. The focus is on early, systematic identification and analysis of potential risks and opportunities in order to provide sufficient scope for effective risk management, including the timely introduction of suitable countermeasures. The basis for this is a transparent, systematic risk reporting system that covers all business processes.

We always carefully evaluate opportunities and risks in all our business activities. For this reason, Knorr-Bremse encourages all employees to proactively report risks and requires them to deal with risks in a responsible manner. In addition to regular reporting periods, an internal ad-hoc reporting process enables risks of major significance to be identified at an early juncture and managed as rapidly as possible.

The risk management system established in the Group is subject to continuous further development, including adjustments to internal and external requirements. In 2020, as well as continuous benchmarking comparisons, this particularly includes preparation to meet the requirements from the new regulations of auditing standards 340 of the Institut der Wirtschaftsprüfer (IDW), which will be implemented from fiscal 2021. That is why we subjected ourselves to a readiness check in 2020 with the support of an independent auditor. The findings and the associated improvement implementation plan were reported to the Executive Board and the Audit Committee.

Organization and process

Our risk management structures and procedures are aligned with our overall organizational structure and anchored in a corporate policy that includes clear definitions of responsibilities and reporting structures. Under the direction of Corporate Controlling, our analysis of potential risks is conducted quarterly in the form of a worldwide bottom-up risk inventory covering all Group companies. Sites report potential risks in quantified form to regional managers, who in turn pass on the aggregated data to divisional managers. An essential component of regular risk reporting is a summary group risk report. This is presented to the Knorr-Bremse Group's Executive Board at quarterly intervals and explained at the relevant Executive Board meeting. The Supervisory Board conducts an in-depth review of the risk report at least once a year and also on an ad-hoc basis if necessary.

The identified risks are assigned to one of 14 specific risk categories that are aligned with the Company's value chain. In all, the risk management process comprises six stages, from identification through evaluation, mitigation and aggregation to reporting and monitoring. The identified risks are evaluated in terms of their impact on earnings and probability of occurrence. The priority is to present the risk portfolio transparently, together with an appraisal of effective risk limitation measures. Those responsible for risk management provide quantitative and qualitative assessments of these measures in their reports. Possible measures include the avoidance, reduction, transfer or acceptance of the respective risk.

As part of this process, operational risk mitigation measures designed to reduce any potential losses are considered, which gives a net risk value before probability of occurrence and before balance sheet risk provision. Factoring in the probability of occurrence results in an expected value for each risk's potential impact on earnings. This is classified as follows, according to the risk's materiality to the Group:

- Very low (≤ € 5 million)
- Low (> € 5 million to ≤ € 15 million)
- Medium (> € 15 million to ≤ € 40 million)
- High (> € 40 million)

For the purpose of accounting risk provisioning in the balance sheet, appropriate provisions and loss allowances must be recognized in the annual financial statements in compliance with accounting regulations. In the subsequent risk aggregation phase, the individual risks are aggregated based on identity of cause and allowing for possible interdependencies. Furthermore, in consultation with the divisions and those responsible for risk management, the Risk Management function performs a plausibility check on the net risk calculation and validates compliance with guidelines.

In addition to the quantified risks described above, risk management also assesses qualitative, abstract and strategic risks as well as opportunities.

Risk reporting

The Executive Board provides the Supervisory Board and the relevant committees with regular, timely and comprehensive updates on all risks and opportunities of relevance to the Group. Examining and monitoring the risk management process is the task of the Internal Audit function. The Knorr-Bremse Group thus has a reporting and control system in place that enables it to globally implement efficient and effective risk monitoring and management.

Key features of the internal control system (ICS) for the accounting process:

We use our internal control system (ICS) to ensure compliance with the relevant legal requirements and applicable Group guidelines, the effectiveness and profitability of our business activities, and the accuracy and reliability of our internal and external accounting procedures. The ICS encompasses the principles, procedures and measures which senior management has implemented within the Company for the purpose of handling risks systematically and transparently.

The fundamental principles of the ICS are the cross-checking (dual-control) principle and the separation- of-functions principle. Group companies are responsible for complying with existing standardized Group-wide rules and country-specific regulations, and for documenting the internal controls they use to ensure reliable and appropriate financial reporting. The risk control matrix with our most important controls has been introduced in all Group companies. These controls were tested in the majority of the Group companies in 2020 using the principle of materiality and in combination with a risk-based approach.

Corporate Controlling plays a supporting and coordinating role and centrally files the documentation of risks and controls and the regular control assessment. The Internal Audit function also verifies the existence and effectiveness of the documented processes during its independent audits. Corporate Controlling reports to the Executive Board on the control system's effectiveness. The Executive Board provides the Supervisory Board with a detailed breakdown of ICS and Internal Audit results on a regular, annual basis.

The most important instruments, control and hedging routines in the accounting process are:

- Knorr-Bremse AG's accounting guideline defines the accounting process in the individual companies and within the Group. The guideline covers all relevant IFRS rules and is regularly updated by the Corporate Accounting function.
- All accounting processes are subject to multi-level validation in the form of spot checks, plausibility checks and other controls by the operating companies, the divisions, and the Corporate Controlling, Corporate Accounting/Taxes and Internal Audit functions. The controls relate to various aspects, such as the reliability and adequacy of IT systems, the completeness and accuracy of financial reporting, and the completeness of provisions.
- The fundamental ICS principles – the dual-control principle and separation-of-functions principle – apply generally, but in particular to the commercial processes that trigger entries in the consolidation system. For example, depending on the amounts involved, orders or invoices may have to be signed off by divisional management, senior management or the Executive Board. The process from ordering through to payment is secured by separating the functions of employees in Purchasing and Accounting.
- Access authorizations control access to the consolidation system; this is reserved for a selected group of employees in Corporate Accounting. Data that is entered for Group companies is checked in a multi-level process. First, it is validated by the Group company itself, then by the relevant segment's Controlling function, and finally by Corporate Accounting.

To ensure that financial statements are prepared correctly, we carefully consider significant regulations and new developments in accounting and reporting. Particular attention is paid to the accounting treatment of construction contracts based on the over-time method, the allocation of purchase prices during business combinations, impairment testing of goodwill, and the reliability of qualitative and predictive statements in the management report.

The breakdown in the table below shows the respective net risk (by probability – before risk provisioning for accounting purposes) to the Group per risk category. Table → 2.28

Material changes occurred in the risk portfolio compared with the previous year in the Strategy, Legal & Regulatory and Project Management categories. In addition to the risk that China will increasingly pursue autonomy policies, the increase in the Strategy category is attributable to business combinations of customers and competitors. The Legal & Regulatory category's rating was reduced from high to medium, largely due to developments in legal disputes, as set out in the Notes to the consolidated financial statements, and also because a disorderly Brexit was avoided. The increase in the Project Management category resulted from factors including increased project costs in relation to the customer project regarding the Wuppertal Suspension Railway.

2.28 Knorr-Bremse Group – risk categories

	Net risk			
	Very low (≤5 € million)	Low (> 5 € million to ≤ 15 € million)	Medium (> 15 € million to ≤40 € million)	High (>40 € million)
Strategy			■	
Legal & Regulatory			■	
Research & Development	■			
Purchasing			■	
Market & Customers				■
Logistics	■			
Production	■			
Quality & Product Liability				■
HR	■			
Finance & Treasury			■	
M&A		■		
Project Management				■
IT Systems & IT Security			■	
Other		■		

Risks that could impact several risk categories may also arise as a consequence of the coronavirus pandemic's currently uncertain future course. These could cause restrictions in Purchasing, Production and Logistics, for example – but also and above all in the Market & Customers category. The same applies to current supply bottlenecks for electronic components of the semiconductor industry.

The Knorr-Bremse Group's individual risk categories are explained in more detail below:

Strategic risks

As a technology leader in the rail and commercial vehicle sectors, we are regularly exposed to the efforts of both established competitors and new market players to gain market share at our expense, such as the acquisition of American competitor WABCO by German enterprise ZF Friedrichshafen. We counter such strategic risks with a sustainable innovation strategy and intensive cultivation of customer relationships so we can continue to respond optimally to customer needs in terms of the technology, quality and pricing of our products and services. As well as continuously developing our existing product portfolio, we focus in particular on averting the risks of unsuccessful or delayed entry into new, promising product areas. For this purpose, we take steps to ensure the timely identification, evaluation and efficient implementation of development projects aimed at opening up new product areas. This applies in particular to product ranges linked to the current megatrends of urbanization, sustainability, digitalization and mobility. As a systems supplier, we are determined to continue offering our customers the greatest possible benefits in all these fields. Another risk to be mentioned is that the Chinese government has for years been endeavoring to strengthen the local economy and thus the autonomy of the country by placing a stronger obligation on companies to use local companies in the supply chain. In view of the tensions in the trade relationship with the US and the impact of the Covid-19 pandemic, it is to be expected that a strengthening of this political direction will be accelerated. Knorr-Bremse is responding to this with adjustments in its presence and positioning in the country in order to meet the changed requirements. Risks may also arise from strategic decisions involving portfolio adjustments or changes, such as those that took place over the 2018 and 2019 fiscal years. These may take the form of restructuring costs, impairments or similar risks – for example, in the event of relocations or closures.

Legal and regulatory risks

Its worldwide presence means that Knorr-Bremse operates in a wide variety of different legal systems. Current and potential future changes to these legal systems give rise, among other things, to risks associated with fiscal, competition, patent, environmental, labor and contract law. To avoid or minimize litigation and any potential financial exposure, strategic risks or reputational damage that might ensue, we rely on our Compliance Management function and Tax department, as well as the legal reviews and assessments carried out by our Legal department. For complex issues, we also seek the support of external specialist lawyers. In Compliance Management, the Company-wide Code of Conduct sets binding rules for all employees, who receive training with the help of mandatory e-learning courses rolled out worldwide. A web-based whistleblower system with predefined investigative processes helps us to identify and sanction any violations. To counter the potential damage to our business resulting from imitations and product piracy, the Company relies on the Patent department's in-depth scrutiny of our markets, its rigorous defense of our interests, and close collaboration with government agencies when necessary. In this risk category, we should currently highlight the ongoing dispute with Robert Bosch GmbH and Haldex's antitrust complaint. Further details of the latter proceedings can be found in the Notes to the consolidated financial statements under Section H.9. Legal risks.

In addition, risks may potentially arise from changes to legal regulations, such as breaches of the EU General Data Protection Regulation (GDPR) or the Chinese Cybersecurity Law, changes relating to employee rights or employee leasing, and also risks from possible exclusions from public tenders.

Risks associated with research and development

Both product development and product optimization processes are generally associated with a range of risks, in particular time-to-market delays and deviations from product quality requirements – e.g., in respect of approval procedures. It is also important to safeguard against potential infringements of intellectual property (IP) rights. In addition, costs may overrun the original budget, especially in relatively long-term development projects. To meet these challenges, we have a global, highly qualified team of R&D specialists, cutting-edge R&D facilities, efficient and effective processes, all under tight project control. As well as the state-of-the-art Technology Center at our Munich head office, equipped with the latest measuring stations and test rigs, we should also mention our R&D Centers in Schwieberdingen (Germany), Budapest (Hungary), Pune (India), and in Elyria, Ohio (USA).

Risks associated with purchasing

Potential risks in the procurement process include along with the impact of the coronavirus in particular late deliveries, quality defects and rising supplier prices that cannot always be passed on in full to customers, or possibly only after some time has elapsed. There is also a risk of supplier insolvencies – although experience has shown that this risk is rather low since we ensure the high quality of our suppliers both during the selection process and as part of our continuous monitoring program. Moreover, we have selected multiple suppliers for almost all strategically relevant product components in order to reduce our dependency on individual suppliers as far as possible. We conclude framework agreements with our suppliers in order to minimize supply risks. We also pool procurement volumes to obtain more advantageous purchasing terms. In this category, it need to be emphasized currently the ongoing supply bottlenecks for electronic components of the semiconductor industry.

Market and customer risks

Even after drawing up a detailed sales budget that fully reflects market expectations for a given fiscal year, unexpected market developments or individual customer risks can easily cause revenue targets and associated earnings targets to be missed. With respect to markets, the Commercial Vehicle Systems division's business is the main concern because it is generally more sensitive to cyclical fluctuations. Any decline in vehicle production usually has a direct impact on revenues from the division's original equipment (OE) business. Irrespective of order trends, customer pressure on prices may also have a negative impact on margins. In the Rail Vehicle Systems division, where project business plays a more important role, we focus not just on market movements, but also on possible strategic and operational project delays. In addition, price pressures can arise in both segments as a result of customers merging. This is currently the case in the rail vehicles market due to the takeover of Bombardier by Alstom. Thanks to the Group's broad global base, the effects of regional or segment-related market developments can often be offset, even across the divisions. Particularly during the coronavirus crisis, however, both divisions continue to be exposed to considerable market risk in all regions. Depending on how the pandemic unfolds, the repercussions could prove to be even more detrimental than currently anticipated.

Logistical risks

Material risks affecting logistics include possible delays in the supply chain to Knorr-Bremse as well as in the Company's own supply chain through to its end customers. Such delays may result in production delays or downtime, which in turn may cause bottlenecks in deliveries to our customers. We counteract these risks by means of an integrated planning process that is closely coordinated with our production and delivery schedules. Optimized warehouse management also enables us to achieve a balance between availability on the one hand and capital-efficient inventories on the other. Even so, special freight (e.g. air freight) and other measures to eliminate delivery bottlenecks may be required, entailing higher logistics costs.

Production-related risks

Bottlenecks in production can result from a lack of manpower, particularly in view of the current coronavirus pandemic, or due to insufficient mechanical production capacity, or also because of machine downtimes. Risks may also arise in connection with the termination of supply contracts with major suppliers and risks posed by bottlenecks for electronic components. We counteract these risks firstly by means of coordinated production planning and contractual covenants, and secondly by relying on state-of-the-art production facilities and regular maintenance, investing in replacement equipment whenever required in order to avoid equipment obsolescence. Integrated quality controls enable us to identify and remedy quality defects at an early stage so we can avoid rejects, waste and reworking. Our globally standardized manufacturing concept, the Knorr-Bremse Production System (KPS), ensures that all production sites meet our high quality standards. Comprehensive occupational safety and environmental protection standards have also been defined within the Group.

Risks associated with quality and product liability

The primary objective of quality management is to ensure that we reliably fulfill our customers' requirements. As a manufacturer of safety-relevant products, quality is an especially high priority and has been deeply embedded in our corporate values for many years. If, despite comprehensive quality assurance measures, we were on occasion to supply our customers with products that did not meet the expected quality standards, there is a risk of incurring additional costs for rectifying defects or settling customers' warranty claims. In such cases, we work closely with our customers to promptly find and implement solutions. Our overall exposure to quality and product liability risks is offset by, among other things, extensive provisions that in most cases almost fully cover these risks (risk category after risk provisioning for accounting purposes = very low).

Risks associated with human resources (HR)

By comparison with Western Europe, employee turnover in many countries is significantly higher. To mitigate the risk of employee turnover, we offer attractive remuneration packages, working conditions and professional development opportunities. We are addressing the shortage of skilled workers with our own management development program aimed at recruiting young, talented, capable employees and retaining them in the Company over the long term. Nevertheless, the departure of highly qualified employees can result in a loss of expertise and resource bottlenecks. In addition to running in-house training courses, we also undertake targeted marketing in universities and offer dual vocational education and training (work-study programs). Rising pension obligations represent a further risk, as declining interest rates or longer life expectancies can drive up costs. However, these are relatively minor in relation to our total assets and have already been partially outsourced to external pension funds.

Risks associated with finance and treasury

Currency, interest rate and liquidity risks are described in detail in Section H.1 of the Notes to the consolidated financial statements. Detailed information on this risk category can also be found below under "Risk Report on the Use of Financial Instruments". If necessary, risk provisions are recognized in the balance sheet (risk category after risk provisioning for accounting purposes = low).

Risks associated with mergers and acquisitions (M&A)

Risks can arise from strategic and operational perspectives, both during the M&A process itself and in the post-merger integration (PMI) phase. Among other things, from a financial perspective such risks include possible mispricing, which we seek to prevent by conducting extensive due diligence. Other risks include higher than expected integration and onboarding costs, or delays during the integration process and subsequent changes to the purchase price. Risk provisions are recognized for these in the balance sheet where necessary (risk category after risk provisioning for accounting purposes = very low). To reduce these risks, we involve employees holding key positions in the integration process at an early stage. This makes it easier to ensure effective integration with our corporate culture, working conditions, systems and processes. In addition, risks may also arise from the sale of business units.

Risks associated with project management

Owing to the division's reliance on project-related business, specific risks may arise from customer projects in the Rail Vehicle Systems division especially. Such risks include, in particular, budget overruns, possibly including in the form of currency and inflation risks in the project environment, schedule overruns and divergences from agreed product specifications. For instance, failure to deliver on time or with the warranted product features may result in additional remediation costs or lead to contractual compensation payments or penalties. Increased project costs in relation to the Wuppertal Suspension Railway customer projects and the Hanover customer project are current examples. Wherever possible, risk provisions were recognized for these in the balance sheet (risk category after risk provisioning for accounting purposes = very low). To avoid such risks, we rely on effective project management and controlling, fine-grained monitoring and intensive interaction with our customers.

Risks associated with it systems and it security

Insufficient system stability and inadequate data availability pose fundamental IT risks. Redundant data centers protect us against possible data loss and the failure of critical systems. Cyberattacks on our IT systems pose a serious threat. We protect ourselves through our Group-wide IT organization, an information security management system (ISMS), and IT security solutions that are kept up to date through a continuous improvement process. We train our employees on the topic of information security and regularly inform them about current threats and the appropriate practices regarding these. We therefore assess the risks of cyberattacks overall to be medium-high and customary in the sector. Further risks may also arise in connection with, among other things, software licenses.

Other risks

The Other Risks category includes all risks that do not fall into one of the above-mentioned categories. These include, for example, potential reputational damage, or financial losses caused by fraudulent activities (both internal and external), which we currently rate as low.

Risk Report on the Use of Financial Instruments

Currency, interest rate, liquidity, commodity price and credit risks, and financial instruments for minimizing risks

As a result of its international activities and the volatility of the world's financial markets, the Knorr-Bremse Group is exposed to various financial risks, especially market risks, liquidity risks and credit risks. Company policy aims to limit these risks through systematic financial management. The Group therefore utilizes a number of financial instruments, such as forward exchange transactions, currency options, and various forms of swaps, including currency swaps. Derivative financial instruments are used solely to hedge existing positions (hedged items) against interest rate and exchange rate exposure (in line with market risk).

Hedging of foreign currency risks

Forward exchange transactions and currency options are used solely to hedge the currency risks on selected assets and anticipated cash flows within the Knorr-Bremse Group. Knorr-Bremse AG's hedging transactions are designed to reduce risks arising from exchange rate fluctuations. We always enter into a separate hedging transaction for each individual major project. All financial derivatives and their hedged items are regularly monitored and measured. The effectiveness of the hedging relationship is also monitored, and hedges are adjusted under certain circumstances.

The high level of local manufacturing and local supply within the respective currency zones established by the Group's geographical diversification in recent years has minimized our transactional exposure. **Hedge Accounting** has been used since fiscal 2019 to record the hedging of fluctuating cash flows that result from exchange rate movements and are associated with transactions that are highly likely to occur.

Hedging of interest rate risks

We pursue a conservative interest rate and financing strategy with three core elements: long-term interest rate and financing security, matching maturities, and a ban on speculation.

Our financial liabilities are primarily the bonds issued in 2016 and 2018 and the bilateral loans of € 750 million newly raised in connection with the Covid-19 crisis in April 2020, of which € 250 million was repaid in October 2020. Our corporate financing is exposed to limited interest rate risks. The risk of interest rate fluctuations arising from operational activities is also of no great significance to the Knorr- Bremse Group at present, as the Group's geographical diversification in recent years has established a high level of local manufacturing and local supply within the respective regions. Our interest rate risk management covers all interest-bearing and interest-sensitive balance sheet items. Regular interest rate analyses allow us to identify risks at an early stage. Corporate Treasury is responsible for debt financing, financial investment and interest rate hedging; exceptions above a certain size must be approved by the Chief Financial Officer.

Our pension risks are manageable. At € 354.9 million, pension provisions at the end of the year were slightly above the previous year's level (2019: € 343.3 million), and thus 4.8% (2019: 5.0%) of total assets.

Hedging of liquidity risks

Our liquidity requirements are largely covered by our operating cash flow. Cash and cash equivalents together with existing credit facilities allow us to meet our payment obligations at all times. By virtue of cash pooling in each of our respective currency zones, we can utilize individual companies' liquidity surpluses for other Group subsidiaries, to the extent permitted by national capital transfer regulations. This avoids recourse to external loans and interest expenses.

Credit risks

Credit risks arise from investments with banks, operating trade receivables from customers as well as contract assets. On the credit institution's side, the risk relates to counterparty default, while on the customer's side the risk relates to late, partial, or no settlement of receivables without compensation and to default. The book value of the financial assets reported in the consolidated financial statements represents the maximum default risk. Regular monitoring is carried out both on the bank side and on the customer side. Decisions on financial transactions are made on the basis of this monitoring. Contracts on financial derivatives and financial transactions are only concluded with financial institutions with high credit ratings in order to keep the counterparty default risk as low as possible. In principle, commercial transactions are exposed to the risk of a possible loss of value due to the defaulting of business partners, such as banks, suppliers, and customers.

There was no material concentration of a default risk with regard to a business partner or a clearly distinguishable group of business partners. As of the reporting date, there were no material agreements that limit the maximum default risk.

Hedging of commodity price risks

Commodity price risks exist whenever raw materials required in the production process (especially metals) can only be purchased at higher costs due to fluctuating market prices and it is not possible to offset these higher costs by adjusting the selling price to customers. The planned purchases of raw materials or components with raw material contents as well as the corresponding sales contracts are taken into account for the analysis of the commodity price risk. The resulting risk position, representing our exposure, is continuously monitored and hedged on a case-by-case basis using commodity swaps. Hedge accounting is not applied here.

Financing risks

Knorr-Bremse's financing situation is comfortable and reflects the Company's very good credit standing and solid balance sheet structure. As of December 31, 2020, Knorr-Bremse had approved credit facilities of € 2,336.6 million in place, of which around 52.1% remained undrawn, plus two bonds totaling € 1,250 million which will mature in December 2021 and June 2025. Neither our credit facilities with banks nor the bonds we have issued include any **financial covenants**.

Hedging of investment risks

Our investment guideline governs the handling of investment risks. Among other things, it defines approved asset classes and creditworthiness requirements. A special fund in the amount of € 150 million was set up in November 2020 for investing strategic liquidity. The fund is split between two mandates with different asset managers and is equipped with a portfolio insurance concept (e.g., obligation to provide information if the value falls below a defined minimum threshold).

Rating

See Financial Position (Financial Development) in the Liquidity section.

More information on the management of financial risks can also be found in Section H.1 of the Notes to the consolidated financial statements.

Opportunity Management System

Knorr-Bremse's opportunity management system is unchanged from the previous year and follows the same processes as the risk management system. Alongside regular management reviews, opportunities are also reported in the quarterly report on risks and opportunities. It should always be borne in mind, however, that even opportunities may be associated with risks that must be carefully weighed up in all circumstances.

As part of the rigorous implementation of Knorr-Bremse's growth strategy, we continuously monitor current and future markets in order to pinpoint and evaluate potential global opportunities at an early stage. To do this, we stay in close contact with our customers and suppliers so we can identify future trends and any resulting market demand. Furthermore, we conduct regular benchmark analyses both against our direct competitors and against peer groups of subcontractors in the rail and commercial vehicle sectors. As well as the Executive Board and the Corporate Development function, the divisions' central departments are also responsible for identifying potential opportunities to adapt existing products to meet future customer needs or add new product areas. Knorr-Bremse makes above-average investments in new technologies in order to further extend the Company's innovation and market leadership, safeguard our existing sales markets, and open up new markets. In addition to internal growth opportunities, we also exploit external opportunities by undertaking targeted acquisitions and setting up joint-venture companies.

Operational opportunities are discussed in regular reviews at divisional level, taking account of specific regional circumstances. Knorr-Bremse is constantly working to optimize cost management and streamline process efficiency to further enhance the competitiveness of the Company's products and services.

Synergies Between Divisions

Strategic opportunities are also pursued at Group level. The Executive Board and senior management continually monitor long-term trends and any associated potential opportunities that are important for future corporate development and planning.

Our presence in the two related market segments of rail vehicles and commercial vehicles offers numerous synergies. As our product offerings across the two divisions are based on similar core technologies, joint development projects enable the transfer of know-how, intellectual property and experience. Moreover, some systems for rail vehicles and systems for commercial vehicles use similar components and materials. Such synergistic areas include materials science for friction materials, and disk brake technology. Future development work in both product areas will benefit from shared experience in, for example, the use of sensors in environment detection systems.

Megatrends

The following megatrends represent important strategic opportunities for Knorr-Bremse:

Urbanization

Growing population sizes and increasing urbanization are opening up opportunities for our rail and commercial vehicle systems business as the demand for faster, safer and more reliable modes of transportation continues to grow.

Sustainability

Knorr-Bremse is benefiting from opportunities to expand rail transportation as cities, states and countries make growing efforts to combat climate change. Electrification and other energy-efficient and eco-friendly solutions are the result of a growing public awareness of the importance of energy efficiency, combined with intensified government energy initiatives such as stricter emission regulations. End-to-end eco-design is helping to reduce the carbon footprint of our products and make transportation more energy-efficient.

Digitalization

Digitalization is accelerating system and subsystem connectivity for rail and commercial vehicles, and this in turn is enabling real-time data analysis and predictive maintenance, thereby improving life cycle costs. Artificial intelligence is used to develop new generations of products and create tomorrow's customer solutions. Other digitalization solutions include automated train operation (ATO), condition-based maintenance of rail vehicles, and monitoring tools and telematics solutions for commercial vehicles.

Mobility

An increasingly mobile and interconnected global population is continuing to drive up the demand for safer and more efficient mobility and logistics solutions. Our product range across both divisions is making a decisive contribution to meeting this demand. New solutions are being developed in response to this growing trend, primarily in the form of automated driving features and driver assistance functions that aim to reduce accidents, transportation costs and emission levels.

All these megatrends are listed according to their importance for sector-specific industry trends and creating growth opportunities for both rail vehicle and commercial vehicle systems.

General Statement on the Risks and Opportunities Situation

Analysis of the Group-wide risk profile has revealed no identifiable risks that could threaten the survival of the Group. The opportunities presented above are intended to contribute to the achievement of our long-term growth targets. The analysis of the opportunities situation did not give rise to any material changes compared with the previous year.

Report on Expected Developments

Global Economy: Gradual but Uneven Recovery Expected in 2021

The Covid-19 pandemic continued with another global wave in the fourth quarter of 2020. Governments' restrictive countermeasures are likely to lead to declines in production in the short term and plunge economies already hit by the pandemic even deeper into recession for now. Nevertheless, the prospects of a possible way out of the crisis have improved significantly with encouraging reports on the approval of an effective vaccine. The pandemic has led to the accumulation of a number of different risks and significantly worsens the level of global debt. The debt has reached historic highs, which is likely to tend to make the global economy more vulnerable in the future, particularly to exogenous shocks on financial markets. (Source: OECD, World Bank)

On the assumption that further virus outbreaks can continue to be contained and a vaccine will be rolled out around the world by the end of 2021, a gradual but uneven recovery of the global economy can be expected over the next two years. IMF analysts revised their October 2020 forecast up slightly and now expect global GDP of around 5.5% in 2021 and 4.2% for 2022. This estimate is based on the availability of vaccines and a recovery driven by this. With increasing availability of vaccines, treatments and tests, it is expected to be possible to bring the transfer of the virus to a controllable level. The fiscal policy support must be continued for as long as containment measures limit economic activity. This will further boost a sustainable recovery of the economy and a revival of investment and consumer spending. (Source: OECD, IMF)

Current living conditions and restrictions are likely to continue for another six to nine months in view of the considerable challenges regarding the global distribution of a vaccine. The response by politicians has so far largely been far-reaching and sustainable. One positive point worth stressing is the national fiscal and tax support packages that are supported by European Union subsidies to the hardest hit member states. All in all, analysts therefore think that activities will see visible success from 2021 and a slow recovery will set in. (Source: World Bank)

The downturn in the US economy in the first half of 2020 was significantly bigger than during the 2009 global financial crisis. Support packages for tax relief that were similar to but went far beyond the measures during the financial crisis contributed to a robust recovery in the third quarter of 2020. However, the subsequent global revival of the pandemic dampened the recovery. As in most developed economies, approval processes for several vaccines also took place in the USA. Their general approval leads to a positive forecast as a starting point for the second half of 2021.

China also experienced a massive economic downturn in 2020, which was accompanied by the lowest growth rate since 1976. Fiscal and monetary policy led to a sharp rise in the government deficit during the year and thus also in the government deficit. Comparably strict, but at the same time highly effective, control of pandemic activity and the prospect of demand returning allow analysts to give an extremely positive forecast for 2021. In 2022, growth should then flatten again and move toward the long-term trend. China's growth course in the next few years will contribute significantly to global economic growth. (Source: World Bank)

The current assumptions and expectations reflect the assessments of the economic institutes in October and December 2020/January 2021. Owing to rapidly changing developments associated with the worldwide spread of the Covid-19 virus, it is not currently possible to make a reliable statement regarding its economic impact on individual regions.

The general economic climate naturally has a certain impact on Knorr-Bremse's performance. This impact is more pronounced in the Commercial Vehicle Systems division. Thanks to public-sector demand and the higher proportion of aftermarket business, the Rail Vehicle Systems division is significantly less at the mercy of cyclical fluctuations.

Global Rail and Commercial Vehicle Markets

Global rail vehicle production

Despite the impact of Covid-19, the rail vehicle market remains a growth market, which is additionally supported by various government stimulus programs. Both in the passenger business and in the freight market, sustainable growth is expected, particularly as a result of climate protection measures and the change in mobility within cities.

The European Parliament has officially declared 2021 the "European Year of Rail." Several measures are aimed at promoting the Green Deal and shifting traffic from the road and air to rail. Increasing investments in vehicles and infrastructure are supporting market growth. The biggest growth markets include Italy and Germany in particular. In Germany, alternative drive systems, which are intended to replace diesel multiple units and diesel locomotives, are playing an increasing role. Uncertainty prevails in the UK due to Brexit.

The long-term development of the North American market is influenced by political and economic developments, not least the fact that increased investment in the rail industry is expected as a result of the change of government in the US. Moderate growth is mainly expected in the high-speed trains, diesel multiple units and electric multiple units segments. New emission standards and safety regulations are expected to favor the industry.

In Asia and in the Pacific region, the large-volume markets of China and India continue to be expected to grow. Due to massive fleet expansion in China in the past few years, lower growth is assumed in the OE business, whereas stronger growth is expected in the aftermarket. Increasing growth is also predicted for the markets in Southeast Asia.

These market assessments are based on leading industry studies.

Global commercial vehicle production

Knorr-Bremse expects a slight decrease of 2% in global commercial vehicle production to around 2,892,000 units for 2021. The reduction in Chinese commercial vehicle production has a significant impact on the global market here.

For all the other commercial vehicle markets we are expecting a recovery in 2021. For example, the strongest recovery is expected in North and South America with a 23% increase to 469,000 vehicles.

Knorr-Bremse also anticipates that commercial vehicle production will increase significantly in Western Europe in the current year, with an increase of 14% to around 400,000 units expected. A stabilization is also expected in Eastern Europe. As a result, commercial vehicle production is expected to increase by 30% to around 72,000 units.

2.29 Full-year guidance for the group

		2021 target	2020
Most significant performance indicators			
Revenues	in € millions	6,500 - 6,900	6,157
Operating EBITDA margin (as % of revenues)	%	17.5 - 19.0	18.0
Operating EBIT margin (as % of revenues)	%	13.0 - 14.5	13.2
ROCE	%	25 - 30	25.6
Net working capital in days' sales	Days	45 - 50	43.6
Employees (FTEs as of Dec. 31)		29,500 - 30,500	29,714
Other performance indicators			
Investments[1]/revenues	%	5.0 - 6.0	5.6

[1]) Investments in intangible assets and property, plant and equipment (before IFRS 16 and acquisition)

Following the historic high in Chinese commercial vehicle production in 2020 supported by government subsidies, Knorr-Bremse anticipates that commercial vehicle production will decrease by 10% in the Asian region to around 1,928,000 units in 2021. By contrast, the production rate in India and Japan will rise in 2021.

The market statistics relate to the truck production rate in each region as published by various organizations, such as LMC.

Revenues and Profitability

Our outlook assumes that global economic growth will be no weaker than described above and that the political environment will remain stable. The possible impacts of macroeconomic developments, such as trade wars, are not directly included in the forecasts. In view of the uncertainties regarding the future course of the coronavirus pandemic, these assumptions may turn out to be overoptimistic. Furthermore, we estimate that we will be able to compensate for any decreases in revenues resulting from current supply bottlenecks for electronic components of the semiconductor industry in the course of 2021. Our guidance does not generally take any effects from acquisitions or disposals into account.

From today's perspective, we anticipate revenues of between € 6,500 million and € 6,900 million for fiscal 2021. Based on our revenue forecast, we expect an operating EBITDA margin of between 17.5% and 19.0% and an operating EBIT margin of 13.0% to 14.5%.

As a result of the significant rise in EBIT, **ROCE** is likely to be in a range between 25% and 30% in 2021.

However, we expect net working capital in days' sales to be between 45 and 50 days' sales in 2021.

Employees

The headcount at the end of 2021 should be slightly higher than the previous year and be in a range of 29,500 to 30,500.

Other Performance Indicators

We expect capital expenditure as a percentage of revenues to be 5.0% to 6.0%. Our investing activities focus not only on strategic and forward-looking innovation and technology projects but also on capacity expansions and automation initiatives.

The dividend proposal for 2020 (€ 1.52 per share) means a payout ratio of 46%. We are aiming for a payout ratio for dividends in a range between 40% and 50% of the Group's earnings after tax in the current fiscal year. This also reflects our longstanding strategy of retaining sufficient funds within the Company to be able to make important investments in the future.

Executive Board's Statement Summarizing Expected Developments

Taking current assumptions about the expected direction of the global economy and the unpredictable further consequences of the coronavirus pandemic into account, in general we estimate that the Group's key performance indicators will evolve as follows in fiscal 2021:

Revenues are expected to increase significantly in 2021; the target range is € 6,500 million to € 6,900 million. The EBITDA margin is expected to be between 17.5% and 19.0%, the EBIT margin is expected to be between 13.0% and 14.5% and ROCE is expected to be between 25% and 30%. We thus expect the previous year's level to be clearly exceeded in each case. 45 to 50 days' sales is forecast for the commitment in days' sales of net working capital, and the number of employees should be between 29,500 and 30,500.

In addition to continuing to deal with the effects of the coronavirus crisis, the most significant challenges ahead include maintaining our innovation leadership, rapidly responding to changing market circumstances, and continually improving our cost position. With this in mind, we are continuing to develop our competencies, invest in the future and adapt our organization to enhance our efficiency and satisfy market demands. This will safeguard Knorr-Bremse's market leadership in both rail and commercial vehicle markets going forward. Coupled with our flexible utilization of liquidity measures, our robust business model gives us access to sufficient financial resources for us to continue to pursue a sustainable dividend policy and further expand the Group by means of acquisitions. Potential acquisition targets include providers of technologies that complement our core business.

Knorr-Bremse AG (HGB)

The annual financial statements of Knorr-Bremse AG comply with the provisions of German GAAP (according to the German Commercial Code – HGB), whereas the consolidated financial statements have been prepared in compliance with IFRS. As the parent company of the Group, Knorr-Bremse AG performs the role of service provider and holding company, as well as operational management functions. The Company's commercial development depends primarily on the business performance of the operating Group companies. The economic environment in which Knorr-Bremse AG operates essentially corresponds to that of the Group as described in the Business Report under "General Economic and Industry-related Conditions."

Income (loss) from investments in affiliated companies is regarded as the most significant performance indicator. This includes income from participations, income from profit transfer agreements and expenses from loss transfers.

As of year-end 2020, Knorr-Bremse AG had 125 employees (2019: 118).

Net Assets, Financial Position and Results of Operations

Along with interests in affiliated companies, Knorr-Bremse AG's balance sheet largely reflects receivables from and payables to Group companies. These are centrally administered, partly within the framework of the cash-pooling process managed by Knorr-Bremse AG.

Total assets of Knorr-Bremse AG amounted to € 2,945.1 million (2019: € 2,450.3 million). Equity rose from € 640.1 million in 2019 to € 735.2 million in 2020, mainly as a result of profit retention in the fiscal year.

The financial position of Knorr-Bremse AG is influenced to a major extent by the loans raised as part of the Covid-19 measures, which led to an increase in liabilities to banks to € 507.2 million (2019: € 105.5 million). In order to gain access to the special know-how and capabilities of an investment company and avoid negative interest rates, an amount of € 150.0 million was invested in a special fund in the year under review.

In 2020, a lower investment result led to a decrease in earnings before taxes to € 398.6 million (2019: € 427.5 million) Contrary to the forecast of a slight decline in the investment result, the investment result fell significantly, to € 452.4 million, in 2020 (2019: € 507.1 million). Due to declining business performance in Europe, income from investments fell significantly here, whereas the income from investments in the Asia Pacific region remained constant and even increased slightly in North America. Taxes on income decreased year-on-year, mainly as a result of special tax charges in the previous year and a decline in pre-tax earnings in 2020, caused by tax refunds for prior years. This results in higher earnings after taxes compared with the previous year.

Knorr-Bremse AG acts as an in-house bank for its subsidiaries around the world. This includes handling the central hedging of market price risks. The subsidiaries contract their hedging transactions with Knorr-Bremse AG, which in turn hedges part or all of the residual net risk for the Group with external banks. With the aid of the global process standardization and process transparency achieved through Knorr Excellence, Knorr-Bremse AG is able to efficiently manage its own business and that of its affiliated and related companies. In view of the negative conditions caused by the Covid-19 pandemic, the performance of Knorr-Bremse AG is assessed as positive overall.

Appropriation of Retained Net Earnings

Knorr-Bremse AG posted retained net profit of € 556.8 million in fiscal 2020 (2019: €461.7 million). The management board of Knorr-Bremse AG will suggest that the Annual General Meeting distribute a total dividend of €245.0 million for the past fiscal year. This corresponds to a dividend per share with dividend rights of € 1.52 (161,200,000 shares). with the balance being carried forward.

Relationship with Affiliated Companies

In the view of the Executive Board, under Section 312 of the German Stock Corporation Act (AktG), Knorr-Bremse AG constitutes a company directly dependent on KB Holding GmbH, Grünwald/Germany, which directly holds more than half of the share capital of Knorr-Bremse AG. The Executive Board understands that the shares in KB Holding are held by TIB Vermögens- und Beteiligungsholding GmbH, Grünwald/Germany, the majority of whose shares are in turn held by Stella Vermögensverwaltungs GmbH, Grünwald/Germany. The Company is therefore indirectly dependent on TIB and Stella pursuant to Section 17 in conjunction with Section 16 (4) AktG. To the Executive Board's knowledge, the majority of Stella's shares have been held by Mr. Heinz Hermann Thiele, Munich/Germany, since July 2017. The Executive Board therefore assumes that, through the intermediary of the respective majority shareholdings in KB Holding, TIB, and Stella, the Company was indirectly dependent on Mr. Thiele until February 23, 2021. Consequently, the companies dependent upon the Company under Section 17 AktG were also dependent on Mr. Thiele until February 23, 2021. Knorr-Bremse AG had not received any updated notification pursuant to Sections 33, 34 WpHG by the preparation date.

Pursuant to Section 312 AktG, the Executive Board has drawn up a Report on Relations with Affiliated Companies, which includes the following statement by the Executive Board:

"We declare that in the legal transactions and measures shown in the Report on Relations with Affiliated Companies, according to the circumstances known to us at the time at which the said legal transactions took place or measures were taken or refrained from, in each case Knorr-Bremse AG received appropriate consideration for the legal transactions and was not placed at a disadvantage as a result of measures taken or refrained from." The report was verified by the Auditor and received an unqualified opinion.

Risks and Opportunities

Knorr-Bremse AG participates in the risks and opportunities of its subsidiaries; the degree of participation depends on the respective shareholding. For more details, please refer to the "Report on Risks, Opportunities and Expected Developments" section. Furthermore, the liability relationships existing between Knorr-Bremse AG and its subsidiaries may result in exposure to risks.

Expected Developments

Knorr-Bremse AG's future business growth is closely linked to the Group's ongoing operating performance. The Report on Risks, Opportunities and Expected Developments provides more details of our prospects and plans for our operating activities.

Knorr-Bremse AG anticipates a moderate decline in the investment result in 2021. This will not, however, affect our future ability to pay dividends. Based on the assumptions made for the Group, Knorr-Bremse AG's net assets, financial position and results of operations can be expected to remain stable.

Munich, March 22, 2021

Knorr-Bremse AG
Executive Board

DR. JAN MICHAEL MROSIK DR. PETER LAIER FRANK MARKUS WEBER DR. JÜRGEN WILDER

Brake pads
in the Knorr-Bremse Forum

03

Consolidated financial statements

CONSOLIDATED FINANCIAL STATEMENTS

Consolidated statement of income

of Knorr-Bremse AG, for the fiscal year from January 1 to December 31, 2020

3.01 Consolidated statement of income

in € thousand	Notes	2020	2019
Revenues	E.1.	6,156,746	6,936,530
Change in inventory of unfinished/finished products	E.2.	(11,297)	5,713
Own work capitalized	E.2.	76,098	73,316
Total operating performance		**6,221,547**	**7,015,558**
Other operating income	E.3.	92,157	116,976
Cost of materials	E.4.	(2,961,111)	(3,428,564)
Personnel expenses	E.5.	(1,525,486)	(1,593,772)
Other operating expenses	E.6.	(720,207)	(781,512)
Earnings before interest, tax, depreciation and amortization (EBITDA)		**1,106,900**	**1,328,687**
Depreciation, amortization and impairments	E.7.	(292,897)	(265,780)
Earnings before interests and taxes (EBIT)		**814,003**	**1,062,908**
Interest income	E.8.	19,350	27,598
Interest expenses	E.8.	(54,870)	(51,059)
Other financial result	E.8.	(27,921)	(132,330)
Income before taxes		**750,562**	**907,116**
Taxes on income	E.9.	(218,391)	(275,099)
Net income		**532,171**	**632,018**
Thereof attributable to:			
Profit (loss) attributable to non-controlling interests		36,672	43,595
Profit (loss) attributable to the shareholders of Knorr-Bremse AG		495,499	588,423
		532,171	**632,018**
Earnings per share in €	**E.10.**		
undiluted		3.07	3.65
diluted		3.07	3.65

Consolidated statement of comprehensive income

of Knorr-Bremse AG, for the fiscal year from January 1 to December 31, 2020

3.02 Consolidated statement of comprehensive income

in € thousand	Notes	2020	2019
Net income		**532,171**	**632,018**
Actuarial gains and losses	F.10.	(24,916)	(35,168)
Equity instruments recognized directly in equity	F.14.3.	(2,345)	(8,506)
Deferred taxes	E.9.2.	3,298	9,228
Items that will not be reclassified subsequently to profit or loss		**(23,963)**	**(34,446)**
Currency translation		(125,487)	20,382
Hedging transactions reserve	F.14.4.	8,392	(1,298)
Reserve for costs of hedging	F.14.4.	(3,003)	(2,937)
Deferred taxes	E.9.2.	(1,719)	1,340
Items that may be reclassified to profit or loss		**(121,817)**	**17,487**
Other comprehensive income after taxes		**(145,780)**	**(16,958)**
Comprehensive income		**386,391**	**615,060**
Total comprehensive income attributable to non-controlling interests		30,647	45,332
Total comprehensive income attributable to the shareholders of Knorr-Bremse AG		355,744	569,728

Consolidated balance sheet

of Knorr-Bremse AG, as of December 31, 2020

3.03 Assets

in € thousand	Notes	2020	2019
Assets			
Intangible assets	F.1.	491,595	461,043
Goodwill	F.2.	396,174	381,137
Property, plant and equipment	F.3.	1,544,731	1,469,212
Investments accounted for using the equity method		24,663	16,570
Other financial assets	F.4.	140,786	63,471
Other assets	F.5.	57,276	73,930
Assets from employee benefits	F.10.	20,995	31,611
Deferred tax assets	E.9.	116,416	126,598
Non-current assets		**2,792,636**	**2,623,572**
Inventories	F.6.	844,590	815,011
Trade accounts receivable	F.5.	1,141,139	1,148,999
Other financial assets	F.4.	39,828	62,565
Other assets	F.5.	161,793	152,088
Contract assets	E.1.	84,217	89,885
Income tax receivables	F.15.	48,714	73,900
Cash and cash equivalents	F.7.	2,277,048	1,880,738
Current assets		**4,597,329**	**4,223,186**
Total assets		**7,389,965**	**6,846,758**

3.04 Equity and Liabilities

in € thousand	Notes	2020	2019
Equity			
Subscribed capital	F.8.1.	161,200	161,200
Capital reserves	F.8.2.	13,884	13,884
Retained earnings	F.8.3.	13,300	34,156
Other components of equity		(317,579)	(179,311)
Profit carried forward		1,464,349	1,166,041
Profit attributable to the shareholders of Knorr-Bremse AG		495,499	588,423
Equity attributable to the shareholders of Knorr-Bremse AG		**1,830,653**	**1,784,393**
Equity attributable to non-controlling interests		91,008	117,121
thereof share of non-controlling interests in net income		36,672	43,595
Equity		**1,921,661**	**1,901,514**
Liabilities			
Provisions for pensions	F.10.	354,887	343,273
Provisions for other employee benefits	F.10.	17,437	19,545
Other provisions	F.11.	269,010	273,147
Financial liabilities	F.13.	1,158,737	1,658,190
Other liabilities	F.12.	3,490	5,627
Income tax liabilities	F.15.	58,194	51,908
Deferred tax liabilities	E.9.	114,482	80,789
Non-current liabilities		**1,976,237**	**2,432,480**
Provisions for other employee benefits	F.10.	19,172	29,136
Other provisions	F.11.	194,015	197,585
Trade accounts payable	F.12.	1,027,682	967,447
Financial liabilities	F.13.	1,818,194	875,567
Other liabilities	F.12.	90,287	131,044
Contract liabilities	E.1.	295,868	277,351
Income tax liabilities	F.15.	46,849	34,635
Current liabilities		**3,492,067**	**2,512,764**
Liabilities		**5,468,304**	**4,945,244**
Total equity and liabilities		**7,389,965**	**6,846,758**

Consolidated statement of cash flows

of Knorr-Bremse AG, for the fiscal year from January 1 to December 31, 2020

3.05 Consolidated statement of cash flows

in € thousand	Notes	2020	2019
Consolidated net income (including minority interests)		532,171	632,018
Adjustments for			
Depreciation, amortization and impairment losses on intangible assets and property, plant and equipment		292,897	265,780
Change of impairment on inventories		6,596	(3,105)
Change of impairment on trade accounts receivable		7,458	6,868
Loss on the sale of consolidated companies and other business units		111	81,885
(Gain)/loss on the disposal of fixed assets		5,868	(44,032)
Adding to, reversing, and discounting provisions		145,411	186,819
Non-cash changes in the measurement of derivatives		7,992	14,619
Other non-cash expenses and income		8,237	56,185
Interest result		35,519	23,461
Investment result		(1,972)	2,236
Income tax expense		218,392	275,099
Income tax payments		(143,526)	(224,181)
Changes of			
inventories, trade accounts receivable and other assets, which cannot be allocated to investment or financing activities		(25,570)	(57,865)
Trade accounts payable as well as other liabilities which cannot be allocated to investing or financing activities		98,124	(53,584)
Utilization of provisions		(151,720)	(176,411)
Cash flow from operating activities	**G.1.**	**1,035,988**	**985,791**
Proceeds from the sale of intangible assets		33	1,083
Disbursements for investments in intangible assets		(120,317)	(97,885)
Proceeds from the sale of property, plant and equipment		12,924	191,850
Disbursements for investments in property, plant and equipment		(241,327)	(220,262)
Proceeds from financial investments and from the sale of investments		4,011	485
Proceeds from/disbursements for the sale of consolidated companies and other business units		(8,948)	(29,070)
Disbursements for financial investments		(106,583)	(17,088)
Disbursements for the acquisition of consolidated companies and other business units		(123,247)	(194,367)
Interest received		10,439	15,154
Disbursements for investments in plan assets (pensions)		(3,380)	(3,715)
Cash flow from investing activities	**G.2.**	**(576,395)**	**(353,816)**

in € thousand	Notes	2020	2019
Proceeds from borrowings		799,864	40,851
Disbursements from the repayment of borrowings		(399,280)	(90,244)
Disbursements for lease liabilities		(62,298)	(53,450)
Interest paid		(32,672)	(33,233)
Dividends paid to parent company shareholders		(290,160)	(282,100)
Dividends paid to non-controlling interests		(48,402)	(55,069)
Net payments from factoring		–	(2,649)
Disbursements for acquisition of non-controlling interests		(17,945)	–
Proceeds from grants and subsidies		8,855	–
Disbursements from restitution to silent partners		–	(10,000)
Proceeds/(disbursements) from the settlement of derivatives		31,671	(19,273)
Cash flow from financing activities	**G.3.**	**(10,367)**	**(505,167)**
Cash flow changes		**449,226**	**126,809**
Change in cash funds resulting from exchange rate and valuation-related movements		(61,967)	8,558
Change in cash funds resulting from changes to the group structure		–	(596)
Change in cash fund		**387,259**	**134,771**
Cash funds at the beginning of the period		1,853,466	1,718,695
Cash funds at the end of the period	**G.4.**	**2,240,725**	**1,853,466**
Cash and cash equivalents		2,277,048	1,880,738
Short-term securities available for sale		2	2
Short-term liabilities to banks (less than 3 months)		(36,325)	(27,274)

Consolidated statement of changes in equity

of Knorr-Bremse AG, as of December 31, 2020

3.06 Group – statement of changes in equity

in € thousand	Notes	Subscribed capital	Capital reserves	Retained earnings	Group earnings
As of Jan. 1, 2020		**161,200**	**13,884**	**34,156**	**1,754,464**
Dividends		–	–	–	(290,160)
Net income		**–**	**–**	**–**	**495,499**
Other comprehensive income after taxes		–	–	–	45
Comprehensive income		**–**	**–**	**–**	**495,544**
Acquisition of non-controlling interests		–	–	(19,281)	–
Gains and losses on hedging transactions and costs of hedging reclassified to inventories		–	–	–	–
Other changes			–	(1,575)	–
As of Dec. 31, 2020	**F.8.**	**161,200**	**13,884**	**13,300**	**1,959,848**
As of Dec. 31, 2018		**161,200**	**13,884**	**39,924**	**1,447,918**
Initial application of IFRS 16		–	–	(5,768)	–
As of Jan. 1, 2019		**161,200**	**13,884**	**34,156**	**1,447,918**
Dividends		–	–	–	(282,100)
Net income		**–**	**–**	**–**	**588,423**
Other comprehensive income after taxes		–	–	–	–
Comprehensive income		**–**	**–**	**–**	**588,423**
Acquisition of non-controlling interests		–	–	–	(46)
Gains and losses on hedging transactions and costs of hedging reclassified to inventories		–	–	–	–
Other changes		–	–	–	269
As of Dec. 31, 2019	**F.8.**	**161,200**	**13,884**	**34,156**	**1,754,464**

Other components of equity							
Currency translation	Reserve for costs of hedging	Hedging transactions reserve	Equity instruments recognized directly in equity	Revaluations from defined pension benefits	Equity attributable to the shareholders of Knorr-Bremse AG	Equity attributable to non-controlling interests	Total equity
(70,704)	**(1,686)**	**(651)**	**(32,177)**	**(74,093)**	**1,784,393**	**117,121**	**1,901,514**
–	–	–	–	–	(290,160)	(36,471)	(326,631)
–	**–**	**–**	**–**	**–**	**495,499**	**36,672**	**532,171**
(119,463)	(2,032)	5,703	(2,345)	(21,663)	(139,755)	(6,025)	(145,780)
(119,463)	**(2,032)**	**5,703**	**(2,345)**	**(21,663)**	**355,744**	**30,647**	**386,391**
903	–	–	–	–	(18,378)	(20,176)	(38,554)
–	1,145	(558)	–	–	587	–	587
1,187	(780)	782	(1,172)	25	(1,533)	(113)	(1,646)
(188,077)	**(3,353)**	**5,276**	**(35,694)**	**(95,731)**	**1,830,653**	**91,008**	**1,921,661**
(89,198)	**–**	**–**	**(23,672)**	**(48,154)**	**1,501,902**	**105,208**	**1,607,110**
–	–	–	–	–	(5,768)	(13)	(5,781)
(89,198)	**–**	**–**	**(23,672)**	**(48,154)**	**1,496,134**	**105,195**	**1,601,329**
–	–	–	–	–	(282,100)	(33,452)	(315,552)
–	**–**	**–**	**–**	**–**	**588,423**	**43,595**	**632,018**
19,104	(2,008)	(887)	(8,302)	(26,602)	(18,695)	1,737	(16,958)
19,104	**(2,008)**	**(887)**	**(8,302)**	**(26,602)**	**569,728**	**45,332**	**615,060**
–	–	–	–	–	(46)	46	–
–	322	236	–	–	558	–	558
(610)	–	–	(203)	663	119	–	119
(70,704)	**(1,686)**	**(651)**	**(32,177)**	**(74,093)**	**1,784,393**	**117,121**	**1,901,514**

Notes to the consolidated financial statements

of Knorr-Bremse AG, for the period from January 1 to December 31, 2020

A. Basis of preparation

A.1. About the Company

Knorr-Bremse AG ("Company") is a joint stock company domiciled in Germany. The Company's registered office and headquarters are located in Moosacher Str. 80, 80809 Munich, Germany. The Company is registered in the City of Munich commercial register under HRB 42031. The consolidated financial statements include the Company and its subsidiaries (jointly referred to as the "Group" or "Knorr-Bremse"). The Group is a global manufacturer of brake systems for rail and commercial vehicles and other safety-critical systems. The product portfolio of the Rail Vehicle Systems Division includes braking, entrance, and HVAC systems, power electrics, and control technology: hardware and programming tools for train control & management systems (TCMS), electromechanical components and electrical traction equipment for light rail vehicles, digital solutions for optimization of rail traffic, couplers, signal systems, stationary and mobile testing equipment, as well as wiper and wash systems, sanitary systems. The product portfolio of the Commercial Vehicles Systems Division also includes pneumatic braking systems (e.g., brake control systems, disk brakes, drum brakes, brake cylinders, valves and pedal units) and steering systems, plus vehicle dynamics solutions (e.g., anti-lock braking systems and electronic stability programs), driver assistance systems (e.g., emergency braking systems), automated driving and electronic leveling control, energy supply and distribution systems, including compressors and air treatment, as well as products for boosting fuel efficiency such as engine components and transmission control systems (i.e., vibration dampers, engine air management, transmission control, and gear/clutch actuation).

A.2. Accounting principles

The Company's consolidated financial statements were prepared in accordance with the International Financial Reporting Standards (IFRS), as they are adopted in the European Union (EU), as well as the supplementary provisions of Chapter 315e (1) of the German Commercial Code (HGB in the version of December 22, 2020). All mandatory standards applicable on the reporting date were implemented. The consolidated statement of income is prepared based on the total cost method.

A.3. Covid-19 pandemic

The impact of the Covid-19 pandemic on the Knorr-Bremse Group's business performance is presented in the Group management report. There are uncertainties in the forecast for the 2021 fiscal year. The risks are set out in the risk report in the Group management report. The future impact of the pandemic on the global economy and the start and momentum of the recovery are hard to assess as of the end of the fiscal year. In this regard we refer in detail to our explanations in the risk and expected developments report in the Group management report.

As of December 31, 2020, Knorr-Bremse had still only made use of government support measures to a minor extent. Short-time work during the year was largely discontinued in

3.07 Measurement bases

Asset	Method
Derivatives	Fair value
Non-derivative financial instruments, measured at fair value through profit or loss	Fair value
Non-derivative financial instruments, measured at fair value through OCI	Fair value
Contingent consideration in a business combination	Fair value
Net defined benefit liability (asset) from defined benefit plans	Present value of the defined benefit obligation less the fair value of the plan assets

September 2020. In receivables management, no significant increases in trade accounts receivable overdue were seen as of the December 31, 2020 reporting date. Knorr-Bremse did not have significant bad debts as of December 31, 2020. At € 7,458 thousand, the loss from impairments of trade accounts receivable in the fiscal year was slightly higher than in the previous year. An analysis carried out showed no indication of any requirement for impairment of property, plant, and equipment, leases, or financial assets.

A.4. Measurement bases

The Group consistently applied the following accounting methods to all periods presented in these consolidated financial statements.

The consolidated financial statements were prepared according to historical purchase and production costs with the exception of the following balance sheet items with different measurement bases on the respective reporting dates. Table → 3.07

A.5. Functional and presentation currency

The consolidated financial statements are presented in euro, the Company's functional currency. All financial information presented in euros is rounded to thousands of euros (in € thousand), unless otherwise indicated. This may result in rounding differences.

A.6. Use of discretionary decisions and estimates

The preparation of the consolidated financial statements requires a certain amount of discretionary decisions, estimates and assumptions by the Executive Board which affect the application of the accounting methods and the stated amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Changes of estimates are reported prospectively.

Discretionary decisions in the application of accounting policies influence the amounts recognized in the consolidated financial statements primarily in relation to revenues recognized over time in the Rail Vehicle Systems segment. This concerns in particular the identification of the respective performance obligations under contracts with customers and the determination of when (or if) they are satisfied (Chapter E.1). For more details on revenues, see Chapter D.1. In addition, material discretionary decisions apply in determining the term of leases (Chapter H.11), especially in establishing whether the exercise of extension options will materialize with an adequate degree of certainty.

Material effects on the consolidated financial statements as a result of assumptions and estimation uncertainty particularly occur in the measurement of defined benefit obligations (Chapters D.15. and F.10.) and impairment tests (Chapters D.18. and D.19.) resulting from key actuarial assumptions or assumptions for determining the recoverable amount. There are also assumptions and estimation uncertainty in the recognition as well as measurement of other provisions for litigation and warranties and contingent liabilities (Chapter D.16. and F.11.). If revenue is recognized over time according to project progress, assumptions and estimation uncertainty occur in particular in relation to planned project costs (Chapter E.1). The measurement of the warranty provisions is based on estimates regarding expected warranty claims. An important factor affecting these estimates is the expected number and size of future warranty claims. In this regard, there is a significant estimation uncertainty resulting from the large range of numbers of potential warranty claims. There is further significant estimation uncertainty in the determination of the fair values of the assets and liabilities identified in business acquisitions (Chapter C.3.) as well as in determining the borrowing cost for leases (Chapter H.11). In fiscal year 2020, essentially no material effects resulted from the adjustment of assumptions made in the past or from the resolution of previous uncertainties in relation to the aforementioned matters. The measurement of obligations from defined-benefit pension obligations is an exception to this. Due to the decreased interest rate level, the discount rate was decreased, which had an impact on the level of the provision recognized and equity (Chapter F.10.).

The consolidated financial statements were approved for publication by the Executive Board on March 22, 2021.

B. Financial reporting standards

B.1. Financial reporting standards issued by the IASB and applied for the first time

These consolidated financial statements are prepared by the Group in accordance with the IFRS regulations. All IFRS accounting standards mandatorily applicable in the European Union as of December 31, 2020 are applied. Early application options for new financial reporting standards before mandatory application are not used. No financial reporting standards of significance were applied for the first time in the Group in the fiscal year.

Other changes

The following new or amended standards have no or no material effects on the consolidated financial statements.

- Changes to IFRS 3: Definition of business operation
- Changes to IFRS 9, IAS 39 and IFRS 7: Reform of the benchmark rate
- Changes to IAS 1 and IAS 8: Definition of materiality
- Amendments to references in the conceptual framework in IFRS standards

Knorr-Bremse did not make use of the option of voluntary application of the amendments to IFRS 16 to Covid-19-related rent concessions.

B.2. Standards issued by the IASB that have not yet been applied

In addition to the standards presented above, the IASB has also issued additional standards, interpretations and changes to standards or interpretations which are also not required to be applied at present and which, in some cases, still require adoption in EU law ("endorsement") to be applicable. Table → 3.08 Currently, the Group does not assume that applying these standards, interpretations and changes will have a significant effect on the presentation of the financial statements.

C. Consolidation

C.1. Principles of consolidation

The consolidated financial statements include the financial statements of the Company and all material affiliated companies. Subsidiaries controlled by the Group are fully consolidated. The Group controls a company if it is exposed to fluctuating returns or is entitled to these returns and has the ability to influence these returns using its power of control over the company. The financial statements of subsidiaries are contained in the consolidated financial statements from the date on which the control starts and up to the date on which the control ends.

3.08 Standards issued by the IASB that have not yet been applied

New or revised standards and interpretations	Contents of, or change to, standard or interpretation	Date of mandatory application in EU*
Changes to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16	IBOR reform – phase 2	January 1, 2021
Changes to IFRS 3	References to the Conceptual Framework	January 1, 2022
Changes to IFRS 10 and IAS 28	Sales or contributions of assets between an investor and its associate or joint venture	Postponed indefinitely
Changes to IAS 1	Classification of liabilities as current or non-current	January 1, 2023
Changes to IAS 16	Property, plant, and equipment – proceeds before intended use	January 1, 2022
Changes to IAS 37	Onerous contracts – cost of fulfilling a contract	January 1, 2022
Annual improvements 2018-2020	Changes to IFRS 1, IFRS 9, IFRS 16 and IAS 41	January 1, 2022

* Applicable to annual periods beginning on or after the date specified.

The Group recognizes business combinations based on the acquisition method. As part of the capital consolidation, the acquisition costs of the acquired shares are offset against the equity of the subsidiaries assigned to the Group. The acquired, identifiable net assets and the consideration transferred are generally recognized at fair value. A positive difference that arises between the acquisition costs of the acquired shares and the identifiable net assets upon initial consolidation is recognized as goodwill. All goodwill is reviewed annually for impairment. A negative difference is reported directly in profit and loss.

The consideration transferred does not contain any amounts associated with the fulfillment of previously existing relationships. Such amounts are fundamentally reported in profit and loss.

Any conditional obligation to provide consideration is reported at the fair value at the time of acquisition. If the contingent consideration is classified as equity, it is not remeasured and a settlement is recognized in equity. Otherwise, other contingent considerations are measured at fair value on each reporting date and subsequent changes to the fair value of the contingent considerations are reported in profit and loss.

Non-controlling interests are recognized with their corresponding share of the identifiable net assets of the acquired company at the date of acquisition.

Associated companies are companies in which the Group has significant influence, but no control or joint control in relation to financial and business policy. A joint venture is an agreement over which the Group exercises joint control, whereby the Group has rights to the net assets of the agreement rather than rights to its assets and obligations for its liabilities.

Shares in associated companies and joint ventures are reported based on the equity method. They are initially recognized at the acquisition costs, which also include transaction costs. After the initial recognition, the consolidated financial statements contain the Group's share in the comprehensive income, less distributions received, of the investments reported based on the equity method up to the date on which the significant influence or joint control ends.

For interests in joint arrangements that are to be classified as a joint operation according to IFRS 11, the Group recognizes the direct rights to assets, liabilities, revenue and expenses and its interest in any jointly controlled or created assets, liabilities, revenue or expenses. These are included in the financial statements under the respective item designations.

All intragroup receivables and payables, expenses and income are eliminated within the scope of the debt consolidation as well as the consolidation of expense and income. Unrealized gains from transactions with companies that are recognized based on the equity method are derecognized against the investment in the amount of the Group's interest in the associated company. Unrealized losses are eliminated in the same manner as unrealized gains, but only if there is no indication of an impairment.

C.2. Foreign currency translation

Foreign currency receivables and payables of the companies included in the consolidated financial statements are reported at the spot exchange rate on the date of the transaction. These items are translated at the closing rate on the reporting date.

Annual financial statements of consolidated Group companies prepared in a foreign currency are translated using the modified reporting date method. Accordingly, assets and liabilities from foreign Group companies are translated at the closing rate on the reporting date, while income and expenses from foreign Group companies are translated at the average rate for the respective fiscal year. The resulting currency translation differences are reported in other comprehensive income and recognized in the line item currency translation as long as the currency translation difference is not assigned to the non-controlling interests.

The exchange rates on which the foreign currency translation is based, which have a material effect on the consolidated financial statements are listed below: Table → 3.09

C.3. Changes to the Group

C.3.1. Additions to the consolidated companies and business combinations

With regard to the accounting methods for business combinations, we refer to the information under Chapter C.1.

Changes in the scope of consolidation and acquisition of businesses

The following Group companies were established and included in the scope of consolidation as consolidated companies for the first time in fiscal year 2020: Kiepe Electric India Private Limited, Faridabad/India and Knorr-Bremse Rail Transportation Equipment (Chengdu) Co., Ltd., Chengdu/China.

Upon their sale as of May 4, 2020, Alpha Process Controls (International) Ltd., Peterlee/United Kingdom and Aldona Seals Ltd., Peterlee/United Kingdom were deconsolidated.

In addition, the following companies were deconsolidated as a result of liquidation. Selectron Systems Pvt. Ltd., Gurgaon/India as well as tedrive Yönlendirme Sistemleri Sanayi ve Tic. Ltd.Şti. , Istanbul/Turkey.

On March 4, 2020, Knorr Brake Realty LLC., Westminster, Maryland/USA was merged into Knorr Brake Company LLC., Westminster, Maryland/USA.

Universal-KBAM-Fonds, Frankfurt am Main, in which Knorr-Bremse AG holds 100% of the fund units, has been included in the consolidated financial statements for the first time – as a structured entity – on the launch of the fund on November 2, 2020. Knorr-Bremse has invested cash and cash equivalents of € 150,000 thousand in the special fund. Knorr-Bremse is able to control the activities of the special fund (e.g., via investment guidelines specified) due to the contract design. Knorr-Bremse benefits from positive performance by the fund assets through distributions and increases in value and bears the risk of unfavorable performance by the fund assets. Through the contract design, Knorr-Bremse can use its power of control to influence the returns from its involvement in the special fund. The purpose of the fund investment is to use the special knowledge and ability of an investment company to avoid negative interest rates and strategically invest surplus liquidity using a capital preservation concept.

Material business combinations

Acquisition of R.H. Sheppard Co., Inc.

With the purchase agreement of January 30, 2020, Knorr-Bremse acquired 100% of the shares in R.H. Sheppard Co., Inc., Hanover, Pennsylvania/USA from Wabco Holdings Inc.

The acquisition of Sheppard, which took effect with the closing of the transaction on June 1, 2020, is another step for Knorr-Bremse toward becoming a global provider of integrated steering and brake systems for commercial vehicles.

3.09 Currency exchange rates

		Dec. 31, 2020		Dec. 31, 2019	
		Closing rate	Average rate	Closing rate	Average rate
USA	USD	0.81493	0.87684	0.89015	0.89318
China	CNY	0.12465	0.12706	0.12787	0.12931
Hungary	HUF	0.00275	0.00285	0.00303	0.00307
Czech Republic	CZK	0.03811	0.03779	0.03936	0.03896
United Kingdom	GBP	1.11231	1.12443	1.17536	1.13981
India	INR	0.01115	0.01183	0.01247	0.01268
Japan	JPY	0.00791	0.00822	0.00820	0.00819
Hong Kong	HKD	0.10511	0.11305	0.11432	0.11400
South Africa	ZAR	0.05549	0.05324	0.06338	0.06189
Brazil	BRL	0.15690	0.16985	0.22145	0.22665
Thailand	THB	0.02723	0.02802	0.02993	0.02876

Sheppard contributed € 52,012 thousand to consolidated revenues and € -8,459 thousand to consolidated earnings before taxes in fiscal year 2020. These earnings also take account of the € 3,234 thousand amortization of hidden reserves realized as part of the purchase price allocation.

a) Consideration transferred
The purchase price for Sheppard of € 137,648 thousand was fully paid in cash as of December 31, 2020.

b) Acquisition-related costs
The Group has so far incurred acquisition-related costs of € 2,832 thousand for due diligence as well as for legal and notary fees. These costs are recognized in other operating expenses.

c) Identifiable assets and liabilities acquired
The fair values of the assets and liabilities acquired at the date of acquisition are summarized below: Table → 3.10

The equity interests in joint ventures concern the two companies Sino-American R. H. Sheppard Hubei Steering System Company Ltd., Xianning/China and China Source Engineered Components Trading Corporation Ltd., Shanghai/China.

d) Goodwill
The goodwill as a result of the acquisition was recognized as follows: Table → 3.11

Goodwill primarily results from future market development potential owing to an increased market presence, the anticipated broadening of the product and customer base, and the know-how of the staff. This is allocated to the Commercial Vehicle Systems segment. Goodwill recognized in an amount of € 25,500 thousand is not tax-deductible.

If the acquisition had occurred at the start of the fiscal year, consolidated revenue would have been increased by a further € 36,189 thousand to € 6,192,936 thousand and consolidated earnings before tax would have been decreased by € 9,666 thousand to € 740,896 thousand. When calculating the amounts, the management board assumed that the fair values from the purchase price allocation at the respective date of acquisition would also have been valid in the event of an acquisition on Wednesday, January 1, 2020.

Acquisition of the noncontrolling interests in Bendix Spicer Foundation Brake, LLC

Bendix Commercial Vehicle Systems LLC acquired the remaining 20% of the shares in Bendix Spicer Foundation Brake LLC, Elyria, Ohio/USA from Dana Commercial Vehicle Products LLC with legal effect from October 1, 2020. The purchase price is € 42,981 thousand (USD 50.3 million). € 17,945 thousand (USD 21 million) of the purchase price has already been paid in cash. The remainder of the purchase price will be paid in the second half of 2021. In addition, transaction costs of € 104 thousand were incurred. Bendix Spicer Foundation Brake LLC, was already fully consolidated in prior years because the Company held an 80% interest.

The carrying amount of the net assets reported in the consolidated financial statements was € 100,880 thousand at the date of acquisition, of which an amount of € 20,176 is attributable to the carrying amount of the non-controlling interests. The acquisition led to an € 18,378 thousand decrease in equity attributable to the owners of the parent. Taking account of deferred tax assets of € 4,531 thousand, retained earnings were reduced by € 19,281 thousand and the currency translation reserve was increased by € 903 thousand.

Effective from December 31, 2020, Bendix Spicer Foundation Brake, LLC was merged into Bendix Commercial Vehicle Systems LLC.

3.10 Fair values of the assets and liabilities acquired

in € thousand	
Customer relationships	6,017
Brands	2,245
Other intangible assets	5,891
Property, plant and equipment	65,475
Joint ventures	2,433
Inventories	38,543
Trade accounts receivable	10,514
Other assets	2,615
Cash and cash equivalents	11,873
Provisions for other employee benefits	(1,278)
Other provisions	(2,378)
Trade accounts payable	(15,029)
Deferred tax liabilities	(14,237)
Other liabilities	(537)
Total identifiable net assets	**112,148**
Gross trade accounts receivable	11,077
Impairment losses and gains	(563)
Net trade accounts receivable	**10,514**

3.11 Determination of goodwill

in € thousand	
Consideration transferred	137,648
Fair value of the identifiable net assets	(112,148)
Goodwill	**25,500**

C.4. Composition of the Group

For details on the group of consolidated companies, refer to the list of shareholdings pursuant to Section 313 (2) No. 4 of the German Commercial Code (HGB) under H.12. Table → 3.95, 3.12

C.5. Significant non-controlling interests Table → 3.13

The Group holds a 50% interest in Knorr-Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co., Ltd., Daxing/China (Knorr-Bremse CARS). Knorr-Bremse has a controlling interest in this company due to having the possibility to appoint a majority of members in the relevant bodies. This company is therefore fully consolidated in accordance with IFRS 10. Bendix Spicer Foundation Brake LLC, Elyria, Ohio/USA was fully consolidated in prior years because the Company held an 80% interest. On October 1, 2020, Knorr-Bremse acquired the remaining 20% of the shares in Bendix Spicer Foundation Brake LLC, Elyria, Ohio/USA.

The following summarized financial information is presented for Knorr-Bremse CARS LD Vehicle Brake Disc Manufacturing, prepared in accordance with IFRS. Table → 3.14 This is information before eliminations made with other Group companies.

3.12 Composition of the group

	2020		2019	
Number of fully-consolidated subsidiaries	Domestic	International	Domestic	International
As of Jan. 1	23	111	27	115
Additions	1	4	–	3
Disposals	–	(6)	(3)	(7)
Reclassifications	–	–	(1)	–
As of Dec. 31	24	109	23	111
Number of proportionately consolidated companies	Domestic	International	Domestic	International
As of Jan. 1	–	1	–	–
Additions	–	–	–	1
Disposals	–	–	–	–
Reclassifications	–	–	–	–
As of Dec. 31	–	1	–	1
Number of associated companies	Domestic	International	Domestic	International
As of As of Jan. 1	2	3	2	1
Additions	–	2	–	2
Disposals	–	–	–	–
Reclassifications	–	–	–	–
As of Dec. 31	2	5	2	3
Non-consolidated subsidiaries	Domestic	International	Domestic	International
As of As of Jan. 1	2	11	2	11
Additions	–	–	–	1
Disposals	–	(1)	–	(1)
Reclassifications	–	–	–	–
As of Dec. 31	2	10	2	11
Investments	Domestic	International	Domestic	International
As of As of Jan. 1	2	3	2	3
Additions	–	–	–	–
Disposals	–	(1)	(1)	–
Reclassifications	–	–	1	–
As of Dec. 31	2	2	2	3

The remaining non-controlling interests are not significant, individually or in total.

Minority interests put option

Knorr-Bremse holds only 80% of the shares in both Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and Knorr-Bremse Commercial Vehicle Systems Japan Ltd. The remaining 20% is held by the minority shareholder Robert Bosch GmbH. A put option for the minority shareholder and a call option for the company were agreed for this 20%.

If the put option is exercised lawfully, the Group cannot avoid bidding for the remaining shares. In addition, the Group has no direct control over a possible transaction triggering the put option, since this can also be a company acquisition at a higher corporate level.

The Group therefore accounts for the put option using the Anticipated Acquisition Method. Accordingly, a liability is recognized at amortized cost of the put option and minority interests are presented as if they were attributable to the Group. In the event of changes in estimates, the amortized cost is adjusted with an effect on income in the financial result. See Chapter F.13 and H.9. for more information.

C.6. Investments in associates

As of December 31, 2020, none of the associates were individually material to Knorr-Bremse AG's net assets, financial position and results of operations. The aggregate carrying amount of investments in associates accounted for using the equity method was € 24,663 thousand (previous year: € 16,570 thousand). These companies had a cumulative pro rata loss from continuing operations/pro rata total comprehensive income of € 3,785 thousand (previous year: € 2,170 thousand).

3.14 Knorr Bremse Cars

in € thousand	2020	2019
Revenues	160,867	182,323
Profit	30,588	41,056
Profit attributable to non-controlling interests	15,294	20,528
Other comprehensive income	4,350	5,324
Comprehensive income	34,938	46,380
Total comprehensive income attributable to non-controlling interests	17,469	23,190
	Dec. 31, 2020	Dec. 31, 2019
Current assets	86,066	117,787
Non-current assets	13,536	16,779
Current liabilities	(26,283)	(50,115)
Non-current liabilities	(24,701)	(26,999)
Net assets	48,618	57,452
Net assets attributable to non-controlling interests	24,309	28,726
	2020	2019
Cash flows from operating activities	28,912	53,861
Cash flows from investing activities	(156)	378
Cash flows from financing activities	(39,082)	(45,756)
Net increase in cash and cash equivalents	(10,326)	8,483
	2020	2019
Dividends paid during the year to non-controlling interests	19,224	22,497

3.13 Non-controlling interests

Name	Registered Office/ Country of foundation	Ownership shares constituting non-controlling interests	
in %		Dec. 31, 2020	Dec. 31, 2019
Knorr -Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co., Ltd.	Daxing/China	50.0	50.0
Bendix Spicer Foundation Brake LLC,	Elyria, Ohio/USA	0.0	20.0

D. Notes to the accounting and measurement methods

D.1. Revenues

Knorr-Bremse generates revenue from contracts with customers in the two divisions Rail Vehicle Systems and Commercial Vehicle Systems, which also represent the reportable segments of the consolidated financial statements. Revenue is recognized in accordance with IFRS 15 when the customer has obtained control over the goods and services which Knorr-Bremse is obligated to perform and provide. Control is either transferred at a point-in-time or over a period of time.

Rail Vehicles Systems Division

In the Rail Vehicle Systems segment, the timing of revenue recognition is based on whether the contract represents a project or not. Most OE business is project business. Projects in the aftermarket segment, which take the form of, e.g., long-term service contracts, are an exception.

The majority of the project business relates to contracts for design, production and delivery of braking systems with a precisely defined function for a certain number of trains or locomotives. There are projects with similar structures for door systems and air conditioning systems. In projects, the entire scope of services represents one performance obligation. This is primarily because the engineering services form the framework for the systems of all trains or locomotives to be outfitted with hardware in the specific project. Therefore, there is a very high level of dependency between the engineering of the system and the hardware, as well as the production, delivery and commissioning of the system. Therefore, Knorr-Bremse performs a high percentage of integration services for each single train or each single locomotive for a project. In addition, this integration service applies to all systems to be outfitted in a specific project: all of them must meet exactly the same functionality.

When assessing revenue recognition over time, Knorr-Bremse applies the regulation of IFRS 15.35(c) for project agreements. There is no alternative use for Knorr-Bremse for systems installed in the trains or locomotives; since, simply for practical reasons, it is not possible to use customer- and vehicle-specific systems which have been installed and put into operation for some other use. Therefore, revenue from project business is recognized over time if Knorr-Bremse has a right to “compensation for services performed up to a certain time” over the entire term of the project. This assessment is based on an assessment of the respective contract with the customer. In particular, the question here is whether the customer has the right to terminate the contract without requiring any failure to perform on Knorr-Bremse’s part. If there is no such right of termination, Knorr-Bremse has a right to satisfy the contract. In this case, the requirement of “compensation for services performed up to a certain time” is fulfilled. If there are statutory termination rights without any failure by Knorr-Bremse, the assumption is that there is also a right to compensation including a margin share for services performed. If the contract grants a termination right to the customer without any failure by Knorr-Bremse, the question is whether Knorr-Bremse would have a right in such cases to compensation of costs incurred up until such a termination becomes effective, including a margin share. Only if such right is confirmed is the criterion of “compensation for services performed up to a certain time” met and revenue recognized over time. The percentage-of-completion-method is used to recognize revenue over time. Progress is determined using the cost-to-cost method, since the output method, which could be used as an alternative, is unsuitable for presenting project progress as of the reporting date because of the existence of unfinished goods over which control has already transferred to the customer. The costs incurred are compared to the planned costs for each project. This determines the stage of progress and the revenue to be recognized up to a period end date. By applying this method, the engineering input and hardware delivery performed by Knorr-Bremse are reflected properly in revenue across the entire term of a project, since it is applied independent of invoicing or payment dates. Estimates are required in particular when determining planned costs and are dependent on the range of delivery and performance. The amount of revenue is determined based on the contractually agreed prices for the contractually stipulated quantity of systems. Generally, these are fixed prices, possibly supplemented by price escalation clauses. The effects of price escalation clauses are taken into consideration if it is possible to reliably assess requirements for such clauses to become effective. Price escalation clauses or other variable consideration are included in the transaction price, if it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur as soon as the uncertainty in connection with the variable consideration has been resolved. The amount of variable consideration is determined on the basis of the most probable amount.

Knorr-Bremse is generally entitled to invoice all hardware deliveries in projects. Customers make advance payments; however, these tend to be low due to the ongoing invoices for delivered hardware components. Therefore, there are generally no significant financing components. Engineering work required after the contract is concluded but before the start of hardware production and delivery and the production and delivery of hardware generally results in the recognition of contract assets. The partially agreed compensation payments for one-time engineering services, invoices for delivered hardware and customer advance payments have a counter effect. These payments and invoices result in contract liabilities depending on their amount and degree of progress.

In addition to the classic project business, the Rail Vehicle Systems segment has long-term service contracts. Under fully comprehensive service contracts, the customer is provided with a full range of replacement parts, maintenance and overhaul work at agreed intervals, as well as repairs and training over the life of the contract. They often cover the full 20-to-30-year service lives of the vehicles. If the goods and services included in the scope of services are purchased separately by the customer and invoiced separately by Knorr-Bremse, the associated revenue is recognized as separate current performance obligations at the time of delivery. The amount of revenue is determined based on the contractually agreed prices.

Another contract model for long-term service contracts specifies consideration on the basis of contractually agreed fixed prices, which are paid by the customer either on a periodically recurring basis or on the basis of kilometers traveled by the rail vehicles. In return, the customer is entitled to call off the materials and services defined in the contract during the life of the contract. These goods and services are not invoiced separately. These cases represent a stand ready obligation under IFRS 15.26(e), for which revenue is recognized over time in accordance with IFRS 15.35(a).

The revenue from other business in the segment is generally the result of short-term services and deliveries, and primarily for replacement part deliveries in the aftermarket segment. Each of these deliveries and services represents a separate performance obligation. Revenue for such services is recognized at the time of delivery. The amount of revenue is determined based on the contractually agreed prices.

In general, there is a warranty assuring freedom from defects and over the term determined by law. Customary longer terms may exist in the project business.

Practical expedients are used in relation to the disclosure of significant financing components (IFRS 15.63) and the costs of obtaining a contract (IFRS 15.94).

Commercial Vehicle Systems Division

In the Commercial Vehicle Systems segment, revenue in OE and aftermarket business is generated from the series production of components for braking systems and other subsystems. Ordering is primarily based on electronic processes in which an ordered quantity only becomes binding at the start of the so-called frozen zone. The frozen zone is a certain number of days before the notified delivery deadline. Each delivery represents a separate performance obligation according to IFRS 15. Revenue is recognized upon transfer of risk. The amount of revenue is determined based on the prices set forth in framework agreements or individual contracts and the quantities delivered.

Payments of nomination fees from Knorr-Bremse to customers are capitalized and amortized against revenue over the term of series delivery. The development work required for the start of series production is generally based on framework agreements without binding order of quantities and may last up to several years. If future series delivery is at least highly likely to occur based on such framework agreements and costs are covered, these development costs are capitalized as costs to fulfill the anticipated series production and written off at the start of series production over the projected term. The depreciation is recognized in changes in inventory. Compensation payments by customers during the development phase are recognized as contract liabilities and amortized against revenue with the start of series production over the term of series production.

Frequently, there are agreements on volume bonuses for series delivery, which Knorr-Bremse must reimburse to the customer depending on the defined delivery quantities for one year. The delivery quantity for the completed period is used to allocate and measure the reimbursement obligations according to the contractually defined quantity corridors. These reimbursement obligations are recognized as a decrease in revenue and recorded as a liability in the balance sheet.

In general, there is a warranty assuring freedom from defects and over the term determined by law.

D.2. Government grants

Government grants are recognized if adequate certainty exists that the conditions associated with the grant will be met and the grants will be provided.

These can be divided into grants for assets and performance-related grants.

IAS 20.24 provides for an accounting option.

Grants for assets must either be deducted from the book value of the corresponding asset or reported as deferred income, which must be released to income over the useful life of the asset. The Company deducts grants for assets from the carrying amount of the asset.

Under IAS 20.29, there is a choice either to recognize performance-related grants in other operating income or to deduct the corresponding expense from the income from the grants. The Company exercises the first option.

Reimbursements by government as a result of short-time work (short-time working allowances) are disbursed to the employees. The social security contributions reimbursed are deducted from personnel expenses.

D.3. Earnings before interest and taxes (EBIT)

Earnings before interest and taxes are the net profit or loss from the Group's main activity as well as other income and expenses from business activities. The earnings before interest and taxes (EBIT) do not include interest income, interest expense, the other financial result or taxes on income.

D.4. EBITDA

EBITDA corresponds to earnings before interest, taxes depreciation and amortization and impairment as reported in the statement of income.

D.5. Net working capital

Net working capital corresponds to inventories, trade accounts receivable and contract assets less trade accounts payable and contract liabilities.

D.6. Financial income and financing expenses

Interest income and expenses are recognized in profit or loss based on the effective interest method. Dividend income is recognized in profit or loss at the time at which the Group's legal entitlement to payment arises.

D.7. Borrowing costs

Borrowing costs are capitalized if they are directly attributable to the acquisition or production of a qualifying asset for which a longer period of time is required to bring it to its intended usable or saleable condition. All other borrowing costs are expensed as incurred. The Group did not capitalize any borrowing costs in the reporting periods.

D.8. Income taxes

Current taxes are the expected tax debt or tax claim in relation to the taxable income or tax loss for the fiscal year based on the tax rates that apply on the reporting date, or which will be in place shortly, as well as all adjustments to the tax debt in previous years. In addition, the current tax also includes adjustments for any tax payments or refunds due for any years not yet finally assessed (however without interest payments or refunds). In case amounts recognized in the tax returns probably cannot be realized (uncertain tax positions), provisions for taxes are recognized. The amount is calculated from the best possible estimate of the expected tax payment (expected value or most likely value of the tax uncertainty). Tax receivables from uncertain tax positions are then recognized if it is more likely than not and thus reasonably certain that they can be realized. Current tax debts also include all tax debts which arise as a result of dividends.

Current tax claims and liabilities are only netted under certain conditions.

Deferred taxes are recognized with regard to temporary differences between the book values of the assets and liabilities for group accounting purposes and the amounts used for tax purposes. Deferred taxes are not recognized for:

- temporary differences in the event of the initial reporting of assets or debts for a transaction which does not relate to a business combination and which does not influence the accounting earnings before taxes or the taxable earnings
- temporary differences in connection with shares in subsidiaries, associates and jointly controlled entities, if the Group is able to control the timing of the reversal of the temporary differences and it is likely that they will not be reversed in the foreseeable future
- taxable temporary differences in the event of the initial reporting of goodwill.

A deferred tax claim is recognized for unused tax losses, unused tax credits and deductible temporary differences to the extent that it is likely that future taxable earnings will be available for which they can be used. Future taxable profits are determined on the basis of the individual business plans of the subsidiaries, taking into account the reversal of temporary differences. Unrecognized deferred tax claims are reassessed on every reporting date and recognized in the amount likely to be permitted by the realization of future taxable earnings.

Deferred tax liabilities are additionally recognized for temporary differences arising from future dividend distributions of a subsidiary (outside basis differences).

Deferred tax claims are reviewed on every reporting date and reduced to the extent to which it is no longer likely that the associated tax benefit will be realized; write-ups are reported if the probability of future taxable earnings improves.

Deferred taxes are measured based on the tax rates, which are expected to be applied to temporary differences, as soon as they reverse, namely, using tax rates that apply or have been announced on the reporting date.

The measurement of deferred taxes reflects the tax consequences that arise from the Group's expectation with regard to the manner of recognition of the book values of its assets and the settlement of its debts as of the reporting date.

Deferred tax claims and deferred tax debts are netted if certain conditions are met.

D.9. Intangible assets

Intangible assets with a determinable useful life that were not acquired as part of a business combination are recognized at the acquisition or production costs less cumulative amortization and cumulative impairments.

The goodwill resulting from a business combination is recognized with the acquisition costs, less any necessary impairment.

Expenditure for research activities is recognized in profit or loss in the period in which it arises.

Development projects are capitalized at acquisition or production costs, including development-related overheads, if the development costs can be reliably measured, the product or process is technically and commercially appropriate, a future commercial benefit is probable, and the Group intends and has adequate resources to complete the development and use or sell the asset.

Development projects are measured at the acquisition or production costs, less cumulative amortization and cumulative impairment expenses.

Intangible assets with a determinable useful life are subject to linear and amortization over their estimated useful lives. The amortization is fundamentally recognized in profit and loss. Goodwill as well as intangible assets without a determinable useful life are not subject to regular and amortization. Of the capitalized intangible assets, only goodwill has an indefinite useful life.

The estimated useful lives of the other capitalized intangible assets are:

- Licenses and acquired rights: 1 –20 years
- Brands and customer relationships: 3 –20 years
- Internally generated intangible assets: 3 –10 years

Depreciation methods, useful lives, and residual values are reviewed on every reporting date and adjusted where necessary.

Goodwill is tested annually for impairment.

Please refer to Chapter D.19. for information on the fair value of non-financial assets.

D.10. Property, plant and equipment

Property, plant and equipment (PPE) are measured at acquisition or production costs, less cumulative depreciation and cumulative impairment expenses.

Depreciation is calculated on a scheduled, linear basis over the estimated useful life. Depreciation is fundamentally recognized in profit and loss.

If indications of an impairment of individual items of PPE exist and the recoverable amount is lower than the book value, an impairment test is performed for this asset. The recoverable amount is the higher of the fair value less the costs of sale and the useful value. If the recoverable amount is below the book value, the difference is recognized in profit and loss and the basis for the regular depreciation is reassessed. Please refer to Chapter D.19. for information on the fair value of non-financial assets.

Right-of-use assets held under leases for which there is no reasonable certainty that the Group will obtain ownership at the end of the lease are depreciated over the shorter of the term of the lease and the useful life.

Land is not subject to regular depreciation.

The estimated useful lives of significant PPE for the current year and comparison years amount to:

- Buildings: 3 –50 years
- Technical equipment and machinery: 3 –25 years
- Other equipment, factory and office equipment: 1 –25 years

Depreciation methods, useful lives, and residual values are reviewed on every reporting date and adjusted where necessary.

D.11. Leases

Leases are accounted for in accordance with IFRS 16. At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Group as lessee

The Group recognizes and measures all leases (except for short-term leases and leases for which the underlying asset is of low value) in accordance with a single model. It recognizes liabilities for making leasing payments and right-of-use assets for the right to use the underlying asset.

i) Right-of-use assets

The Group recognizes right-of-use assets as of the commencement date of the lease (i.e., as of the date on which the underlying leased asset is available for use). Right-of-use assets are measured at cost less any accumulated depreciation and any accumulated impairment losses and adjusted for any remeasurement of the leasing liability. The costs of the right-of-use assets contain the leasing liabilities recognized, the initial direct costs incurred and the lease payments made at or before the commencement date, less any lease incentives received and the estimate of costs for dismantling or removing the underlying asset or for restoring the underlying asset or the site on which it is located, less any lease incentives received.

Right-of-use assets are depreciated on a straight-line basis as follows over the shorter of the lease term and the expected useful life of the leased asset:

- Land and buildings: 1 to 78 years
- Equipment and machinery: 1 to 15 years
- Vehicles and other equipment: 1 to 9 years

If ownership of the leased asset transfers to the Group at the end of the lease term or the exercise of a purchase option is reflected in the costs, the depreciation will be calculated on the basis of the expected useful life of the leased asset.

The right-of-use assets will also be tested for impairment. Details on the accounting policies can be found in section D.19 Impairment of financial assets.

The Group's right-of-use assets are included in "property, plant and equipment" (see Chapter H.11).

ii) Leasing liabilities

On the commencement date, the Group recognizes the leasing liabilities at the present value of the lease payments to be made over the lease term. In determining the lease term, extension and termination options are taken into account, if it is reasonably certain that they will be exercised or not exercised (see Chapter H.11.1 for details). The lease payments include fixed payments (including in-substance fixed payments), less any lease incentives receivable, variable lease payments that depend on an index or rate and amounts expected to be payable under residual value guarantees. The lease payments further include the exercise price of a purchase option if the Group is reasonably certain to exercise that option and payments of penalties for terminating the lease if the lease term reflects the Group exercising an option to terminate the lease.

Variable lease payments that do not depend on an index or a rate in the period in which the event or condition that triggers this payment occurs are recognized as an expense (unless the payments are incurred to produce inventories).

When calculating the present value of the lease payments, the Group normally uses its incremental borrowing rate at the commencement date because the interest rate implicit in the lease cannot be readily determined. Following the commencement date, the amount of the leasing liability is increased to reflect higher interest and reduced to reflect the lease payments made. In addition, the carrying amount of the leasing liability is revalued in the event of changes to the lease, changes to the lease term, changes to the lease payments (e.g., changes in future lease payments as a result of a change in an index or a rate used to determine those payments) or in the event of a change in the assessment of an option to purchase the underlying asset.

The Group's leasing liabilities are included in "Financial Liabilities" (see Chapters F.13 and H.11).

iii) Short-term leases and leases of low value assets

The Group applies the exemption for short-term leases (i.e., leases whose term from the commencement date is a maximum of twelve months and which do not include a purchase option) for short-term leases of machinery and technical equipment. It also applies the exemption for leases of low value assets to leases of items of office equipment classified as low value. Lease payments for short-term leases and for leases of low value assets are recognized as an expense on a straight-line basis over the lease term.

D.12. Inventories

Inventories are essentially valued at the lower of the acquisition or production costs and the net realizable value. Unfinished and finished products include manufacturing costs that can be attributed directly to the production process as well as an adequate share of production overheads. Production-related administration costs are also capitalized.

The net realizable value is calculated based on the proceeds that can be realized on the market in the normal course of business, less the costs for manufacturing the product and sales costs.

D.13. Assets held for sale or disposal groups

Non-current assets held for sale or disposal groups are classified as “Assets held for sale and discontinued operations” if it is highly probable that the associated book value will largely be realized by a sale transaction and not by continued utilization.

Non-current assets and also non-current and current assets included in disposal groups are recognized at the lower of book value and fair value less costs of disposal. Intangible assets and PPE are no longer subject to regular depreciation and amortization, and any associated company recognized using the equity method is no longer recognized using the equity method as soon as it is classified as held for sale.

D.14. Share-based payment arrangements

The fair value of the amount of the share-based payment arrangements that is to be paid to employees with respect to share appreciation rights paid in cash is recognized as an expense with a corresponding increase in liabilities over the period in which the employees become unconditionally entitled to these payments. The liability is remeasured on the reporting date and at the date of settlement based on the fair value of the share appreciation rights. Any changes in the liability are recognized in profit and loss.

D.15. Employee benefits

In addition, the Group recognizes both defined-contribution and defined-benefit plans.

Obligations for contributions to defined contribution plans are reported as an expense once the associated work performance has been provided. From group perspective those obligations are of subordinated importance. Prepaid benefits are reported as an asset if a right to the reimbursement or reduction of future payments exists. Under the company pension scheme, pension commitments are provided with employees waiving their right to cash compensation.

The Group’s net obligation with regard to defined benefit plans is calculated separately for every plan in that the future benefits, which the employees earned in the current period and earlier periods, are estimated. This amount is discounted and the fair value of any plan asset is deducted from this amount.

The calculation of defined benefit obligations is based on actuarial reports on the basis of the projected unit credit method.

Revaluations of net defined benefit liability are reported directly in other comprehensive income. The revaluation includes actuarial profits and losses, the income from plan assets (not including interest) and the impact of any asset cap (not including interest).

D.16. Other provisions

Provisions are recognized for legal or constructive obligations toward third parties which were caused by past events, which are likely to lead to the outflow of resources and whose amount can be reliably estimated. The timing and/or amount of provisions are uncertain.

The amount of provisions is calculated based on the best estimate of the amount of the expected outflow of resources. If the provisions are expected to be utilized within the normal business cycle, they are classified as short-term. Long-term provisions with a term of more than one year are discounted on the reporting date using the corresponding interest rates.

Warranties

Provisions for warranty obligations are established for the expected warranty obligations from the sale of products and services. The national law on sales contracts and individual agreements are taken into account. The provisions are based on the best estimates with regard to the fulfillment of the obligations in consideration of empirical values for claims from the past. They also include provisions for claims already raised by customers.

Measures

An accrued liability for restructuring measures is reported as soon as the Group has approved a detailed and formal restructuring plan and the restructuring measures have either started or have been communicated to the affected parties. Future operating losses are not taken into account.

Contractual provisions

Contractual provisions are recognized for existing contracts based on the imminent obligation excess of unavoidable costs over proceeds. The provision is valued at the present value of the expected excess obligation from the continuation of the contract. Before a provision is established for an onerous contract, the Group recognizes an impairment on the assets associated with this contract.

Sundry other provisions

Sundry other provisions are valued at the amount necessary to meet the requirements of current commitments on the reporting date.

Provisions for taxes

The Group reports all risks and obligations arising from tax matters under tax liabilities.

D.17. Financial instruments

In accordance with IAS 32.11, all contracts that give rise to a financial asset of one entity and a financial liability or equity instrument of another entity are considered financial instruments. Financial instruments measured at amortized cost (AC) are initially recognized at fair value on the trading day, taking into account attributable transaction costs. Transaction costs must be recognized immediately in the income statement for financial instruments measured at fair value through profit or loss (FVTPL). Furthermore, (current) trade accounts receivable are recognized on initial recognition not at fair value but at the transaction price.

Classification of financial instruments:

Financial assets from debt instruments

Financial assets are classified in the following measurement categories: "at amortized cost", "at fair value through other comprehensive income", and "at fair value through profit and loss." A classification into the three categories takes place based on the Group's business model for managing the financial assets as well as the characteristics of the contractual payment flows of the assessed financial assets.

The "at amortized cost" category contains all financial assets whose business model is associated with the aim of collecting the contractually agreed payment flows (business model: "hold"). Likewise, the contractual terms and conditions of the financial asset must be such that cash flows occur at fixed dates that exclusively represent repayments and interest payments on the outstanding capital amount (SPPI – criterion "cash flow condition").

Measurement at fair value not recognized in profit or loss is to be applied to financial assets with the aim of realizing cash flows both through the receipt of contractual payments and through sale ("holding and selling" business model). At the same time, the contractual conditions of the financial asset must also be structured so that payment flows, which exclusively represent principal and interest payments on the outstanding nominal amount, are generated on defined dates (SPPI criterion: cash flow condition).

Financial assets at fair value through profit or loss are those that are either held for trading or managed on the basis of their fair value or whose cash flows are maximized through sales. If financial instruments are classified at fair value through other comprehensive income, transaction costs are reported in profit and loss directly in the period in which they arise. This relates to a residual category which contains all financial assets that cannot be assigned to the "hold" or "hold and sell" business model (business model: "trade/other") as well as assets for which the SPPI criterion does not result in a positive decision. Financial assets for which the "fair value option" is exercised for the initial recognition are also classified as "at fair value through profit and loss."

Financial assets in the "at amortized cost" category particularly include trade accounts receivable (not including factoring), cash and cash equivalents and other receivables.

Cash equivalents are short-term, extremely liquid financial investments which can be converted to cash at any time and which are only subject to insignificant risks of changes in value.

Financial assets in the category "at fair value through other comprehensive income" exist in the Group in the form of trade accounts receivable for which factoring with derecognition is applied.

Financial assets in the category "at fair value through profit or loss" take the form of freestanding derivatives, equity investments and debt investments such as bonds and debt instruments. There are no financial assets that fall under the "fair value option."

Reclassifications between the measurement categories did not occur in 2020.

Financial liabilities

Financial liabilities are classified in the "at amortized cost" category. The Knorr-Bremse Group only recognizes financial liabilities from derivatives with negative fair values at fair value. If the "fair value option" is exercised for the initial recognition, they are classified as "at fair value through profit and loss." There are no financial liabilities which fall under "fair value option."

Financial liabilities in the category "at amortized cost" are mainly bonds issued, liabilities to banks and trade accounts payables.

Financial liabilities in the category "at fair value through profit or loss" in the Group are exclusively freestanding derivatives with a negative market value.

Equity instruments

Equity instruments under IFRS 9 are essentially classified at fair value through profit and loss. For the initial recognition of a financial investment in an equity instrument which is held as a long-term strategic investment rather than for trading purposes, IFRS 9 provides for an irrevocable option to report the changes to fair value in other comprehensive income ("FVOCI option"). In this case, the classification takes place in the "at fair value through other comprehensive income" category. In one case, an equity investment was classified as "at fair value through other comprehensive income" at initial recognition. Dividends are recognized in the statement of income. Furthermore, the fair value changes recognized in equity are not reclassified to the statement of income upon disposal of the equity instrument.

The fair value corresponds to the prices quoted on an active market, where applicable. If such a market does not exist, the fair value is calculated based on measurement models using current market parameters.

Derecognitions and modifications

Financial assets are derecognized if the contractual rights to payments which arise from the instrument expire or, alternatively, the financial assets are transferred with all material risks and opportunities. Financial liabilities are derecognized if the contractual obligations are settled, canceled, or expire. In the event of adjustments to loan conditions or extensions of terms, the Group validates whether this involves substantial modifications within the meaning of IFRS 9. The assessment as to whether a modification is substantial is made on basis of qualitative and quantitative criteria; the criteria used by the Group for financial assets correspond to the criteria for financial liabilities. If there is a substantial modification, the existing financial instrument is derecognized and the substantially modified financial instrument is rebooked. If there is a non-substantial modification, the book value of the financial instrument is adjusted through profit or loss.

Derivative financial instruments

Within the Group, financial derivatives must be recognized as financial assets or financial liabilities at fair value, irrespective of the purpose. The fair value of derivatives is calculated by discounting the future payment flows at the market interest rate and using other established actuarial methods, such as option price models. Derivatives are recognized on the trading day. The fair value of unconditional derivatives is zero at initial recognition under market conditions. Options are initially recognized at fair value (equal to the premium paid or received). Counterparty-specific credit risks are taken into account as part of the measurement of financial derivatives.

The Group uses financial derivatives in the form of forward exchange transactions and foreign exchange options, interest rate swaps, cross-currency interest rate swaps and commodity derivatives to hedge against currency, interest-rate and commodity risks. While currency risks primarily arise due to sales in foreign currencies, interest rate risks are predominantly caused by variable-rate liabilities, while commodity price risks arise as a result of the procurement of metals in the production process.

Impairments

IFRS 9 requires expected losses to be reported for all assets within the scope of the impairment provisions. The loss reported as well as the interest collected are calculated based on the assignment of the instrument to the categories listed below.

According to the general impairment model ("general approach"), the change in value is determined based on the following three levels:

Level 1: All relevant instruments are initially assigned to level 1. The present value of the expected losses from possible default events within the next twelve months ("12-month expected credit loss") after the reporting date must be reported and recognized as an expense. Interest is recognized on the basis of the gross book value. Consequently, the effective interest method is applied on the basis of the book value before risk provisioning is taken into account.

Level 2: This includes all instruments which have undergone a significant increase in the default risk since their initial reporting. The monitoring for a significant increase in the default risk as of the reporting date is carried out in connection with a screening process of the relative changes in ratings or CDS spreads of the business partner. Generally, a significant increase in the default risk is assumed in the event of an amount overdue in excess of 30 days. If the business partner for the financial instruments has at least an investment-grade rating, no assessment of a significant increase in the credit risk is made. The impairment corresponds to the present value of the expected losses from possible default events over the remaining term of the instrument ("lifetime expected credit loss"). The interest is reported in the same way as for level 1.

Level 3: If, in addition to an increased risk of default, there is objective evidence of an impairment of an instrument, the impairment is also measured based on the present value of the expected losses from possible default events over the remaining term. The reporting of the interest in the following periods must be adjusted so that the interest income is calculated based on the net book value and therefore based on the book value after taking account of the loan loss provision.

At each balance sheet date, the Group tests whether there is objective evidence of impairment for financial instruments carried "at amortized cost" or "at fair value through other comprehensive income." Criteria for impairment include default or default of debtors, indications of imminent insolvency or the disappearance of an active market for a security due to financial difficulties.

A default event exists when it is considered probable that a debtor cannot or will not be able to meet its payment obligations or meet them in full. Where a default event exists, the gross carrying amounts of the financial assets (fully or partially) are derecognized so that the gross carrying amount after derecognition represents the expected recoverable amount. In addition, a default event is assumed in the event of significant payment delays. For financial instruments within the scope of the "general approach", a default event is assumed in connection with an amount overdue by more than 90 days.

For the Group, in particular, cash and cash equivalents are subject to the impairment requirements in accordance with the "general approach."

For trade accounts receivable and leasing receivables, IFRS 9 provides for a simplified approach to impairment ("simplified approach") under which an impairment in the amount of the expected losses must be reported over the remaining term for all instruments, irrespective of the credit quality. Consequently, no distinction is made for these financial instruments between allocations to level 1 or level 2 of the impairment model under IFRS 9. A transfer to level 3 takes place if there is objective evidence of impairment. With respect to trade accounts receivable, a default event is assumed in the case that there are delays in payment in excess of 12 months. A default also exists if it considered probable that a debtor cannot meet or cannot entirely meet its payment obligations.

IFRS 9.5.5.4 requires in particular also the use of forward-looking information in determining expected credit losses. In the past, impairment losses were determined primarily by using the default probabilities published in historical default studies. In view of the effects of the COVID-19 pandemic, this approach is no longer considered adequate. Starting in the fourth quarter, the determination of forward-looking information was expanded by including CDS spreads.

Trade accounts receivable and leasing receivables of business partners are divided into four groups:

Group 1: debtor-specific CDS spread can be determined

Group 2: rating-equivalent benchmark CDS spread can be determined

Group 3: the probability of default can be determined via a credit agency

Group 4: the probability of default is determined on the basis of the average CDS spreads in the appropriate sectors: rail, truck, and banks

Rating and default probability data are updated quarterly.

Leasing receivables as well as any financial guarantees or loan commitments which would fall under the impairment provisions did not exist for the Company.

Hedge accounting

Derivatives are measured at fair value. If a derivative is (or components of a derivative are) included in hedge accounting as a cash flow hedging instrument, the effective changes are recognized in other comprehensive income and cumulatively included in the hedge reserve. In the Group, the undesignated parts of the hedging instruments, the forward components, are accounted for as costs of hedging. They are transferred to the reserve for the costs of hedging without effect on profit or loss.

If a hedged forecast transaction later leads to the recognition of a non-financial item, such as inventories, the cumulative amount from the reserve for hedging relationships and the reserve for costs of hedging is included directly in the cost of the non-financial item when this is recognized.

In the case of all other hedged forecast transactions, the cumulative amount that is transferred to the hedge reserve and the reserve for the costs of hedging is reclassified to profit or loss in the period or periods in which the hedged expected future cash flows affect profit or loss.

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

If the occurrence of the hedged transaction can no longer be expected, the hedge reserve and the reserve for costs of hedging are directly released to the income statement and thus recognized in profit and loss. If the occurrence of the hedged transaction continues to be expected but is no longer highly probable, the amount accumulated in the cash flow hedge reserve is reclassified depending on the occurrence of the expected cash flows.

D.18. Fair value – financial instruments (financial assets)

Measurement of fair value: In the Knorr-Bremse Group, financial instruments classified as “at fair value through profit or loss” (in particular, equities, bonds, and freestanding derivatives) and “at fair value through other comprehensive income” (equity instruments) are measured at fair value. In addition, the fair value of financial instruments that are not measured at fair value is disclosed in the notes to the consolidated financial statements.

The fair value is the price that would be received in an orderly transaction between market participants on the assessment date for the sale of an asset or that would be paid for the transfer of a liability. When measuring the fair value, it is assumed that the transaction is concluded on the principal market for the asset or liability, or on the most favorable market for the asset or liability, if no principal market is available.

The Group must have access to the principal market or to the most favorable market. The fair value of an asset or liability is measured based on the assumptions which the market participants would use as a basis for the pricing in their best commercial interest.

The Group uses measurement techniques that are appropriate under the circumstances and for which adequate data to measure the fair value is available. In this respect, the use of material input factors which can be observed must be as high as possible, while the use of input factors that cannot be observed must be kept to a minimum.

All financial assets and liabilities measured at fair value or whose fair value is disclosed in the notes are classified in the fair value hierarchies described below based on the input parameter of the lowest level, which is material for the overall measurement at fair value.

Level 1: (Unadjusted) prices listed in active markets

Level 2: Assessment methods in which key market parameters for assessment can be observed directly or indirectly

Level 3: Assessment methods in which significant parameters for valuation are not observable on the market

The assessment procedures and the input parameters used are reviewed regularly. The aim of the reviews is to use observable input factors in determining fair value as far as possible. Rearrangements in the hierarchy level are made at the end of the period in which the change occurred.

D.19. Fair value – non-financial assets

The book values of the Group's non-financial assets are reviewed on every reporting date in order to determine whether there is any indication of an impairment. If this is the case, the recoverable amount of the asset is estimated. Goodwill is reviewed annually for impairment.

To check whether an impairment exists, assets are combined into the smallest group of assets that generate cash inflows from continued use that are largely independent of the cash inflows from other assets or cash-generating units (CGUs). Goodwill that was acquired as part of a business combination is assigned to one or more groups of CGUs from which a benefit from the use of the synergies of the business combination is expected.

The recoverable amount of an asset or a CGU is the higher of the value in use and the fair value less costs to sell. When assessing the value in use, the estimated future cash flows are discounted to their present value, whereby a weighted average cost of capital (WACC) before tax is used which reflects the current market valuations of the interest effect and the specific risks of an asset or a CGU. The fair value is the price that would be received in an orderly transaction between market participants on the assessment date for the sale of an asset or that would be paid for the transfer of the liability. The fair value of non-financial assets is determined in an equivalent manner to the fair value of financial assets (Chapter D.18).

An impairment loss is reported if the book value of an asset or a CGU exceeds its recoverable amount.

Impairment losses are recognized in profit and loss.

An impairment loss with regard to the goodwill would not be reversed. For other assets, an impairment loss is only reversed to the extent that the market value of the asset does not exceed the book value that would have been calculated, less the depreciation or amortization, if no impairment loss had been reported.

E. Notes to the consolidated statement of income

E.1. Revenues

Revenues by segments

The following table shows revenue by segment. Table → 3.15 Revenues within the segment are presented on a pre-consolidated basis.

Classification of revenue and reconciliation with segment revenues

Table → 3.16 presents a breakdown, by region and point in time, of consolidated revenue that is generally within the scope of IFRS 15 and reconciles this to revenue of the segment reporting. The reconciliation impact from IFRS to revenue according to segment reporting totals € 14,582 thousand. Thereof, € 32,650 thousand resulted from the Rail Vehicle Systems segment and € 25,646 thousand from the Commercial Vehicle Systems segment. € -43,714 thousand is attributable to "Other segments and intersegment consolidation". Table → 3.17

Revenue of the reporting period for performance obligations satisfied in previous periods

The revenue of the 2020 period includes € 2,196 thousand (2019: € 2,221 thousand) from performance obligations fulfilled in the prior years.

3.15 Revenues by segments (IFRS)

in € thousand	Rail Vehicle Systems		Commercial Vehicle Systems		Other segments and consolidation		Total	
	2020	2019	2020	2019	2020	2019	2020	2019
Total	3,336,755	3,656,077	2,819,446	3,280,238	545	215	6,156,746	6,936,530

3.16 Classification of revenue and reconciliation with segment revenues

	IFRS revenue			Reconciliation to segment revenue			Revenue according to segment reporting		
in € thousand	Rail Vehicle Systems	Commercial Vehicle Systems	Total	Rail Vehicle Systems	Commercial Vehicle Systems	Total	Rail Vehicle Systems	Commercial Vehicle Systems	Total
									2020 fiscal year
1. Disaggregation of segments									
a) Region (by registered offices of the Group Companies)									
Europe/Africa	1,672,506	1,119,142	2,791,648	10,560	9,860	20,420	1,683,066	1,129,002	2,812,068
North America	354,464	906,922	1,261,386	8,855	12,655	21,510	363,319	919,577	1,282,896
South America	19,436	56,412	75,848	109	1,595	1,704	19,545	58,007	77,552
Asia-Pacific	1,290,350	736,971	2,027,320	13,126	1,535	14,661	1,303,475	738,506	2,041,981
	3,336,755	**2,819,446**	**6,156,202**	**32,650**	**25,646**	**58,296**	**3,369,405**	**2,845,092**	**6,214,497**
b) Type of time recording									
Recognition over time	1,114,958	–	1,114,958	(1,114,958)	–	(1,114,958)	–	–	–
Recognition at a point in time	2,221,797	2,819,446	5,041,243	1,147,608	25,646	1,173,254	3,369,405	2,845,092	6,214,497
	3,336,755	**2,819,446**	**6,156,202**	**32,650**	**25,646**	**58,296**	**3,369,405**	**2,845,092**	**6,214,497**
2. Other segments and consolidation	–	–	545	–	–	(43,714)	–	–	(43,169)
3. Total	**3,336,755**	**2,819,446**	**6,156,746**	**32,650**	**25,646**	**14,582**	**3,369,405**	**2,845,092**	**6,171,328**

in € thousand	IFRS revenue Rail Vehicle Systems	IFRS revenue Commercial Vehicle Systems	IFRS revenue Total	Reconciliation to segment revenue Rail Vehicle Systems	Reconciliation to segment revenue Commercial Vehicle Systems	Reconciliation to segment revenue Total	Revenue according to segment reporting Rail Vehicle Systems	Revenue according to segment reporting Commercial Vehicle Systems	Revenue according to segment reporting Total
									2019 fiscal year
1. Disaggregation									
a) Region (by registered offices of the Group Companies)									
Europe/Africa	1,806,660	1,391,041	3,197,702	77,945	15,038	92,983	1,884,605	1,406,080	3,290,684
North America	449,494	1,193,054	1,642,548	(6,139)	12,646	6,507	443,354	1,205,700	1,649,055
South America	22,906	81,828	104,734	202	1,618	1,820	23,108	83,446	106,554
Asia-Pacific	1,377,017	614,314	1,991,332	(3,640)	3,358	(282)	1,373,377	617,673	1,991,050
	3,656,077	**3,280,238**	**6,936,315**	**68,367**	**32,661**	**101,028**	**3,724,444**	**3,312,899**	**7,037,343**
b) Type of time recording									
Recognition over time	1,217,824	–	1,217,824	(1,217,824)	–	(1,217,824)	–	–	–
Recognition at a point in time	2,438,252	3,280,238	5,718,491	1,286,192	32,661	1,318,852	3,724,444	3,312,899	7,037,343
	3,656,077	**3,280,238**	**6,936,315**	**68,367**	**32,661**	**101,028**	**3,724,444**	**3,312,899**	**7,037,343**
2. Other segments and consolidation	**–**	**–**	**215**	**–**	**–**	**(34,725)**	**–**	**–**	**(34,510)**
3. Total	**3,656,077**	**3,280,238**	**6,936,530**	**68,367**	**32,661**	**66,303**	**3,724,444**	**3,312,899**	**7,002,833**

3.17 Reconciliation effect of IFRS on revenues according to segment reporting

in € thousand	Rail Vehicle Systems	Commercial Vehicle Systems	Other segments and consolidation	Total
				2020 fiscal year
Elimination of the effect of the over-time-recognition of revenue	(4,113)	–	–	(4,113)
Application of the German Accounting Directive Implementation Act (BilRuG) and other effects	36,763	25,646	(43,714)	18,695
Total	**32,650**	**25,646**	**(43,714)**	**14,582**
				2019 fiscal year
Elimination of the effect of the over-time-recognition of revenue	43,888	–	–	43,888
Application of the German Accounting Directive Implementation Act (BilRuG) and other effects	24,479	32,661	(34,725)	22,415
Total	**68,367**	**32,661**	**(34,725)**	**66,303**

Transaction price allocated to the remaining performance obligations

The transaction price allocated to the remaining performance obligations amounts to € 2,768,234 thousand as of December 31, 2020 (2019: € 2,349,578 thousand). This relates to the project business for the Rail Vehicle Systems segment and includes only customer contracts with an original contractual term of over one year. As in the previous year, the projects have an average term of 4 years. As of December 31, 2020, contracts from project business will last through the year 2050.

There are no customer contracts in the systems for Commercial Vehicle Systems segment with an original contractual term of over one year.

Information on contract balances in connection with IFRS 15

a) Contract assets and contract liabilities

The contract assets and contract liabilities primarily relate to the presentation of project business in the Rail Vehicle -Systems segment according to the method of revenue recognition over a period of time.

According to this method, contract assets result from services performed, insofar as these are not settled through invoices. Advance payments from customers have a counter effect. Depending on the relationship between the percentage of completion in the specific project, invoices and advance payments, therefore, there may be either contract assets or liabilities.

The impairment under IFRS 9 on contract assets was € 1,633 thousand as of December 31, 2020 (2019: € 848 thousand).

For contracts with revenue not recognized over a period of time, advance payments are also recognized as contract liabilities if the relevant performance obligations have not yet been fulfilled. In addition, compensation payments for development costs before series production are recognized as contract liabilities. As in the previous year, the latter only refers to the Commercial Vehicle Systems segment as of December 31, 2020.

Table → 3.18 shows the effects in the reconciliation from the final balance of contract assets and liabilities as at December 31, 2019 to December 31, 2020.

Revenue of the reporting period, which were included in the opening balance of contract liabilities as of January 1, 2020, amounted to € 131,694 thousand (2019: € 172,479 thousand.)

b) Other assets

Other assets include, € 22,280 thousand (non-current: € 22,280 thousand, current: € 0 thousand) so-called nomination fees from the Commercial Vehicle Systems and Rail Vehi-

3.18 Reconciliation from the closing balance of contract assets and liabilities

in € thousand	Contract assets	Contract liabilities
		2020 fiscal year
As of Dec. 31, 2019	**89,885**	**277,351**
Increase in contract liabilities from invoices and effects from changes in advance payments	–	27,357
Transfer of the opening balance for contract assets to trade receivables through invoices	(69,376)	–
Change as a result of the recognition of revenue	67,918	–
Change of impairment on contract assets	(785)	–
Other	(3,425)	(8,840)
Closing balance as of Dec. 31, 2020	**84,217**	**295,868**
		2019 fiscal year
As of Dec. 31, 2018	**99,284**	**315,122**
Transfer of the opening balance for contract assets to trade receivables through invoices	(95,434)	–
Change as a result of the recognition of revenue	98,018	(38,405)
Change of impairment on contract assets	(544)	–
Other	(11,438)	634
Closing balance as of Dec. 31, 2019	**89,885**	**277,351**

cle Systems segments (previous year: € 20,993 thousand; thereof non-current; € 20,993 thousand, current: € 0 thousand). The capitalized amounts will be depreciated against revenue from the start of series production and over the term of series production. In 2020, depreciation recognized on these assets amounted to € 863 thousand. (previous year: € 13 thousand).

The other non-current assets include costs to fulfil a contract of € 19,642 thousand (previous year: € 16,187 thousand). These relate to engineering costs in the Commercial Vehicle Systems segment before series production. These will be depreciated against changes in inventory as from the start of series production and over the term of series production. In 2020, depreciation recognized on these assets amounted to € 1,782 thousand (previous year: € 297 thousand).

The other non-current assets also include costs to obtain a contract in an amount of € 1,763 thousand (previous year: € 239 thousand). These will be depreciated against changes in inventory as from the start of series production and over the term of series production. In 2020, depreciation recognized on these assets amounted to € 204 thousand (previous year: € 0 thousand).

E.2. Change in inventory and own work capitalized

The change in inventory reflects the change in finished and unfinished products and the costs to fulfil and cost to obtain a contract written off against the change in inventory Table → 3.19. The development of finished and unfinished products is covered in Chapter F.6. Inventories.

Own work capitalized results from the capitalization of development projects.

E.3. Other operating income Table → 3.20

In the course of 2020, the three core currencies USD, HUF and CZK saw a marked depreciation in relation to the EUR. This trend was due to the corona pandemic, among other factors, resulting in increased operating income. Other operating income primarily comprise income from other services, income from government grants as well as income from insurance compensations and compensation payments. Income from other services mainly relates to development and testing services to third parties. The decline in income from the disposal of land and buildings is due to the income derived in the previous year from a sale and leaseback transaction concerning the Munich site.

E.4. Cost of materials Table → 3.21

The cost of materials is comprised of the expenditure on raw materials, consumables, supplies, and purchased goods as well as on purchased services. The 13.6% decrease in the cost of materials was greater than the 11.2% decrease in revenues. This was particularly due to the greater decrease in revenues in the Commercial Vehicle Systems segment than in the Rail Vehicle Systems segment.

Therefore, the cost of materials ratio as a percentage of sales revenues decreased to 48.1% in 2020, in comparison to 49.4% in 2019.

In the reporting period, inventories in the amount of € 2,730,616 thousand (2019: € 3,169,137 thousand) were recognized as expenses. This includes increases in write-downs

3.19 Change in inventory and own work capitalized

in € thousand	2020	2019
Change in inventory of finished and unfinished products	(11,297)	5,713
Own work capitalized	76,098	73,316

3.20 Other operating income

in € thousand	2020	2019
Currency translation gains	58,696	32,477
Income from government grants	7,644	6,200
Insurance compensation and compensation payments	7,233	9,878
Income from other services	5,390	11,139
Rental income	2,582	2,006
Income from the disposal of land and buildings	1,377	48,708
Other income	9,235	6,568
	92,157	**116,976**

3.21 Cost of materials

in € thousand	2020	2019
Expenses for raw materials, consumables and supplies and for purchased goods	(2,730,616)	(3,169,137)
Expenses for purchased services	(230,495)	(259,427)
	(2,961,111)	**(3,428,564)**

on inventories amounting to € 24,803 thousand (2019: reduction in write-downs amounting to € 19,911 thousand).

Please refer to Chapter F.6 for more information on the changes to inventories.

E.5. Personnel expenses Table → 3.22

The personnel expenses primarily include wages and salaries, as well as social security contributions.

The decrease in wages and salaries by approximately -2.4% in 2020 (2019: 6.6% increase) was based largely on the decrease in the average number of employees excluding leased personnel by 0.9% from 26,615 (2019) to 26,380 (2020) and savings of personnel expenditure in the notified short-time work in 2020.

Expenses for personnel leasing declined by € 13,381 thousand from € 80,151 thousand to € 66,770 thousand. This is due to the decline in human resources deployed in personnel leasing in 2020.

For the 2020 fiscal year, expenses for defined contribution pension plans amount to € 43,075 thousand (2019: € 39,016 thousand) and include the contributions paid to the statutory pension insurance.

Personnel adjustment measures due to severance payments that did not result from restructuring measures affected personnel expenses in fiscal year 2020 with € 13,065 thousand as compared to € 17,712 thousand in 2019. The included restructuring-related personnel expenses in the fiscal year 2020 are amounting to € 0 thousand (2019: € 19,000 thousand).

3.22 Personnel expenses

in € thousand	2020	2019
Wages and salaries	(1,201,484)	(1,230,868)
Social security contributions	(234,052)	(237,387)
Expenses for personnel leasing	(66,770)	(80,151)
Termination benefits	(13,065)	(36,712)
Expenses in connection with defined benefit plans	(10,114)	(8,654)
	(1,525,485)	**(1,593,772)**

E.6. Other operating expenses Table → 3.23

Other operating expenses declined in 2020 by 7.8%, from € 781,512 thousand to € 720,207 thousand.

Order-related expenses include, in particular, warranty expenses, freight costs and commissions.

The devaluation in the course of 2020 of the three core currencies USD, HUF and CZK in relation to the EUR resulted in a higher level of operating expenses. This was also due to the corona pandemic, among other factors.

Personnel-related expenses declined above all on account of substantially lower travel expenses owing to the Covid-19 pandemic, which also entailed significant travel restrictions.

The cost-cutting measures implemented due to the Corona pandemic were noticeable particularly in terms of declining maintenance expenses, legal and consultancy fees as well as administrative expenses.

Other services include services such as logistics, security and building services and cleaning.

Other expenses essentially comprise bank charges, losses from retirement of assets and compensation payments.

3.23 Other operating expenses

in € thousand	2020	2019
Order-related expenses	(119,725)	(125,653)
Maintenance expenses	(93,143)	(106,549)
Legal, consulting and audit costs	(89,190)	(99,735)
Other services	(87,452)	(90,490)
Currency translation losses	(65,743)	(33,096)
Personnel expenses	(57,447)	(102,321)
External research and development costs	(45,087)	(43,095)
License and patent fees	(30,840)	(28,879)
Other taxes	(30,523)	(31,228)
Administrative expenses	(29,820)	(36,641)
Energy, insurance, and utility costs	(16,077)	(17,288)
Rents and leases	(15,108)	(18,405)
Impairment losses	(7,488)	(6,867)
Donations	(4,322)	(4,214)
Losses from the disposal of land and buildings	(1,418)	(4,534)
Other expenses	(26,823)	(32,517)
	(720,207)	**(781,512)**

E.7. Depreciation, amortization and impairments

Depreciation, amortization and impairments is comprised as follows: Table → 3.24

Depreciation, amortization and impairments increased by 10%, or € 27,118 thousand, in 2020, from € 265,780 thousand to € 292,898 thousand.

The impairment losses on intangible assets in the fiscal year result largely from the impairments of patents that are no longer usable in the Commercial Vehicle Systems division in the amount of € 4,100 thousand, the impairment losses on software and software solutions worked on but no longer further developed in the amount of € 11,348 thousand and impairment losses on discontinued R&D projects in the Rail Vehicle Systems division in the amount of € 6,710 thousand. The recoverable amount of the assets is € 0 and thus matches their value in use.

In the previous year, impairment losses were additionally recognized in the Commercial Vehicle Systems segment in connection with the closure of KB Steering Systems which amounted to € 10,211 thousand and € 6,174 thousand for tools.

Depreciation of property, plant and equipment includes depreciation of lease assets of € 55,624 thousand (2019: € 49,809 thousand).

3.24 Depreciation, amortization and impairments

in € thousand	2020	2019
Depreciation, amortization and impairments of intangible assets	**(74,883)**	**(52,628)**
thereof regular depreciation and amortization of intangible assets	(50,926)	(47,074)
thereof impairments of intangible assets	(23,957)	(5,554)
Depreciation and impariments of property, plant, and equipment	**(218,015)**	**(213,152)**
thereof depreciation of property, plant, and equipment	(217,609)	(201,414)
thereof impairments of property, plant and equipment	(406)	(11,738)
Impairment of disposal groups	–	–
	(292,898)	**(265,780)**

E.8. Financial result Table → 3.25

Foreign currency gains or losses on financial Instruments carried at amortized cost (AC) mainly result from the currency translation differences of cash and cash equivalents at the closing rate; these foreign currency gains or losses are netted. The currency gains or losses on financial instruments recognized at fair value through profit or loss (FVTPL) result from the realized gains or losses on currency derivatives and the measurement effects from existing currency derivatives and changes in the fair value of the financial instruments included in the special fund.

In 2020, the share of profit and loss of companies accounted for using the equity method arises mainly from the share of profit or loss of RailVision Ltd., Raanana/Israel and Railnova SA, Brussels/Belgium.

Dividends paid to non-controlling interests exclusively comprise dividends paid to the minority shareholder Bosch of € 11,932 thousand (2020: € 21,617 thousand).

Interest income and expenses from financial instruments measured at fair value (FVTPL) are attributable to the fair value measurement of interest rate swaps and to the financial instruments contained in the special fund. Interest income and expense from financial instruments (AC) carried at amortized cost represent the total interest expense and income of these assets and liabilities determined using the effective interest method.

Results from the special fund launched in 2020 are included in the financial result in fiscal 2020 at total income of € 862 thousand. Of this, € 150 thousand is interest expense, € 30 thousand is interest income and € 982 thousand is reported under other financial result. The items reported under other financial result particularly include amounts from the measurement of securities at fair value through profit or loss.

For further information on interest income and interest expenses from defined benefit plans, please refer to Chapter F.10. Employee benefits.

The development of the provisions is dealt with in Chapter F.11 Other Provisions.

3.25 Financial result

in € thousand	2020	2019
Interest income from financial instruments, thereof	9,468	17,226
a) Financial instruments (AC)	8,684	15,946
b) Financial instruments (FVTPL)	784	1,280
Interest income from defined benefit plans	5,113	6,723
Other	4,770	3,649
Interest income	**19,351**	**27,598**
Interest expenses from financial instruments, thereof	(28,360)	(27,188)
a) Financial instruments (AC)	(28,122)	(26,301)
b) Financial instruments (FVOCI)	(238)	–
Interest expenses from defined benefit plans	(9,035)	(12,177)
Compounding of provisions	(3,668)	(3,797)
Lease interest expenses	(10,844)	(7,470)
Other	(2,964)	(428)
Interest expenses	**(54,870)**	**(51,059)**
Currency translation differences, thereof	12	32
a) Financial instruments (FVOCI)	12	32
Other	1,387	483
Other financial income	**1,399**	**514**
Currency translation differences, thereof	(11,113)	(18,513)
a) Financial instruments (AC)	(434)	(4,962)
b) Financial instruments (FVTPL)	(10,679)	(13,551)
Expenses from the deconsolidation of subsidiaries	(2,791)	(82,069)
Expenses from the revaluation of financial instruments (FVTPL)	(1,421)	(2,489)
Share of profits and losses of companies accounted for using the equity method, after taxes	(1,992)	(2,489)
Dividends to non-controlling interests	(11,932)	(21,617)
Other	(72)	(5,668)
Other financial expenses	**(29,320)**	**(132,844)**
Other financial result from other financial income and other financial expenses	**(27,921)**	**(132,330)**
Financial result	**(63,440)**	**(155,791)**

E.9. Taxes on income

E.9.1. Taxes reported in profit and loss Table → 3.26

The tax expenses include current and deferred taxes. Current and deferred taxes are reported in profit and loss, except for the extent to which they are associated with a business combination or with items reported directly in equity or in the other comprehensive income.

Tax losses/credits of € 847 thousand (2019: € 3,198 thousand) relate to the current year and € -4,861 thousand (2019: € -507 thousand) to the previous year.

The change in deferred taxes in the current year is essentially due to valuation allowances on deferred tax assets and on the increase in taxable temporary differences.

E.9.2. Taxes reported in other comprehensive income

The breakdown of taxes reported in other comprehensive income is presented in Table → 3.27.

E.9.3. Taxes reported directly in equity

Tax income directly recognized in equity in 2020, amounting to € 4,531 thousand, relates to a taxable goodwill resulting from a step acquisition on which deferred tax assets

3.26 Taxes reported in profit and loss

in € thousand	2020	2019
Current year	(180,357)	(272,238)
Previous years	(2,195)	16,806
Current tax expense	**(182,552)**	**(255,432)**
Recognition/reversal of temporary differences	(34,561)	(6,595)
Temporary differences from previous years	2,736	(15,762)
Tax losses/credits	(4,014)	2,691
Deferred tax expense	**(35,839)**	**(19,666)**
Tax expenses	**(218,391)**	**(275,099)**

3.27 Taxes reported in other comprehensive income

in € thousand	Before tax	Deferred tax assets (-)/ liabilities (+)	After tax
			Dec. 31, 2020
Revaluation of net debt from defined benefit plans	129,746	(34,015)	95,731
Currency translation differences	188,078	–	188,078
Revaluation of equity instruments	35,694	–	35,694
Hedge Accounting	(2,842)	918	(1,924)
Total	**350,676**	**(33,097)**	**317,579**
			Dec. 31, 2019
Revaluation of net debt from defined benefit plans	104,830	(30,737)	74,093
Effect of changes in foreign exchange rates	70,705	–	70,705
Revaluation of equity instruments	32,177	–	32,177
Hedge Accounting	3,417	(1,081)	2,336
Total	**211,129**	**(31,818)**	**179,311**

were recorded. The tax expenses reflected in the previous year, amounting to € 4,803 thousand, were due to reimbursement payments (IPO costs) of the main shareholder in 2018. Table → 3.28

E.9.4. Reconciliation of the effective tax rate

The difference between the effective and expected tax expenses in both fiscal years results mainly from lower local tax rates compared to the hypothetical tax rate at group level.

Material effects that increase the tax rate resulted from adjusted deferred tax assets on temporary differences and tax loss carry-forwards as well as non-creditable withholding tax on dividends, essentially reported under the line item "Other".

In addition, effects resulted from the line item "non-tax deductible expenses" by reclassification of dividends to minority shareholders.

The "Tax from previous year" item includes additions of € - 4,612 thousand and a valuation allowance of € 7,238 thousand on deferred tax assets. Table → 3.29

E.9.5. Change in deferred taxes

The allocation and development of deferred tax positions shows a steadily decreasing asset surplus. The changes in other comprehensive income mainly relate to pension obligations. Effects from first-time consolidations and deconsolidations, changes in tax rates and effects from the previous year are reported under "Other". Table → 3.30

E.9.6. Unrecognized deferred tax assets

Deferred tax assets were not reported with regard to the following items, as it is not likely that taxable income, against which the Company can settle deferred tax assets, will be available in the future. Table → 3.31

3.28 Taxes reported in other comprehensive income

in € thousand	tax income (+) / tax expense (–)
Opening balance as of Jan. 1, 2020	(4,803)
Taxable goodwill created within the scope of a transaction	4,531
Closing balance as of Dec. 31, 2020	(272)

3.29 Reconciliation of the effective tax rate

	Dec. 31, 2020		Dec. 31, 2019	
	%	€ thousand	%	€ thousand
Earnings before taxes		750,562		907,116
Expected taxes	32.3	242,432	32.3	292,999
Differences between the local and hypothetical tax rate at the top level	(11.7)	(88,186)	(10.7)	(97,016)
Changes to the tax rate	0.5	3,989	1.1	9,569
Effects from permanent differences due to different accounting under the IFRS and tax return	0.2	1,605	(0.1)	(565)
Increase in tax due to non-tax deductible expenses	3.2	23,850	7.3	65,998
Tax-exempt income	(0.3)	(2,536)	(0.4)	(3,986)
Non-recognition of losses in the current year	1.3	9,600	1.8	16,016
Utilization of loss carry-forwards on which no deferred taxes were recognized.	(0.0)	(30)	(0.2)	(2,090)
Change/adjustment of unrecognized temporary differences	0.5	4,007	0.2	1,748
Tax from previous year	0.6	4,320	(0.1)	(1,044)
Other	2.6	19,341	(0.7)	(6,530)
Effective taxes	**29.1**	**218,392**	**30.3**	**275,099**

3.30 Change in deferred taxes in the balance sheet during the year

in € thousand	Net as of 01/01	Initial application of IFRS 16	In profit/ loss	In other income	Other	Net currency translation differences	Net	As of 12/31 Deferred tax assets	As of 12/31 Deferred tax liabilities
2020 fiscal year									
Intangible assets	(69,398)	–	(19,769)	–	1,789	1,800	(85,578)	7,581	(93,159)
Property, plant and equipment	(118,943)	–	(15,864)	–	(9,850)	3,983	(140,674)	2,160	(142,834)
Investments	(21,868)	–	5,609	(3,150)	(383)	406	(19,386)	3,167	(22,553)
Inventories	27,343	–	4,492	–	(1,423)	(853)	29,559	35,404	(5,845)
Other assets	(15,886)	–	(35,142)	–	(686)	2,073	(49,641)	546	(50,187)
Tax loss carry-forwards	16,070	–	(4,014)	–	–	(825)	11,231	11,231	–
Pension obligations	52,584	–	(10,196)	6,428	1,869	(448)	50,237	64,256	(14,019)
Other provisions	46,266	–	(11,784)	–	485	(1,741)	33,226	47,838	(14,612)
Liabilities	129,641	–	50,829	(1,999)	(133)	(5,378)	172,960	181,119	(8,159)
Tax assets (liabilities) before netting	**45,809**	**–**	**(35,839)**	**1,279**	**(8,332)**	**(983)**	**1,934**	**353,302**	**(351,368)**
Netting of taxes	–	–	–	–	–	–	–	(236,886)	236,886
Net tax assets (liabilities)	**45,809**	**–**	**(35,839)**	**1,279**	**(8,332)**	**(983)**	**1,934**	**116,416**	**(114,482)**
2019 fiscal year									
Intangible assets	(54,215)	–	(16,543)	–	1,954	(594)	(69,398)	1,721	(71,120)
Property, plant and equipment	(47,851)	(58,728)	(11,819)	–	(224)	(321)	(118,943)	1,311	(120,254)
Investments	(9,967)	–	(11,140)	1,081	(1,684)	(158)	(21,868)	4,123	(25,990)
Inventories	23,964	–	3,591	–	(188)	(24)	27,343	36,953	(9,610)
Other assets	(28,681)	–	27,854	(423)	(11,459)	(3,177)	(15,886)	15,073	(30,959)
Tax loss carry-forwards	10,546	–	2,691	–	2,518	315	16,070	16,070	–
Pension obligations	37,739	–	(9,112)	9,652	14,240	65	52,584	61,668	(9,084)
Other provisions	62,756	–	(17,389)	–	669	230	46,266	49,858	(3,592)
Liabilities	61,208	58,728	12,201	–	(6,397)	3,901	129,641	165,965	(36,324)
Tax assets (liabilities) before netting	**55,499**	**–**	**(19,666)**	**10,310**	**(571)**	**237**	**45,809**	**352,742**	**(306,933)**
Netting of taxes	–	–	–	–	–	–	–	(226,144)	226,144
Net tax assets (liabilities)	**55,499**	**–**	**(19,666)**	**10,310**	**(571)**	**237**	**45,809**	**126,598**	**(80,789)**

3.31 Unrecognized deferred tax assets

	Dec. 31, 2020		Dec. 31, 2019	
in € thousand	Gross	Tax effect	Gross	Tax effect
from deductible temporary differences	12,686	3,879	7,319	2,126
from tax losses	125,373	35,782	97,061	27,635
	138,059	**39,661**	**104,380**	**29,761**

The non-recognized tax loss carry-forwards expire as follows: Table → 3.32

E.9.7. Additional disclosures

As of December 31, 2020, the Group's parent company recorded deferred tax liabilities of € 6,194 thousand (2019: € 7,866 thousand.) for temporary differences on future dividend payments (outside basis differences). No other deferred tax liabilities in connection with temporary differences (outside basis differences) in the amount of € 226,052 thousand (2019: € 423,113 thousand) in connection with investments in subsidiaries, associated companies or jointly controlled companies were reported as of the reporting date.

The Group is of the opinion that the income tax liabilities formed are adequate for the years where the tax audit is not closed in consideration of all available information, including the interpretation of tax law and previous experience.

E.10. Earnings per share

The Group's net income declined in 2020 by 16% or € 99,847 thousand from € 632,018 thousand to € 532,171 thousand.

Undiluted earnings per share are calculated in accordance with IAS 33 from the earnings attributable to Knorr-Bremse Aktiengesellschaft shareholders and the weighted average number of shares outstanding during the year. Table → 3.33

The number of shares in circulation is unchanged at 161,200,000 for the whole of 2020 and is thus also the same as the weighted average. Table → 3.34

Diluted earnings per share correspond to undiluted earnings per share.

For further information on the share split and capital increase, see Chapter F.8.1. Subscribed capital.

3.32 Non-capitalized tax loss carry-forwards

	Dec. 31, 2020		Dec. 31, 2019	
in € thousand		Expiration date		Expiration date
Expirable	46,082	1–10 years	21,990	1–10 years
Non-expirable	79,291		75,071	–
	125,373		**97,061**	

3.33 Earnings per share

in € thousand	2020	2019
Net income (in € thousand)	532,171	632,018
Earnings after taxes from continuing operations (attributable to Knorr-Bremse shareholders) (in € thousand)	495,499	588,423
Weighted average of shares outstanding (in thousand pieces)	161,200	161,200
Earnings per share in EUR (undiluted)	3.07	3.65
Earnings per share in EUR (diluted)	3.07	3.65

3.34 Change in number of shares

	in thousand Pcs	Nominal amount in €	Subscribed capital in € thousand
Shares as of Jan. 1, 2020	161,200	1.00	161,200
Shares as of Dec. 31, 2020	161,200	1.00	161,200

F. Notes to the consolidated statements of balance sheet

F.1. Intangible assets Table → 3.35

3.35 Intangible assets

in € thousand	Goodwill	Software, licenses and acquired rights	Brands and customer relation-ships	Internally generated intangible assets	Advance payments made on intangible assets and assets under construction	Other assets	Total
Acquisition and production cost							
As of Jan. 1, 2019	**305,892**	**336,833**	**98,601**	**162,366**	**84,101**	**20,638**	**1,008,431**
Currency translation differences	8,552	3,076	3,515	1,422	49	709	17,323
Additions	–	15,656	–	64,483	17,747	–	97,885
Disposals	–	(2,878)	–	(84)	–	–	(2,962)
Acquisitions resulting from business combinations	66,693	5,225	60,124	17,364	926	(1)	150,331
Disposal from the scope of consolidation	–	(4,044)	(7,125)	(3,658)	–	(5,505)	(20,332)
Reclassifications	–	17,001	(2,779)	2,221	(16,444)	–	–
As of Dec. 31, 2019	**381,137**	**370,869**	**152,337**	**244,116**	**86,377**	**15,842**	**1,250,676**
As of Jan. 1, 2020	**381,137**	**370,869**	**152,337**	**244,116**	**86,377**	**15,842**	**1,250,676**
Currency translation differences	(10,463)	(20,815)	(757)	(6,418)	253	(622)	(38,820)
Additions	–	11,841	–	66,473	27,003	–	105,317
Disposals	–	(10,170)	(3,350)	(2,278)	(1,293)	(1,526)	(18,617)
Acquisitions resulting from business combinations	25,500	711	8,354	1,068	218	3,802	39,653
Disposal from the scope of consolidation	–	(8)	–	–	–	–	(8)
Reclassifications	–	87,285	–	(23,023)	(64,262)	–	–
As of Dec. 31, 2020	**396,174**	**439,713**	**156,584**	**279,938**	**48,296**	**17,496**	**1,338,201**
Accumulated depreciation, amortization and impairment expenses							
As of Jan. 1, 2019	**–**	**(284,539)**	**(41,586)**	**(33,942)**	**63**	**(5,266)**	**(365,271)**
Currency translation differences	–	(3,120)	(801)	(235)	–	(199)	(4,355)
Additions	–	(18,599)	(13,042)	(11,365)	–	(4,068)	(47,074)
Disposals	–	338	–	–	(63)	–	276
Impairments	–	(1,976)	(3,426)	(151)	–	–	(5,554)
Disposal from the scope of consolidation	–	3,761	4,585	87	–	5,049	13,481
As of Dec. 31, 2019	**–**	**(304,134)**	**(54,271)**	**(45,606)**	**–**	**(4,485)**	**(408,496)**
As of Jan. 1, 2020	**–**	**(304,134)**	**(54,271)**	**(45,606)**	**–**	**(4,485)**	**(408,496)**
Currency translation differences	–	16,268	(3,474)	3,905	(450)	152	16,401
Additions	–	(26,669)	(12,089)	(8,991)	–	(3,176)	(50,925)
Disposals	–	9,633	3,183	2,196	–	1,526	16,538
Impairments	–	(5,610)	(1,799)	(6,710)	(9,838)	–	(23,957)
Disposal from the scope of consolidation	–	7	–	–	–	–	7
As of Dec. 31, 2020	**–**	**(310,505)**	**(68,450)**	**(55,206)**	**(10,288)**	**(5,983)**	**(450,432)**
Book value as of Dec. 31, 2019	**381,137**	**66,734**	**98,066**	**198,510**	**86,377**	**11,357**	**842,180**
Book value as of Dec. 31, 2020	**396,174**	**129,208**	**88,134**	**224,732**	**38,008**	**11,513**	**887,769**

The increase in goodwill in this fiscal year resulted from the acquisition of R.H. Sheppard Co., Inc., Hanover, Pennsylvania/USA. For further details, please refer to Chapter C.3.1. Additions to the consolidated companies.

In 2020, additions to intangible assets increased by 8%, or € 7,432 thousand, from € 97,885 thousand to € 105,317 thousand. This was mostly due to an increase in additions of internally generated intangible assets and to advance payments made and intangible assets under construction totaling € 6,322 thousand.

The fiscal year's reclassifications largely include the software solutions completed in 2020 from the acquisition of rail friction know-how and reclassifications of licenses and rights acquired.

The internally generated intangible assets item relates to the finished and unfinished capitalized costs of the Group's development activities. Development costs are capitalized if the requirements defined in IAS 38 are met. These are subject to straight-line depreciation over the respective useful life. Additions in the fiscal year amounted to € € 66,473 thousand (2019: € 64,483 thousand). Thereof, € 24,780 thousand (2019: € 34,522 thousand) resulted from the Rail Vehicle Systems area, and € 41,693 thousand (2019: € 29,961 thousand) from the Commercial Vehicle Systems area.

As long as know-how is not ready for use, an impairment test is performed as a minimum as of December 31 of the relevant fiscal year.

3.36 Research and development costs recognized in expenses

in € thousand	2020	2019
Research and development expenses according to HGB	(396,393)	(396,891)
Own work capitalized	76,098	73,316
	(320,295)	**(323,575)**

3.37 Goodwill

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Rail Vehicle Systems	189,470	189,343
Commercial Vehicle Systems	206,704	191,793
	396,174	**381,137**

The Group uses the total cost method in determining period results. Hence, expenditures assigned to the function research and development which were recognized as expense cannot be directly determined. The research and development costs recognized in the statement of income as expense are retroactively determined on a simplified basis as presented in the following table: Table → 3.36

F.2. Goodwill

According to IFRS, goodwill essentially has an unlimited useful life. Goodwill is divided between the Group's cash-generating units (CGU) and the value is assessed annually.

The segments Rail Vehicle Systems and Commercial Vehicle Systems are defined as groups of cash-generating units.

For the purpose of impairment testing, the following goodwill is allocated to the groups of cash-generating units of the Group as follows. Table → 3.37

The year-on-year increase in goodwill is due to the acquisition of the Sheppard Group in the Commercial Vehicle Systems segment (€ 25,500 thousand) and to exchange rate fluctuation.

The determination of the recoverable amount for the respective group of cash-generating units is based in each case on the fair value less the costs of sale, which was estimated by discounted future cash flows of the cash-generating units. The measurements at fair value were classified as fair values in level 3 based on the input factors of the valuation technique used.

The cash flow forecasts contained specific estimates for each group of cash-generating units for three years, a subsequent rough planning period of two years and a sustainable growth rate for the period thereafter.

The discount rate used was the historical weighted average cost of capital (WACC) after corporate taxes calculated on the basis of a group of peer companies.

The key assumptions used in estimating the recoverable amount are set out below:

The sales growth rates forecast in the detailed planning stage are based on a consolidation of detailed bottom-up plans of the significant legal entities included in cash-generating units and take into account past order data as well as industry-specific market information from external sources. In the rough planning period, the sales growth rates are determined with a view to the longer-term growth rates obtained from external sources.

The EBITDA margins forecast in the detailed planning stage take past experience and current data from the respective order backlogs into account. Average EBITDA margins extrapolated from the past are used in the rough planning period.

The Table → 3.38 Represents the average sales growth rates utilized in the course of determining the amount of the payment-generating units, the average EBITDA margins, discount rates and the growth rates for extrapolation of the cash flow forecasts.

The sustainable growth rate was calculated based on the estimate of long-term inflation expectations and is based on the assumptions that a market participant would make.

Knorr-Bremse reviews the book value of goodwill at the end of each fiscal year for impairment.

The impairments tests did not indicate any need for impairment.

3.38 Groups of cash-flow-generating units (CGU Group)

in %	Dec. 31, 2020	Dec. 31, 2019
CGU Group Rail Vehicle Systems		
average sales growth rates in the detailed planning phase	5.7	3.3
average EBITDA margin in the detailed planning phase	23.1	21.1
Weighted average cost of capital (WACC)	8.4	8.2
Sustainable growth rate	1.0	1.0
CGU Group Commercial Vehicle Systems		
average sales growth rates in the detailed planning phase	9.4	3.8
average EBITDA margin in the detailed planning phase	16.3	15.4
Weighted average cost of capital (WACC)	8.1	8.3
Sustainable growth rate	1.0	1.0

F.3. Property, plant and equipment Table → 3.39

3.39 Property, plant and equipment

in € thousand	Land, land rights and buildings, including buildings on land owned by others	Technical equipment and machinery	Other equipment, factory and office equipment	Advance payments and plant under construction	Total
Acquisition and production cost					
As of Jan. 1, 2019	**835,558**	**896,773**	**719,632**	**176,482**	**2,628,445**
Currency translation differences	3,408	4,190	9,204	(462)	16,340
Additions	146,097	52,581	51,446	156,300	406,423
Disposals	(140,970)	(7,179)	(23,553)	(49,605)	(221,307)
Acquisitions qualifying as business combinations	21,485	21,948	1,619	251	45,304
Disposal from the scope of consolidation	(7,750)	(8,195)	(4,727)	(82)	(20,754)
Reclassifications	17,351	46,485	24,466	(88,302)	–
As of Dec. 31, 2019	**875,178**	**1,006,603**	**778,088**	**194,581**	**2,854,450**
As of Jan. 1, 2020	**875,178**	**1,006,603**	**778,088**	**194,581**	**2,854,450**
Currency translation differences	(40,848)	(56,025)	(40,714)	(12,428)	(150,015)
Additions	117,013	37,608	50,340	144,354	349,315
Disposals	(38,716)	(40,530)	(35,921)	(2,248)	(117,415)
Acquisitions qualifying as business combinations	15,454	41,891	2,667	5,462	65,474
Disposal from the scope of consolidation	(85)	(1,466)	(126)	–	(1,677)
Reclassifications	4,716	55,471	43,371	(103,557)	1
As of Dec. 31, 2020	**932,712**	**1,043,552**	**797,705**	**226,164**	**3,000,133**
Accumulated depreciation and amortization and impairment expenses					
As of Jan. 1, 2019	**(174,114)**	**(520,555)**	**(524,148)**	**(2,787)**	**(1,221,604)**
Currency translation differences	(4,944)	(1,167)	(2,756)	342	(8,525)
Additions	(59,356)	(64,791)	(77,290)	23	(201,414)
Disposals	13,370	6,743	23,861	4,041	48,014
Impairments	–	(3,860)	(2,620)	(5,258)	(11,738)
Disposal from the scope of consolidation	1,706	4,844	3,479	–	10,028
Reclassifications	4,078	544	(4,108)	(514)	–
As of Dec. 31, 2019	**(219,259)**	**(578,243)**	**(583,583)**	**(4,154)**	**(1,385,238)**
As of Jan. 1, 2020	**(219,259)**	**(578,243)**	**(583,583)**	**(4,154)**	**(1,385,238)**
Currency translation differences	9,347	30,388	30,994	162	70,891
Additions	(64,900)	(78,647)	(74,070)	8	(217,609)
Disposals	8,749	32,922	31,322	2,306	75,299
Impairments	–	–	–	(406)	(406)
Disposal from the scope of consolidation	76	1,462	124	–	1,662
Reclassifications	(170)	60	119	(9)	–
As of Dec. 31, 2020	**(266,157)**	**(592,058)**	**(595,094)**	**(2,093)**	**(1,455,402)**
Carrying amount as of Dec. 31, 2019	**655,920**	**428,360**	**194,505**	**190,427**	**1,469,212**
Carrying amount as of Dec. 31, 2020	**666,555**	**451,494**	**202,611**	**224,071**	**1,544,731**

Additions to property, plant, and equipment decreased by -14%, or € -57,108 thousand, in 2020, from € 406,423 thousand to € 349,315 thousand.

Additions to land and buildings related primarily to the newly concluded lease that is included in additions at € 97,433 thousand in accordance with IFRS 16. In the previous year, right-of-use assets were included in additions to land and buildings at € 127,108 thousand, € 49,944 thousand of which was accounted for by the sale and leaseback transaction concerning the Munich site.

Other right-of-use assets under IFRS 16 were capitalized in an amount of € 10,062 thousand (2019: € 10,262 thousand) under other equipment, factory and office equipment and in the amount of € 493 thousand (2019: € 1,924 thousand) under technical equipment.

Investments in technical equipment and machinery as well as other equipment, factory and office equipment in the Rail Vehicle Systems division focused on investments in capacity expansions, high-growth product groups, automation projects and also replacement and expansion projects. As in the previous year, in addition to worldwide investments in supplier tools, the primary investments in the Commercial Vehicle Systems area were in the expansion of production capacities at the North American site in Bowling Green.

In the previous year, disposals of assets under construction in an amount of € 44,507 thousand related to real estate that had not yet been completed or transferred but was contractually sold already.

Other changes to PPE resulted from acquisitions. Please refer to Chapter C.3.

The PPE item is subject to annual scheduled depreciation and amortization. Impairment losses on property, plant, and equipment are reported separately (see Chapter E.7. Depreciation, amortization and impairment). Table → 3.24

As of December 31, 2020, as in the previous year, properties in the property leasing companies K&D Progetto and Sanctor are encumbered by land charges. The land charge at K&D Progetto is € 13,450 thousand (2019: € 13,450 thousand) and that at Sanctor is € 28,924 thousand (2019: € 28,924 thousand).

The carrying amounts of the land and buildings, as well as the assessed values of the land charges, have developed as shown in Table → 3.40

3.40 Book values

	2020		2019	
in € thousand	Book value	Value land charge	Book value	Value land charge
K&D Progetto	7,176	7,176	7,753	7,753
Sanctor	23,697	27,385	24,530	27,385
	30,873	**34,561**	**32,283**	**35,138**

F.4. Other financial assets Table → 3.41

The securities recognized in other financial assets are entirely attributable to the special fund's bonds and Pfandbriefe, of which an amount of € 2,316 thousand is current assets. The equity instruments comprise the special fund's equities and participation certificates amounting to € 11,703 thousand, which are classified as current assets.

The € 24,059 thousand decrease in other financial assets for the fiscal year results mainly from reported outstanding payments amounting to € 17,376 thousand relating to a sale and leaseback transaction included in this item in the previous year.

F.5. Trade accounts receivable and other assets Table → 3.42, 3.43

Trade accounts receivable decreased in the reporting period by 0.7%, or € 7,860 thousand, from € 1,148,999 thousand to € 1,141,139 thousand. The decrease in the Rail Vehicle Systems division contributed 7.0% to this, whereas trade accounts receivable increased by 8.7% in the Commercial Vehicle Systems division.

Due to a higher relative decrease in revenues, the "days sales outstanding" indicator increased from an average of 59.6 days to 66.7 days. Changes in impairments under IFRS 9 and a breakdown of trade accounts receivable by industry can be found in Chapter F.14.2.

Current remaining other assets primarily include real estate that had not yet been completed or transferred and was sold in a civil law sale and leaseback transaction at the Munich site in the previous year in an amount of € 53,606 thousand. In the previous year, the real estate was recognized under non-current remaining other assets at an amount of € 23,789 thousand. The real estate was completed and transferred in the first quarter 2020. A further property that had been reported as € 11,812 thousand under short-term other assets within the scope of the sale and leaseback transaction at the Munich site was handed over to the purchaser in the fourth quarter of 2020.

Furthermore, other current assets also include an escrow account recognized in the amount of € 4,279 thousand (2019: € 14,137 thousand).

3.41 Other financial assets

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Derivatives	18,123	16,091
Equity instruments	36,842	27,499
Purchase price receivables from disposal of land	30,336	31,111
Securities	68,037	–
Other financial assets	27,276	51,335
	180,614	**126,036**
Current	39,828	62,565
Non-current	140,786	63,471

3.42 Trade accounts receivable

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Accounts receivable due from associated and related companies and parties	42,620	40,696
Trade accounts receivable	1,098,519	1,108,303
Current	1,141,139	1,148,999
Non-current	–	–

F.6. Inventories Table → 3.44

As of December 31, 2020, the inventories amounted to € 844,590 thousand. Compared to the end of 2019, when inventories stood at € 815,011 thousand, this represents an increase of € 29,579 thousand or 3.6%. This is mainly attributable to the rise in raw materials and supplies, which could not be kept at the previous year's level due to the decrease in revenues. On the other hand, unfinished products, goods in transit and advance payments decreased.

3.43 Other current and non-current assets

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Non-current		
Nomination costs	22,280	20,993
Costs to fulfil a contract	19,642	16,187
Prepaid expenses	9,321	6,900
Tax receivables	2,708	3,797
Other	3,324	26,052
Other non-current assets	**57,276**	**73,930**
Current		
Receivables from other taxes	54,957	72,462
Deferred assets	28,789	31,159
Advance payments	14,227	9,882
Advances on wages	799	–
Advance on travel expenses	510	1,230
Other	62,511	37,354
Other current assets	**161,793**	**152,088**
Other assets	**219,069**	**226,017**

3.44 Inventories

in € thousand	Raw materials and supplies	Unfinished goods	Finished goods	Merchandise	Goods in transit	Advance payments	Total
Gross inventory as of Dec. 31, 2019	**444,660**	**112,482**	**150,448**	**106,124**	**56,264**	**12,922**	**882,900**
Depreciation and amortization of net realizable value	(38,214)	(3,456)	(16,327)	(9,865)	–	–	(67,861)
Currency translation differences	(2)	16	7	(48)	–	–	(27)
As of Dec. 31, 2019	**406,445**	**109,042**	**134,129**	**96,211**	**56,264**	**12,922**	**815,011**
Gross inventory as of Dec. 31, 2020	**508,268**	**103,038**	**156,725**	**116,156**	**47,992**	**5,075**	**937,254**
Write-down to net realizable value	(45,433)	(9,563)	(18,327)	(19,341)	–	–	(92,664)
As of Dec. 31, 2020	**462,835**	**93,475**	**138,398**	**96,815**	**47,992**	**5,075**	**844,590**

F.7. Cash and cash equivalents

Table → 3.45

Cash and cash equivalents include cash and demand deposits at credit institutions as well as highly liquid assets in different currencies that can be converted to cash quickly and are only subject to insignificant risks of changes in value.

The cash and cash equivalents are measured at acquisition cost and adapted by an adjustment for the probability of default in relation to the banks ("expected credit loss") based on a public issuer rating for core and principal commercial banks. For the small percentage of liquid funds outside the core and principal banks, these balances are adjusted based on the average values of the probabilities of default of the core and principal commercial banks. Further information on the rating is provided in Chapter H.1.4 Credit risks.

F.8. Equity

F.8.1. Subscribed capital

Knorr-Bremse AG's capital stock is divided into 161,200,000 fully paid up no-par-value bearer shares with full voting rights, each representing a share of the capital stock of € 1.00. In total, the capital stock thus amounts to € 161,200,000. Each share guarantees the right to the dividend resolved by the shareholders' meeting.

The management board is authorized, with the approval of the Supervisory Board, to increase the capital stock of the Company on one or more occasions in the period up to May 28, 2023 by up to € 40,300,000 by issuing up to 40,300,000 new bearer shares against cash and/or non-cash contributions (Authorized Capital 2018). The new shares are generally to be offered directly or indirectly to the shareholders for subscription. The management board is, however, entitled, under certain conditions, to completely or partially exclude the subscription right with the consent of the Supervisory Board.

Furthermore, subject to the approval of the Supervisory Board, the Executive Board was authorized until May 28, 2023 to issue convertible bonds and/or bonds with warrants, profit participation rights and/or income bonds (or combinations of these instruments) possibly excluding the subscription right to create conditional capital (Conditional Capital 2018). To this end, the capital stock of Knorr-Bremse AG is conditionally increased by up to € 16,120,000 by issuing up to 16,120,000 new no-par-value bearer shares. The conditional capital increase is only to be implemented to the extent that conversion or option rights are exercised.

Stella Vermögensverwaltungs GmbH, Grünwald/Germany, TIB Vermögens- und Beteiligungsholding GmbH, Grünwald/Germany, and KB Holding GmbH, Grünwald/Germany, have informed the Company that they hold a majority interest in the Company, either directly or indirectly. To the knowledge of the Executive Board, the majority of shares in Stella were held by Mr. Heinz Hermann from July 6, 2017 until February 23, 2021, who passed away on that day.

F.8.2. Capital reserves

The Group's capital reserve remains unchanged at € 13,884 thousand as of December 31, 2020.

F.8.3. Retained earnings

In addition to the legal reserve of the parent company, retained earnings contain the parent company's other retained earnings and the effect of IFRS transitions. Table → 3.46

The year-on-year decline in retained earnings is largely attributable to the acquisition of all the minority shares in Bendix Spicer Foundation Brake LLC, Elyria, Ohio/USA as of October 1, 2020.

3.45 Cash and cash equivalents

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Cash and cash equivalents	**2,277,048**	**1,880,738**

3.46 Retained earnings

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Legal reserves	15,967	15,967
Other retained earnings	(2,667)	18,188
Total	**13,300**	**34,156**

F.8.4. Other equity components

Other equity components contain the changes in equity with no effect on profit and loss. This includes currency translation differences as a result of the translation of annual financial statements of foreign subsidiaries, changes in the measurement of financial assets whose changes in fair value are recognized (optionally in OCI), the actuarial gains and losses from the measurement of benefits to employees reported in the year under review, the effects of hedge accounting as well as taxes recognized directly in equity.

F.8.5. Takeover disclosures required by law pursuant to Section 289a (1) HGB and Section 315a (1) HGB

A) Participation in capital exceeding 10% of voting rights

On the basis of the voting rights notifications received by the Company in accordance with the provisions of the German Securities Trading Act (WpHG), there is a participation in the capital of the Company that exceeds 10% of the voting rights. Based on a voluntary disclosure made in 2020, KB Holding GmbH, Grünwald, Germany, currently holds 58.99% of the voting rights in Knorr-Bremse AG. Pursuant to Section 34 (1) of the German Securities Trading Act (WpHG), these voting rights are attributable to TIB Vermögens- und Beteiligungsholding GmbH, Grünwald/Germany and Stella Vermögensverwaltung GmbH, Grünwald/Germany and were attributable to Heinz Hermann Thiele of Munich/Germany until his death on February 23, 2021. Knorr-Bremse AG had not received an updated notification in accordance Sections 33 and 34 WpHG by the date of preparation of the annual and consolidated financial statements. Table → 3.47

B) Notifications in accordance with the German securities trading act:

Pursuant to Section 160 (1) No. 8 of the German Stock Corporation Act (AktG), information must be provided on the existence of equity interests notified to Knorr-Bremse AG pursuant to Section 20 (1) and (3) of the German Stock Corporation Act (AktG) or pursuant to Section 33 (1) or (2) of the German Securities Trading Act (WpHG).

The German Securities Trading Act requires investors whose share of voting rights in listed companies reaches certain thresholds to make a disclosure. The following reportable investments were notified to Knorr-Bremse AG in writing in the 2020 fiscal year as of the balance sheet date; the information relates in each case to the most recent notification made to Knorr-Bremse AG by a reportable entity. All disclosures made by Knorr-Bremse AG regarding equity investments in the year under review and beyond can be found on the company's website (https://ir.Knorr-Bremse.com). Table → 3.47

The voting rights in Knorr-Bremse AG held by KB Holding GmbH are attributable to TIB Vermögens- und Beteiligungsholding GmbH, Stella Vermögensverwaltungs GmbH and were attributable to Mr. Heinz Hermann Thiele of Munich, Germany until his death on February 23, 2021 in accordance with Section 34 (1) Sentence 1 No. 1 of the German Securities Trading Act (WpHG).

F.8.6. Dividends

In the fiscal years, Knorr-Bremse AG resolved and paid the dividends summarized in Table → 3.48

The dividends relate in all cases to the prior year. For the 2019 fiscal year, in the 2020 fiscal year a dividend of € 1.80 per bearer share was resolved and therefore paid in the total amount of € 290,160 thousand.

The management board of Knorr-Bremse AG will suggest that the Annual General Meeting distribute a total dividend of € 245,024 thousand for the past fiscal year. This corresponds to a dividend per share of € 1.52.

3.48 Dividends

in € thousand	2020	2019
€ 1.80 per bearer share (2019: € 1.75)	**290,160**	**282,100**

3.47 Voting rights notification

Party obligated to disclose	Date of reaching, exceeding or falling below the thresholds	Threshold value reached	Disclosure obligations and/or additions pursuant to WpHG[1]	New share of voting rights in %	New share of voting rights absolute
Mr. Heinz Hermann Thiele, Germany	Oct. 24, 2018	50% exceeded	Section 34 WpHG	70.16	113,097,851
The Capital Group Companies, Inc.	Jul. 15, 2019	3% exceeded	Section 34 WpHG	3.04	4,899,186
Black Rock, Inc	Mar. 3, 2020	fell below 3%	Section 34 WpHG	2.86	4,609,383

[1]) The aforementioned provisions of the WpHG refer to the version applicable at the time of publication of the voting rights announcement.

F.8.7. Capital management

The Group's objective is to maintain a strong capital base and ensure the sustainable development of the Company.

To this end, the Group prepares short-term and long-term liquidity planning. Short-term liquidity planning covers a three-month planning horizon with precise expected cash flows including currency changes. Long-term liquidity planning is carried out twice a year with a planning horizon of three years.

To manage **free cash flow**[11)], the Group has established a net working capital management and investment process. Demand-oriented investments, which serve to maintain and further develop the Company, are made within the annual target of around 3% to 5% of annual sales. The goal of 40 to 50 days sales outstanding for net **working capital** is achieved by closely monitoring the divisions' working capital positions and liquidity management programs such as factoring and the Supplier Finance Program.

In addition, Knorr-Bremse uses retained earnings purposeful to maintain a stable **equity ratio**. In future, the Group plans to distribute between 40% and 50% of consolidated net income as dividends and to retain the remaining profit. This serves to strengthen the equity ratio with a target figure of between 20% and 30%. The Group defines the equity ratio as the ratio of equity to total assets.

F.9. Share-based payment arrangements

As of the end of the fiscal year, long-term bonus agreements (long-term incentives), which are structured as a share-based payment model, were in place with the management board and selected members of the wider management team of the Group.

In fiscal year 2020, the Group committed a total of 59,477 share appreciation rights (SARs) to eligible individuals for the first time as of January 1, 2020. This commitment gives them the right to receive a cash payment after four years of service. The extent of the disbursement is the product of the number of committed share appreciation rights, the average share price of Knorr-Bremse AG within the last 60 days before the end of the four-year assessment period and the equally weighted development of EPS and relative total shareholder return. The disbursement is limited to a maximum of 200% of the commitment. The average actual EPS value, in comparison with a defined target value, is assigned to a target corridor ranging from 0% to 200%. The relative total shareholder return is fixed in relation to three comparative groups in the assessment period. These comparative groups are the companies listed on the MDAX and two peer group companies defined by the Supervisory Board in the categories "Rail & Truck" and "High Quality Industrial Goods". This component is likewise assigned to a target achievement corridor ranging from 0% to 200%.

As of December 31, 2020, the carrying amount of the provisions for the LTI agreements concerned was € 2,942 thousand. Expenses amounting to € 2,942 thousand were recognized for the fiscal year.

The sub-target of EPS development was determined at a factor of 100% as of the reporting date. The valuation of the sub-target of total shareholder return in relation to peer groups was carried out in a Monte-Carlo simulation. In this case, the EPS sub-target was also considered as an input factor in order to take account of the maximum total disbursement of the LTI. Service- and market-independent performance conditions associated with the transactions were not considered in determining the value.

3.49 Valuation parameters as of the respective measurement date

Parameters as of the Jan. 1, 2020 grant date	
Closing price of Knorr-Bremse share	90.75
Calculated dividend yield	2.00%
Knorr-Bremse volatility	28.00%
Risk-free interest rate	-0.54%
Remaining term in years until allocation	4.00
Parameters as of the Dec. 31, 2020 reporting date	
Closing price of Knorr-Bremse share	111.68
Calculated dividend yield	1.61%
Previous year's dividend paid by Knorr-Bremse	1.80
Knorr-Bremse volatility	30.15%
Risk-free interest rate	-0.76%
Remaining term in years until allocation	3.00

11) Free cash flow is calculated by deducting disbursements for investments in property, plant and equipment and intangible assets from cash flow from operating activities and adding deposits received from the sale of property, plant and equipment as well as intangible assets.

The following inputs were used in determining fair values on the grant date and on the measurement date of the share appreciation rights. Table → 3.49

Expected volatility is based on an assessment of the past volatility of the Company's share price, especially in the period that corresponds to the four-year term.

F.10. Employee benefits Table → 3.50

3.50 Employee benefits

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Assets from employee benefits	**20,995**	**31,611**
Provisions for pensions	(354,887)	(343,273)
Other personnel related provisions	(36,609)	(48,681)
Provisions for employee benefits	**(391,496)**	**(391,954)**
Non-current	(372,324)	(362,818)
Current	(19,172)	(29,136)

F.10.1. Employee benefits

The provisions for employee benefits include provisions for pension commitments and other personnel provisions. The decrease in other current personnel provisions results particularly from the utilization of restructuring provisions for the Wülfrath site.

In various countries, Knorr-Bremse makes pension commitments to its employees based on defined benefit plans, the benefits of which depend either on the employee's pensionable remuneration or contain other guarantees. Pension obligations are measured based on actuarial principles using the projected unit credit method. Provisions for pensions reported in the balance sheet correspond to the present value of the defined benefit obligation in consideration of future salary and pension increases as at the reporting date, less the fair value of the plan assets. An excess of plan assets beyond the present value of the defined benefit obligation is limited to the present value of the benefit attributable to the Company, from the reimbursement of contributions or the reduction of future contribution payments.

The defined benefit plans in Germany and Great Britain represent the majority of the gross obligation at approximately 78%. Minor pension obligations from defined benefit pension schemes also exist in France, India, Italy, Japan, Mexico, Austria, Sweden, Switzerland, South Korea and the USA. In Germany, Great Britain, Japan, South Korea, Austria (in some cases), and the USA, the benefits are granted on a voluntary basis, while, in the other countries, the benefits are based on statutory regulations.

Germany

Employees benefits are granted from pension schemes for which the benefits in old age, in the event of disability or death are calculated depending on the period of employment, the salary at the time of commencement of the annuity, and the relevant assessment ceiling in the statutory pension insurance scheme (BBG), as well as a defined benchmark figure. The benefits are paid in the form of an annuity. The plan was closed to new admissions with effect from January 1, 2003. Plan participants primarily include beneficiaries. Moreover, individual plans also exist, especially amongst managers, which were concluded on an individual contractual basis.

The obligations in Germany are largely completely unfunded, which means that no plan assets exist, which are solely intended to meet pension commitments – with the exception of one company for which a pledged reinsurance policy exists.

In Germany, the interest rate risk as well as the life expectancy of the plan participants play a major role as part of a risk consideration, as the benefits are primarily paid in the form of an annuity. However, the risk was reduced by closing the pension plan to new admissions.

Great Britain

In the Great Britain, the employees and managers benefit from defined benefit plans, which are closed to new admissions; in addition, existing plan participants are no longer entitled to any increase in entitlements, with the exception of a few special cases for which the benefits continue to increase together with the salary. At the time, the plan was introduced on a voluntary basis. The plan provides for benefits upon retirement and death. Until the closure of the plan in 2012, these benefits were dependent on salary and years of service. Payment essentially occurs in the form of an annuity, whereby part of the benefit can also be paid out as a one-off capital payment at the request of the plan participant.

In Great Britain, a board of trustees, which is comprised of company and employee representatives, is responsible for the asset management. The investment strategy targets long-term value additions with a low volatility.

The pension schemes in Great Britain are exposed to the interest rate risk, due to the payment as a lifelong annuity, as well as the risk of a higher life expectancy than assumed so that the annuities will have to be paid out for longer than planned. However, the risks were limited by closing the pension plan. Moreover, an investment risk also exists, in that the plan assets may not develop as expected and that the plan assets may therefore only be able to partially offset changes to the scope of obligations.

Please refer to Section E.5. with regard to expenses in connection with defined benefit pension plans.

F.10.2. Change in net debt Table → 3.51

F.10.3. Plan assets

Some of pension obligations are secured by assets that correspond to the definition of plan assets in accordance with IAS 19. For these pension obligations, the net debt is reported from the defined benefit obligation and the fair value of the plan assets.

For plans with a positive excess of the fair value of plan assets over the present value of the related obligation, the resulting asset is tested for impairment and, if necessary, limited to the present value of the economic benefits that the Group can derive from refunds or reductions in future contributions.

The plan assets primarily contain debt securities, investment funds and insurance policies, which are largely held by long-term, external carriers (funds). Plan assets are mainly held in the United Kingdom and Switzerland.

3.51 Change in net debt

	Defined benefit obligation		Fair value of plan asset		Net debt (net assets) from defined benefit plans	
in € thousand	2020	2019	2020	2019	2020	2019
As of Jan. 1	**(614,497)**	**(533,754)**	**302,835**	**254,579**	**(311,662)**	**(279,174)**
Current service costs	(8,770)	(8,677)	–	–	(8,770)	(8,677)
Past service costs	(236)	23	–	–	(236)	23
Gains/losses from settlements	(1,109)	–	–	–	(1,109)	–
Interest income	–	–	5,113	6,723	5,113	6,723
Interest expense	(9,035)	(12,177)	–	–	(9,035)	(12,177)
Net cash flow	16,108	4,751	(14,744)	(6,585)	1,364	(1,834)
Remeasurements	(41,576)	(60,982)	16,660	25,815	(24,916)	(35,167)
a) Return on plan assets	–	–	16,660	25,815	16,660	25,815
b) Actuarial gains/losses (change in demographic assumptions)	0	(136)	–	–	0	(136)
c) Actuarial gains/losses (change in financial assumptions)	(39,846)	(60,039)	–	–	(39,846)	(60,039)
d) Effect of experience adjustments	(1,730)	(806)	–	–	(1,730)	(806)
Currency translation differences	12,588	(11,814)	(13,497)	13,140	(909)	1,326
Employer contributions	12,524	14,048	3,765	3,715	16,289	17,763
Participant contributions	(1,036)	(970)	1,036	970	–	–
Increase/decrease due to effect of business combinations/divestitures	(18)	(4,947)	(3)	4,479	(21)	(468)
As of Dec. 31	**(635,057)**	**(614,497)**	**301,165**	**302,835**	**(333,892)**	**(311,662)**
thereof						
Germany	(275,896)	(268,653)	1,597	1,618	(274,299)	(267,035)
Great Britain	(222,317)	(212,642)	242,056	244,253	19,739	31,611
Other countries	(136,844)	(133,202)	57,512	56,964	(79,332)	(76,238)

In order to reduce asset and liability risks (Asset-Liability--Matching, ALM), Knorr-Bremse has developed a risk minimization program in cooperation with trustees. The investment strategy is transferred to a qualified actuary who implements the investment strategy in relation to the pension plans and carries out the investment strategy.

The assets controlled as part of this transfer are allocated to a “Growth” or “Liability Hedging” portfolio. The allocation ratio is agreed at regular intervals.

The “Growth” portfolio comprises a combination of equities, fixed-income securities and other available funds that are available in the manager’s portfolio. The fund manager determines the investment mix.

The “Liability Hedging” portfolio comprises LDI funds (Liability Driven Investment), fixed-income securities, index-linked funds and other available funds that are available in the -manager’s portfolio. The fund manager determines the investment mix.

The objectives of the risk minimization strategy are to minimize the risk from the pension plans by increasing the allocation of assets to the liability hedging portfolio. Such reallocation must take place if agreed key figures are exceeded in order to make it possible to align assets with liabilities.

The pension obligations in Switzerland are largely covered by legally independent pension schemes. Any return of funds to the employer is precluded. The contracts meet the requirements for qualifying insurance policies pursuant to IAS 19.8.

The plan assets include the investments shown in Table → 3.52.

F.10.4. Actuarial assumptions

The Table → 3.53 lists the key actuarial assumptions (in the form of weighted averages in %) used on the reporting date.

The most important defined benefit plans exist in Germany and the Great Britain. The biometric basis for valuating these obligations in Germany is the generation-dependent guideline tables 2018 G from Prof. Klaus Heubeck, published by Heubeck Richttafeln GmbH on July 20, 2018. These tables are based on the newest statistics of the statutory pension insurance and the Federal Statistical Office and therefore reflect the most recent developments in probabilities of life expectancy, disability, marriage and fluctuation. Since the average life expectancy has continued to rise (albeit more slowly than in the past), the pension obligations for domestic companies increased slightly.

In Great Britain, the mortality tables S2PA with projection CMI 2017 are used as the biometric basis.

Age-dependent turnover tables are also taken into account.

F.10.5. Future cash flows

In fiscal year 2021, employer payments into the plan assets are expected to amount to € 3,306 thousand. As of December 31, 2020, average annual benefit payments from pension plans in the amount of € 24,343 thousand (2019: € 24,031 thousand) were expected for the upcoming ten fiscal years.

As of December 31, 2020, the weighted average term of the defined benefit obligation was 15.93 years (2019: 16.96 years).

3.52 Plan assets

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Cash and cash equivalents	6,411	9,635
Equity instruments	3,052	4,462
Debt instruments	213,285	221,461
Real estate	-	10
Assets held by insurance companies	52,912	43,413
Other	25,505	23,854
Fair value of plan assets	**301,165**	**302,835**
thereof		
United Kingdom	242,056	244,253
Other countries	59,109	58,582
Return on plan assets (including interest income)	**21,773**	**32,538**
thereof		
United Kingdom	18,907	28,798
Other countries	2,866	3,740

3.53 Actuarial assumptions

in %	Dec. 31, 2020	Dec. 31, 2019
Defined benefit obligation		
Discount rate	1.12	1.54
Salary increase	3.06	3.04
Pension increases	1.87	1.86

F.10.6. Sensitivity analysis

The following sensitivity analysis presents the effects of reasonable changes of individual factors on the defined benefit obligation as at the reporting date. Table → 3.54

Although the analysis does not take account of the complete distribution of the expected cash flows according to the plan, it provides an approximate value of the sensitivity of the presented assumptions.

F.11. Other provisions Table → 3.55

The provisions for warranty obligations cover obligations from cases that have already occurred as well as future obligations that are based on empirical values. The latter are essentially directly related to the development and structure of revenue. The provisions are based on estimates from historical warranty data for similar products and services. For the long-term components, outflows are expected within the next two to five years.

3.54 Sensitivity analysis

in € thousand	Dec. 31, 2020 Increase	Dec. 31, 2020 Decrease	Dec. 31, 2019 Increase	Dec. 31, 2019 Decrease
Present value of defined benefit obligation				
Change in discount rate 0.5%	(47,935)	54,084	(46,393)	52,377
Change in salary increase rate 0.5%	6,353	(5,960)	6,609	(6,164)
Change in future pension increases 0.5%	34,675	(27,122)	33,001	(26,191)

3.55 Other provisions

in € thousand	Warranty provisions	Contractual provisions	Other provisions	Total
As of Jan. 1, 2019	**340,928**	**33,383**	**102,480**	**476,791**
Currency translation differences	1,846	114	(15)	1,945
Additions	170,102	2,923	39,538	212,562
Utilization	(94,664)	(6,129)	(27,598)	(128,390)
Reversals	(63,743)	(2,853)	(8,321)	(74,916)
Disposals from the scope of consolidation	(15,343)	(5,604)	(109)	(21,056)
Compounding	3,052	730	15	3,796
As of Dec. 31, 2019	**342,178**	**22,564**	**105,990**	**470,732**
thereof current	152,721	4,286	40,577	197,585
thereof non-current	189,456	18,279	65,413	273,147
As of Jan. 1, 2020	**342,178**	**22,564**	**105,990**	**470,732**
Currency translation differences	(8,569)	(923)	(1,878)	(11,370)
Additions	146,518	11,977	39,722	198,217
Additions to the scope of consolidation	1,272	–	1,106	2,378
Utilization	(93,980)	(5,558)	(35,693)	(135,231)
Reversals	(46,934)	(2,727)	(15,708)	(65,369)
Compounding	2,561	1,104	3	3,668
As of Dec. 31, 2020	**343,046**	**26,437**	**93,542**	**463,025**
thereof current	150,665	5,188	38,162	194,015
thereof non-current	192,381	21,249	55,380	269,010

Contractual provisions include provisions for onerous contracts amounting to € 26,438 thousand (2019: € 22,564 thousand). For the long-term components, outflows are expected within the next two to five years.

Other provisions related to individual identifiable risks and obligations, especially environmental protection obligations and litigation risks. For the long-term components, outflows are expected within the next two to five years.

Expenses of € 3,668 thousand (2019: € 3,796 thousand) were recognized in the statement of income from compounding provisions.

F.12. Trade accounts payable and other liabilities Table → 3.56, 3.57

Trade accounts payable increased in the reporting period by 6.2% or € 60,235 thousand from € 967,447 thousand to € 1,027,682 thousand.

To support supplier financing, we offer important suppliers a supply chain finance program. The purpose of this program is to facilitate efficient payment processes and enable suppliers to sell their receivables against the Group prior to maturity to a bank. The Group did not derecognize the original trade accounts payable as there was neither a legal debt discharge nor a substantial change to the debt payable. From a Group perspective, the payment terms were not essentially modified due to the agreement. No additional interest and expenses are incurred by the Group for payment of debts to suppliers. The amounts of suppliers at the factoring stage therefore continue to be reported by the Group under trade accounts payable since the nature and function of these liabilities correspond to those of trade accounts payable.

The payments to the bank are included in the cash flow from operating activities because they remain part of the Group's normal operating cycle and their fundamental character remains operational, i.e., they represent payments for the purchase of goods and services. From the Group's perspective, payments by the bank to suppliers are non-cash transactions.

Other liabilities are valued as described in Chapter D.17.

F.13. Financial liabilities Table → 3.58

Financial liabilities increased by € 443,174 thousand, from € 2,533,757 thousand to € 2,976,930 thousand. The increase largely results from the rise in liabilities to banks of € 407,854 thousand due to borrowing to increase our financial scope as part of the Covid-19 action program.

3.56 Trade account payables

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Trade account payables	(1,027,682)	(967,447)
Current	(1,027,682)	(967,447)
Non-current	–	–

3.57 Other liabilities

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Deferred income	(3,134)	(4,316)
Other	(357)	(1,310)
Non-current	**(3,490)**	**(5,627)**
Liabilities from other taxes	(46,536)	(72,374)
Deferred income	(19,332)	(17,866)
Social security liabilities	(19,133)	(18,694)
Other	(5,285)	(22,109)
Current	**(90,287)**	**(131,044)**
Other liabilities	**(93,777)**	**(136,671)**

3.58 Financial liabilities

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Derivatives	(12.794)	(26.377)
Liabilities towards credit institutions	(604.567)	(196.713)
Bonds and debt instruments	(1.250.526)	(1.249.013)
Liabilities resulting from options on minority interests	(379.616)	(379.616)
Purchase price liabilities	(58.860)	(44.990)
Lease liabilities	(387.221)	(377.293)
Other financial liabilities	(283.346)	(259.755)
	(2.976.930)	**(2.533.757)**
Current	(1.818.194)	(875.567)
Non-current	(1.158.737)	(1.658.190)

Bonds and debt instruments include two corporate bonds, one with an issued volume of € 500,000 thousand and another with a volume of € 750,000 thousand. The first bond was issued in 2016 with a coupon of 0.5% and matures in December 2021, the second dates from 2018 has a coupon of 1.125% and matures in June 2025. Both bonds are publicly traded.

Other financial liabilities primarily reflect a rise in liabilities to employees.

For information on liabilities from options on minority interests, please refer to Chapters C.5 and F.14.

3.59 Reconciliation of movements of liabilities to cash flows arising from financing activities 2020

					Liabilities
in € thousand	Liabilities towards credit institutions	Bonds and debt instruments	Liabilities from options for minority interests	Other financial liabilities	Leasing liabilities
As of Jan. 1, 2020	**196,713**	**1,249,013**	**379,616**	**259,755**	**377,293**
Change in cash flow from financing activities					
Proceeds from the equity contributions by minority shareholders	–	–	–	–	–
Payments for the buyback of non-controlling shares without transfer of control	–	–	–	–	–
Proceeds from borrowings	799,864	–	–	–	–
Disbursements from the repayment of borrowings	(399,280)	–	–	–	–
Disbursements for lease liabilities	–	–	–	–	(62,298)
Interest paid	(10,898)	(10,938)	–	–	(10,837)
Dividends paid to parent Company shareholders	–	–	–	–	–
Dividends paid to non-controlling interests	–	–	(11,932)	–	–
Proceeds from grants and subsidies	–	–	–	8,855	–
Payments for acquisition of non-controlling interests	–	–	–	(17,945)	–
Proceeds from settlement of derivatives	31,671	–	–	–	–
Cash flow from financing activities	**421,357**	**(10,938)**	**(11,932)**	**(9,089)**	**(73,135)**
Changes arising from obtaining or losing control of subsidiaries or other businesses	**–**	**–**	**–**	**–**	**–**
Effects in foreign exchange rates	**7,270**	**–**	**–**	**–**	**–**
Other changes related to liabilities	**–**	**–**	**–**	**–**	**–**
Other non-cash expenses and income	–	1,513	11,932	23,591	–
Interest income	–	–	–	–	–
Interest expenses	10,898	10,938	–	–	10,837
New leases	–	–	–	–	72,227
Other cash flow changes	(31,671)	–	–	9,089	–
Changes in fair value	–	–	–	–	–
Total other changes, related to liabilities	**(20,773)**	**12,451**	**11,932**	**32,680**	**83,063**
Total other changes, related to equity					
As of Dec. 31, 2020	**604,567**	**1,250,526**	**379,616**	**283,346**	**387,221**

The acquisition of rail friction know-how from Federal Mogul in 2019 has resulted in a purchase price liability of € 38,000 thousand, which is to be paid in three installments by December 2021. The first installment was paid in August 2020 and amounted to € 15,000 thousand, the second installment of € 20,000 thousand will be due in August 2021 and the final installment of € 3,000 thousand will be due in December 2021. Additional current purchase price liabilities of € 23,977 thousand from the acquisition of the minority shares in Bendix Spicer Foundation Brake LLC, Elyria, Ohio/USA are included. Non-current purchase price liabilities of € 6,667 thousand are recognized for the acquisition of Sentient IP AB. Table → 3.59

Derivative financial instruments (assets)/ liabilities	Equity					
Interest swap liabilities	**Currency translation**	**Revaluations from defined pension benefits (IAS 19)**	**Capital reserves**	**Retained earnings**	**Non-controlling shares**	**Total**
5,023	**(70,705)**	**(74,093)**	**13,884**	**34,156**	**117,121**	**2,487,775**
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	799,864
–	–	–	–	–	–	(399,280)
–	–	–	–	–	–	(62,298)
–	–	–	–	–	–	(32,672)
–	–	–	–	(290,160)	–	(290,160)
–	–	–	–	–	(36,471)	(48,402)
–	–	–	–	–	–	8,855
–	–	–	–	–	–	(17,945)
–	–	–	–	–	–	31,671
–	**–**	**–**	**–**	**(290,160)**	**(36,471)**	**(10,367)**
–	**903**	**–**	**–**	**(19,281)**	**(20,176)**	**(38,555)**
–	**(903)**	**–**	**–**	**–**	**–**	**6,367**
–	–	–	–	–	–	–
–	–	–	–	–	–	37,035
–	–	–	–	–	–	–
–	–	–	–	–	–	32,671
–	–	–	–	–	–	72,227
–	–	–	–	–	–	(22,581)
515	–	–	–	–	–	515
515						**119,867**
	(117,373)	**(21,638)**	**0**	**288,586**	**30,534**	**180,110**
5,538	**(188,078)**	**(95,731)**	**13,884**	**13,300**	**91,008**	**2,745,197**

3.60 Reconciliation of movements of liabilities to cash flows arising from financing activities in 2019

	Liabilities				
in € thousand	Liabilities towards credit institutions	Bonds and debt instruments	Liabilities from options for minority interests	Other financial liabilities	Leasing liabilities
As of Dec. 31, 2018	**229,819**	**1,247,521**	**379,616**	**217,063**	**33,277**
Initial application of IFRS 16	–	–	–	–	245,437
As of Jan. 1, 2019	**229,819**	**1,247,521**	**379,616**	**217,063**	**278,714**
Change in cash flow from financing activities					
Proceeds from borrowings	40,851	–	–	–	–
Disbursements from the repayment of borrowings	(90,244)	–	–	–	–
Disbursements for lease liabilities	–	–	–	–	(53,450)
Interest paid	(15,474)	(10,915)	–	–	(6,845)
Dividends paid to parent Company shareholders	–	–	–	–	–
Dividends paid to non-controlling interests	–	–	(21,617)	–	–
Net payments from factoring	(2,649)	–	–	–	–
Deposits from shareholder contributions	–	–	–	–	–
Disbursements from restitution to silent partners	–	–	–	(10,000)	–
Disbursements from the settlement of derivatives	(19,273)	–	–	–	–
Cash flow from financing activities	**(86,788)**	**(10,915)**	**(21,617)**	**(10,000)**	**(60,295)**
Changes arising from obtaining or losing control of subsidiaries or other businesses	**–**	**–**	**–**	**(5,025)**	**(4,384)**
Effects in foreign exchange rates	**38,209**	**–**	**–**	**–**	**(11)**
Other changes related to liabilities	**–**	**–**	**–**	**–**	**–**
Other non-cash expenses and income	–	652	21,617	57,330	–
Interest income	–	–	–	–	–
Interest expenses	15,474	11,755	–	387	7,470
New leases	–	–	–	–	155,798
Changes in fair value	–	–	–	–	–
Total other changes, related to liabilities	**15,474**	**12,407**	**21,617**	**57,717**	**163,268**
Total other changes, related to equity					
As of Dec. 31, 2019	**196,713**	**1,249,013**	**379,616**	**259,755**	**377,293**

	Derivative financial instruments (assets)/ liabilities	Equity					
	Interest swap liabilities	Currency translation	Revaluations from defined pension benefits (IAS 19)	Capital reserves	Retained earnings	Non-controlling shares	Total
	5,575	**(89,198)**	**(48,154)**	**13,884**	**39,924**	**105,208**	**2,134,535**
	–	–	–	–	(5,768)	(13)	239,657
	5,575	**(89,198)**	**(48,154)**	**13,884**	**34,156**	**105,196**	**2,374,191**
	–	–	–	–	–	–	40,851
	–	–	–	–	–	–	(90,244)
	–	–	–	–	–	–	(53,450)
	–	–	–	–	–	–	(33,233)
	–	–	–	–	(282,100)	–	(282,100)
	–	–	–	–	–	(33,452)	(55,069)
	–	–	–	–	–	–	(2,649)
	–	–	–	–	–	–	–
	–	–	–	–	–	–	(10,000)
	–	–	–	–	–	–	(19,273)
	–	**–**	**–**	**–**	**(282,100)**	**(33,452)**	**(505,167)**
	–	**–**	**–**	**–**	**–**	**–**	**(9,409)**
	–	**–**	**–**	**–**	**–**	**–**	**38,198**
	–	**–**	**–**	**–**	**–**	**–**	–
	–	–	–	–	–	–	79,599
	–	–	–	–	–	–	–
	–	–	–	–	–	–	35,085
	–	–	–	–	–	–	155,798
	(553)	–	–	–	–	–	(553)
	(553)						**269,930**
		18,493	**(25,939)**	**–**	**282,100**	**45,377**	**320,031**
	5,023	**(70,705)**	**(74,093)**	**13,884**	**34,156**	**117,121**	**2,487,775**

3.61 Informationen nach IFRS 9

in € thousand					Dec. 31, 2020
				Carrying amount	
Category	**FVTPL**	**FVOCI**	**Other**	**At amortized cost**	**Total**
Financial assets	**89,684**	**30,443**	**13,719**	**3,464,956**	**3,598,801**
Derivative financial instruments to which hedge accounting is applied	–	–	13,719	–	13,719
Derivative financial instruments to which hedge accounting is not applied	4,404	–	–	–	4,404
Equity instruments	17,244	19,598	–	–	36,842
Securities and debt instruments	68,035	–	–	–	68,035
Trade accounts receivable*)	–	10,845	–	1,130,295	1,141,139
Purchase price receivables from disposal of land*)	–	–	–	30,336	30,336
Other financial liabilities*)	–	–	–	27,277	27,277
Cash and cash equivalents*)	–	–	–	2,277,048	2,277,048
Financial liabilities	**(4,704)**	–	**(395,311)**	**(3,604,597)**	**(4,004,612)**
Derivative financial instruments to which hedge accounting is applied	–	–	(8,090)	–	(8,090)
Derivative financial instruments to which hedge accounting is not applied	(4,704)	–	–	–	(4,704)
Liabilities towards credit institutions	–	–	–	(604,567)	(604,567)
Liabilities resulting from options on minority interests	–	–	–	(379,616)	(379,616)
Bonds and debt instruments	–	–	–	(1,250,526)	(1,250,526)
Lease liabilities	–	–	(387,221)	–	(387,221)
Purchase price liabilities*)	–	–	–	(58,860)	(58,860)
Other financial liabilities*)	–	–	–	(283,346)	(283,346)
Trade accounts payable*)	–	–	–	(1,027,682)	(1,027,682)

in € thousand					Dec. 31, 2019
				Carrying amount	
Category	**FVTPL**	**FVOCI**	**Other**	**At amortized cost**	**Total**
Financial assets	**19,239**	**33,360**	**2,408**	**3,100,766**	**3,155,773**
Derivative financial instruments to which hedge accounting is applied	–	–	2,408	–	2,408
Derivative financial instruments to which hedge accounting is not applied	13,683	–	–	–	13,683
Equity instruments	5,556	21,943	–	–	27,499
Trade accounts receivable*)	–	11,417	–	1,137,582	1,148,999
Purchase price receivables from disposal of land*)	–	–	–	31,111	31,111
Other financial liabilities*)	–	–	–	51,335	51,335
Cash and cash equivalents*)	–	–	–	1,880,738	1,880,738
Financial liabilities	**(20,280)**	**–**	**(383,390)**	**(3,097,533)**	**(3,501,204)**
Derivative financial instruments to which hedge accounting is applied	–	–	(6,097)	–	(6,097)
Derivative financial instruments to which hedge accounting is not applied	(20,280)	–	–	–	(20,280)
Liabilities towards credit institutions	–	–	–	(196,713)	(196,713)
Liabilities resulting from options on minority interests	–	–	–	(379,616)	(379,616)
Bonds and debt instruments	–	–	–	(1,249,013)	(1,249,013)
Lease liabilities	–	–	(377,293)	–	(377,293)
Purchase price liabilities*)	–	–	–	(44,990)	(44,990)
Other financial liabilities*)	–	–	–	(259,755)	(259,755)
Trade accounts payable*)	–	–	–	(967,447)	(967,447)

*) without information on fair value based on the fact that net book value approximately equals fair value

	Fair value		
Level 1	Level 2	Level 3	Total
104,350	**28,968**	**527**	**133,845**
–	13,719	–	13,719
–	4,404	–	4,404
36,315	–	527	36,842
68,035	–	–	68,035
–	10,845	–	10,845
–	–	–	–
–	–	–	–
–	–	–	–
(1,289,413)	**(616,977)**	**(379,616)**	**(2,286,005)**
–	(8,090)	–	(8,090)
–	(4,704)	–	(4,704)
–	(604,182)	–	(604,182)
–	–	(379,616)	(379,616)
(1,289,413)	–	–	(1,289,413)
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–

	Fair value		
Level 1	Level 2	Level 3	Total
24,546	**16,091**	**2,953**	**43,590**
–	2,408	–	2,408
–	13,683	–	13,683
24,546	–	2,953	27,499
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–
(1,286,568)	**(602,792)**	**–**	**(1,889,360)**
–	(6,097)	–	(6,097)
–	(20,280)	–	(20,280)
–	(196,799)	–	(196,799)
–	(379,616)	–	(379,616)
(1,286,568)	–	–	(1,286,568)
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–

F.14. Financial instruments

F.14.1. Financial instruments

The Table → 3.61 presents the non-netted book values and the fair values of the financial assets and liabilities as well as the categorization of the individual items. For the classification (hierarchy levels) of the fair value pursuant to IFRS 13, please refer to the chapter on the accounting and measurement methods.

The market value of financial derivatives is the price at which one party would take over the rights and/or obligations from another party. The market values are calculated based on the market information available at the reporting date using usual measurement methods:

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

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

In addition, default risks are taken into account when measuring financial derivatives at fair value ("credit risk adjustments"). The calculation basis for the probabilities of default is the credit default spreads per counterparty and for the Company.

The Group measures long-term receivables/loans based on parameters such as interest rates, certain country-specific risk factors, creditworthiness of the individual customers, and the risk characteristics of the financed project.

The fair values of the Group's interest-bearing loans are calculated using the **discounted cash flow method**. This is based on a discount rate, which reflects the issuer's borrowing rate at the end of the reporting period. In line with Knorr-Bremse's rating, the Company's own default risk was classified as low over the entire period.

The financial liability from a put option on minority interests gives minority shareholders the option of tendering their shares to Knorr-Bremse if contractually defined conditions are met. In accordance with IFRS 9, this is accounted for at amortized cost.

The purchase price reflected in the agreement is defined using a formula. On account of the ruling of the court of arbitration in December 2020, a final and binding consensus on the purchase price has not yet been reached; the purchase price therefore is still subject to change. Accordingly, fair value as of December 31, 2020 depends on non-observable input factors; for this reason, fair value of the options on minority interests was reclassified from level 2 to level 3 of the fair value hierarchy. The expected maturity of the liabilities depends on the time necessary until agreement and is classified as short-term in nature. Accordingly, it is assumed that the carrying amount of the liability is an appropriate estimate of fair value.

Offsetting Table → 3.62

The table "Global offsetting" shows the extent to which financial assets and financial liabilities were offset in the balance sheet as well as the possible effects from the offsetting of instruments, which are subject to a legally enforceable global netting agreement or a similar agreement.

Derivative trading is subject to a global netting agreement. However, the German framework agreement and the ISDA agreements do not meet the criteria for an offsetting obligation in the Group balance sheet. The right to offset is only enforceable in the event of future events (e.g. the insolvency of one of the contracting parties).

Factoring

The Group participates in receivables sales programs, in which trade accounts receivable are sold to a financial services provider. Through these measures, the Group pursues the goal of improving the liquidity situation and the possible risk of default, especially in relation to customers with extended payment terms. At Knorr-Bremse, a distinction is made between factoring with derecognition from the balance sheet and without derecognition from the balance sheet.

In the case of factoring with derecognition, essentially all opportunities and risks associated with ownership of the financial asset are transferred to the financial service providers. The intention is to hold the non-transferred receivables in a portfolio until final payment and to collect the contractual cash flows. The business model for these receivables is therefore classified as "hold and sell" and recognized at fair value with no effect on income.

In the case of factoring without derecognition from the balance sheet, this is also transferred to the financial service providers. The Knorr-Bremse Group bears the credit risk until the receivable has been settled, so that not all opportunities and risks are essentially transferred. These receivables are not derecognized and the corresponding portfolios are reported in the "Hold" category and are carried at "amortized cost". Since factoring is carried out without derecognition from the balance sheet until the customer settles its liabilities with the financial services provider by agreed payment dates, the credit risk remains with Knorr-Bremse (see Chapter H.1.4.). In the 2020 fiscal year, receivables of € 286,912 thousand (2019: € 198,983 thousand) were transferred.

Due to the short term, the fair value of the receivables sold roughly corresponds to the book value of the receivables prior to the transfer.

The notes on the financial result (Chapter E.8) provide information on the net gains and net losses from financial instruments by measurement category.

3.62 Global offsetting

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Financial assets		
Gross values in the balance sheet	18,123	16,091
Potential netting capability	8,655	11,573
Net value	9,468	4,518
Financial liabilities		
Gross values in the balance sheet	(12,794)	(26,377)
Potential netting capability	(8,655)	(11,573)
Net value	(4,139)	(14,804)

F.14.2. Impairments Table → 3.63, 3.64

Table → 3.63 shows the impairment losses recognized in accordance with IFRS 9 due to credit risks for debt instruments that are measured at amortized cost and at fair value with no effect on income.

The customers were divided into various categories. The calculated probabilities of default of the respective customer groups estimate the creditworthiness and the ability to meet commitments from receivables within the next 12 months.

For the 1st group, the adjustment takes place according to the public rating (S&P/Moody's or the implied rating according to the Thomson Reuters valuation model) and the associated probability of default on the respective cut-off dates.

For the 2nd group, a rating-equivalent comparative determination of the estimate is made.

For the 3rd group, the probability of default is determined by a credit agency.

For the 4th group, an average probability of default is determined on the basis of a comparison group with similar risk parameters.

F.14.3. Equity instruments

The Company holds various investments in third companies as well as non-consolidated investments in affiliated/associated companies. These equity participations are essentially reported at fair value.

Since 2016, the Company holds an investment in Haldex AB, which is of a long-term strategic nature. The Company exercises an accounting option for this investment and assigns it to the "at fair value through OCI" category. For this investment, changes to the fair value are reported in the reserve for adjustments in other results. No OCI release or OCI recycling will occur for these adjustments in future. In 2020 no shares in Haldex AB were sold. In 2020, a loss of € 2,345 thousand (2019: € 8,302 thousand) was recognized in the OCI with no effect on the profit.

3.63 Financial instruments in impairment scope

in € thousand	Impairment Dec. 31, 2019	Net change	Derecognition	Impairment Dec. 31, 2020
2020 fiscal year				
Cash and cash equivalents	20	152	(541)	(369)
Trade accounts receivable (AC) and contract assets	2,138	6,406	(427)	8,117

3.64 Breakdown of trade accounts receivable and contract assets by segment

in € thousand	Rail Vehicle Systems	Commercial Vehicle Systems	Other	Total
Dec. 31, 2019 Trade accounts receivable and contract assets	756,853	481,281	750	1,238,884
Contract assets	89,885	–	–	89,885
Trade accounts receivable	666,968	481,281	750	1,148,999
Dec. 31, 2020 Trade accounts receivable and contract assets	700,245	523,544	1,567	1,225,356
Contract assets	84,217	–	–	84,217
Trade accounts receivable	616,028	523,544	1,567	1,141,139

3.65 Changes in equity

	Fair value	
in € thousand	Dec. 31, 2020	Dec. 31, 2019
Investments at FVOCI		
HALDEX SE	19,599	21,944

	Income/expense	
in € thousand	Dec. 31, 2020	Dec. 31, 2019
Adjustment*)		
HALDEX SE	(2,345)	(8,302)

*) Reported in the OCI with no effect on income.

Knorr-Bremse received no dividend from the aforementioned instrument in the reporting period (2019: € 408 thousand).

Table → 3.65 shows the changes in equity.

F.14.4. Derivatives in hedge accounting

The Table → 3.66 presents the notional amounts, the non-netted book values, average hedging rate and calculation parameters for determining the ineffectiveness of hedging instruments concluded to hedge the risks of changes in value in the context of cash flow hedges.

Given that hedge accounting has only been used by Knorr-Bremse since 2019, the volumes hedged will gradually increase. In addition, there is an intention to include additional currencies in hedge accounting in future.

Measurement of ineffectiveness

The Group uses the hypothetical derivative method to assess whether the designated derivative in each hedging relationship will prospectively be or has retrospectively been effective in relation to offsetting changes in cash flows of the hedged item. The prospective effectiveness is measured using critical terms match, whereby the critical parameters of the hedged item and hedge transaction, such as currency, term and amount, match. Changes to the date of the hedged transactions and various effects of the counterparties' credit risk in the fair value of the hedged items and hedge transactions are possible causes of ineffectiveness.

For the hedging relationships in existence as of December 31, 2020, no material ineffectiveness has arisen.

Reclassification

The hedging takes place in the revenues and purchase of intermediate products risk categories depending on the hedged item. Table → 3.67 shows the status of hedge reserves and reserves for costs of hedging in 2020 and presents reclassifications of hedge reserves and reserves for costs of hedging broken down by risk category.

3.66 Hedging instruments in hedge accounting

	Notional amounts in € thousand		Book values € thousand	
Risk category - exchange rate risk	Notional amount of forward exchange contracts < 1 year	Notional amount of forward exchange contracts > 1 year	Receivables	Liabilities
				2020 fiscal year
Forward exchange contracts – revenues	171,280	108,274	770	8,090
Forward exchange contracts – purchases	142,214	41,337	12,949	–
				2019 fiscal year
Forward exchange contracts – revenues	175,197	77,089	2,408	1,914
Forward exchange contracts – purchases	148,699	96,282	–	4,184

3.67 Reclassification of the cash flow hedge reserves

in € thousand	2020 Hedging transactions reserve	2020 Reserve for costs of hedging	2019 Hedging transactions reserve	2019 Reserve for costs of hedging
As of Jan. 1	–	–	–	–
Forward exchange contracts – revenues	1,222	(1,961)	–	–
Forward exchange contracts – purchases	(270)	4,428	–	–
Cash flow hedge				
Changes in fair value				
Forward exchange contracts – revenues	17,880	(2,462)	1,415	(2,206)
Forward exchange contracts – purchases	(18,795)	6,488	419	5,278
Amount reclassified to profit or loss:				
Forward exchange contracts – revenues	(7,504)	1,863	(192)	245
Forward exchange contracts – purchases	27	(2,886)	(343)	(380)
Amount reclassified to acquisition costs of inventories				
Forward exchange contracts – revenues	–	–	–	–
Forward exchange contracts – purchases	824	(1,693)	(345)	(470)
As of Dec. 31				
Forward exchange contracts – revenues	11,598	(2,561)	1,222	(1,961)
Forward exchange contracts – purchases	(18,214)	6,337	(270)	4,428

F.15. Income taxes Table → 3.68

The current income tax receivables of € 48,714 thousand relate to receivables from the current years 2019 and 2020; the decrease is due in particular to the tax assessment of the German tax group that took place in 2018. Non-current income tax liabilities represent tax risks from current and future tax audits. Current income tax liabilities relate to the current 2019 (to the extent not yet assessed) and 2020 tax calculation.

3.68 Income taxes

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Income tax receivables	48,714	73,900
thereof current	48,714	73,900
Income tax liabilities	105,043	86,543
thereof non-current	58,194	51,908
thereof current	46,849	34,635

Average hedging rate < 1 year	Average hedging rate > 1 year	Hedge transaction balance sheet item	Item in profit or loss affected by the reclassification	Change in value of hedged item	Change in value of the hedging instrument	Hedge ineffectiveness that has been recognized in the income statement
						2020 fiscal year
EUR/CZK: 26.4	EUR/CZK: 26.62					
EUR/HUF: 344.42	EUR/HUF: 360.80			(19,102)	19,102	
EUR/USD: 1.15	EUR/USD: 1.12	Other financial assets and liabilities including derivatives	Revenues and cost of materials	19,066	(19,066)	There is no material ineffectiveness
						2019 fiscal year
EUR/CZK: 26.3	EUR/CZK: 26.71					
EUR/HUF: 326.83	EUR/HUF: 334.61			871	(874)	
EUR/USD: 1.15	EUR/USD: 1.18	Other financial assets and liabilities including derivatives	Revenues and cost of materials	(542)	542	There is no material ineffectiveness

G. Notes to the cash flow statement

The Group's statements of cash flows show the origin and use of cash flows and the net increase/decrease in cash and cash equivalents, and are prepared in compliance with IAS 7 (Statement of Cash Flows).

A distinction is made between cash flows from operating activities from investing and financing activities. The cash flows from operating activities are derived indirectly based on the annual net profit. By contrast, the cash flows from investing and financing activities are determined based on payments.

G.1. Cash flow from operating activities

The cash flow from operating activities is calculated by adjusting the net income (including the earnings share of minority interests) for non-cash items, especially depreciation, amortization, and impairment losses and reversals of impairment losses on intangible assets as well as property, plant and equipment, allowances on inventories, contract assets and trade accounts receivable, gains and losses on the disposal of assets and on the sale of consolidated companies, as well as the interest and investment result. Moreover, adjustments are made to other changes in current assets, liabilities not related to investment and financing activities, as well as to provisions. It also includes the cash inflows from proceeds due to the settlement of the receivables underlying non-recourse factoring, as these do not constitute investing or financing activities. The cash flow from operating activities is shown following a correction of tax expenses and income, non-cash changes in the measurement of derivatives and other non-cash expenses and income.

In 2020, the cash inflow from operating activities increased by € 50,196 thousand to € 1,035,988 thousand. Based on a decline in the net income by € -99,847 thousand, to € 532,171 thousand, we recorded higher depreciation, amortization and impairment losses, up by € 27,118 thousand. In addition, trade accounts receivable decreased by € 7,860 thousand year-on-year. Inventory stock increased in the reporting year, rising by € 29,578 thousand to € 844,590 thousand.

Changes in trade accounts payable and other liabilities that are not attributable to investing or financing activities amounted to € 98,124 thousand in the year under review. Trade accounts payable increased by € 60,235 thousand to € 1,027,682 thousand in the reporting period compared with the previous year. Other liabilities decreased by € 42,894 thousand to € 93,777 thousand.

The loss from disposals of consolidated companies and other business units amounting to € 111 thousand includes the profit on the sale of the two GT Group companies. In the previous year, this item essentially reflected losses from the disposal of the Powertech companies, amounting to € 81,885 thousand.

The loss from the retirement of fixed assets, amounting to € 5,868 thousand includes minor losses from various retirements of fixed assets. In the previous year, this line item essentially included € 45,067 thousand in profits on the disposal of land and buildings in connection with the sale and leaseback transaction at the Munich location.

To enhance transparency, non-cash changes in provisions are presented as a separate line item. This includes the effects of the reversal, addition and compounding of provisions totaling € 145,411 thousand. Due to the utilization of provisions, cash changes in provisions in the fiscal year amounted to € 151,720 thousand (2019: € 176,411 thousand).

Other non-cash expenses and income, which changed from € 56,185 thousand in the previous year to € 8.237 thousand in the year under review, include primarily unrealized gains and losses.

Income tax payments were down by € 80,655 thousand year-on-year, to € 143,526 thousand. This is chiefly attributable to the reduced advance tax payments due to Covid-19 as well as to tax refunds from the 2018 tax return.

The net working capital decreased in the reporting year by € 62,697 thousand from € 809,097 thousand to € 746,396 thousand.

G.2. Cash flow from investing activities

The cash outflow from investing activities results from the cash outflow for investments in intangible assets, property, plant and equipment, financial assets and for the acquisition of consolidated companies and the cash inflow from the -disposal of intangible assets, property, plant and equipment and financial assets.

Interest received and cash outflows from investments in plan assets for pensions are also reported in investing activities.

In the event of changes to the group of consolidated companies by selling or buying companies, the purchase price paid (not including acquired debt) adjusted for received/outgoing cash funds is reported as cash flow from investing activities.

In fiscal year 2020, the outflow of funds due to investing activities increased by € 222,579 thousand. In this context, investments in intangible assets were up by € 22,431 thousand, to reach € 120,317 thousand. This includes the acquisition of further intangible assets as part of Sentient IP AB (incl. Sentient Heavy Vehicles AB), Gothenburg/Sweden, amounting to € 4,667 thousand, as well as the payment of a purchase price installment of €15.000 thousand for the acquisition of additional intangible assets from Mogul.

Investments in property, plant and equipment increased by € 21,065 thousand, to € 241,327 thousand. Furthermore, there was a cash inflow from financial investments in the amount of € 4,011 thousand.

The sale and leaseback transaction involving the sale of land and buildings at the Munich site is reflected in the previous year's cash flow from investing activities, where it is part of the proceeds from the sale of property, plant, and equipment item. The cash inflows of € 191,850 thousand included in that amount comprise mainly the selling price of € 187,259 thousand received in 2019 as part of this transaction. During the fiscal year, there was no comparable transaction for this cash inflow, which is why cash inflows from the sale of property, plant and equipment declined to € 12.924 thousand.

The outflow of funds from the disposal of consolidated companies and other business units, amounting to € 8,948 thousand (2019: € 29,070 thousand) includes - in addition to the purchase price of € 552 thousand received for the sale of the two companies Alpha Process Controls (International) Ltd., Peterlee/Great Britain and Aldona Seals Ltd., Peterlee/Great Britain of the GT Group - a disbursement in connection with the Powertech companies sold in the previous year, amounting to € 9,500 thousand.

3.69 GT Group

In € thousand	
Property, plant, and equipment and intangible assets	6
Inventories	101
Trade accounts receivable and other assets	2,131
Total assets	**2,237**
Other provisions	308
Financial liabilities	133
Trade accounts payable and other liabilities	245
Total liabilities	**686**

In addition to cash and cash equivalents, the companies sold included the assets and liabilities shown in Table → 3.69 as of the time of disposal.

Disbursements for investments in financial assets are up by € 89,495 thousand year-on-year, to € 106,583 thousand. This line item essentially includes the cash outflows already transferred from the special fund placed in stocks, bonds and Pfandbriefe amounting to € 79,514 thousand, the purchase price paid to the increased stake in the at-equity holding Rail Vision Ltd. Raanana/Israel, amounting to € 4,238 thousand as well as the purchase price paid less the cash and cash equivalents received for the at-equity holding in China Source Engineered Components Trading Corporation Ltd., Shanghai/China, amounting to € 2,389 thousand.

Moreover, the outflow of funds for acquisition of consolidated companies increased year-on-year from € 194,367 thousand to € 123,247 thousand. This outflow of funds essentially relates to the outflow of cash and cash equivalents for the acquisitions of R.H. Sheppard Co., Inc., Hanover, Pennsylvania/USA amounting to € 135,120 thousand, less the cash and cash equivalents taken over within the scope of the acquisition, amounting to € 11,873 thousand.

Investments in the Rail Vehicle Systems division focused on investments in capacity expansions of high-growth product groups, automation projects and also replacement and expansion projects. In addition to worldwide investments in supplier tools, the primary investments in the Commercial Vehicle Systems area were in the expansion of production capacities at the North American site Bowling Green and within the scope of the steering systems business in Thailand. Additionally, investments were made in connection with our GSBC product platform and for the integration of Sheppard.

G.3. Cash flow from financing activities

The cash flow from financing activities is calculated by netting the shareholder dividends paid, bank debt and loans raised, and their repayment and interest payments. Other effects included here are disbursements for the repayment of leasing liabilities and disbursements from restitution to silent partners and cash outflows to non-controlling interests. In addition, proceeds from factoring arrangements with right of recourse and disbursements for resulting liabilities are presented in the cash inflow from financing activities. There was no factoring with right of recourse in the Group in the reporting year. Furthermore, cash inflows and outflows are reported from the settlement of freestanding derivatives that were exercised during the fiscal year and are not part of hedge accounting. Besides, the cash flow from financing activities includes cash inflows from grants and subsidies.

In the 2020 fiscal year, there was a cash outflow from financing activities in the amount of € 10,367 thousand, which represents a € 494,799 thousand lower cash outflow compared to the previous year.

In 2020, proceeds from borrowings amounting to € 799,864 thousand were recognized in the cash flow from financing activities; these are essentially attributable to the need to ensure financing capabilities during the Covid-19 pandemic. As early as this year, a sum of € 250,000 thousand of these loans was repaid, contributing to the increase in the line item Disbursements from the repayment of borrowings. This cash outflow was up from € 90,244 thousand in the previous year to € 399,280 thousand in 2020. A further key component included is the repayment of a loan to the European Investment Bank, amounting to € 100,000 thousand. The interest paid reduced by € 4,553 thousand to € 21,836 thousand in the reporting year, of which € 10,898 thousand was paid to credit institutions and € 10,938 thousand is attributable to bonds and debt instruments.

Moreover, during the fiscal year a cash inflow was received for settlement of derivatives amounting to € 31,671 thousand, whereas in the previous year this transaction led to a disbursement amounting to € 19,273 thousand.

In addition, the net cash outflows from factoring in the previous year were € 2,649 thousand; there was no recourse factoring in the Group in the reporting year.

The cash outflow from financing activities in 2020 results largely from dividends paid to shareholders of the parent company, amounting to € 290,160 thousand (2019: € 282,100 thousand) and dividends paid to non-controlling interests, amounting to € 48,402 thousand (2019: € 55,069 thousand). Dividends paid to non-controlling interests include the dividend of € 11,931 thousand paid to the minority shareholder Bosch and recognized in the financial result.

The line item Disbursements for acquisition of non-controlling interests reflects the part of the purchase price already paid for acquisition of the remaining 20% stake in Bendix Spicer Foundation Brake LLC, Elyria, Ohio/USA by Dana Commercial Vehicle Products LLC, amounting to € 17,945 thousand.

In the reporting year, the cash flow from financing activities included repayments of lease obligations amounting to € 62.298 thousand (2019: € 53,450 thousand) and interest paid, amounting to € 10,837 thousand (2019: € 6.845 thousand). In addition, cash inflows from grants and subsidies amounting to € 8,855 thousand were recognized in the cash flow from financing activities.

As at December 31, 2020, the company had 2020 approved credit lines at its disposal amounting to € 2,336,600 thousand (2019: € 1,857,800 thousand), 52.1% (2019: 62.3%) of which were unutilized.

G.4. Composition of cash and cash equivalents Table → 3.70

In the reporting year, the development of the individual cash flows, after adjustment for effects caused by exchange rates of € 61,967 thousand, resulted in an increase in funds by € 387,259 thousand to € 2,240,725 thousand.

The cash funds reported in the statement of cash flows include the cash and cash equivalents reported under F.8. as well as short-term marketable securities and bank debt from overdraft facilities with maturities of up to three months, which must be paid upon request at any time.

3.70 Financial funds at end of period

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Cash and cash equivalents	2,277,048	1,880,738
Short-term securities available for sale	2	2
Short-term liabilities to banks (less than 3 months)	(36,325)	(27,274)
	2,240,725	**1,853,466**

H. Other information

H.1. Managing of financial risks

As a result of its global operating activities, the Group is exposed to various financial risks, especially market risks, credit risks, and liquidity risks. The Group-wide risk management is focused on the unpredictable nature of developments on the financial markets and aims to minimize the potential negative effects on the Group's financial situation. The objective of the company policy is to limit risks through systematic financial management. To do so, the Group specifically uses financial derivatives to hedge against market risks.

The central Group Finance Department is responsible for risk management in accordance with the guidelines adopted by the Executive Board. It identifies, assesses, and hedges financial risks in close cooperation with the Group's operating units. The Executive Board provides guidelines for risk management as well as fixed principles for certain risk areas.

H.1.1. Currency risks

Currency risks arise from future transactions involving both the purchase of intermediate products and the sale of end products. Receivables and liabilities recognized in the balance sheet as well as highly probable expected cash flows in foreign currencies are examined. Risk positions also arise in a minor role from financing in foreign currencies.

The objective of the Group's hedging transactions is to reduce the risks from exchange rate fluctuations. For this purpose, currency exposure is centralized and the aggregated position is hedged with external banks using forward exchange transactions and options. The terms are based on the terms of the underlying transactions, whereby the planning and hedging horizon generally extends over three years. Currency futures and option transactions are exclusively entered into to hedge existing and future foreign currency receivables and payables from the purchase and sale of goods, as well as to eliminate the currency risk for financing transactions. The operating exposures for the next 12 months are shown. Stable exposure is assumed for subsequent years. Table → 3.71

Hedge accounting has been used in the Knorr-Bremse Group since January 1, 2019 in order to reflect the hedging of fluctuating cash flows that result from changes in exchange rates and are connected with highly probable expected transactions. The prerequisite for hedge accounting is that the economic relationship between the hedging instrument and the hedged item is documented and its effectiveness is proven. At the inception of the designated hedging relationships, the Group documents the risk management objectives and strategies for undertaking the hedge.

For the 2020 consolidated financial statements we are using the value at risk as the primary risk measure to determine the risk potential for currency risks based on management reporting. It indicates the maximum loss that is not likely to be exceeded within a certain time period (12 months) with a certain probability (95%). Both the recognized and planned exposures and hedging transactions are included in the analysis. The value at risk is calculated for the core currencies of USD, HUF and CZK. Table → 3.72

Exposures to other currencies exist, which, however, do not have a material effect on earnings.

H.1.2. Interest rate risks

Interest rate risks arise as a result of market-related fluctuations in the interest rates. They affect the level of the Group's interest expenses. These arise in the Knorr-Bremse Group from variable-interest financial obligations. Interest rate risks are aggregated at headquarters and hedges are made at individual case level, taking into account the hedging period and notional volume of the risk position.

3.71 Currency exposure

	Dec. 31, 2020		
in € thousand	USD	HUF	CZK
Operating exposure	211,124	(178,058)	(90,147)
Derivatives	(135,264)	100,480	62,857

3.72 Value at risk

In € thousand	2020	2019
USD	11,209	4,931
HUF	12,360	5,579
CZK	4,653	2,624

With one exception, the existing leases do not have interest rate risks. The exception is the variable components of obligations under a lease. To hedge these, the Group has two interest rate swaps with a nominal volume of € 29,699 thousand in its portfolio, to which hedge accounting is not applied.

The interest rate risk position, which includes variable-interest credit balances and liabilities, is shown below on the respective reporting date. Table → 3.73

Table → 3.74 shows the sensitivity of the Group earnings to a change in interest rates (by a rise of 100 basis points and a fall of 25 basis points) on variable-rate loans and balances as well as on the present value of interest rate derivatives.

H.1.3. Commodity price risks

Commodity price risks arise from the fact that raw materials (especially metals) required in the production process can only be procured at higher costs due to fluctuating market prices, without a full price adjustment in sales transactions. The planned purchases of raw materials or components with raw material contents as well as the corresponding sales contracts are taken into account for the analysis of the commodity price risk. The resulting risk position, representing our exposure, is continuously monitored and hedged on a case-by-case basis using commodity swaps. Hedge accounting is not applied here.

The volume of the underlying transactions is calculated from the highly probable need for commodities over a rolling 2-year planning period. Table → 3.75 lists the quantities of

3.73 Interest rate exposure

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Fixed-interest financial debt	1,266,330	1,363,384
Variable-interest financial debt	587,332	82,428
Interest rate derivatives	29,699	30,451

3.74 Effect on earnings of interest rate sensitivity

	Dec. 31, 2020		Dec. 31, 2019	
in € thousand	+100 bp	-25 bp	+100 bp	-25 bp
Variable-interest financial debt	(5,873)	1,468	(824)	206
Interest rate derivatives	875	(219)	1,282	(321)
Total	**(4,998)**	**1,249**	**458**	**(115)**

3.75 Commodity exposure

in metric tons	Dec. 31, 2020	Dec. 31, 2019
Aluminum	6,214	6,305

3.76 Effect on earnings of the sensitivity of commodity prices

	Dec. 31, 2020		Dec. 31, 2019	
in € thousand	+10%	-10%	+10%	-10%
Aluminum	(1,002)	1,002	(741)	741
	(1,002)	**1,002**	**(741)**	**741**

commodity exposures on the purchasing side for hedging them. The remaining open position can essentially be passed on the sales side.

Table → 3.76 shows the sensitivity of consolidated earnings to commodity prices (10% increase/decrease in the market price).

H.1.4. Credit risks

Credit risks arise from investments with banks, operating trade receivables from customers as well as contract assets. On the credit institutions' side, the risk relates to counterparty default. On the customer's side the risk relates to late, partial, or lacking payments of receivables without compensation and to non-payment.

The book value of the financial assets reported in the consolidated financial statements represents the maximum default risk. Regular monitoring is carried out both on the bank side and on the customer side. Decisions on financial transactions are made on the basis of this monitoring. Contracts on financial derivatives and financial transactions are only concluded with financial institutions with high credit ratings in order to keep the counterparty default risk as low as possible.

In principle, commercial transactions are exposed to the risk of a possible loss of value due to the defaulting of business partners, such as banks, suppliers, and customers.

3.77 Ratings

in € thousand	Dec. 31, 2020	Dec. 31, 2019
AAA to A-	1,012,912	1,164,113
A- to BBB-	825,292	665,629
Not allocated, but within the investment grade range	438,844	50,996
	2,277,048	**1,880,738**

3.78 Ratings – expected credit loss

In € thousand	Dec. 31, 2020	Dec. 31, 2019
AAA to A-	78	1
A- to BBB-	38	17
Not allocated, but within the investment grade range	2	2
	118	**20**

Screening process for banks

The monitoring of core banks, including their rating and CDS development, as well as the diversification of the Group's business activities and investments, takes place on a quarterly basis. Compliance with the regulations in the guideline on the management of banking relationships is also reviewed at the same time. This specifies that no more than 40% of total deposits may be held by an individual bank and that business relationships may essentially only be maintained with banks with an investment grade rating. Financial investments are fine-tuned and adjusted as required on this basis. As a result, the assumption of low credit risk is supported by the investment guidelines only for investment-grade rated banks through regular controls.

Impairment of deposits

All of the Company's deposits are held in the business accounts of a small number of selected banks, most of which belong to the group of core and principal commercial banks used by the Group. A public issuer rating is provided by established rating agencies for all core and principal commercial banks. For the Impairment of these cash holdings, the probability of default is calculated according to the rating scale. The rating indicators and probabilities of occurrence are updated quarterly. Table → 3.77, 3.78

The shift in the value of the creditworthiness structure for investments is based largely on the change in the core and principal commercial bank structure (addition of further principal commercial banks to the rating portfolio for regular checks).

Screening process for customers and suppliers

When establishing new business relationships, public sources, such as credit agencies, are used to obtain an economic business evaluation and credit opinion in advance. During the business relationship, a regular monitoring process occurs via the automated, system-based analyses of customer and supplier portfolios. This takes into account the probabilities of occurrence and sales volumes. While suppliers are monitored as a group, major customers are reviewed on an individual basis. There was no significant concentration of default risk with respect to individual counterparties.

Impairment of receivables

The credit rating structure of the Company's receivables portfolio is illustrated in Table → 3.79, 3.80

As of the reporting date, there were no material agreements that limit the maximum default risk. No significant collateral was received in the period under review. The shift in the value of the creditworthiness structure is based on the one hand on the change in the key customer structure itself and on the other hand on a change in the number of key customers.

According to the sales analysis of the customer structure, the 30 largest customers per division together account for the majority of total sales. This group therefore also accounts for the largest amount of total receivables. Receivables from this customer group are measured and their default probabilities determined in detail on a one-by-one basis using either a debtor-specific CDS spread or a rating-equivalent benchmark CDS spread or on the basis of credit reports, if they are available from publicly accessible information platforms or credit agencies.

For other customers outside the group of major customers, the probability of default is assessed on the basis of the benchmark CDS spread determined.

3.79 Credit structure for trade accounts receivable and contract assets

In € thousand		Dec. 31, 2020	Dec. 31, 2019
Top customers	AAA to A-	418,979	413,172
Top customers	A- to BBB-	256,508	289,149
Top customers	Worse than BBB-	192,255	159,146
Other receivables without a rating allocation on an individual basis		357,614	377,417
		1,225,356	**1,238,884**

3.80 Credit structure for trade accounts receivable and contract assets – expected credit loss

In € thousand		Dec. 31, 2020	Dec. 31, 2019
Top customers	AAA to A-	115	24
Top customers	A- to BBB-	175	56
Top customers	Worse than BBB-	1,052	829
Other receivables without a rating allocation on an individual basis		7,442	6,388
		8,784	**7,297**

The default probabilities are updated quarterly. The identification of the 30 largest customers per division is updated annually.

The probabilities of default calculated reflect the creditworthiness of the respective company. In the case of impairment, due dates of receivables play a subordinate role because the underlying average terms of the receivables in the Group are largely in the short-term range.

There was no material concentration of a default risk with regard to a business partner or a clearly distinguishable group of business partners. As of the reporting date, there were no material agreements that limit the maximum default risk.

H.1.5. Equity share price risks

Knorr-Bremse has invested cash and cash equivalents of € 150,000 thousand in a special fund. An equity share price risk arises for the Group from the equity shares, equity index funds and equity derivatives held in this fund. Equity share exposure amounting in total to € 11,703 thousand was held in the fund as of December 31, 2020. If the equity share price level as of December 31, 2020 had been 10% higher (lower) , this would have resulted in additional income (losses) in the financial result of € 1,170 thousand.

H.1.6. Liquidity risks

Liquidity risks arise from the possibility that funds required to satisfy payment obligations cannot be procured on time.

Within the Knorr-Bremse Group, liquidity risks arise from payment obligations arising from operating transactions or financing obligations. The management of liquidity within the Group is intended to ensure that sufficient cash and cash equivalents are always available to meet payment obligations at maturity under both normal and tense conditions without incurring unacceptable losses or damaging the reputation of the Group. Liquidity requirements from business activities over the next three months are determined on a rolling weekly basis and differentiated by currency in short-term liquidity planning. This planning takes into account the more precise expected cash flows.

As part of the medium-term planning, which takes place once a year and has a planning horizon of three years, the liquidity requirement is determined on the basis of the forecasted cash flows. This process allows appropriate actions to be taken at an early stage in case of changes to the financing requirements.

3.81 Maturities

in € thousand	Book value	Contractually agreed cash flows	Up to 1 year	1 to 5 years	Over 5 years
					fiscal year 2020
Derivative financial instruments	(12,794)	(12,794)	(7,257)	(5,538)	–
Liabilities towards credit institutions	(604,567)	(608,510)	(570,878)	(30,149)	(7,483)
Liabilities resulting from options on minority interests	(379,616)	(379,616)	(379,616)	–	–
Bonds and debt instruments	(1,250,526)	(1,294,685)	(510,937)	(783,748)	–
Purchase price liabilities	(58,860)	(58,860)	(47,931)	(10,929)	–
Lease liabilities	(387,221)	(457,469)	(62,613)	(186,252)	(208,604)
Other financial liabilities	(283,346)	(342,538)	(325,267)	(16,700)	(570)
Trade accounts payable	(1,027,682)	(971,092)	(970,559)	(533)	–
	(4,004,612)	**(4,125,563)**	**(2,875,057)**	**(1,033,848)**	**(216,657)**
					fiscal year 2019
Derivative financial instruments	(26,377)	(727,144)	(585,946)	(141,198)	–
Liabilities towards credit institutions	(196,713)	(198,236)	(158,984)	(34,836)	(4,416)
Liabilities resulting from options on minority interests	(379,616)	(379,616)	(379,616)	–	–
Bonds and debt instruments	(1,249,013)	(1,306,479)	(11,794)	(536,248)	(758,437)
Purchase price liabilities	(44,990)	(44,990)	(20,590)	(24,400)	–
Lease liabilities	(377,293)	(452,679)	(69,593)	(176,185)	(206,901)
Other financial liabilities	(259,755)	(262,564)	(258,761)	(3,180)	(623)
Trade accounts payable	(967,447)	(967,447)	(967,447)	–	–
	(3,501,204)	**(4,339,155)**	**(2,452,732)**	**(916,046)**	**(970,377)**

The Group has sufficient cash and cash equivalents available to meet its payment obligations. In addition, there are credit, overdraft and guarantee lines totaling € 2,336,646 thousand (2019: € 1,857,800 thousand) – € 1,806,600 thousand of which is usable as cash drawdowns and € 150,000 thousand of which relates to medium-term credit facilities (term until 2024) – and new bilateral loans of € 750,000 thousand raised in connection with the Covid-19 crisis in April 2020, of which € 250,000 thousand was repaid in October 2020. On December 8, 2016, the Company issued a € 500,000 thousand corporate bond maturing in 2021, then on June 14, 2018 it issued a € 750,000 thousand bond maturing in 2025. The supply chain finance program (see chapter F.12) is handled via a credit institution. There is a risk in this connection that contractual terms and conditions may change in the future.

Table → 3.81 shows the remaining contractual maturities of the financial liabilities as of December 31, 2020, including the estimated interest payments. This relates to undiscounted gross amounts, including estimated interest payments.

H.2. Events after the reporting date

Change in membership of the Supervisory Board and shareholder structure

On 23 February 2021, Mr. Heinz Hermann Thiele, Deputy Chairman of the Supervisory Board since July 1, 2020, passed away. The Supervisory Board will be newly elected at the Annual General Meeting of Knorr-Bremse AG. Up to that point in time, the Supervisory Board of Knorr-Bremse AG consists of 11 members.

Up to February 23, 2021, voting rights pursuant to Section 34 (1) of the German Securities Trading Act (WpHG) equivalent to 58.99% were attributable to Mr. Thiele. His decease has no impacts on the consolidated financial statements of Knorr-Bremse AG as at December 31, 2020.

Change of leadership

As of January 1, 2021, Dr. Jan Michael Mrosik took up his post as Chairman of the management board of Knorr-Bremse AG and Member of the Executive Board responsible for labor relations as Labor Director within the meaning of Section 33 of the German Codetermination Act (MitbestG).

Partial repayment of credit facility

On February 1, 2021, we were able to repay another amount of € 150,000 thousand of our drawn credit facilities from the € 750,000 thousand Covid-19 action program thanks to further stabilization of our business performance.

Acquisitions of companies

On March 12, 2021: Knorr-Bremse signed a purchase agreement to acquire a German company and its activities in North America. The transaction is expected to close in the second quarter of the current year. The completion date has not yet been definitively set because it also depends on closing conditions that are not influenced solely by the parties. The purchase price is in the high double-digit million euro range. The acquisition will serve to ensure the further growth and expansion of the product and service portfolio in the Rail Vehicle Systems division.

H.3. Number of employees Table → 3.82

In fiscal year 2020, the average number of employees decreased by 418, from 29,422 to 29,004. The number of employees, excluding leased personnel, fell by 0.9% or 235 employees, from 26,615 to 26,380. This decrease is due especially to a volume-based reduction of the headcount in the regions of Europe and North America as well as disposals from the scope of consolidation. The opposite effect was produced by the acquisition of Sheppard.

3.82 Average number of employees

Number	2020	2019
Wage earners	14,819	15,569
thereof leased personnel	2,409	2,556
Salaried employees	13,974	13,661
thereof leased personnel	215	251
Trainees	211	192
	29,004	**29,422**

3.83 Auditor fees

in € thousand	2020	2019
Audit services	5,115	7,072
Other assurance services	181	217
Tax advisory services	46	4
Other services	1,540	2,715
	6,882	**10,008**

H.4. Auditor fees Table → 3.83

The fee for auditing services of the annual financial statements provided by KPMG AG WPG referred above all to the audit of the consolidated financial statements and the company's annual financial statements along with the summarized consolidated management report of Knorr-Bremse Aktiengesellschaft and of the Group as well as various audits of the annual financial statements of its subsidiaries, including statutory mandate extensions and key focal points of the audit agreed with the Supervisory Board. More, the audit included a review of the interim financial statements and an IT audit that was part of a project.

Other assurance services relate to the grant of a letter of comfort and legally prescribed or contractually agreed audits such as the EMIR audit pursuant to section 20 of the WpHG, audits related to the use of public funding, audit services in connection with non-financial reporting under ISAE 3000, and other contractually agreed assurance services.

Tax consulting services were exclusively related to services rendered in connection with mandatory EU reporting for cross-border tax arrangements DAC_6).

Other services predominantly concern additional, quality assurance audit actions in connection with quarterly reporting.

The total fee of in 2019 included € 1,690 thousand for fees for services from 2018 for which no provision was recognized in the previous year.

H.5. Transactions with related parties

Related parties within the meaning of IAS 24 are natural persons or companies that can be influenced by Knorr-Bremse AG, that can exert an influence on Knorr-Bremse AG or that are under the influence of another related party of Knorr-Bremse AG. Transactions with related parties were conducted at arm's length.

H.5.1. Parent company and ultimate parent entity

The Group is directly controlled by KB Holding GmbH, Grünwald/Germany (hereinafter "KB Holding"), which holds 58.99% of the shares of the Group.

The shares in KB Holding are held by TIB Vermögens- und Beteiligungsholding GmbH, Grünwald/Germany (hereinafter "TIB"), of which Stella Vermögensverwaltungs GmbH, Grünwald, Germany (hereinafter "Stella") in turn holds a majority interest. Stella is the ultimate parent Company.

The ultimate parent entity was Mr. Heinz Hermann Thiele of Munich, Germany until his death on February 23, 2021. Knorr-Bremse AG had not received an updated notification pursuant to Sections 33 and 34 of the German Securities Trading Act (WpHG) by the date of preparation of the annual and consolidated financial statements.

H.5.2. Related parties

All related parties that can be controlled by the Group or over which the Group can exercise significant influence are listed in the Notes under H.12. List of shareholdings.

Balances and transactions between Knorr-Bremse AG and its subsidiaries included in the consolidated financial statements that are related parties have been eliminated in the course of consolidation and are not explained in these notes.

In addition to the companies included in the consolidated financial statements, in the course of its normal business activities the Group also has relationships with other non-consolidated companies and associates and joint ventures that are considered to be related parties within the meaning of IAS 24.

H.5.3. Remuneration of key management personnel

Management in key positions consists of the management board and the Supervisory Board. The remuneration of members of management in key positions includes: Table → 3.84

The remuneration of the members of the management board includes salaries, benefits in kind and contributions in defined benefit and defined contribution plans for post-employment benefits. The post-employment benefits concerned expenses for defined contribution plans for management board members active in the fiscal year (€ 1,083 thousand, previous year: € 300 thousand) and in the previous year also concerned service costs for pension provisions (€ 300 thousand). The employment termination benefits concern the resignation of Mr. Eulitz (€ 3,647 thousand) and, conversely, the release of the pro rata 2018 LTI tranche (€ 174 thousand) for Mr. Heuwing in the reporting year and the resignations of Mr. Deller (€ 7,085 thousand) and Mr. Heuwing (€ 3,564 thousand) in the previous year.

The other long-term benefits due include expenses from the management board LTI, which was granted until 2019, and, conversely, the release from the 2018 LTI tranche (€ 822 thousand). The LTI for the 2018 and 2019 fiscal years was granted in the form of performance-related remuneration on the basis of a performance cash plan and is allocated in annual tranches, each with a term of 3 years. The payout is based on the Economic Value Added (EVA) generated by the KB Group in the second year following the grant year compared to the EVA® of the fiscal year preceding the grant year. Since the 2020 fiscal year, the LTI has been awarded as a performance share plan based on virtual shares and paid out in annual tranches. The term of a tranche is four years (the "performance period"). This begins on January 1 of the respective grant year and ends on December 31 of the third year after the grant year. The LTI is paid out following approval of the consolidated financial statements for the last fiscal year of the relevant performance period. The amount of the LTI payout directly depends on the performance of the Knorr-Bremse share during the performance period. It also depends in equal parts on the Company's total shareholder return (TSR) over the performance period compared with the TSR of companies in three individually specified peer groups (relative TSR) over the same period and on the average increase in earnings per share (EPS) during this period relative to a target value set by the Supervisory Board at the start of the performance period. For further details, please refer to the information on LTI in the compensation report and in Chapter F.9.

Total remuneration of the Supervisory Board and the Management Board in accordance with section 314 (1) no. 6 in connection with section 315e (1) HGB

The total remuneration of the members of the Supervisory Board in 2020 amounted to € 1,450 thousand (2019: € 1,450 thousand). The total remuneration of the management board in 2020 was € 11,000 thousand according to DRS 17 (2019: € 6,817 thousand).

3.84 Remuneration of management

in € thousand	2020	2019
Compensation of the Executive Board		
Short-term compensation	6,645	6,517
Post-employment benefits	1,083	600
Termination benefits	3,472	10,649
Other long-term benefits	(311)	1,189
Share-based payment	2,290	-
	13,179	**18,955**
Compensation for the Members of the Supervisory Board		
Short-term compensation	1,450	1,450
	1,450	**1,450**
Total	**14,629**	**20,405**

Past members of the management board and their surviving dependents were awarded total compensation of € 6,290 thousand in the fiscal year (2019: € 8,861 thousand). Total compensation in 2020 includes employment termination benefits of € 2,347 thousand arising from the termination of Mr. Eulitz's employment and of € 2,120 thousand from the termination of Mr. Heuwing's employment; in the previous year it included € 7,085 thousand from the termination of Mr. Deller's employment. The pension provisions amount to € 71,316 thousand (2019: € 68,046 thousand).

H.5.4. Purchase of goods and services Table → 3.85

The sale of goods and services to related parties comprises legal transactions within and outside the scope of normal delivery and service relationships. Services to the ultimate parent entity in the amount of € 597 thousand (2019: € 793 thousand) related to reimbursed expenses.

H.5.5. Purchase of goods and services Table → 3.86

The purchase of goods and services comprised legal transactions within the framework of and outside normal delivery and service relationships.

3.85 Sale of goods and services

in € thousand	2020	2019
Sale of goods and services		
Associated companies	159,109	91,092
Ultimate parent entity (various services)	715	942
Other related companies and persons	6,466	14,559
	166,290	**106,593**

3.86 Purchase of goods and services

in € thousand	2020	2019
Purchase of goods and services		
Associated companies	36,157	16,045
Members of the Management in key positions	180	223
Ultimate parent entity (consulting services)	2,538	3,540
Ultimate parent entity (rents)	2,342	2,430
Other related companies and persons (rents)	10,086	782
Other related companies and persons (goods and services)	836	372
	52,139	**23,392**

Goods and services (including rents) were purchased from related parties at arm's length conditions.

Consulting services obtained from the supreme controlling party related in particular to advising the Executive Board on current matters and supporting and maintaining important customer relationships.

Consulting services were provided and compensated under the consulting agreement with Knorr-Bremse AG that existed until June 30, 2020 and a consulting agreement concluded with effect as of April 1, 2018 with Knorr Brake Holding Corporation, USA, expiring on March 31, 2021.

3.87 Miscellaneous business transactions

in € thousand	2020	2019
Disposal of land and other assets to		
Related companies	8	255,164
Ultimate parent entity	–	–
	8	**255,164**
Purchase of land and other assets from		
Related companies	–	607
	–	**607**
Disbursement to a silent partner		
Ultimate parent entity		
Disbursement of a silent partner's contribution	–	10,000
Disbursement of a silent partner's settlement balance	–	516
	–	**10,516**
Donations to		
Related companies (Knorr-Bremse Global Care e. V.)	2,330	2,207
	2,330	**2,207**
Dividends to		
Parent Company (KB Holding)	189,176	198,026
Minority shareholders (Ursus)	–	–
Ultimate parent entity	–	1,214
	189,176	**199,240**
Further business transactions		
Associated companies		
Capital contributions at Alltruck GmbH & Co. KG	–	433
Capital increase at Rail Vision Ltd.	8,475	–
Related companies		
Sale of the northern part of the Munich site to OPES Business Park (remediation obligation and obligation to reverse constructional changes)	–	4,148
	8,475	**4,581**

H.5.6. Miscellaneous business transactions Table → 3.87

As part of a sale and leaseback transaction, Knorr-Bremse sold a parcel of land with existing buildings and buildings under construction at the Munich site in 2019 under a civil law contract to OPES Business Park Am Oberwiesenfeld GmbH; parts of the property have already been transferred in 2019 and immediately leased back under a long-term arrangement. In the reporting year, the Group received € 14,921 thousand from the transfer of another building in the fourth quarter of 2020. The final building to be transferred as part of this transaction was finished and transferred in the first quarter 2021. The purchase price was € 50,570 thousand.

H.5.7. Balances with related parties and management Table → 3.88

For details of other assets resulting from the sale and leaseback transaction at the Munich site, please refer to Chapter F.5.

Receivables from related parties result from trade receivables and from the sale of land. This includes € 340 thousand (2019: € 1,854 thousand) of other assets (prepaid expenses) for consulting services that are yet to be performed.

3.88 Balances with related parties and management

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Right-of-use assets pursuant to IFRS 16		
Related companies	69,984	51,357
Ultimate parent entity	21,564	23,217
	91,548	**74,574**
Other assets from the sale and leaseback transaction at the Munich site		
Related companies	**45,137**	**35,601**
Receivables to		
Associated companies	42,027	35,049
Related companies	18,099	22,404
Ultimate parent entity	365	1,872
Members of the Management in key positions	–	23
	60,491	**59,348**
Liabilities to		
Associated companies	7,832	3,038
Related companies	132,170	126,132
Ultimate parent entity	23,386	24,826
Members of the Management in key positions	138	223
	163,526	**154,219**

The receivables are unsecured and are settled in cash. No guarantees have been given or obtained. No impairment losses were recognized for unrecoverable or doubtful receivables from related parties in the current fiscal year or previous fiscal years.

The liabilities to associated companies result from deliveries and services. The liabilities to related parties largely concern liabilities from leases pursuant to IFRS 16.

No material transactions took place with entities under common control.

H.6. Executive bodies

H.6.1. Executive Board of Knorr-Bremse AG

Dr. Jan Michael Mrosik, Chairman of the Executive Board
(since January 1, 2021)

- Responsible in particular for HR, Strategy, Communication, Internal Audit, Security, Digitalization, and IT

Bernd Eulitz, Chairman of the Executive Board
(until August 31, 2020)

- Responsible in particular for HR, Corporate Development, Communication and Digitalization
- From May 1 – June 30, 2020:
  Responsible in particular for Finance, Taxes, Treasury, Controlling, Legal and Compliance, M&A, Sustainability and Investor Relations

Ralph Heuwing (until April 30, 2020)

- Responsible in particular for Finance, Taxes, Treasury, Controlling, Legal and Compliance, Investor Relations, Internal Audit, IT, and Security
- Member of the Supervisory Board of Management Capital Holding, Munich
- Member of the Supervisory Board of Ringmetall AG, Munich

Dr. Peter Laier

- Responsible for the Commercial Vehicle Systems Division, Munich
- Chairman of the Supervisory Board of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich

Frank Markus Weber (since July 1, 2020)

- Responsible in particular for Finance, Taxes, Treasury, Controlling, Legal and Compliance, M&A, Sustainability and Investor Relations

* Employee representatives

Dr. Jürgen Wilder

- Responsible for the Rail Vehicle Systems Division, Munich
- Chairman of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich

H.6.2. Supervisory Board of Knorr-Bremse AG

Prof. Dr. Klaus Mangold, Stuttgart

- Chairman of the Supervisory Board
- Independent contractor
- Chairman of Mangold Consulting GmbH, Stuttgart
- Member of the Administrative Board of Baiterek National Managing Holding JSC, Nur-Sultan, Kazakhstan
- Chairman of the Advisory Board of Lürssen Maritime Beteiligungen GmbH & Co. KG, Bremen
- Chairman of the Advisory Board of Cortec GmbH, Freiburg
- Vice-Chairman Rothschild Europe, Frankfurt am Main

Heinz Hermann Thiele, Munich
(from June 30, 2020 to February 23, 2021†)

- Deputy Chairman of the Supervisory Board
- Entrepreneur
- Honorary Chairman of the Supervisory Board

Franz-Josef Birkeneder*, Aldersbach

- Deputy Chairman of the Supervisory Board
- Plant manager at Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Aldersbach location

Kathrin Dahnke, Munich

- Deputy Chair of the Supervisory Board (until June 30, 2020)
- Chief Financial Officer of Osram Licht AG (since April 16, 2020)
- Member of the Supervisory Board of Fraport AG (until September 18, 2020)
- Member of the Supervisory Board of B. Braun Melsungen AG

Dr. Thomas Enders, Tegernsee (since June 30, 2020)

- President of Deutsche Gesellschaft für Auswärtige Politik
- Member of the Supervisory Board of Lufthansa AG
- Member of the Board of Directors of Linde plc
- Member of the Supervisory Board of Lilium GmbH

Michael Jell*, Munich

- Full-time Chair of the Works Council of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Knorr-Bremse AG, KB Media GmbH, Knorr-Bremse Services GmbH
- Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH

Dr. Wolfram Mörsdorf, Essen (until June 30, 2020)

- Retired member of the management board of ThyssenKrupp AG
- Chairman of the Supervisory Board of FRITZ Winter Eisengießerei GmbH & Co. KG
- Member of the Supervisory Board of PWK Automotive GmbH
- Chairman of the Supervisory Board of Gienanth GmbH
- Chairman of the Supervisory Board of Silbitz Group GmbH
- Member of the Board of Directors of Sistema Capital Partner Investment Holding

Werner Ratzisberger*, Aldersbach

- Project Engineer for mechanical processing/surfaces
- Deputy Chair of the Works Council of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH
- Member of the Supervisory Board of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

Annemarie Sedlmair*, Munich

- Head of the Legal department at IG Metall, Munich office
- Member of the Supervisory Board of Bosch Sicherheitssysteme GmbH

Erich Starkl*, Passau

- 2nd Authorized Representative of IG Metall trade union, Passau office
- Deputy Chairman of IG Metall

Julia Thiele-Schürhoff, Munich

- Chair of the management board of Knorr-Bremse Global Care e.V.

Wolfgang Tölsner, Uetersen (until June 30, 2020)

- Management Consultant
- Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH
- Chairman of the Administrative Board of Selectron AG
- Member of the Administrative Board of 4PL Central Station AG

Georg Weiberg, Stuttgart (until June 30, 2020)

- Retired Head of Development Daimler Trucks
- Member of the Supervisory Board of Mahle Behr GmbH & Co. KG
- Member of the Advisory Board of VOSS Automotive GmbH
- Member of the Supervisory Board of FRITZ Winter Eisengießerei GmbH & Co. KG

* Employee representatives

Dr. Theodor Weimer, Frankfurt am Main (since June 30, 2020)
- Chairman of the Executive Board of Deutsche Börse AG
- Member of the Supervisory Board of Deutsche Bank AG
- Member of the Supervisory Board of FC Bayern München AG (until June 30, 2020)

Günter Wiese*, Berlin
- Full-time Member of the Works Council of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Berlin plant
- Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH

H.7. Other financial obligations

Table → 3.89

Future rent and lease obligations result firstly from contracts that have already been entered into but have not yet commenced and are accounted for in accordance with IFRS 16 from that point onward or include variable lease payments and secondly from low-value or short-term rental and lease agreements, which are exempted from recognition in the balance sheet in accordance with IFRS 16.5. This includes leases already entered into but not yet implemented in connection with a sale and leaseback transaction in the USA.

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

Obligations for major repairs and maintenance work mostly comprise obligations in connection with maintenance at the Munich location.

In addition, the other liabilities item includes uncompleted orders as well as purchase obligations for building service charges and license obligations.

H.8. Contingent liabilities Table → 3.90

Contingent liabilities lead to possible obligations, which cannot be influenced due to the occurrence of potential future events. The amount of these obligations can also not be adequately calculated.

The Company's contingent liabilities involve guarantees and warranties. Guarantees are issued for outstanding bank bonds, performance warranties for banks, as well as a rent guarantees for commercial/factory buildings. The associated probability of occurrence was considered to be low in 2020 due to the ongoing stable business development of the borrower.

There are guarantees in Hungary for customer contracts for products.

3.90 Contingent liabilities

in € thousand	2020	2019
Guarantees	19,332	19,728
Warranties	545	976
Other	–	–
	19,877	**20,704**

3.89 Other financial obligations

in € thousand	Up to 1 year	1 to 5 years	Over 5 years	Total
Dec. 31, 2020				
Rent and lease obligations	7,844	30,052	97,041	134,937
Investment projects	44,086	3,001	–	47,087
Major repairs/maintenance work	4,287	1,215	124	5,626
Other obligations	54,504	11,378	4,766	70,648
	110,721	**45,646**	**101,931**	**258,298**
Dec. 31, 2019				
Rent and lease obligations	11,615	46,059	78,395	136,069
Investment projects	69,616	10,857	–	80,474
Major repairs/maintenance work	5,897	954	166	7,017
Other obligations	47,353	13,445	4,743	65,541
	134,481	**71,315**	**83,304**	**289,100**

* Employee representatives

H.9. Legal risks

Bosch arbitration procedure

In a letter dated June 21, 2018, Robert Bosch GmbH declared it was exercising its put option related to its minority share in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and initiated arbitration proceedings with the aim of enforcing this put option. In December 2020, the court of arbitration issued a ruling confirming this put option. The parties will now have to agree on the purchase price at which Knorr-Bremse AG will acquire the minority interest in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH. This was confirmed again through a decision on March 9, 2021. The extension of the lawsuit by Robert Bosch GmbH involving a claim for damages due to refusal to consent to full distribution of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH's accumulated profit was rejected. The counterclaim brought by Knorr-Bremse AG, with which the Company sought to determine that the prohibition of competition also covered products in the area of driver assistance systems/automated driving functions, was also dismissed.

Investigations by the U.S. Department of Justice

On April 3, 2018, the U.S. Department of Justice, Antitrust Division (DOJ) announced that it reached an agreement with Knorr-Bremse AG and Westinghouse Air Brake Technologies Corporation ("Wabtec") on allegations of a non-legal agreement not to poach employees.

Following the agreement reached with the DOJ, employees filed lawsuits against Knorr-Bremse AG, Wabtec and its subsidiaries. The aim of the class action lawsuits was to compensate employees for reduced payment on the basis of the alleged agreement between the parties above not to poach employees.

On October 16, 2019, Knorr-Bremse AG reached a settlement agreement in which it agreed to pay plaintiffs $ 12 million to settle the class action. The payment was made to an escrow account at the court in the last week of March 2020. This settlement agreement was finally confirmed by way of a court ruling handed down on August 26, 2020.

Complaints filed by Haldex AB with the European Commission and the Brazilian antitrust authorities

On February 13, 2020, Haldex AB filed complaints with the European Commission and the Administrative Council of Economic Defense (CADE) in Brazil. The complaints concern the allegation that, by acquiring and holding a minority interest in Haldex AB in September 2016, Knorr-Bremse AG breached the respective applicable antitrust and merger control laws. The minority interest held by Knorr-Bremse in Haldex AB currently amounts to 9.24%. Knorr-Bremse is defending itself against the accusations.

The European Commission is currently conducting preliminary investigations into the allegations It is expected to decide whether to open formal proceedings during the first half of 2021.

The Brazilian CADE decided on June 23, 2020 to open formal proceedings for a potential breach of the suspensory obligation. The proceedings are still at the investigation stage. A decision on whether to discontinue or continue the proceedings before a separate body of CADE is also expected in the first half of 2021.

As the two investigations are still at an early stage, no reliable statement can be made at this time about the probability of success or the possible consequences of an adverse outcome of the administrative proceedings. The risk is currently considered low.

Termination of long-term supply contracts by Robert Bosch GmbH

After Robert Bosch GmbH had terminated a number of long-term supply contracts for several electronic components while price negotiations were ongoing, and this could lead to disruptions to the supply of customers of the Knorr-Bremse Group and in turn to losses being incurred by the Knorr-Bremse Group because of a production stoppage, as well as give rise to liability risks, Knorr-Bremse responded on March 13, 2020 by initiating arbitration proceedings against Robert Bosch GmbH to ensure that the supplies continue. After a possible solution to the dispute emerged in the commercial negotiations, in March 2021 they agreed to suspend the proceedings until July 31, 2021 in order to negotiate the possibilities of an out-of-court settlement.

Administrative action in Brazil

On September 27, 2016, the Brazilian antitrust authorities initiated administrative proceedings against the Group company Knorr-Bremse Sistemas for Veículos Comerciais Brasil Ltda., Itupeva/Brazil ("KBB") and several of its competitors in Brazil. The allegations against KBB are limited to an allegedly unlawful exchange of information and do not involve antitrust behaviour. As the investigations are still at an early stage, no reliable statement can be made at this time about the probability of success or the possible consequences of an adverse outcome of the administrative proceedings. Knorr-Bremse currently assesses the risk of any fine as rather low.

Proceedings in Italy

The Italian law enforcement authorities sent notification in their letter of March 19, 2019 that the preliminary proceedings against Microelettrica Scientifica S.p.A., Buccinasco/Italy ("Microelettrica"), prior members of the administrative board of Microelettrica and a member of the management of three Russian Group companies in conjunction with commission payments to an agent due to deliveries to a Russian customer have been concluded and that a complaint will be filed against Microelettrica due to an alleged violation of internal regulations to avoid corrupt activities by the aforementioned individuals.

The court proceedings are still at a very early stage. Since Knorr-Bremse is of the opinion that Microelettrica took suitable preventive measures against corruption and therefore fulfilled Italian law, no provision was recognized as of December 31, 2020.

Dispute with the minority shareholder of Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co. Ltd

Together with the company Guangzhou Guo Tong, Knorr-Bremse Asia Pacific (Holding) Limited has an equity interest in the company Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co. Ltd, which is fully consolidated in Knorr-Bremse's consolidated financial statements. In December 2020, Guangzhou Guo Tong filed an action against various companies and a General Manager of the Knorr-Bremse Group. In the statement of claim, Guangzhou Gou Tong particularly refers to lost profit on account of an alleged production and project transfer to other Knorr-Bremse companies as well as to adjustments to the structure of transfer prices. In connection with this action filed, in February 2021 Guangzhou Guo Tong obtained a court order to freeze the accounts of Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd., which had a balance of € 14,821 thousand as of the date of preparation. Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd. has appealed this. Should this action be granted, Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co. Ltd would receive cash and cash equivalents to the extent of the award. This might lead to an additional dividend payout to both shareholders. However, since no ruling has been handed down to date and because no concrete dividend claim by the partners exists, neither a provision nor a liability was recognized in the annual financial statements in relation to minority interests as at December 31, 2020. Knorr-Bremse considers the probability of an outflow of cash and cash equivalents to Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co. Ltd to be remote. Moreover, dividend resolutions cannot be adopted without the approval of Knorr-Bremse.

H.10. Government grants

Government grants include grants for structural support and business development as well as funding for research and development projects. In addition, it includes grants for the reimbursement of social security contributions in connection with the payment of short-time working allowances in the past fiscal year.

Grants for assets in the fiscal year 2020 amounted to € 2,736 thousand (2019: € 3,236 thousand).

Performance-related grants in 2020 amounted to € 7,400 thousand (2019: € 4,645 thousand) and were recognized in income. The year-on-year increase was due primarily to grants from the research, development, and innovation fund to Hungarian subsidiaries. Performance-related grants are generally reported in other operating income.

Refunds of social security contributions for short-time working allowances in connection with the Coronavirus pandemic were deducted from personnel expenses in fiscal 2020 in the amount of € 3,260 thousand.

H.11. Leases

H.11.1. Accounting for leases

The Group has entered into leases for land, buildings, a variety of technical equipment, machinery, vehicles and operating and office equipment that it uses in its operations. Leases for land and buildings generally have terms between 1 and 78 years and leases for technical equipment and machinery generally have terms between 1 and 15 years. In the case of vehicles and operating and office equipment, the term is generally between 1 and 9 years. The Group's commitments from its leases are collateralized by the lessor's ownership of the leased assets. Several leases, largely for land and buildings, include extension and termination options. The unrecognized residual value guarantees and the extension and termination options not taken into account amounted to € 6,691 thousand as of December 31, 2020.

The Group has also concluded leases for machinery that have a term of twelve months or less and for office equipment of low value. The Group applies the practical expedients that apply to short-term leases and leases of low value assets to these leases.

The following table presents book values of the right-of-use assets recognized: Table → 3.91

The following table lists the additions to right-of-use assets as shown in non-current assets: Table → 3.92

The following table shows the book values of the leasing liabilities (which are included in financial liabilities) and the changes during the reporting period: Table → 3.93

The maturity analysis of the leasing liabilities is disclosed in Chapter H.1.6.

The following amounts were recognized in profit or loss in the reporting period: Table → 3.94

The Group had cash outflows for leases of € 73,135 thousand in 2020. (previous year: € 60,295 thousand). The future cash outflows for leases that have not yet commenced are disclosed in Chapter H.7. In this category, € 85,115 thousand (previous year: € 50,480 thousand) is attributable to low-value and short-term leases and € 49,822 thousand (previous year: € 84,276 thousand) to leases that have been entered into but have not yet commenced. In the previous year, it included leases with variable payments of € 1,313 thousand.

Sale and leaseback

In December 2019, Knorr-Bremse entered into a sale and leaseback transaction with OPES Business Park Am Oberwiesenfeld GmbH. The building, which had not yet been com-

3.91 Right-of-use assets

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Assets		
Non-current assets		
Right-of-use assets – land and buildings	322,934	307,195
Right-of-use assets – technical equipment and machinery	1,556	2,025
Right-of-use assets – other	17,058	19,180
Total	**341,548**	**328,400**

3.92 Additions to right-of-use assets

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Assets		
Non-current assets		
Right-of-use assets – land and buildings	97,433	127,108
Right-of-use assets – technical equipment and machinery	493	1,924
Right-of-use assets – other	10,062	10,262
Total	**107,988**	**139,295**

3.93 Lease liabilities

in € thousand	Dec. 31, 2020	Dec. 31, 2019
Liabilities		
Non-current financial liabilities		
Lease liabilities	335,647	320,151
Current financial liabilities		
Lease liabilities	51,574	57,142
Total	**387,221**	**377,293**

pleted in the previous year and was delivered in 2020, increased right-of-use assets under IFRS 16 by € 18,493 thousand and lease liabilities by € 10,913 thousand.

Judgments

When applying the Group's accounting policies, the management made the following judgments that materially influence the amounts in the consolidated financial statements:

Determination of the term of leases with extension and termination options – the Group as lessee

The Group determines the lease terms based on the noncancelable period of the lease and taking into account periods covered by an option to extend the lease if the Group is reasonably certain to exercise that option or periods covered by an option to terminate the lease if the Group is reasonably certain not to exercise that option. The Group has completed several leases that include extension and termination options. The Group makes judgments when assessing whether it is reasonably certain to exercise or not to exercise the lease's extension or termination option. This means it takes into account all relevant factors that represent an economic incentive for it to exercise the extension or the termination option. After the commencement date, the Group reassesses the lease term upon the occurrence of a significant event or a change in circumstances that is within its control and affects whether it is reasonably certain to exercise an option or not to exercise an option (e.g., conducting significant leasehold improvements or significant customization of the underlying asset).

Assumptions and estimates

When applying the Group's accounting policies, the management made the following assumptions and estimates that materially influence the amounts in the consolidated financial statements:

Leases – estimate of the incremental borrowing rate

The Group cannot readily determine the interest rate implicit in the lease. It therefore uses its incremental borrowing rates to measure leasing liabilities. The incremental borrowing rate is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The incremental borrowing rate thus reflects the interest that the Group "would have to pay." If no observable interest rates are available (e.g., at subsidiaries that do not enter into financing transactions) or if the interest rate has to be adjusted in order to reproduce the terms of the lease (e.g., if the lease was not entered into in the subsidiary's functional currency), the incremental borrowing rate must be estimated. The Group estimates the incremental borrowing rate using observable inputs (e.g., market interest rates), if these are available, and must make certain company-specific estimates (e.g., standalone credit assessment of the subsidiary).

3.94 Amounts affecting profit or loss

in € thousand	2020	2019
Operating expenses	**15,108**	**18,406**
Expenses from short-term leases	6,865	9,601
Expenses from leases of low value assets	3,713	3,434
Expenses from variable lease payments	1,081	847
Other expenses from leases (e.g. incidental expenses)	3,449	4,524
Depreciation, amortization and impairments	**55,625**	**49,809**
Depreciation of right-of-use assets – land and buildings	44,606	39,090
Depreciation of right-of-use assets – technical equipment and machinery	726	734
Depreciation of right-of-use assets – other	10,293	9,985
Impairments of right-of-use assets	–	–
Financial result	**10,844**	**7,459**
Interest expense on leasing liabilities	10,844	7,470
Income from the currency translation of leasing liabilities	–	(11)
Expenses from the currency translation of leasing liabilities	–	–

H.12. List of shareholdings

The Table → 3.95 shows the list of shareholdings in accordance with Section 313 (2) HGB:

3.95 Information on reportable segments

1. Consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Albatros GmbH, Munich/Germany	100	in € thousand	16	(1)	16
Anchor Brake Shoe Company LLC, West Chicago, Illinois/USA	100	in € thousand	8,398	1,765	11,117
APS electronic AG, Niederbuchsiten/Switzerland	100	in € thousand	(262)	(11)	9,034
BCVS Canadian Holdings LLC, Anjou, Québec/Canada	100	in € thousand	0	0	0
BCVS Mexican Holdings LLC, Cd Acuña, Coah/Mexico	100	in € thousand	0	0	0
Bendix Commercial Vehicle Systems LLC, Elyria, Ohio/USA	100	in € thousand	283,884	58,814	700,728
Bendix CVS Canada Inc., Anjou, Québec/Canada	100	in € thousand	(168)	382	8,328
Bendix CVS de Mexico SA de CV, Cd Acuña, Coah/Mexico	100	in € thousand	19,629	2,484	32,926
Bendix Servicios de Mexico S.A. de C.V., Tapodaca Nuevo Leon/Mexico	100	in € thousand	3,515	117	5,469
Bendix Spicer Foundation Brake Canada, Inc., Kingston, Ontario/Canada	100	in € thousand	3,139	2,547	5,970
BSFB Holdings, Inc., Elyria, Ohio/USA	100	in € thousand	0	0	0
Comet Fans S.r.l., Solaro, Milan/Italy	100	in € thousand	4,183	2,270	14,186
Distribuidora Bendix CVS (de) Mexico SA de CV, Cd Acuña, Coah/Mexico	100	in € thousand	2,080	(130)	6,312
Dr. techn. Josef Zelisko, Fabrik für Elektrotechnik und Maschinenbau Ges.m.b.H., Mödling/Austria[1]	100	in € thousand	8,432	1,349	36,691
Dyno-Inno Test Center for Brake Equipment (Suzhou) Ltd., Suzhou/China	100	in € thousand	637	309	720
Freios Bre Coahuila, S.A. de C.V., Cd. Acuña, Coah/Mexico	100	in € thousand	6,075	(12)	6,075
G.T. Group Ltd., Peterlee/United Kingdom	100	in € thousand	9,247	5,818	11,155
GT Emissions Systems Ltd., Peterlee/United Kingdom	100	in € thousand	18,592	(1,180)	27,593
GT Project Engineering Ltd., Consett/United Kingdom	100	in € thousand	(560)	8	85
Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong/China[5]	49	in € thousand	16,393	2,333	51,475
Hasse & Wrede CVS Dalian, China Ltd., Dalian/China	70	in € thousand	21,506	12,732	50,811
Hasse & Wrede GmbH, Berlin/Germany[1]	100	in € thousand	9,427	283	26,226
Heine Resistors GmbH, Dresden/Germany	100	in € thousand	5,228	2,458	9,211
Icer Rail S.L., Pamplona/Spain	100	in € thousand	14,808	5,949	44,483
IFE-CR a.s., Brünn/Czech Republic	100	in € thousand	16,041	3,723	61,859
IFE North America LLC, Westminster, Maryland/USA	100	in € thousand	2,936	(999)	7,228
IFE-VICTALL Railway Vehicle Door Systems (Qingdao) Co., Ltd., Qingdao/China	59	in € thousand	25,460	3,750	78,707
Kalmar Tågkompetens AB, Kalmar/Sweden	100	in € thousand	819	172	1,145
KB Gamma Beteiligungs GmbH, Munich/Germany	100	in € thousand	21	0	21
KB Lambda Beteiligungs GmbH, i.L., Munich/Germany	100	in € thousand	26	0	26
KB Media GmbH Marketing und Werbung, Munich/Germany[1]	100	in € thousand	20	52	1,565
KB Omikron Beteiligungs GmbH, i.L., Munich/Germany	100	in € thousand	23	0	23
KB Sigma Beteiligungs GmbH, i.L., Munich/Germany	100	in € thousand	26	0	26
K&D PROGETTO S.r.l., Bolzano/Italy[5]	20	in € thousand	173	90	7,407
Kiepe Electric Ges. m. b. H., Vienna/Austria	100	in € thousand	8,205	(853)	24,210
Kiepe Electric GmbH, Düsseldorf/Germany[1]	100	in € thousand	46,930	2,532	199,537
Kiepe Electric India Pvt. Ltd., Faridabad/India[3]	100	in € thousand	125	(9)	136
Kiepe Electric LLC., Alpharetta/USA	100	in € thousand	10,300	4,391	13,266
Knorr Brake Company LLC., Westminster, Maryland/USA	100	in € thousand	39,565	944	81,776
Knorr Brake Corporation Canada Holdings Ltd., Montreal, Québec/Canada	100	in € thousand	5,225	4,306	5,225
Knorr Brake Holding Corporation, Watertown, New York/USA	100	in € thousand	84,477	222,295	508,388

1. Consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Knorr Brake Ltd., Kingston, Ontario/Canada	100	in € thousand	1,710	271	1,857
Knorr Brake Truck Systems Company, Watertown, New York/USA	100	in € thousand	84,351	193,611	170,846
Knorr-Amabhiliki (Pty.) Ltd., Kempton Park/South Africa[7) 8)]	100	in € thousand	18	(5)	18
Knorr-Bremse 1520 OOO, Burashevskoe/Russia	100	in € thousand	21,939	590	39,802
Knorr-Bremse/Nankou Air Supply Unit (Beijing) Co., Ltd., Nankou/China	55	in € thousand	10,293	3,297	27,497
Knorr-Bremse Asia Pacific (Holding) Limited, Hong Kong/China	100	in € thousand	412,248	397,298	1,046,631
Knorr-Bremse Australia Pty. Ltd., Granville/Australia	100	in € thousand	22,854	4,346	102,092
Knorr-Bremse Benelux B.V.B.A., Heist-op-den-Berg/Belgium	100	in € thousand	(513)	(676)	3,191
Knorr-Bremse Beteiligungsgesellschaft mbH, Munich/Germany[1)]	100	in € thousand	26	0	757
Knorr-Bremse Braking Systems for Commercial Vehicles (Dalian) Co. Ltd., Dalian/China	100	in € thousand	50,527	23,567	143,957
Knorr-Bremse Brasil (Holding) Administração e Participação Ltda., Itupeva/Brazil	100	in € thousand	26,821	2,785	27,952
Knorr-Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co., Ltd., Daxing/China	50	in € thousand	48,618	30,588	99,602
Knorr-Bremse Commercial Vehicle Systems Japan Ltd., Tokyo/Japan	80	in € thousand	37,724	4,563	138,045
Knorr-Bremse Commercial Vehicle Systems (Shanghai) Co., Ltd., Shanghai/China	100	in € thousand	11,187	1,187	34,231
Knorr-Bremse Commercial Vehicle Systems (Thailand) Ltd., Bangkok/Thailand	100	in € thousand	3,188	(648)	17,606
Knorr-Bremse DETC Commercial Vehicle Braking Technology Co., Ltd., Shiyan/China	51	in € thousand	21,594	6,272	105,039
Knorr-Bremse España, S.A.,Getafe/Spain	100	in € thousand	44,661	15,698	134,576
Knorr-Bremse Fékrendszerek Kft., Kecskemét/Hungary	100	in € thousand	53,128	14,764	87,531
Knorr-Bremse Ges.m.b.H., Mödling/Austria	100	in € thousand	74,727	46,317	226,522
Knorr-Bremse Ibérica S.L., San Fernando de Henares/Spain	100	in € thousand	2,806	415	7,691
Knorr-Bremse India Pvt. Ltd., Faridabad/India	100	in € thousand	84,732	47,933	132,721
Knorr-Bremse Investment GmbH, Munich/Germany[1)]	100	in € thousand	1,141	0	1,684
Knorr-Bremse KAMA Systems for Commercial Vehicles OOO, Naberezhnye Chelny/Russia[5)]	50	in € thousand	14,426	1,402	20,583
Knorr-Bremse Nordic Rail Services AB, Lund/Sweden	100	in € thousand	8,819	5,631	27,286
Knorr-Bremse Pensionsgesellschaft mbH, i.L., Munich/Germany	100	in € thousand	24	0	24
Knorr-Bremse Polska SfN Sp. z o.o., Warsaw/Poland	100	in € thousand	1,136	515	1,708
Knorr-Bremse Rail Systems CIS Holding OOO, Moscow/Russia	100	in € thousand	26,339	8,971	26,738
Knorr-Bremse Rail Systems Italia S.r.l., Campi Bisenzio/Italy	100	in € thousand	43,409	21,116	80,928
Knorr-Bremse Rail Systems Japan Ltd., Tokyo/Japan	94	in € thousand	14,429	2,118	32,812
Knorr-Bremse Rail Systems Korea Ltd., Seoul/South Korea	100	in € thousand	7,030	1,245	10,759
Knorr-Bremse Rail Systems OOO, Moscow/Russia	100	in € thousand	15,995	8,947	27,709
Knorr-Bremse Rail Systems Schweiz AG, Niederhasli/Switzerland	100	in € thousand	9,815	3,117	19,082
Knorr-Bremse Rail Systems (UK) Ltd., Melksham, Wiltshire/United Kingdom	100	in € thousand	45,060	23,047	101,558
Knorr-Bremse Rail Transportation Equipment (Chengdu) Co., Ltd., Chengdu/China[3)]	100	in € thousand	1,246	0	1,246
Knorr-Bremse Railway Technologies (Shanghai) Co., Ltd., Shanghai/China	100	in € thousand	(9,453)	(1,421)	2,449
Knorr-Bremse Raylı Sistemler Sanayi ve Ticaret Limited Şirketi, Ankara/Turkey	100	in € thousand	1,393	259	2,724
Knorr-Bremse S.A. Holding Company (UK) Ltd., Melksham/Great Britain	100	in € thousand	6,278	0	6,278
Knorr-Bremse S.A. (Pty.) Ltd., Kempton Park/South Africa	75	in € thousand	9,147	145	24,798
Knorr-Bremse S.R.L., Bucharest/Romania	100	in € thousand	612	221	1,060
Knorr-Bremse Services Europe s.r.o., Stráž nad Nisou/Czech Republic	100	in € thousand	1,163	989	4,983
Knorr-Bremse Services GmbH, Munich/Germany[1)]	100	in € thousand	11,945	(588)	114,328
Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda., Itupeva/Brazil	100	in € thousand	19,147	2,532	30,881
Knorr-Bremse Sistemas para Veículos Ferroviários Ltda., Itupeva/Brazil	100	in € thousand	9,228	2,585	14,972
Knorr-Bremse Sistemi per Autoveicoli Commerciali S.p.A., Arcore/Italy	100	in € thousand	5,063	(875)	22,929
Knorr-Bremse Steering Systems Japan Ltd., Saitama/Japan	100	in € thousand	80,744	(23,063)	129,666
Knorr-Bremse Steering Systems GmbH, Wülfrath/Germany	100	in € thousand	1,587	(1,995)	32,606
Knorr-Bremse System för Tunga Fordon AB, Malmö/Sweden	100	in € thousand	784	464	2,825
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich/Germany	80	in € thousand	309,340	86,116	672,341
Knorr-Bremse Systeme für Nutzfahrzeuge Pensionsgesellschaft mbH, i.L., Munich/Germany	100	in € thousand	24	0	24
Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich/Germany[1)]	100	in € thousand	110,924	4,099	1,189,938
Knorr-Bremse Systeme für Schienenfahrzeuge Ibero Holding GmbH, Munich/Germany[1)]	100	in € thousand	47,307	0	65,888
Knorr-Bremse Systemes Ferroviaires S.A., Tinqueux/France	100	in € thousand	10,476	3,243	37,984

1. Consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Knorr-Bremse Systèmes pour Véhicules Utilitaires France S.A.S., Lisieux/France	100	in € thousand	46,016	11,795	83,745
Knorr-Bremse Systems for Commercial Vehicles India Pvt. Ltd., Pune/India	100	in € thousand	9,471	(3,699)	36,688
Knorr-Bremse Systems for Commercial Vehicles (Chongqing) Ltd., Chongqing/China	66	in € thousand	25,250	13,136	94,898
Knorr-Bremse Systems for Commercial Vehicles OOO, Moscow/Russia	100	in € thousand	6,970	1,849	11,870
Knorr-Bremse Systems for Commercial Vehicles Ltd., Bristol/United Kingdom	100	in € thousand	31,281	3,056	52,573
Knorr-Bremse Systems for Rail Vehicles Enterprise Management (Beijing) Co., Ltd., Beijing/China	100	in € thousand	(1,112)	299	7,137
Knorr-Bremse Systems for Rail Vehicles Kazakhstan LLP, Nur-Sultan/Republic of Kazakhstan	100	in € thousand	153	36	281
Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd., Suzhou/China	100	in € thousand	199,699	167,759	476,609
Knorr-Bremse Systemy Kolejowe Polska Sp. z o.o., Krakow/Poland	100	in € thousand	13,494	4,285	18,609
Knorr-Bremse Systémy pro užitková vozidla ČR s.r.o.,Stráž nad Nisou/Czech Republic	100	in € thousand	44,337	8,398	96,074
Knorr-Bremse Technology Center India Pvt. Ltd., Pune/India	100	in € thousand	3,158	(1,689)	9,274
Knorr-Bremse Ticari Arac Fren Sistemieri Limited Sirketi, Istanbul/Turkey	100	in € thousand	1,453	878	1,900
Knorr-Bremse US Beteiligungs GmbH, Munich/Germany[1]	100	in € thousand	50	0	51
Knorr-Bremse US Investment GmbH, Munich/Germany[1]	100	in € thousand	25	0	25
Knorr-Bremse Vasúti Jármű Rendszerek Hungária Kft., Budapest/Hungary	100	in € thousand	90,405	30,589	178,025
Knorr-Bremse Verwaltungsgesellschaft mbH, Munich/Germany	100	in € thousand	26	0	26
Merak Jinxin Air Conditioning Systems (Wuxi) Co., Ltd., Wuxi/China	51	in € thousand	12,579	2,639	56,098
Merak Knorr Climatización S.A., Buenos Aires/Argentina	100	in € thousand	(421)	(303)	156
Merak North America LLC, Westminster, Maryland/USA	100	in € thousand	(6,649)	34	14,714
Microelettrica do Brasil Indústria, Comércio e Importação de Produtos Eletromecânicos Ltda.,Barueri, São Paulo/Brazil	100	in € thousand	12	267	141
Microelettrica Heine (Suzhou) Co., Ltd., Suzhou/China	100	in € thousand	6,772	1,348	10,073
Microelettrica Power (Pty.) Ltd., Johannesburg/South Africa	74	in € thousand	1,825	66	7,060
Microelettrica Scientifica (Pty.) Ltd., Johannesburg/South Africa	100	in € thousand	1,275	(442)	2,895
Microelettrica Scientifica S.p.A., Buccinasco/Italy	100	in € thousand	16,645	9,915	86,961
Microelettrica-USA LLC, Randolph, New Jersey/USA	100	in € thousand	2,411	262	10,455
M.S. Resistances (Microelettrica Scientifica) S.A.S., Saint Chamond/France	51	in € thousand	3,319	190	5,609
New York Air Brake LLC, Watertown, New York/USA	100	in € thousand	61,500	15,988	142,656
R.H. Sheppard Co., Inc., Hanover, Pennsylvania/USA[3]	100	in € thousand	106,247	4,825	127,229
Sanctor Grundstücks-Vermietunggesellschaft mbH & Co. Objekt Mahrzahn KG, Düsseldorf/Germany (unres. liab. shareholder is Knorr-Bremse AG, Munich/Germany, the majority of the voting rights are held by SABIS Grundstücks-Vermietungsgesellschaft mbH, Düsseldorf/Germany)	99	in € thousand	(4,193)	(527)	25,230
Selectron Systems AG, Lyss/Switzerland	100	in € thousand	11,392	6,542	69,349
Selectron Systems (Beijing) Co., Ltd., Beijing/China[2]	100	in € thousand	0	0	0
Semiconductor Solutions (Pty.) Ltd., Pretoria/South Africa	100	in € thousand	912	96	1,568
Sentient Heavy Vehicles AB, Gothenburg/Sweden	100	in € thousand	369	(11,694)	389
Sheppard Asia Steering Systems Ltd., Hong Kong/China[3]	100	in € thousand	10	0	12
Skach Ges.m.b.H., Mödling/Austria[1]	100	in € thousand	78	0	911
STE Schwingungs-Technik GmbH, Klieken/Germany	100	in € thousand	(1,832)	107	22
Technologies Lanka Inc., La Pocatière, Québec/Canada	100	in € thousand	9,853	2,726	13,168
Unicupler GmbH, Niederurnen/Switzerland	100	in € thousand	3,445	657	4,041
Universal Investment Universal-KBAM-Fonds, Frankfurt am Main/Germany[3] [10]	100	in € thousand	150,621	621	151,270
Zelisko Elektrik Sanayi ve Ticaret Limited Şirketi, Istanbul/Turkey	100	in € thousand	917	92	1,867

2. Proportionately consolidated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Sentient IP AB, Gothenburg/Sweden	50	in € thousand	6	(8,817)	55

3. Associated companies valued using the equity method	Share of capital in %	Currency and unit	Equity	Income	Total assets
Alltrucks GmbH & Co. KG, Munich/Germany[4) 6) 8)] (partner with unlimited liability is Alltrucks Verwaltungs GmbH, Munich/Germany)	33.3	in € thousand	1,386	(1,369)	2,717
Alltrucks Verwaltungs GmbH, Munich/Germany[4) 6) 8)]	33.3	in € thousand	36	1	40
China Source Engineered Components Trading Corporation Ltd., Shanghai/China[9)]	37.5	in € thousand	0	0	0
Knorr-Bremse DETC Commercial Vehicle Braking Systems (Shiyan) Co., Ltd., Shiyan/China[4) 8)]	49	in € thousand	2,607	701	46,964
Railnova SA, Brussels/Belgien[4) 8)]	32	in € thousand	4,474	92	6,006
Rail Vision Ltd., Raanana/Israel[4) 8)]	36.8	in € thousand	811	(8,783)	7,256
Sino-American R.H. Sheppard Hubei Steering System Company Ltd., Xianning/China[3) 4) 8)]	50	in € thousand	4,371	(941)	4,939

4. Non-consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Di-Pro LLC., Fresno, California/USA[6) 8)]	100	in € thousand	0	0	0
EKA DOOEL, Skopje/Northern Macedonia[8)]	100	in € thousand	572	11	775
Foro Verwaltungs GmbH & Co. KG, Munich/Germany[6) 8)] (partner with unlimited liability is Knorr-Bremse Systeme für Schienenfahrzeuge Ibero Holding GmbH, Munich/Germany)	100	in € thousand	6	0	6
Heiterblick Projektgesellschaft mbH, Leipzig/Germany[6) 8)]	49	in € thousand	25	1	19,338
Kiepe Electric Corporation, Vancouver/Canada[6) 8)]	100	in € thousand	1,950	519	2,523
Kiepe Electric S.r.l., Cernusco sul Navigilio/Italy[6) 8)]	100	in € thousand	297	7	1,235
Knorr-Bremse Guo Tong (Guangzhou) Railway Transportation Equipment Co., Ltd., Guangzhou/China[9)]	100	in € thousand	0	0	0
Knorr-Bremse Investment UK Ltd., Chippenham/United Kingdom[6) 8)]	100	in € thousand	24,471	0	24,471
Metco Technical Consulting AG i.L., Zug/Switzerland[8)]	100	in € thousand	834	(21)	904
RBL-Technologie Ltd., i.L., Naberezhnye Chelny/Russia[7) 8)]	100	in € thousand	55	63	156
SCI pour l'Industrie, i.L., Pau/France[7) 8)]	100	in € thousand	93	0	93
Sichuan Knorr-Bremse Guo Tong Railway Transportation Equipment Co., Ltd., Chengdu/China[8)]	100	in € thousand	(1)	0	6

5. Other investments	Share of capital in %	Currency and unit	Equity	Income	Total assets
Haldex AB, Landskrona/Sweden	9.2	in € thousand	119,891	(28,590)	404,919
IFB Institut für Bahntechnik GmbH, Berlin/Germany[6) 8)]	6.7	in € thousand	1,847	142	3,515
MORCAR Grundstücksgesellschaft mbH & Co. oHG, Munich/Germany (unres. liab. shareholder is Knorr-Bremse Beteiligungsgesellschaft mbH, Munich/Germany)[8)]	5	in € thousand	757	(6)	780
Shenzhen SF-Trailernet Technology Co., Ltd., Shenzhen/China[8)]	14.3	in € thousand	596	(189)	601

1) Profit and loss transfer agreement
2) The companies are included in a Group division of Selectron Systems AG, Lyss/Switzerland.
3) The companies were consolidated for the first time in 2020. The statements of income were taken into consideration proportionally for the current year.
4) The Company was consolidated at equity
5) Control based on enforceability of management decisions and control of operations
6) Values refer to the 2019 fiscal year
7) Values refer to the 2017 fiscal year
8) Values determined in accordance with national GAAP
9) No annual financial statements available yet
10) Included as a structured entity in accordance with IFRS 10 with an investment volume of € 150 million. See Chapter C.3.1 for further details.

Unless otherwise stated, the above amounts to equity, income and total assets are calculated in accordance with IFRS as they were determined for the purpose of preparing the consolidated financial statements of Knorr-Bremse AG.

I. Segmentinformation

I.1. Basics of segmentation

Table → 3.96, 3.97, 3.98

The Group has two reportable segments, which are the Group's divisions, as described below. The divisions offer different products and services and are managed separately as they require different technology and marketing strategies.

3.96 Information on reportable segments

	Reportable segments			Reconciliation to IFRS			
in € thousand	Rail Vehicle Systems	Commercial Vehicle Systems	Total	Rail Vehicle Systems	Commercial Vehicle Systems	Other segments and consolidation	Group
							Dec. 31, 2020
External revenues	3,342,531	2,824,731	6,167,261	(6,373)	(6,047)	1,905	6,156,746
Inter segment revenues	26,875	20,361	47,236	(26,277)	(19,599)	(1,360)	–
Segment revenues	**3,369,405**	**2,845,092**	**6,214,497**	**(32,650)**	**(25,646)**	**545**	**6,156,746**
EBITDA*)	678,133	315,960	994,093	86,081	65,261	(38,534)	1,106,900
Depreciation, amortization and impairment	(91,670)	(137,678)	(229,348)	(35,991)	(8,419)	(19,140)	(292,898)
thereof impairments	–	(11,368)	(11,368)	(6,710)	(6,284)	(0)	(24,363)
EBIT*)	586,463	178,282	764,745	50,090	56,842	(57,674)	814,003
Interest income	6,745	2,080	8,825	2,270	3,955	4,301	19,351
Interest expense	(13,662)	(8,429)	(22,091)	(13,033)	(4,439)	(15,307)	(54,870)
Other financial result	(1,021)	(7,009)	(8,030)	(1,091)	(3,105)	(15,695)	(27,921)
thereof: Share of profit or loss from companies accounted for using the equity method	(2,289)	(484)	(2,773)	–	–	782	(1,992)
EBT	**578,524**	**164,924**	**743,449**	**38,236**	**53,252**	**(84,374)**	**750,562**
Net Working Capital	**507,490**	**261,836**	**769,326**	**(14,223)**	**3,656**	**(12,362)**	**746,396**
							Dec. 31, 2019
External revenues	3,704,620	3,294,964	6,999,584	(49,135)	(14,722)	803	6,936,530
Inter segment revenues	19,824	17,935	37,759	(19,232)	(17,939)	(588)	–
Segment revenues	**3,724,444**	**3,312,899**	**7,037,343**	**(68,367)**	**(32,661)**	**215**	**6,936,530**
EBITDA*)**)	756,310	456,452	1,212,762	58,606	47,253	10,067	1,328,687
Depreciation, amortization and impairments	(92,813)	(114,685)	(207,498)	(25,419)	(15,209)	(17,654)	(265,780)
thereof impairments	(151)	(15,164)	(15,316)	–	–	0	(15,316)
EBIT*)	663,497	341,767	1,005,264	33,187	32,044	(7,587)	1,062,908
Interest income	10,026	2,619	12,645	4,274	3,696	6,983	27,598
Interest expense	(14,828)	(5,448)	(20,276)	(11,509)	(5,536)	(13,737)	(51,059)
Other financial result	(70,659)	(773)	(71,432)	(24,356)	(17,987)	(18,556)	(132,330)
thereof: Share of profit or loss from companies accounted for using the equity method	(2,377)	(773)	(3,150)	246	–	416	(2,489)
EBT	**588,036**	**338,165**	**926,201**	**1,596**	**12,216**	**(32,896)**	**907,116**
Net Working Capital	**546,614**	**265,336**	**811,950**	**(5,750)**	**10,090**	**(7,193)**	**809,097**

*) Not explicitly presented in management reporting to CODM
**) 2019: Income from the sale and leaseback transaction at the Munich site is – according to HGB – reported as a single composite transaction in EBITDA, although it also includes impairment losses on non-current assets.

The following summary describes the reportable segments of the Group.

In the Rail Vehicle Systems (RVS) segment, the Company plays a key role in the development, production, sales and service of modern braking systems and related subsystems for rail vehicles. In addition, the product fields of platform screen doors, boarding systems, power supply systems, driver assistance systems, air conditioning systems, control technology, friction material, simulators and control components are served.

The Commercial Vehicle Systems (CVS) segment is also characterized by the development, production, sales and service of modern braking systems. In addition to the complete braking system including driver assistance systems, the product range of Commercial Vehicle Systems also includes steering systems, torsional vibration dampers, powertrain-related solutions and transmission controls for improving efficiency and saving fuel.

Other business areas mainly include leasing, holding and logistics activities as well as media and IT services.

For each segment, the Group's Executive Board reviews internal management reports on a monthly basis.

Transfer prices between the segments are determined on an arm's length basis.

3.97 Reconciliation of revenues

	2020	2019
Revenues of reportable segments (German GAAP)	6,214,497	7,037,343
Revenues of other segments (German GAAP)	183,481	182,668
Inter-segment consolidation	(226,650)	(217,178)
Adjustment over-time-recognition	4,113	(43,888)
Application of the German Accounting Directive Implementation Act (BilRuG) and other effects	(18,695)	(22,415)
Consolidated revenue	**6,156,746**	**6,936,530**

3.98 Reconciliation of earnings before tax

	2020	2019
Earnings before tax pursuant to the German Commercial Code (HGB)	666,008	888,806
Adjustment due to amortizations not recognized on goodwill	30,356	24,811
Adjustment of over-time recognition and other effects in accordance with IFRS 15	7,092	(16,326)
Adjustment due to capitalization and amortization of development projects	53,694	55,536
Adjustment due to valuation differences in pension liabilities	11,725	17,634
Adjustment inventory valuation	(9,538)	(161)
Adjustment provisions	2,298	(6,427)
Disposal from the scope of consolidation	642	(16,384)
Hedging (unrealized profits/losses)	4,887	20,097
Bosch dividend	(11,932)	(21,617)
Sale and leaseback, Munich site north section	–	(21,715)
Additional depreciation and amortization and other effects from PPA	(5,724)	(12,427)
Adjustment due to IFRS 16	(2,309)	(6,984)
Adjustment due to measurement of equity instruments directly in equity	2,345	8,302
Other adjustments based on differences between German GAAP and IFRS	1,017	(6,029)
Earnings from continued operations, consolidated and before taxes	**750,562**	**907,116**

I.2. Information on reportable segments

Information regarding the results of each reportable segment is given below. The profit (loss) of a segment before tax is used to measure profitability, as the Executive Board believes that this is the most relevant information for assessing the results of the individual segments in relation to other industry companies.

Reporting to the Executive Board as of December 31, 2020 was based on HGB figures. Revenues within the segment are presented on a pre-consolidated basis. Internal reporting does not contain any segment-specific information on assets and liabilities, except net working capital which is defined as the sum of inventories, trade accounts receivable and contract assets, less trade accounts payable and contract liabilities.

3.99 Revenues by region

	2020	2019
Europe/Africa	**2,792,252**	**3,198,028**
thereof Germany	1,334,401	1,613,396
North America	**1,261,330**	**1,642,454**
thereof USA	1,208,233	1,628,160
South America	**75,844**	**104,718**
AsiaPacific	**2,027,320**	**1,991,330**
thereof China	1,348,748	1,209,429
	6,156,746	**6,936,530**

3.100 Non-current assets by region

	2020	2019
Europe/Africa	**1,216,408**	**1,164,712**
thereof Germany	704,459	665,451
North America	**440,335**	**358,519**
thereof USA	406,873	350,149
South America	**22,896**	**34,582**
AsiaPacific	**356,687**	**372,444**
thereof China	127,088	126,972
	2,036,327	**1,930,256**
Goodwill	**396,174**	**381,137**
thereof Rail Vehicle Systems (Global)	189,470	189,343
thereof Commercial Vehicle Systems (Global)	206,704	191,793
	2,432,501	**2,311,392**

I.3. Geographical information

The following table shows the Group's sales revenues and non-current assets, broken down by country of domicile of the Group company. Table → 3.99, 3.100

Non-current assets consist of property, plant and equipment, goodwill and other intangible assets.

Neither division is significantly dependent on external third parties. Neither in the year under review nor in the previous years did the Company generate more than 10% of its sales with one customer.

Please refer to Chapter F.2. for details on goodwill.

J. Group association and disclosure

Knorr-Bremse AG is included in the consolidated financial statements of Stella Vermögensverwaltungs-GmbH, Grünwald/Germany as of December 31, 2020 (largest and smallest range).

The consolidated financial statements of Knorr-Bremse AG are published in the Federal Gazette and the commercial register of the District Court of Munich/Germany. The subsidiaries Hasse & Wrede GmbH, Berlin/Germany, Kiepe Electric GmbH, Düsseldorf/Germany, Knorr-Bremse Services GmbH, Munich/Germany, Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich/Germany and KB Media GmbH Marketing und Werbung, Munich/Germany, are freed according to Sec. 264 para. 3 HGB from the obligation to prepare explanatory notes, a management report and from the auditing obligation and obligation to disclosure under Sec. 325 HGB.

K. Declaration of compliance with the German Corporate Governance Code

The German Corporate Governance Codex includes regulations and recommendations for responsible management and controlling of publicly traded companies. The executive board and supervisory board of publicly traded joint stock companies are obligated under Section 161 AktG to declare once annually that the recommendations of the German Corporate Governance Codex governmental commission have been fulfilled and will be fulfilled, or which recommendations have not been or will not be applied. In the latter case, justifications must be provided for why the respective recommendation was not and will not be fulfilled.

The Management Board and Supervisory Board of Knorr-Bremse AG submitted the declaration of compliance with the German Corporate Governance Code pursuant to section 161 AktG in December 2020. The statement is publicly accessible on our website: https://ir.Knorr-Bremse.com/corporate-governance-de.

Subject to the Supervisory Board's decision, Knorr-Bremse AG will publish an updated version of the declaration of compliance with the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG) on March 30, 2021.

Munich, March 22, 2021

Knorr-Bremse AG
Executive Board

DR. JAN MICHAEL MROSIK **DR. PETER LAIER** **FRANK MARKUS WEBER** **DR. JÜRGEN WILDER**

Responsibility Statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the 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 management report includes a fair view 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.

Munich, March 22, 2021

Knorr-Bremse AG
Executive Board

DR. JAN MICHAEL MROSIK **DR. PETER LAIER** **FRANK MARKUS WEBER** **DR. JÜRGEN WILDER**

Based on the results of our audit, we have issued the following unqualified audit opinion:

Independent Auditor's Report

To Knorr-Bremse Aktiengesellschaft, Munich

Report on the Audit of the Consolidated Financial Statements and of the Group Management Report

Opinions

We have audited the consolidated financial statements of Knorr-Bremse Aktiengesellschaft, Munich, and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2020, and the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from 1 January to 31 December 2020, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the combined group management report (hereinafter: 'group management report') of Knorr-Bremse Aktiengesellschaft for the financial year from 1 January to 31 December 2020. In accordance with German legal requirements, we have not audited the content of those components of the group management report specified in the "Other Information" section of our auditor's report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2020, and of its financial performance for the financial year from 1 January to 31 December 2020, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the group management report does not cover the content of those components of the group management report specified in the "Other Information" section of the auditor's report.
- Pursuant to Section 322 (3) sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Section 317 HGB and the EU Audit Regulation No 537/2014 (referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January to 31 December 2020. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, we do not provide a separate opinion on these matters.

Revenue recognition in project business in accordance with IFRS 15

Please refer to the disclosures in the notes to the consolidated financial statements, Sections "B, Financial reporting standards" and "D, Notes to the accounting and measurement methods (subsection D.1. Revenues)" for more information on the accounting policies applied.

Further explanatory notes can be found in Section "E.1. Revenues" in the notes to the consolidated financial statements.

The financial statement risk

The Group's revenue amounted to EUR 6,157 million in financial year 2020. Of this, EUR 3,337 million is reported under the Rail Vehicle Systems segment.

A significant part of revenue from the Rail Vehicles Systems segment in the amount of EUR 1,115 million is recognised over time according to IFRS 15 and relates to the project business in the OE business of the segment. In this business, agreements on the design, production and supply of braking systems with a precisely defined functionality for a specific number of trains or locomotives are considered as an inseparable performance obligation. This is because the development services cannot be separated from other services, meaning that they form one unit. Comparable structures are found in projects with door systems and air conditioning systems.

As these orders from the project business involve customer-specific orders, an asset arises from the Group's performance that does not result in an alternative use for the Group. The Group has an enforceable right to payment for services already rendered, including an appropriate margin. Pursuant to IFRS 15, revenue is thus recognised over time based on stage of completion. The stage of completion is determined based on the costs incurred as at the reporting date as a proportion of the expected total costs of the respective project.

The calculation of total costs and the cut-off of costs incurred require judgement. There is the risk for the financial statements that the stage of completion is incorrectly assessed and thus the revenue and earnings arising from this performance are allocated to the wrong financial year.

Our audit approach

In order to assess whether revenue is recognised on an accrual basis, we assessed the design and setup of internal controls relating to revenue recognition, the calculation of costs already incurred and the expected total costs, and, in particular, relating to the determination of the stage of completion.

Owing to the complexity of IFRS 15, a focus for our audit was defined as the evaluation of management's interpretation of the criteria for the recognition of revenue over time. To this end, we assessed the instructions of the group-wide accounting policy. Using a risk-based selection of contracts, we assessed the proper implementation of the accounting policy. We verified the methodology for calculating costs already incurred in respect of the types of costs included. We examined the process for properly recognizing costs incurred on an accrual basis.

We examined the process for calculating the expected total costs in respect of the costs included and the event-related update of planning of expected total costs based on a risk-oriented selection of projects. In this regard, we discussed the estimate of total costs for selected projects with the respective project managers. We compared the planned total revenue with the relevant contract documentation.

Further, we computationally verified the stage of completion determined according to the ratio of costs actually incurred to the expected total costs.

Our observations

The approach taken by the Knorr-Bremse Group for revenue recognition cut-off in terms of properly estimating the stage of completion in the Rail Vehicles Systems segment for revenue recognised over time according to IFRS 15 leads to appropriate results. The assumptions underlying revenue recognition are appropriate.

Other Information

Management and/or the Supervisory Board are/is responsible for the other information. The other information comprises the following components of the group management report, whose content was not audited:

- the corporate governance statement referred to in the group management report,
- the Group's separate non-financial report, which is referred to in the group management report, and
- information extraneous to management reports and marked as unaudited.

The other information also includes the remaining parts of the annual report.

The other information does not include the consolidated financial statements, the group management report information audited for content and our auditor's report thereon.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the aforementioned other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report information audited for content or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

Management is responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, management is responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, management is responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by management in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Report on Assurance in accordance with Section 317 (3b) HGB on the Electronic Reproduction of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes

We have performed assurance work in accordance with Section 317 (3b) HGB to obtain reasonable assurance about whether the reproduction of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in the file "kb-2020-12-31.zip" (SHA256 hash value: 3cd7b65d6e71d25be5752dce3ae5657b3cf4eefbd914308248ef4d8403554264) and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format, which are combined with the reproduction of the annual financial statements in one file ("ESEF"). In accordance with German legal requirements, this assurance only extends to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained in this reproduction nor any other information contained in the above-mentioned electronic file.

In our opinion, the reproduction of the consolidated financial statements and the group management report contained in the above-mentioned electronic file and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format. We do not express any opinion on the information contained in this reproduction nor on any other information contained in the above-mentioned file beyond this reasonable assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the financial year from 1 January to 31 December 2020 contained in the "Report on the Audit of the Consolidated Financial Statements and the Group Management Report" above.

We conducted our assurance work on the reproduction of the consolidated financial statements and the group management report contained in the above-mentioned electronic file in accordance with Section 317 (3b) HGB and the Exposure Draft of the IDW Assurance Standard: Assurance in accordance with Section 317 (3b) HGB on the Electronic Reproduction of Financial Statements and Management Reports Prepared for Publication Purposes (ED IDW AsS 410). Accordingly, our responsibilities are further described below. Our audit firm has applied the IDW Standard on Quality Management 1: Requirements for Quality Management in Audit Firms (IDW QS 1).

The Company's management is responsible for the preparation of the ESEF documents including the electronic reproduction of the consolidated financial statements and the group management report in accordance with Section 328 (1) sentence 4 item 1 HGB and for the tagging of the consolidated financial statements in accordance with Section 328 (1) sentence 4 item 2 HGB.

In addition, the Company's management is responsible for the internal controls they consider necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB for the electronic reporting format.

The Company's management is also responsible for the submission of the ESEF documents together with the auditor's report and the attached audited consolidated financial statements and audited group management report as well as other documents to be published to the operator of the German Federal Gazette [Bundesanzeiger].

The Supervisory Board is responsible for overseeing the preparation of the ESEF documents as part of the financial reporting process.

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB. We exercise professional judgement and maintain professional scepticism throughout the assurance work. We also:

- Identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance of the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e. whether the electronic file containing the ESEF documents meets the requirements of Commission Delegated Regulation (EU) 2019/815 on the technical specification for this electronic file.
- Evaluate whether the ESEF documents enable an XHTML reproduction with content equivalent to the audited consolidated financial statements and the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) enables an appropriate and complete machine-readable XBRL copy of the XHTML reproduction.

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor at the Annual General Meeting on 30 June 2020. We were engaged by the Audit Committee on 12 January 2021. We have been the auditor of Knorr-Bremse Aktiengesellschaft, as a publicly traded company, without interruption since financial year 2018.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the Audit Committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Johannes Hanshen.

Munich, 30 March 2021

[signature] Andrejewski
Wirtschaftsprüfer
[German Public Auditor]

[signature] Hanshen
Wirtschaftsprüfer
[German Public Auditor]

Glossary

Technology and Products

A

ABS (Anti-lock Braking System)
When a motor vehicle is braking, ABS prevents the wheels from locking up (ceasing to rotate) by reducing the braking pressure, thus improving steering control and directional stability.

ADAS (Advanced Driver Assistance Systems)
Electronic auxiliary systems in motor vehicles that assist the driver by enhancing road safety in particular, but also by helping to improve driving comfort and economy. Assistance systems include, for example: anti-lock braking systems (ABS), traction control systems (TCS), electronic stability programs (ESP).

AEBS (Automatic Emergency Braking System)
A predictive driver assistance system for motor vehicles that warns the driver in case of danger, facilitates emergency braking, and/or brakes the vehicle automatically to avoid colliding with an obstacle or to reduce the speed of the collision.

AHPS (Advanced Hybrid Power Steering)
Smart hydraulic steering is an electronically actuated steering system intended for commercial vehicles. Especially developed to meet the requirements of automated driving, AHPS enhances safety and comfort by means of a torque overlay function, and is capable of interfacing with modern driver assistance systems.

ASR (see TCS)

ATO
Automated Train Operation.

C

Clean[air]
This technology is based on innovative solutions for air distribution, active and passive filtering and purification that rapidly restore air quality in trains and can significantly reduce any potential concentrations of airborne aerosols or pathogens.

CubeControl
The innovative CubeControl brake control family (formerly the EP2002 family) manages the high-precision braking of a very wide variety of rail vehicles and is a basic prerequisite for more extensive train automation (see also ATO).

CVS (Commercial Vehicle Systems)
Abbreviation for Knorr-Bremse's Commercial Vehicle Systems division.

E

Ecodesign
Ecodesign takes account of the sustainability of a product over its entire life cycle, starting with the selection of suitable raw materials and other components. Ecodesign uses resource-saving production methods and aims for energy-efficient utilization (including optimized maintenance cycles), as well as options for -> remanufacturing and eco-friendly disposal.

eCUBATOR
Newly established development unit. eCUBATOR started work in 2020, focusing on the strategic evaluation and early-stage development of Knorr-Bremse's e-mobility portfolio through the application of agile development methods.

ESP (Electronic Stability Program)
ESP describes an electronically controlled driver assistance system for motor vehicles that counteracts potential skidding by systematically braking individual wheels.

G

GSBC (Global Scalable Brake Control system)
This integrated brake control system is easier to install in a vehicle with multiple interconnected smart systems, thus reducing the development and assembly work required by the vehicle manufacturer.

H

HAD (Highly Automated Driving)
HAD represents an intermediate stage between assisted driving – where driver assistance systems help the driver to drive – and autonomous driving, where the vehicle drives itself without the driver's intervention.

K

KPS (Knorr-Bremse Production System)
The Knorr-Bremse Production System is the Company's proven platform for delivering Group-wide efficiency, organization, quality, and continuous improvement, always aiming for perfect workflow organization and execution.

L

LIFEDrive
By enabling rail vehicle entrance systems to operate with minimal wear, this innovative door operating concept delivers substantially higher fail-safety, coupled with significantly lower maintenance costs.

O

OEM (Original Equipment Manufacturer)
In the commercial vehicle industry, the term "OEM" refers to a component or systems manufacturer (supplier company) that supplies products used to manufacture vehicles.

P

Predictive maintenance
In the predictive maintenance of rail vehicles, the status of key components and control units is continuously monitored and updated online. This makes it possible to identify necessary maintenance requirements at an early stage and schedule the requisite repairs accordingly. This in turn allows workshop services to be better organized, enhances vehicle availability, and reduces operating costs.

ProFleet Connect
This modular telematics system for commercial vehicles optimizes fleet management, thereby enhancing efficiency, reducing costs and improving driver training courses.

R

RBD (Reproducible Braking Distance)
Our reproducible braking distance (RBD) solutions aim to bring trains to a reliable, pinpoint-precise standstill even under adverse conditions through the use of pioneering brake technologies. RBD makes it possible to reduce train sequencing times and increase train frequency, thereby optimizing the utilization of existing rail infrastructure.

Redundant systems
Safety systems are designed as multichannel systems so that if one component fails, other channels ensure that its function is performed regardless of the point of failure. If a braking system or component fails, for example, the redundant system or systems should still bring the vehicle safely to a standstill.

Remanufacturing
Also referred to as overhaul(ing). Industrial reprocessing of used or end-of-life products.

RVS (Rail Vehicle Systems)
Abbreviation for Knorr-Bremse's Rail Vehicle Systems division.

T

TCMS (Train Control & Management System)
TCMS is a central, modular vehicle control unit that integrates and communicates with the hardware and software in various train subsystems. The TCMS uses a dedicated control and monitoring architecture to centralize all information on the operating status of "smart" train components. Status data collected from smart subsystems is measured, processed and converted into command signals.

TCS (Traction Control System; see also ASR)
Traction control prevents a vehicle's wheels from spinning when tackling difficult surfaces such as ice, snow or loose chippings or gravel, so that the vehicle does not slew or skid sideways.

TDS (Threat Detection Solution)
A passive security element that monitors data traffic in all of a rail vehicle's electronic systems without directly intervening or interfering, and sounds an alarm if necessary.

Truck Motion Controller
This central ECU controls individual actuators in the vehicle, and is an important prerequisite for automated driving.

Finance

A

Aftermarket revenues
Aftermarket revenues include all sales revenues from products and services (e.g. spare parts, overhauls) that are not related to a new original equipment (OE) product.

B

Book-to-bill ratio
The book-to-bill ratio describes the ratio of incoming orders to revenues.

C

Capital employed
Sum total of property, plant and equipment, intangible assets and net working capital.

Capital expenditure (CapEx) – investments
Capital expenditure is defined as additions to property, plant and equipment and intangible assets (before acquisitions and IFRS 16), excluding goodwill and adjusted for the additions to fixed assets accrued in the fiscal year in the context of possible sale-and-lease-back transactions.

Cash conversion ratio
The cash conversion ratio is defined as free cash flow divided by net income for the year.

Cash flow
The cash flow represents the change in liquid funds over the reporting period, hence provides useful information on a company's profitability and financial strength.

Cash pooling system
Intra-Group liquidity management system. The aim is to pool all cash and cash equivalents in Knorr-Bremse AG and the respective holding companies in Asia and North America.

Compliance
Compliance is an integral part of corporate governance. It describes the adherence to laws, guidelines and voluntary codes within the Company.

Cost of materials ratio
The cost of materials ratio is calculated as the cost of materials relative to consolidated revenues.

D

Days' sales outstanding
Days' sales outstanding refers to the average number of days that elapse between the invoicing date and the settlement date (receipt of payment).

Discounted cash flow method
A measurement (valuation) method whereby future cash flows are discounted to their present value at the time of sale.

E

EBIT
EBIT (earnings before interest and taxes), also known as the operating result, is defined as income (loss) before interest, other financial result and income taxes. Thus EBIT does not include interest income, interest expenses, other financial result or taxes on income.

EBIT margin (see also Operating EBIT margin)
Ratio of earnings before interest, other financial result and income taxes to (sales) revenues.

EBITDA
EBITDA (earnings before interest, taxes, depreciation and amortization) is defined as the operating result (EBIT) before depreciation, amortization and impairments.

EBITDA margin (see also Operating EBITDA margin)
Ratio of operating result (EBIT) before depreciation, amortization and impairment to (sales) revenues.

Economic Value Added (EVA®)
Economic Value Added is determined by deducting capital expenditure (defined as operating assets multiplied by weighted average capital costs of 8%) from the Knorr-Bremse Group's net operating profit after taxes (NOPAT).

Equity ratio
The equity ratio is calculated as the ratio of equity to total capital.

F

Factoring
Method of financing sales whereby Knorr-Bremse sells its trade receivables to a financing institution.

Financial covenants
Financial covenants are contractually binding assurances given by the borrower to the lender concerning certain key indicators such as equity, debt, earnings or liquidity. Adherence to these indicators is monitored at regular intervals.

Free cash flow
Free cash flow is calculated by deducting payments for investments in property, plant and equipment and intangible assets from the cash flow from operating activities, and by adding proceeds from the sale of property, plant and equipment and intangible assets to the cash flow from operating activities.

Free float
The proportion of shares in a stock corporation that is not in fixed ownership. According to Deutsche Börse AG's definition, blocks of shares of less than five percent belong to the free float.

Full-time equivalent (FTE)
The number of employees is reported in FTE. FTE represents the workload associated with a job and indicates whether the job is full-time or part-time. Only two values are possible: 0.5 FTE (less than 60% of available working hours) or 1.0 FTE (60% or more than 60% of available working hours).

G

GCGC
The German Corporate Governance Code (GCGC) is a list of requirements imposed on German companies by the Government Commission on the German Corporate Governance Code.

Gearing (debt-equity ratio)
Indicates the ratio of net financial debt to equity.

German Accounting Directive Implementation Act (BilRUG)
BilRUG defines a more systematic approach to accounting, especially in terms of items reported in the Notes to the financial statements ("think small first"). Furthermore, statutory criteria required under the German Commercial Code (HGB) are adjusted in line with the national legislator's decision to apply maximum limits to implementation of these criteria.

H

Hedge accounting
Hedge accounting refers to the accounting treatment of a hedging relationship between two or more financial derivatives. In accordance with general IFRS accounting rules, a derivative is measured at fair value. If, on the other hand, a derivative (or components of a derivative) is included in hedge accounting as a cash flow hedging instrument, the effective changes are recognized in other comprehensive income (OCI) and transferred to the hedging reserve on a cumulative basis. Within the Group, non-designated portions of hedging instruments – the forward components – are treated as hedging costs. They are transferred to the reserve for costs of hedging without affecting income.

I

IFRS
The International Financial Reporting Standards (IFRS) are international accounting standards for companies issued by the International Accounting Standards Board (IASB). They are intended to regulate the preparation of annual and consolidated financial statements so that the latter are internationally comparable. The Company's consolidated financial statements were prepared in accordance with IFRS as adopted by the European Union (EU).

Incentive/Long-term incentive (LTI)/Short-term incentive (STI)
Short-term and long-term incentives are performance-related remuneration components. The STI amount to be paid out depends on the attainment of certain financial targets set by the Supervisory Board for the relevant fiscal year. The LTI is awarded on the basis of a performance cash plan and disbursed in annual tranches. Each tranche has a three-year term. The final payment is based on the EVA® achieved by the Knorr-Bremse Group in the second year following the respective grant year, compared with the EVA® achieved in the fiscal year preceding the grant year.

Incoming orders unaudited
Incoming orders are defined as all orders for a specific period. These purchase orders are reported as incoming orders when legally binding documents exist that commit the Company to deliver a certain quantity of goods or services within a certain timeframe at a certain price.

Inventory turnover rate
The inventory turnover rate indicates how often inventories are turned over and is determined by dividing annualized (sales) revenues by inventory stock.

M

Materials cost ratio (see Cost of materials ratio)

N

Net cash balance/Net debt
This is the result of offsetting (netting) cash and marketable securities against bank loans, bonds, notes and leasing liabilities.

Net operating profit after taxes (NOPAT) – operating result after taxes
NOPAT is defined as EBIT less taxes on income.

Net working capital (NWC)
Net working capital is defined as the balance of inventories, trade receivables, contract assets, trade payables and contract liabilities. Net working capital in days' sales is calculated by dividing net working capital by annualized revenues and multiplying the result by a factor of 360.

O

Operating EBIT margin (see also EBIT margin)
To determine operating EBIT margins, the effects of restructuring measures and one-off effects associated with transactions are adjusted against reported revenue and earnings figures.

Operating EBITDA margin (see also EBITDA margin)
To determine operating EBITDA margins, the effects of restructuring measures and one-off effects associated with transactions are adjusted against reported revenue and earnings figures.

Order backlog reach
The order backlog reach is calculated by dividing the order book by average consolidated monthly revenues.

Order book unaudited
The order book is defined as all incoming orders that have not yet been delivered, rejected or cancelled.

Over-time accounting
Method of accounting for long-term construction contracts in terms of revenue recognition. This is carried out over the contractual period based on the respective project's completion status as at the balance-sheet date (IFRS 15).

P

Put option
A put option is a contract that gives the buyer the right, but not the obligation, to sell an asset at a specified price and exercise date.

R

Rating
Assessment of a debtor's creditworthiness. Ratings are issued by rating agencies or banks. They assess a company's ability to meet its future interest and debt repayment obligations on schedule.

Research and development costs
Research and development costs include all costs over a financial period (including capitalized costs) that can be allocated to research into and development of new products, further development of existing products, and pure research.

Return on capital employed (ROCE)
Return on capital employed (ROCE) is defined as annualized EBIT divided by operating assets (sum total of intangible assets, net working capital and property, plant and equipment).

S

Supplier Early Payment Program (SEPP)
To help our suppliers with finance, we offer a supply chain finance program to our major suppliers. These agreements exclusively cover the application of longer payment terms. They do not have any accounting or civil-law effects that would result in the reclassification of trade payables as other classes of liability in the balance sheet.

Corporate Governance Statement for the Fiscal Year 2020

(including Corporate Governance Report)

The Corporate Governance Statement pursuant to Sections 289f and 315d of the German Commercial Code (HGB), in each case in the most appropriate version pursuant to Section 83 (1) sentence 2 of the Introductory Act to the German Commercial Code (EGHGB), is the primary instrument for reporting on corporate governance (cf. Principle 22 of the German Corporate Governance Code "GCGC", as amended on December 16, 2019). It forms part of the combined Group management report for Knorr-Bremse AG and the Group. In accordance with Section 317 (2) sentence 6 HGB, the auditor's examination of the disclosures pursuant to Section 289f (2) and (5) and Section 315d HGB should be limited to whether these disclosures have been made. The statement is jointly issued by the Executive Board and Supervisory Board, which are each responsible for those parts of the report that concern them.

In the Corporate Governance Statement, the Executive Board and Supervisory Board also report on the Company's corporate governance.

Declaration of Compliance of the Executive Board and the Supervisory Board of Knorr-Bremse AG

Pursuant to Section 161 of the German Stock Corporation Act (AktG), the Executive Board and the Supervisory Board of Knorr-Bremse AG adopted the following Declaration of Compliance with the German Corporate Governance Code on December 9, 2020:

"Since January 1, 2020, Knorr-Bremse AG (the "Company") has complied with the recommendations of the German Corporate Governance Code ("GCGC"), as amended on December 16, 2019 and published by the Federal Ministry of Justice in the official section of the Federal Gazette, and will continue to comply with them from January 1, 2021, with the following exceptions:

1. According to Recommendation D.1 GCGC, the rules of procedure of the Supervisory Board should be published on the Company's website. The rules of procedure of the Supervisory Board were published on the Company's website on November 19, 2020.

2. According to Recommendation F.2 GCGC, the consolidated financial statements and the Group management report should be made publicly accessible within 90 days from the end of the financial year, while mandatory interim financial information should be

made publicly accessible within 45 days from the end of the relevant reporting period. During fiscal 2020, the Company departed from Recommendation F.2 GCGC,[12] but will make the consolidated financial statements to December 31, 2020 publicly accessible within 90 days. This departure is due to the Group's ongoing transition to International Financial Reporting Standards (IFRS), which was initiated shortly before the Company's stock market flotation (IPO) in 2018.

From fiscal year 2021 onward, i.e. from January 1, 2021, the Company will make the consolidated financial statements, the Group management report and the mandatory interim financial information for the first and third quarters publicly available in accordance with Recommendation F.2 GCGC. It is anticipated that the Company will not publish its 2021 Interim Report within 45 days from the end of the first half-year period of 2021. From fiscal 2022 onward, the Company will also comply with Recommendation F.2 GCGC in this respect.

3. According to Recommendation G.11 GCGC, the Supervisory Board should be permitted to retain or reclaim the Executive Board's variable remuneration if justified. The Company departed from this recommendation in fiscal 2020 and will also depart from it in 2021. The Supervisory Board is of the opinion that the Company does not require provisions for retaining or clawing back variable remuneration components to encourage its Board members to act with due care and in a sustainable manner consonant with the long-term interests of the Company: the long-term variable remuneration (Long Term Incentive) and shareholding obligation (Share Ownership Guideline) plans are already adequate for this purpose. Moreover, in the event of exceptional developments and incidents, the Supervisory Board already has discretionary powers to adjust the terms of the short-term and long-term variable remuneration plans. Ultimately, the Supervisory Board may also assert claims for damages in accordance with Section 93 of the German Stock Corporation Act (AktG) in the event of a culpable breach of duty.

Munich, December 9, 2020

Knorr-Bremse Aktiengesellschaft

The Executive Board The Supervisory Board"

On March 30, 2021, the Executive Board and Supervisory Board updated the Declaration of Conformity with the Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG). The updated version is available on the Knorr-Bremse AG website in the Corporate Governance section.

[12]) And consequently also from Section 7.1.2 sentence 3 of the version of the German Corporate Governance Code dated February 7, 2017, which was in force until March 20, 2020. There were no other departures from this version of GCGC in fiscal 2020.

Further Corporate Governance Practices

Additional suggestions in the Code

Knorr-Bremse AG has chosen not to comply with the GCGC's non-mandatory suggestions during the reporting period.

Corporate values and internal rules

In addition to complying with the law and the GCGC, Knorr-Bremse AG is committed to the responsible conduct of business in and across all its divisions.

Our operational principles are summarized in a Code of Conduct which is binding for all our employees. This Code of Conduct may be viewed on our website at https://www.Knorr-Bremse.com/en/company/compliance/. The Code of Conduct provides employees across the whole Knorr-Bremse Group with guidelines for interacting responsibly with colleagues, business partners and government agencies. We also maintain event-based insider lists in accordance with Section 18 of the Market Abuse Regulation (MAR). All individuals on an insider list are informed of the applicable statutory obligations and sanctions. Other rules followed by Knorr-Bremse are summarized on page 15 of our Sustainability Report.

Diversity above and beyond statutory requirements is also an integral part of Knorr-Bremse's corporate culture. Any and every form of discrimination – whether on grounds of gender, age, religion, ill health, ethnic origin, skin color, sexual orientation, or for any other reason – is unacceptable at Knorr-Bremse. When recruiting, we take account of diversity and equal opportunities, and seek to appoint more women as appropriate. Working-time models with enough flexibility to cater to individual circumstances help to ensure equality of opportunity. Given the international nature of our business, intercultural diversity and tolerance are important values at Knorr-Bremse. Knorr-Bremse's Code of Conduct defines various measures relating to occupational health and safety, human rights and inclusivity. Our workforce receives specific training in these matters via an e-learning tool. Employees can engage with various viewpoints in talks and workshops on sociopolitical topics. Further information on diversity in the Executive Board and Supervisory Board may be found in the section below entitled Diversity in the Executive Board and Supervisory Board.

Together with further details of our social and community engagement, more information on how we exercise our corporate citizenship and encourage sustainable growth is also set out in the Non-financial statement for the Knorr-Bremse Group (pursuant to Section 315b HGB). More detailed information can also be found on our website under Responsibility.

Compliance Management System

At Knorr-Bremse, there is zero tolerance for criminal offenses such as corruption or antitrust violations. For us, sustainable growth goes hand in hand with integrity. We comply with all applicable laws and have established a Group-wide compliance structure. Anyone who discovers evidence of criminal behavior or serious breaches of laws or regulations within the Knorr-Bremse Group can report them securely via an external whistleblower system, anonymously if desired. A globally applicable Group guideline ensures that whistleblowers who use the system in good faith will not be disadvantaged in any way, insofar as the Knorr-Bremse Group is able to influence this under applicable legislation.

Under the leadership of the Chief Compliance Officer (CCO), our compliance structures are focused above all on preventing corruption, ensuring fair competition and avoiding conflicts of interest. The aim is to prevent any violation of our rules and guidelines, especially infringements of our binding Code of Conduct. This is supported by preventive measures such as staff training, communication of specific, compliance-related issues to managers and employees, supplier briefings, and accompanying guidance on risk management. The Chief Compliance Officer (CCO) is responsible for ensuring compliance with Knorr-Bremse's guidelines, and reports to the Compliance Committee (chaired by the Chief Financial Officer (CFO)) as well as the Supervisory Board's Audit Committee. Our sites worldwide play a key role in our compliance strategy and structures. Regional Compliance Officers covering Asia/Australia, Europe/Africa and the Americas are responsible for the regional implementation of compliance management, with further support from local Compliance Officers in Asia/Australia and Europe/Africa.

More detailed information about the responsibilities and activities of Knorr-Bremse's compliance structures can be found in our 2020 Sustainability Report in the Compliance and Risk Management section of the Strategy and Management chapter.

Remuneration of Executive Board and Supervisory Board members

The current remuneration system pursuant to Section 87 (1) and (2) sentence 1 AktG for the Executive Board and the resolution on remuneration and the remuneration system for the Supervisory Board which was passed at the 2020 Annual General Meeting pursuant to Section 113 (3) AktG are publicly accessible on our website at https://ir.Knorr-Bremse.com/websites/knorrbremse_ir/English/7000/corporate-governance.html. In conformance with the relevant transitional provisions, a Compensation Report for the fiscal year just ended and Auditor's Report pursuant to Section 162 AktG will be prepared for the first time for the fiscal year 2021.

Details of the remuneration of Executive Board members, including variable remuneration components, and of the remuneration of Supervisory Board members, including remuneration for the past fiscal year, may also be found in the Compensation Report.

Composition and operation of the Executive Board

Composition of the Executive Board

According to its Articles of Association, Knorr-Bremse AG's Executive Board must comprise at least two members. As at December 31, 2020, the Executive Board had three members:

- Dr. Peter Laier has served on the Executive Board of Knorr-Bremse AG since 2016 and has global responsibility for the Commercial Vehicle Systems division.
- Frank Markus Weber was appointed to the Executive Board of Knorr-Bremse AG with effect from July 1, 2020. As Chief Financial Officer (CFO), he is responsible for Finance, Controlling, IT, Legal and Compliance, M&A and Internal Audit.
- Dr. Jürgen Wilder joined the Executive Board of Knorr-Bremse AG in 2018 and bears global responsibility for the Rail Vehicle Systems division.

Bernd Eulitz, who at the time was Chief Executive Officer of Knorr-Bremse AG, left the company on August 31, 2020. For a transitional period until the new CEO, Dr. Jan Michael Mrosik, took up his post, the Supervisory Board asked the other Executive Board members Dr. Peter Laier, Frank Markus Weber and Dr. Jürgen Wilder to carry out Mr. Eulitz's duties. Dr. Jan Mrosik was appointed as the new CEO with effect from January 1, 2021.

Ralph Heuwing, formerly a member of the Executive Board and CFO, also left Knorr-Bremse AG on April 30, 2020.

The following table provides an overview of the areas of responsibility of Knorr-Bremse AG's individual Executive Board members since January 1, 2021. Table → 4.01

4.01 Areas of responsibility of executive board members of Knorr-Bremse AG

CEO Dr. Jan Michael Mrosik	CFO Frank Markus Weber	Head of CVS Dr. Peter Laier	Head of RVS Dr. Jürgen Wilder
Chief Digital Officer/ Chief Information Officer	Corporate Accounting/Taxes	CVS Division	RVS Division
Corporate Human Resources	Corporate Controlling	Research/Development	Research/Development
Corporate Strategy	Corporate Treasury	Procurement/ Supply Chain Management	Procurement/ Supply Chain Management
Corporate Communications	Corporate Legal, Compliance & Patents	Production/Quality Assurance	Production/Quality Assurance
Corporate Internal Audit	Corporate Strategy	Sales/Marketing/Distribution	Sales/Marketing/Distribution
Knorr Excellence	Investor Relations	Finance/Controlling	Finance/Controlling
Corporate Security	Corporate Risk Management		
KB Media GmbH	Corporate Responsibility		
KB Global Care e.V. Affairs	Corporate Real Estate Management		

Operation of the Executive Board

As well as managing the day-to-day running of the Company, the Executive Board defines and implements strategy in consultation with the Supervisory Board. It is obliged to act in the best interests of the Company and in accordance with the Company's business policies. Executive Board members are collectively responsible for the overall management of the Company. As well as deciding on fundamental business policy and corporate strategy matters, they also undertake annual and multi-year planning.

Rules of procedure drawn up by the Supervisory Board set out how roles and responsibilities for the various business units and activities are allocated on the Executive Board, how decisions are reached, and other matters. The Supervisory Board regularly considers whether the rules of procedure and associated allocation of responsibilities require updating.

The Executive Board reports regularly and comprehensively to the Supervisory Board on business performance, strategy and risks. In addition to the meetings of the Supervisory Board at which members of the Executive Board are present, the chairs of the two Boards regularly consult each other on all relevant current matters, in some cases at short notice in response to incidents or events. Furthermore, in close consultation with the Executive Board, the Chair of the Supervisory Board participates as appropriate in discussions with investors where such discussions relate to the work and responsibilities of the Supervisory Board. The Report of the Supervisory Board includes additional information about collaboration between the Executive and Supervisory Boards during the reporting year.

The second management tier within the Group comprises the senior managers at Knorr-Bremse AG, the managing directors of European subsidiaries Knorr-Bremse Systeme für Schienenfahrzeuge GmbH and Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, and the managing directors of our subsidiaries in North America and the Asia-Pacific region. The managing directors are responsible for the performance of their respective companies and stay in close contact with the Executive Board. The central departments at Knorr-Bremse AG report to the Executive Board.

Composition and operation of the Supervisory Board

Composition of the Supervisory Board as at December 31, 2020

In accordance with the German Codetermination Act (MitbestG), the twelve-member Supervisory Board is composed of an equal number of shareholder representatives and employee representatives: the six members representing equity holders are elected by the Annual General Meeting, and the six members representing employees are elected by the workforce at Knorr-Bremse's German sites.

The Supervisory Board is elected every five years; the last scheduled elections took place in 2016. If a member of the Supervisory Board steps down before the end of their term, a successor is appointed by the District Court unless a substitute has already been elected. Such court-appointed Supervisory Board members must then stand for election at the next Annual General Meeting (shareholders' representatives), or at the next election date (employee representatives).

During fiscal 2020, Dr. Wolfram Mörsdorf, Wolfgang Tölsner and Georg Weiberg stood down from the Supervisory Board with effect from the conclusion of the Annual General Meeting on June 30, 2020. To replace them as shareholder representatives, the Annual General Meeting elected Heinz Hermann Thiele, Dr. Thomas Enders and Dr. Theodor Weimer to the Supervisory Board.

Members of the Supervisory Board and memberships of the Supervisory Board members

In fiscal year 2020, the Supervisory Board comprised the following members.

Name and Date of Birth	Occupation	Member since	Elected until	Committees	Membership of statutory supervisory boards and comparable German or foreign supervisory bodies of business enterprises (as at 31 Dec. 2020)
Prof. Dr. Klaus Mangold Born 1943	Chair of the Supervisory Board Former member of the Executive Board of Daimler AG	2018	2021	▪ Chair of the Executive Committee ▪ Member of the Audit Committee ▪ Chair of the Nominations Committee ▪ Chair of the Mediation Committee	**German supervisory boards:** ▪ None **Comparable supervisory bodies:** ▪ Chair of Mangold Consulting GmbH, Stuttgart ▪ Member of the Board of Directors of Baiterek National Managing Holding JSC, Nur-Sultan, Kazakhstan ▪ Chair of the Advisory Board of Lürssen Maritime Beteiligungen GmbH & Co. KG, Bremen ▪ Chair of the Advisory Board of Cortec GmbH, Freiburg ▪ Vice-Chair Rothschild Europe, Frankfurt am Main In the view of the Supervisory Board, this Supervisory Board member is independent of the Company, its Executive Board and its controlling shareholder.
Franz-Josef Birkeneder Born 1960	Deputy Chair of the Supervisory Board Plant Manager of Knorr-Bremse's Aldersbach plant	2016	2021	▪ Member of the Executive Committee ▪ Member of the Audit Committee ▪ Member of the Mediation Committee	**German supervisory boards:** ▪ None **Comparable supervisory bodies:** ▪ None Employee representative
Kathrin Dahnke Born 1960	Second Deputy Chair of the Supervisory Board Member of the Executive Board of OSRAM Licht AG	2018	2021	▪ Chair of the Audit Committee ▪ Member of the Nominations Committee ▪ Member of the Mediation Committee	**German supervisory boards:** ▪ Member of the Supervisory Board of Fraport AG ▪ Member of the Supervisory Board of B. Braun Melsungen AG **Comparable supervisory bodies:** ▪ None In the view of the Supervisory Board, this Supervisory Board member is independent of the Company, its Executive Board and its controlling shareholder.
Dr. Thomas Enders Born 1958	President of the German Council on Foreign Relations	2020	2021	▪ None	**German supervisory boards:** ▪ Member of the Supervisory Board of Deutsche Lufthansa AG, Cologne ▪ Member of the Supervisory Board of Lilium GmbH, Wessling **Comparable supervisory bodies:** ▪ Member of the Board of Directors of Linde plc, Dublin, Ireland In the view of the Supervisory Board, this Supervisory Board member is independent of the Company, its Executive Board and its controlling shareholder.

Name and Date of Birth	Occupation	Member since	Elected until	Committees	Membership of statutory supervisory boards and comparable German or foreign supervisory bodies of business enterprises (as at 31 Dec. 2020)
Michael Jell Born 1963	Chair of the Group Works Council, Chair of the Works Council of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Knorr-Bremse AG, KB Media GmbH, Knorr-Bremse Services GmbH	2014	2021	▪ Member of the Executive Committee ▪ Member of the Mediation Committee	**German supervisory boards:** ▪ None **Comparable supervisory bodies:** ▪ None Employee representative
Werner Ratzisberger Born 1967	Project engineer for mechanical processing/surfaces, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH	2006	2021	▪ Member of the Audit Committee	**German supervisory boards:** ▪ Member of the Supervisory Board of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH **Comparable supervisory bodies:** ▪ None Employee representative
Annemarie Sedlmair Born 1987	Head of Legal Department of IG Metall Munich	2019	2021	▪ None	**German supervisory boards:** ▪ Member of the Supervisory Board of Bosch Sicherheitssysteme GmbH **Comparable supervisory bodies:** ▪ None Vertreterin der Arbeitnehmer
Erich Starkl Born 1962	First Authorized Representative of IG Metall, Passau Office	2014	2021	▪ None	**German supervisory boards:** ▪ None **Comparable supervisory bodies:** ▪ Deputy Managing Director IG Metall Passau Employee representative
Heinz Hermann Thiele Born 1941 Died 2021	Deputy Chair of the Supervisory Board Entrepreneur	2020	2021	▪ Member of the Executive Committee	**German supervisory boards:** ▪ None **Comparable supervisory bodies:** ▪ None
Julia Thiele-Schürhoff Born 1971	Chair of the Executive Board of Knorr-Bremse Global Care e. V.	2016	2021	▪ Member of the Nominations Committee	**German supervisory boards:** ▪ None **Comparable supervisory bodies:** ▪ Chair of Knorr-Bremse Global Care e.V.
Dr. Theodor Weimer Born 1959	Chief Executive Officer of Deutsche Börse AG	2020	2021	▪ None	**German supervisory boards:** ▪ Member of the Supervisory Board of Deutsche Bank AG **Comparable supervisory bodies:** ▪ None In the view of the Supervisory Board, this Supervisory Board member is independent of the Company, its Executive Board and its controlling shareholder.
Günter Wiese Born 1952	Member of the Works Council of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Berlin plant	2011	2021	▪ None	**German supervisory boards:** ▪ Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH **Comparable supervisory bodies:** ▪ None Employee representative

The composition of the Supervisory Board as at December 31, 2020 was therefore as follows:

In the view of the Supervisory Board, four of the six shareholder representatives on the Supervisory Board – Professor Dr. Mangold, Ms. Dahnke, Dr. Enders and Dr. Weimer – are independent within the meaning of the GCGC; the Supervisory Board also considers this appropriate when taking the shareholder structure into account. This means that the Supervisory Board complies with Recommendation C.9 GCGC, according to which at least two shareholder representatives should be independent of the controlling shareholder if the supervisory board comprises more than six members. All Supervisory Board members comply with the limits on supervisory board mandates in Recommendations C.4 and C.5 GCGC.

Operation of the Supervisory Board

The Supervisory Board supervises and advises the Executive Board. The Supervisory Board is responsible for deciding on the appointment of Executive Board members and for the rules of procedure of and allocation of responsibilities within the Executive Board. As well as reviewing the annual financial statements, management report and proposed distribution of net earnings, consolidated financial statements and Group management report, the Supervisory Board approves the financial statements of Knorr-Bremse AG and the consolidated financial statements, taking account of the auditor's reports and any findings from the Audit Committee's examination of the latter. As well as the quarterly figures and interim financial statements, the Supervisory Board regularly discusses planning and strategy. Significant Executive Board decisions, such as major acquisitions, divestments and financial transactions, are subject to Supervisory Board approval.

The rules of procedure that the Supervisory Board has drawn up for itself can be accessed on our website at https://ir.Knorr-Bremse.com/websites/knorrbremse_ir/English/7000/corporate-governance.html. In the event of a tie when the Supervisory Board passes resolutions, the Chair has an additional casting vote. The Supervisory Board may also take decisions using a document circulation procedure. The Supervisory Board also meets regularly without members of the Executive Board present.

The members of the Supervisory Board take responsibility for their own continuing professional development and the Company provides appropriate support for this. The Supervisory Board also regularly verifies the efficiency of its work. In fiscal 2021, for the first time, the Supervisory Board will conduct an external efficiency review as suggested in Recommendation D.13 GCGC.

To avoid conflicts of interest, the skills profile for the Supervisory Board includes stipulations relating to the independence of Supervisory Board members. Further details may be found in the section below entitled Diversity in the Executive Board and Supervisory Board. Any conflicts of interest that arose in fiscal 2020 and how they were dealt with are described in the Report of the Supervisory Board.

Composition and operation of the Supervisory Board's committees

The Supervisory Board of Knorr-Bremse AG has established four committees from among its members. With the exception of the Nominations Committee, each of these committees comprises four members, with equal representation of shareholders and employees. The composition of the committees as at December 31, 2020 can be seen in the list of Supervisory Board members above in the section Composition and operation of the Supervisory Board.

Following committee meetings, the committee chairs report the outcomes to the plenary board. The remits of the committees and the matters they discussed over the course of the past fiscal year are described in detail in the Report of the Supervisory Board.

- The Executive Committee coordinates the work of the Supervisory Board, prepares its meetings and efficiency reviews, and supervises implementation of the resolutions adopted by the Supervisory Board or its committees. Among other things, the Executive Committee is also responsible for preparing the Supervisory Board's personnel decisions relating to the Executive Board.
- The Audit Committee oversees matters relating to accounting, risk management, the internal control system and the compliance management system, as well as internal auditing and the effectiveness of the latter. It also supervises the Group's quarterly reports, reviews the annual and consolidated financial statements of Knorr-Bremse AG, and prepares relevant resolutions of the full Board.
- The Nominations Committee proposes candidates who are suitably qualified in terms of both expertise and character for election as shareholders' representatives at an Annual General Meeting.
- The Mediation Committee is convened if a Supervisory Board resolution on the appointment or removal of an Executive Board member does not obtain a two-thirds majority of votes as required by Sections 31 (2) and (5) of the German Codetermination Act (MitbestG). No such necessity has arisen in the history of the Company to date.

Stipulations pursuant to Sections 76 (4) and 111 (5) AktG and minimum quotas of women and men for Supervisory Board appointments

To date, our statutory obligations with respect to the equal participation of women and men in leadership positions have been fulfilled as follows:

- Three women currently serve on the Supervisory Board of Knorr-Bremse AG; two represent shareholders and one represents employees. This complies with the applicable statutory transitional provisions because the Supervisory Board was already set up in its current form before Knorr-Bremse AG's stock exchange flotation (IPO) on October 12, 2018.
- The percentage of women currently serving on the Executive Board of Knorr-Bremse AG is 0%. The Supervisory Board has set a target of 20% women on the Executive Board by June 30, 2023.
- As at December 31, 2020, the proportion of female managers on the first management tier below Executive Board level at Knorr-Bremse AG was 18.8%, and 33.3% on the second management tier. A target of 7.7% has been set for women on the first management tier (which was the status quo when the targets were specified in 2018) and 16.7% for the second management tier, to be maintained or attained in both cases by June 30, 2023.

Diversity in the Executive Board and Supervisory Board

Diversity policy for the Executive Board

When appointing Executive Board members, the Supervisory Board considers technical expertise and social skills in particular, along with the number of years' experience in similar posts within our sectors and in an international context. Further suitability factors are the candidate's character and educational background (university degree or equivalent). Whether a candidate is male or female makes no difference. To achieve a balanced age profile, any appointees to the Executive Board should generally speaking be no older than 65. The Executive Committee regularly deliberates on long-term succession planning for the Executive Board. In addition to setting a target of 20% for the proportion of female members on Knorr-Bremse AG's Executive Board back in 2018, the Executive Committee has taken cognizance of the planned statutory minimum requirement for the proportion of female members of management boards of listed companies subject to codetermination. In consultation with the Executive Board, the Executive Committee evaluates the Company's executive planning and management development activities. The Executive Committee prepares the Supervisory Board's deliberations and decisions relating to Executive Board personnel. If new members are to be appointed, the Executive Committee also proposes suitable candidates to the Supervisory Board.

Skills profile and diversity policy for the Supervisory Board

The Supervisory Board has defined a skills profile and targets for the composition of the Supervisory Board, including minimum quotas with respect to gender and international diversity. This ensures that Supervisory Board members collectively possess the requisite skills and expertise to properly perform the work of the Board. These skills include, for example, specific technical knowledge of: the rail, commercial vehicle and automotive industries, including the supply sector; the key markets in which Knorr-Bremse operates; research and development, especially in technologies and related areas of relevance to Knorr-Bremse; digitalization and smart, digitally connected IT applications (Industry 4.0). Also required is experience in management, leadership, accounting, controlling and risk management, corporate governance, and corporate compliance. Members do not all have to be equally skilled in all these areas; rather, their skills should be complementary.

The skills profile stipulates that at least one member should be a financial expert who is knowledgeable about accounting or auditing. The chair of the Audit Committee should have a detailed knowledge of the application of accounting principles and internal control procedures. Members of the Supervisory Board should be willing and able to devote sufficient time and expertise to discharge their duties diligently. In particular, this includes being willing to take responsibility for their own continuing professional development.

A wide range of professional and international experience is expected in relation to diversity; according to Section 96 (2) of the German Stock Corporation Act (AktG), the proportion of women and men on the Supervisory Board must be at least 30% in each case. Further salient points are an appropriate number of independent members, the avoidance of conflicts of interest, an upper age limit of 70 at the time of election, and a maximum of three terms (i.e. 15 years) in office.

In the Supervisory Board's view, its current composition meets the requirements set out in the skills profile, with the exception of the upper age limit of 70 at the time of appointment and the gender quota of at least 30%, which has come into effect since the Company's stock market flotation and will therefore apply to new elections under Section 96 (2) AktG and Section 25 (2) of the Introductory Act to the German Stock Corporation Act (EGAktG). To date, this quota has been met solely on the shareholder representation side. The employee side currently includes one female member. The candidate proposals submitted by the Supervisory Board to the Annual General Meeting are based on the requirements of the skills profile. The Supervisory Board last updated the profile in May 2020.

Further Information on Corporate Governance

Share ownership in the Executive Board and Supervisory Board

In accordance with Section 19 MAR relating to managers' own-account transactions, we publish notifiable securities transactions by members of Knorr-Bremse AG's Executive Board and Supervisory Board (referred to as directors' dealings) immediately upon receipt of the relevant disclosures. A summary of these transactions can be found under Investor News in the Investor Relations section of our website.

As at December 31, 2020, Executive Board members held approximately 0.0089% of Knorr-Bremse AG's shares in total. With respect to Supervisory Board members, to our knowledge Kathrin Dahnke was the only member who directly held shares in Knorr-Bremse AG on December 31, 2020. To our knowledge, through the shareholdings he controls in Stella Vermögensverwaltungs GmbH, TIB Vermögens- und Beteiligungsholding GmbH and KB Holding GmbH, all based in Grünwald, until February 23, 2021 Mr. Thiele indirectly holds around 58.99% of the shares of Knorr-Bremse AG.

Corporate communications and transparency

Our Corporate Communications department issues timely and comprehensive information. Along with our Annual Report, interim statements and financial reports, press and ad-hoc news releases provide detailed information on and explanations of our business performance. All publications are available on our website. We hold press conferences and conference calls for significant events.

The Articles of Association, the Supervisory Board's rules of procedure, Supervisory Board Reports from fiscal 2018 onward, declarations of compliance from fiscal 2018 onward, along with Corporate Governance Reports from 2018 onward can be found at https://ir.Knorr-Bremse.com/websites/knorrbremse_ir/English/7000/corporate-governance.html. An outline of the remuneration system for members of the Executive Board and Supervisory Board is also available there.

Shareholders and Annual General Meetings

Knorr-Bremse AG's shareholders exercise their rights in the Annual General Meeting. Among other things, the Annual General Meeting passes resolutions on the appropriation of distributable income, the discharge of the members of the Executive Board and the Supervisory Board, and the appointment of the auditor. Shareholders can exercise their voting rights in the Annual General Meeting either in person, via a proxy of their choosing, by instructing a Company proxy, or via a postal vote. By using electronic means of communication, in particular the internet, the Executive Board facilitates shareholders' participation in the Annual General Meeting; proxies can still be contacted during the AGM.

The Chair of the Supervisory Board chairs the General Meeting and reports on the work of the Supervisory Board and its committees during the previous fiscal year. The Executive Board presents the annual financial statements, the consolidated financial statements, the combined Group management report, the proposed appropriation of distributable income agreed with the Supervisory Board, and other resolutions to be voted on by the AGM.

Owing to the Covid-19 pandemic, the 2020 Annual General Meeting on June 30, 2020 was held as a virtual general meeting at which neither shareholders nor their proxies were physically present. The next Annual General Meeting will take place on May 20, 2021 and will also be held as a virtual general due to the current circumstances. All reports, documents and information required by law for the Annual General Meeting, including the Annual Report, can be downloaded from our website. The AGM agenda, as well as any shareholder-proposed countermotions or candidacies which we are required to make available to AGM participants, will also be published there.

Index of Charts and Tables

Financial calendar (expected dates) *

May 14, 2021	Q1 / Interim Statement 3 months 2021
May 20, 2021	Annual Shareholder´s Meeting
September 3, 2021	Q2 / Hallf year report 2021
November 12, 2021	Q3 / Interim Report 9 monaths 2021

* The latest information on the dates can be found on our website **www.Knorr-Bremse.com**

Imprint

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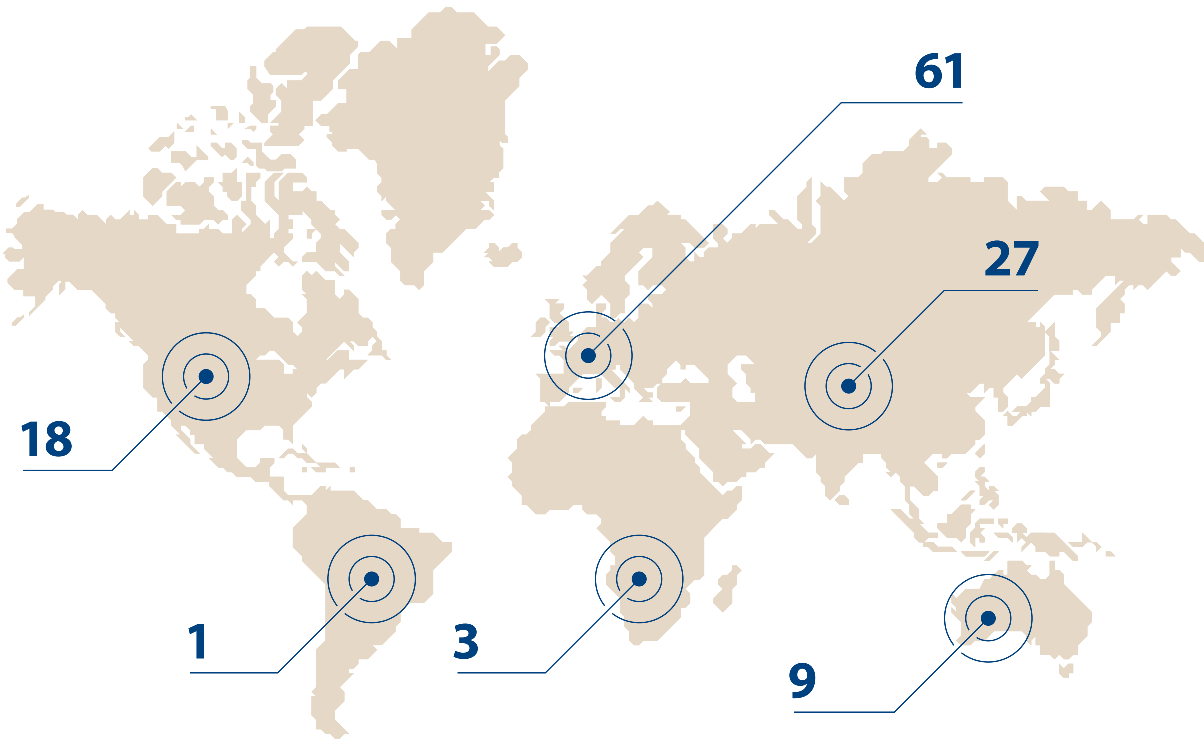

Global Presence. Local Expertise.

Wherever you are, Knorr-Bremse is there for you. We have around 29,500 employees working at more than 100 locations in over 30 countries on every continent in the world. They speak the national language. They know the local culture and customs. They're familiar with the country-specific product requirements. Knorr-Bremse – we play a major role in improving safety and efficiency on road and rail. Helping to move people and transport goods. All over the world.

www.knorr-bremse.com