Annual Report 2021

DRIVING DIGITALIZATION

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

30.500 employees

100 at over one hundred locations

30 in more than thirty countries

Key performance indicators

		2021	2020	+ / -
Revenues	**In € million**	**6,705.6**	**6,156.7**	**+8.9 %**
EBITDA	In € million	1,206.5	1,106.9	+9.0 %
EBITDA margin	%	18.0	18.0	
EBIT	In € million	916.1	814.0	+12.5 %
EBIT margin	%	13.7	13.2	
EBT	In € million	880.8	750.6	+17.4 %
EBT margin	%	13.1	12.2	
Net income	In € million	647.4	532.2	+21.6 %
Return on sales after tax	%	9.7	8.6	
Earnings per share	€	3.85	3.07	+25.4 %
Incoming orders	**In € million**	**7,286.7**	**6,441.8**	**+13.1 %**
Order book (31.12.)	In € million	5,558.1	4,977.0	+11.7 %
Free Cash Flow	**In € million**	**600.0**	**687.3**	**-12.7 %**
Operating Cash flow	In € million	975.5	1,036.0	-5.8 %
Capital expenditure	In € million	375.5	341.7	+9.9 %
Capital expenditure in % of sales	%	5.6	5.6	
R&D costs	In € million	431.4	396.4	+8.8 %
R&D costs in % of sales	%	6.4	6.4	
Total assets	**In € million**	**7,199.2**	**7,390.0**	**-2.6 %**
Equity	In € million	2,425.5	1,921.7	+26.2 %
Equity ratio	%	33.7	26.0	
ROCE	%	24.9	25.6	
Net Working Capital	days' sales	47.0	43.6	+7.7%
Knorr-Bremse share				
Number of shares		161,200,000	161,200,000	
Dividend per share	€	1.85	1.52	+21.7 %
Employees		30,544	29,714	+2.8 %

Rail vehicle systems

		2021	2020	+ / -
Revenues	**In € million**	**3,317.0**	**3,336.8**	**-0.6 %**
EBITDA	In € million	714.2	764.2	-6.5 %
EBITDA margin	%	21.5	22.9	
Capital expenditure	In € million	118.7	109.0	+8.9 %
R&D costs	In € million	211.1	202.6	+4.2 %
R&D costs in % of sales	%	6.4	6.1	
Employees		16,308	16,074	+1.5 %

Commercial vehicle systems

		2021	2020	+ / -
Revenues	**In € million**	**3,390.2**	**2,819.4**	**+20.2 %**
EBITDA	In € million	500.6	381.2	+31.3 %
EBITDA margin	%	14.8	13.5	
Capital expenditure	In € million	234.1	210.1	+11.5 %
R&D costs	In € million	220.3	194.0	+13.6 %
R&D costs in % of sales	%	6.5	6.9	
Employees		13,459	12,871	+4.6 %

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DRIVING DIGITALIZATION

Digitalization is one of the megatrends that we at Knorr-Bremse benefit from directly. In addition to urbanization, sustainability and mobility, collecting, analyzing and using data is essential for us – because data is a central resource for new products and services. For a technology leader like Knorr-Bremse, which has been a leader in its markets for decades, successful investments in digitalization are the key to continuing sustainable growth over the long term.

The megatrends generate new and promising business ideas. However, they also cause disruptive changes to existing business models and processes. We are prepared: we react to the rapid changes in the global markets with agile working methods and digitalized internal processes. We at Knorr-Bremse have an enormous advantage in this regard: our highly qualified employees, including some 740 software developers. With their expectation of technological excellence, their curiosity and their wealth of ideas, we are in an excellent position in our RVS and CVS divisions. This is how we are defending our position as a global leader in technology and innovation in our markets.

The previous year, which was once again characterized by the effects of the global pandemic, proved how crisis-proof our business model is. The very good economic performance of Knorr-Bremse is impressive proof that, in spite of enormous challenges, we are headed down the right path. This success is what drives us to continue developing new and fascinating solutions for our customers and to drive the digital transformation of our company with strength and curiosity.

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To Our Shareholders

Letter from the CEO

Dear Readers,

The year 2021 was another time of major challenges for our customers, employees and Company. There is barely any industry out there that has been able to evade the impacts of the global Covid-19 pandemic. Orders have been postponed worldwide while supply chains have had to face delays and massive fluctuation. In this difficult situation, the business models of our rail and commercial divisions have once again proven to be resilient and crisis-proof. Our revenues have increased significantly with a high earnings contribution and we have successfully achieved new record highs for our order intake and order book. We owe this success chiefly to our roughly 30,500 employees worldwide who made this excellent result possible despite the difficult conditions. We wish to thank them expressly for their tremendous dedication.

This commitment and desire for success is in keeping with the vision of Heinz Hermann Thiele, our Supervisory Board Chairman and majority shareholder for many years. His sudden death on February 23, 2021, was a shock to us all. Mr. Thiele had shaped the Company for decades, laid the foundation for it and made Knorr-Bremse into an internationally successful global market leader. His entrepreneurial legacy is one of a kind. Together, we will continue the successful Knorr-Bremse growth story, whether it is in our core business or through strategic investment in new markets and profitable expansion.

Before we address the results for the fiscal year just ended, we would like to take a brief look at the present day in spring 2022. We, the Executive Board of Knorr-Bremse, are appalled by Russia's war in Ukraine and condemn Russia's invasion of that country in the strongest of terms. Russia's war is not only an attack on a free country, but also an attack on our democracy and liberal values in Europe. For this reason, we temporarily suspended all deliveries that had Russia as their final destination just a few days after the war's outbreak. We will only resume deliveries that are necessary to avoid claims for damages under existing contractual arrangements and that comply with the applicable sanctions regimes. In all cases, we will only ever deliver products or components that cannot be used for military purposes.

»Knorr-Bremse enjoys an excellent financial profile with strong profitability, high liquidity, robust assets and a clear path to growth.«

— **Frank Markus Weber,**
Executive Board Spokesman, Chief Financial Officer

Additionally, we wish to help the affected people in Ukraine and the refugees from there. For instance, we as a company have donated € 500,000 and also matched every donation made by our employees. Thanks to the high rate of engagement among our workforce and the generous individual donations, we have already raised € 1.2 million. With this money, we will support the aid in Ukraine provided by the German Red Cross and UNICEF, the UN's aid agency for children. Furthermore, our employees have started numerous initiatives in Germany and countries neighboring Ukraine to help people in the war zone as well as refugees. We support this outstanding commitment and are proud of it.

Even though the consequences of the war in Ukraine cannot yet be assessed fully and conclusively, we wish to build on the pleasing operating results that we achieved over the last year. In our Rail Vehicle Systems (RVS) division, we signed critical contracts with leading original equipment manufacturers across the world in the 2021 fiscal year. Although there were many, I would like to point out a major metro train contract with Stadler in Berlin and a Citadis equipment contract with Alstom. Both these companies have been customers in our rail line of business for many years and their choosing of Knorr-Bremse is a clear sign of our close partnership with them.

In our Commercial Vehicle Systems (CVS) division, our efforts were concentrated on innovation and the expansion of our position in safety, electric vehicles, efficiency and automated driving. We were able to achieve great success in this division, too. For example, we signed a major supply contract worth approximately € 1 billion with a leading European truck manufacturer. In offering our Global Scalable Brake Control system, we have also created a high-performing and flexible platform for our customers which acts as a foundation for automated driving.

We also found success in new, rapidly growing markets. RVS acquired its first few pilot projects and orders involving digitalization, such as a cooperation agreement with Deutsche Bahn for shared usage of data from rail operations and a data analytics contract with Siemens for remote condition monitoring of air conditioning systems in regional train fleets in the UK. Our purchase of a minority interest in Autobrains, an AI start-up, will strengthen our capabilities for key issues that will be relevant in the future. The company's video recognition technology is based on self-learning algorithms and will deliver crucial ideas for the development of driver assistance systems and highly automated driving in the commercial vehicle industry.

The major foundations of our equity story are growth that outpaces our markets and robust profitability. The numbers speak for themselves: The revenues of Knorr-Bremse in 2021 as a whole were up 9 % at approximately € 6.7 billion, a significant increase. EBIT, at € 916 million, was just over 13 % more than in the previous year. With an operating EBIT margin of 13.5 %, we were able to achieve impressive profitability and strong free cash flow of € 600 million. Our order intake rose by a significant 13 % to a record level of € 7.3 billion while our order book grew by 12 % to just under € 5.6 billion, which is also a record for us. These results mean that we have achieved our forecast for the 2021 fiscal year. Given this performance, the Executive Board and Supervisory Board will propose payment of a dividend increased by 22 % to € 1.85 per share at the Annual General Meeting.

Despite the global consequences of the Covid-19 pandemic and the slow recovery of rail transportation, our RVS division attained stable revenues of about € 3.3 billion. Its operating margin was 17.9 %. RVS signed important contracts with major OEM customers across the world in 2021. We are therefore anticipating growth momentum for the current year. With revenues increasing by 20 % to approximately € 3.4 billion, our CVS division was the main driver of growth last year. The division also significantly improved its profitability with an operating EBIT margin of 10.7 %.

Overall, Knorr-Bremse enjoys an excellent financial profile with strong profitability, high liquidity, robust assets and a clear path to growth. Nevertheless, 2022 will be another challenging year for us, just as it will be for most businesses worldwide. Alongside the geopolitical uncertainty and dramatic impacts of the war in Ukraine, we are still facing issues in international supply chains and the effects of rising inflation. We are confronting these challenges determinedly with a heavily disciplined approach to expenditure and further measures to safeguard our business model.

The outlook for 2022 is based on assumptions that exchange rates will remain largely stable, that there will be no significant Covid-19-related setbacks and that general geopolitical and economic conditions will remain stable. It is not yet possible to deliver a conclusive evaluation of the added impacts that the war in Ukraine might have on business development. Against this backdrop, we are anticipating revenues between € 6.8 billion and € 7.2 billion, an operating EBIT margin from 12.5 % to 14.0 % and free cash flow between € 500 million and € 600 million for the 2022 fiscal year, based on today’s perspective.

Quality and innovation are the cornerstones of our success, and we will continually expand our technology leadership and innovativeness. In order to keep capitalizing on current megatrends with innovation, we increased our research and development expenditure further in fiscal 2021. Consequently, it grew by almost 9 % to over € 431 million.

We have also reached an extremely important milestone with our ambitious climate targets. Knorr-Bremse's sites worldwide have been carbon-neutral since the end of 2021. We are very proud of this critical success, and we will not stop there either. We are progressing completely as planned on our target of halving carbon emissions by 2030. By 2021, we had already lowered our emissions by more than 65 % on 2018 levels.

As you can see, Knorr-Bremse is on a clear path. We are working closely with our customers – which include the world's leading companies in their industries – to turn our strong position into a sustainable future. We look forward to pursuing this goal together with you.

Munich, March 30, 2022

Yours

Frank Weber

Frank Markus Weber
Executive Board Spokesman, Chief Financial Officer

The Executive Board

Frank Markus Weber
Executive Board Spokesman, Chief Financial Officer
—
Worldwide responsibility for Finance, Controlling, M&A, Corporate Responsibility, Investor Relations, Internal Audit, IT, Communications, Security, and Strategy

Dr. Claudia Mayfeld
Executive Board Member
—
Worldwide responsibility for Integrity, Legal, and Human Resources

Bernd Spies
Executive Board Member
—
Responsible for the worldwide business of the Commercial Vehicle Systems division

Dr. Jürgen Wilder
Executive Board Member
—
Worldwide responsibility for the Rail Vehicle Systems division, and Digitalization

Dr. Jan Mrosik left the Executive Board as Chief Executive Officer on March 11, 2022. Until a successor has been decided, Chief Financial Officer Frank Weber will also take on duties as the Executive Board's Spokesman on an interim basis.

Due to the Covid-19-pandemic this photoshoot was held in stringently hygienic conditions.

Report of the Supervisory Board

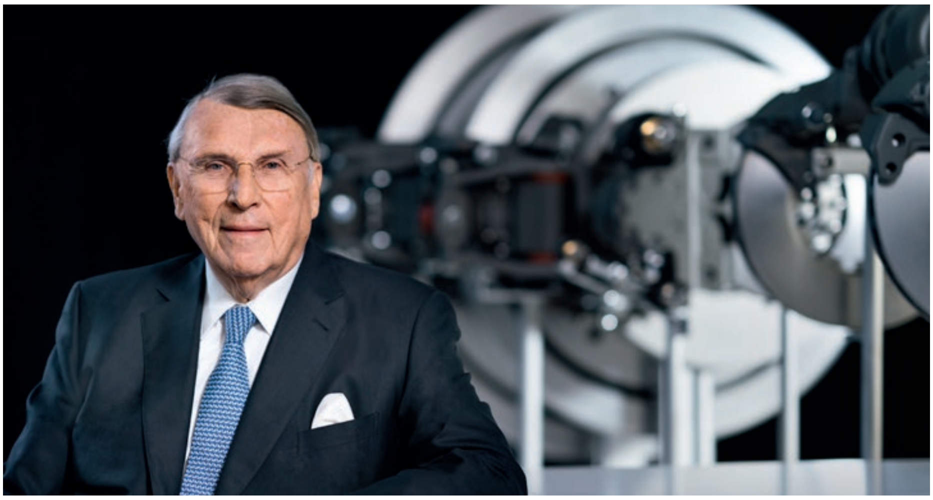
Dear Shareholders,

The 2021 fiscal year was impacted by the death of Heinz Hermann Thiele, majority shareholder and member of the Supervisory Board. Mr. Thiele passed away suddenly and unexpectedly on February 23, 2021. With his entrepreneurial personality, his leadership, his tireless effort and his constant striving toward progress, Mr. Thiele shaped Knorr-Bremse like no one before him. Selflessly and in keeping with his enormous passion for the Company, he had previously taken it upon himself to advise and counsel the Executive Board on its management of the pandemic's economic impact from a position on the Supervisory Board. Mr. Thiele has bequeathed us an outstanding legacy for which we are very grateful. For the Supervisory Board, this is an obligation to guide the Company to a future of further success together with the Executive Board. Upholding his life's work is the expectation and duty of the Supervisory Board.

As Chairman of the Supervisory Board, I would like to take a look with you at the 2021 fiscal year, which – like the 2020 fiscal year before it – was characterized by the effects of the Covid-19 pandemic on the global economy as well as an extraordinary scarcity of raw materials and semiconductors. Simultaneously, 2021 was also marked by signs of continued economic recovery, particularly in our Commercial Vehicle Systems (CVS) division. In spite of the difficult economic environment overall, Knorr-Bremse was able to continue on its successful path. The preliminary results published on February 24, 2022, in particular the high level of received orders and the earnings per share well above expectations, are proof of this, and they enable the Company to distribute its highest dividend for a fiscal year since its IPO.

At the Annual General Meeting on May 20, 2021, Dr. Stefan Sommer was elected as a member of the Supervisory Board and filled the vacancy that had been left behind by Mr. Thiele on the Supervisory Board. In this process, the nomination of the Supervisory Board was based on the expertise profile developed by the Supervisory Board. As the former CEO of ZF Friedrichshafen AG and former member of the management board of Volkswagen AG with demonstrated experience in CVS, Dr. Sommer meets and complements the expertise profile in an outstanding way. The other shareholder representatives on the Supervisory Board were confirmed for a term of five years at the Annual General Meeting, meaning their terms will last until the Annual General Meeting in 2026. The employee representatives on the Supervisory Board were also confirmed in office in May 2021, with Sylvia Walter succeeding Günter Wiese, who retired from the Supervisory Board after 50 years of service at the Company and to whom I would like to extend my heartfelt gratitude.

The Company supports the newly elected members of the Supervisory Board in familiarizing themselves with their roles through a detailed onboarding program to provide them with a comprehensive overview of the Company and the global position, operations and



Prof. Dr. Klaus Mangold,
Chairman of the Supervisory Board

products of the two divisions. At the same time, as part of their orientation, newly elected members of the Supervisory Board receive meeting minutes of the last 12 months and the current corporate governance documentation of the Company.

The Supervisory Board regularly assesses how effectively it is fulfilling its duties as a whole as well as through its committees (i.e., an efficiency review under section D.13 of the German Corporate Governance Code). To this end, in the second quarter of the previous fiscal year, the Supervisory Board had an external efficiency review conducted on its work which included its members as well as the members of the Executive Board. The results of the efficiency review were discussed together with the Executive Board as part of the strategy meeting. In its conclusion, the external reviewer confirmed that the composition and working methods of the Supervisory Board and its committees are proper. The Supervisory Board addressed specific areas for potential improvement together with the Executive Board.

Collaboration of the Supervisory Board and Executive Board

In the reporting period, the Supervisory Board fulfilled its duties pursuant to law, the Articles of Association and the rules of procedure with great care. The Supervisory Board was directly involved in all decisions of fundamental importance to the Company. The recommendations and suggestions in relation this that are provided in the German Corporate Governance Code (GCGC) were always considered. Deviations from these recommendations with regard to the compensation of the Executive Board were disclosed in the declaration of compliance with the GCGC published on December 9, 2021, and in an update published on March 30, 2022.

Additionally, the Supervisory Board advised the Executive Board on the management of the Company, on the preparation and implementation of acquisitions and divestments and on realizing further strategic projects. At the same time, the Supervisory Board monitored the senior management of the Executive Board on the basis of regular reports with which the Supervisory Board remained informed regarding business development, planning and risks.

This was also the case recently with regard to the Knorr-Bremse Group's business in Russia in light of the sanctions imposed on that country due to the war between it and Ukraine. The Supervisory Board was constantly guided by the principles of responsible and sound corporate governance. The focus of its monitoring and advisory activities was on the legality, propriety, expediency and efficiency of senior management and Group management. The individual advisory and supervisory tasks of the Supervisory Board are governed by the rules of procedure of the Supervisory Board, which stipulate, for example, that the Supervisory Board be closely involved in corporate planning and discussions of strategic projects. Furthermore, a catalog of approval requirements applies to certain Executive Board decisions, some of which necessitate comprehensive preliminary review and consideration of complex matters from a supervisory and advisory perspective. In doing so, the Supervisory Board and its committees complied closely with the rules of its own business judgment. In fiscal 2021, several transactions were presented to the Supervisory Board for approval, for example the issuance of a syndicated loan of € 750 million and the acquisition of EVAC, a manufacturer of wastewater systems for trains. The Supervisory Board was involved via its Strategy Committee in particular in the potential acquisition of automotive supplier HELLA GmbH & Co. KGaA.

The Executive Board regularly, immediately and comprehensively reported to the Supervisory Board by means of written and oral reports, both in and outside of meetings. The reports contained all relevant information on the strategic development, planning, business development within the year and position of the Company, risk situation and risk management, compliance, competitors of Knorr-Bremse AG (peers), situation in the capital market including expectations of analysts and investors and current events. We discussed the business transactions important for the Company as well as its further development together with the Executive Board. The Supervisory Board was included in a timely manner in all decisions of fundamental importance for the Company. The Executive Board also informed the Supervisory Board about urgent matters between the regular meetings. Additionally, as the Chairman of the Supervisory Board, I also received reports from the Executive Board on the current business situation and on significant business transactions of the Company as part of detailed and intensive dialog in regular business reviews. I held regular discussions with important investors on the topics and questions of the Supervisory Board.

In fiscal 2021, we maintained a consistently high attendance rate at our meetings. The average attendance at full-board meetings was 97.6 %, which was even greater than the already high attendance rate in the year before (96.5 %). Only two members of the Supervisory Board were unable to attend the seven total meetings and in both cases they only missed one each. They did, however, vote on the resolutions by proxy. The following attendance records show regular, near-full attendance by the members of the Supervisory Board and its committees and therefore attest to the high degree of commitment in the work done by the Supervisory Board.

1.01 MEETING ATTENDANCE OF THE SUPERVISORY BOARD MEMBERS IN FISCAL 2021

Name	Supervisory Board (full board)	Executive Committee	Audit Committee	Nomination Committee	Strategy Committee
Prof. Dr. Klaus Mangold (Chairman)	7 (7)	12 (12)	6 (7)	3 (3)	6 (6)
Kathrin Dahnke	7 (7)		7 (7)	2 (3)	
Dr. Thomas Enders	7 (7)				3 (6)
Dr. Stefan Sommer	4 (4)				6 (6)
Julia Thiele-Schürhoff	7 (7)			3 (3)	
Dr. Theodor Weimer	7 (7)	8 (9)			
Franz-Josef Birkeneder (Deputy Chairman)	7 (7)	12 (12)	7 (7)		6 (6)
Michael Jell	6 (7)	11 (12)			
Werner Ratzisberger	7 (7)		7 (7)		
Annemarie Sedlmair	7 (7)				
Erich Starkl	6 (7)				
Günter Wiese	3 (3)				
Sylvia Walter	4 (4)				
Meeting attendance in %	97.62 %	95.83 %	96.43 %	88.89 %	87.5 %

(in parentheses: number of meetings held during the term of the respective Supervisory Board or committee member)

Discussions of the Supervisory Board and its committees

The meetings and decisions of the Supervisory Board as a whole are usually prepared by the Executive Committee and the Audit Committee. The Supervisory Board established a Mediation Committee whose services were not needed during the reporting period. The Nomination Committee convened for a total of three meetings during the reporting period (more about this below). Ms. Dahnke, Dr. Sommer and I – as the committee chair – provided regular detailed reports to the Supervisory Board regarding the work of the Nomination, Audit and Executive Committees as well as the Strategy Committee, which was established in May 2021. The significant topics of discussions are detailed in the following.

The shareholder and employee representatives regularly held separate advance meetings prior to the Supervisory Board meetings. The Chief Executive Officer and other members of the Executive Board took part in these meetings on an ad hoc basis. The Supervisory Board regularly followed its meetings with discussions at which the Executive Board was not present. Depending on the topic, there were also meetings of the Supervisory Board without any attendance by the Executive Board at all.

Significant topics of Supervisory Board work

In the reporting period, a total of seven Supervisory Board meetings took place, which were largely held – in compliance with the applicable social distancing and hygiene regulations – as in-person meetings in Munich and, in one case, in Aldersbach, and also by videoconference in individual cases. In the following, you will find a summary of the significant topics covered at the meetings:

1. The Supervisory Board held its first meeting without Mr. Thiele on March 3, 2021, with the latter having passed away beforehand on February 23, 2021. His place at the Supervisory Board's table remained vacant at this meeting. We held a moment of silence as a tribute to this excellent entrepreneur and person and to express our commiseration and deepest empathy to his family. The Supervisory Board then dealt with the preliminary earnings situation for 2020 as well as the guidance for 2021 as a whole. Additionally, it decided on the short-term incentive (STI) target achievement of the Executive Board in the prior fiscal year, taking into account in particular the economic effects of the Covid-19 pandemic as an extraordinary event by correcting the so-called STI curve.

2. At its balance sheet meeting on March 30, 2021, the Supervisory Board dealt with the results of the audit of the annual financial statements and the recommendation of the Executive Board on the appropriation of net profit, which recommended a distribution of a dividend amounting to € 1.52 per share for the 2020 fiscal year. Additionally, the Supervisory Board addressed the preparation of the virtual Annual General Meeting, in particular the nomination of Dr. Sommer as a new member of the Supervisory Board and the approval of the basic points of an employee share program that was introduced in September with a high degree of participation among employees.

   Another focus of the meeting was the approval of the new concept for STI of the Executive Board, which – on the one hand – replaces net working capital with free cash flow as the relevant STI performance indicator and – on the other hand – also takes internal and external ESG criteria into account for 20% of Executive Board compensation. For the current fiscal year, the Supervisory Board approved the STI financial targets and the strategic EPS target for the share-based long-term incentive (LTI). The Executive Board compensation system, after adjusting the STI, was submitted for approval at the Annual General Meeting on May 20, 2021, and described in detail in the respective invitation to the AGM. Additionally, a current detailed description of the system and the payments made and/or the claims earned under it can also be found in the Compensation Report.

   After thorough consideration by the Executive Committee beforehand, the Supervisory Board decided on March 30, 2021, to appoint Dr. Claudia Mayfeld to the Executive Board effective as of May 1, 2021, for a period of three years. This appointment simultaneously took into account the new legal requirements for minimum female representation on the executive boards of listed companies and did so at a very early stage. Dr. Mayfeld is responsible for the newly created area of Integrity and Legal Affairs, as well as HR on an interim basis since the departure of the CEO.

3. At its meeting on May 19, 2021, the Supervisory Board dealt with the current business situation and, based on the preparation done by the Executive Committee, with the preparations for the virtual Annual General Meeting held the following day. Additionally, the Supervisory Board resolved to establish a Strategy Committee under the leadership of Dr. Sommer, which immediately began work following the inauguration of the newly elected Supervisory Board on May 20. Details on the work, tasks and members of the Strategy Committee are explained in the following. The composition of the other committees (Executive, Audit, Nomination and Mediation) was confirmed by the newly elected Supervisory Board, as well as my two deputies Franz-Josef Birkeneder and Dr. Theodor Weimer and myself in our respective leadership roles. Ms. Dahnke, to whom I would like to extend my particular gratitude, will continue to chair the Audit Committee as a financial expert.

4. During its two-day strategy meeting on July 8 and 9, the Supervisory Board first discussed the decision made and publicly announced by the Executive Board on July 7, 2021, for Knorr-Bremse not to pursue the potential acquisition of HELLA GmbH & Co. KGaA. The discussions also focused on the strategic direction of the two divisions, strategic financial planning and the central innovation projects in CVS and Rail Vehicle Systems (RVS). Furthermore, discussions also addressed business in North America and the Asia-Pacific region, with the inclusion of the local management. Finally, the Supervisory Board discussed with the Executive Board the results of the external efficiency review on its working methods that was performed in the second quarter. The basis for this review was extensive one-on-one talks with all members of the Supervisory Board and Executive Board and the Head of the Corporate Office. Part of the results included specific areas for potential improvement, which were pointed out at the meeting and discussed by the Supervisory Board together with the Executive Board.

5. At its meeting on October 14, the Supervisory Board granted the required approval for a syndicated loan of € 750 million that is coupled with a sustainability rating. The sustainability strategy of the Knorr-Bremse Group and the measures derived from it continued to be an integral part of the agenda over the remainder of the year. The Supervisory Board discussed topics including the implementation of sustainability standards within the Knorr-Bremse Group's supply chains and the assessment of the Company's ESG criteria by external agencies. The latter will also join internal ESG targets in becoming a factor in the variable Executive Board compensation beginning in fiscal 2022. The Supervisory Board also discussed the Knorr-Bremse Group's sustainability reporting and the staffing of the CSR department in light of the Group-wide implementation of ambitious ESG targets.

6. On December 9, 2021, the Supervisory Board dealt with annual planning for 2022 and medium-term planning (2022-2024) for the Group as well as the two divisions and approved this planning after in-depth discussion. Additionally, the Supervisory Board discussed an initial assessment of the governance structure of the Knorr-Bremse Group, the interim reallocation of the responsibilities of the Executive Board as a result of the resignation of Dr. Laier and the status of the search for a successor for the CVS division. The meeting also

focused on the new arrangements for Supervisory Board compensation, which will be presented for approval at the Annual General Meeting on May 24, 2022. The cornerstones of the new arrangements in Article 18 of the Articles of Association are the compensation for the newly established Strategy Committee, the introduction of a meeting-attendance payment to act as lump-sum compensation for expenses and an increase in earnings to a level typical by DAX/MDAX standards and commensurate with the KB Supervisory Board's responsibility and meeting frequency. The final topics of this meeting were the ongoing M&A and restructuring activities of the Knorr-Bremse Group and the two divisions' strategy in China, which were discussed intensively by the Supervisory Board following the recommendation of the Strategy Committee.

Executive Committee

The Executive Committee coordinates the work of the Supervisory Board, prepares the Supervisory Board meetings and monitors the execution of the resolutions adopted by the Supervisory Board and its committees. Further, it is in charge of resolutions regarding transactions with members of the Executive Board, the approval of contracts with Supervisory Board members and long-term succession planning for the Executive Board. In matters relating to the Supervisory Board, the Executive Committee also makes decisions about delaying the public disclosure of inside information in accordance with Market Abuse Regulation Article 17 (4).

A total of 12 Executive Committee meetings took place during the reporting period. They served in particular to prepare the Supervisory Board meetings described above, the decisions of the Supervisory Board and the subsequent implementation thereof. A key component in this work was the membership changes that were carried out on the Executive Board during the fiscal year. They involved Dr. Laier departing at year end as well as Dr. Mayfeld being appointed and put in charge of Integrity and Legal Affairs. The Executive Committee also had intensive discussions regarding the structural changes associated with the passing of Mr. Thiele. Furthermore, the Executive Committee worked intensively on readjusting the short-term incentive program for the Executive Board with effect from January 1, 2022, on the adequacy of the Executive Board's remuneration, on establishing an efficiency review for the Supervisory Board, on readjusting the Supervisory Board's remuneration, on amending the rules of procedure as part of the reconstitution of the Supervisory Board, on managing the – canceled – acquisition of Hella and on the governance structure of the Knorr-Bremse Group. The last of these tasks gained special relevance with the passing of Mr. Thiele at the beginning of the year. If the Supervisory Board was due to vote on a resolution, the Executive Committee would conclude its deliberations by issuing to the Supervisory Board a recommendation for that resolution. As the Chairman of the Executive Committee, I regularly reported to the Supervisory Board about the work done by the Executive Committee.

Members of the Executive Committee:

- Prof. Dr. Klaus Mangold (Chairman)
- Franz-Josef Birkeneder
- Heinz Hermann Thiele (until February 23, 2021)
- Dr. Theodor Weimer (from March 30, 2021)
- Michael Jell

Audit Committee

The Audit Committee gives the Supervisory Board recommendations about auditor appointments. It prepares Supervisory Board resolutions regarding the approval of financial statements, proposals for appropriating net profit and declarations of compliance. It takes the place of the Supervisory Board to engage auditors for specific audits. The composition, duties and competencies of the Audit Committee comply with the new specifications of Germany's Financial Market Integrity Strengthening Act (FISG). In particular, the Chairwoman of the Audit Committee, Ms. Dahnke, enjoys a direct right to obtain information from the heads of Internal Audit, Controlling, Risk Management and Compliance, which are the relevant central departments. Moreover, she maintains regular and partly bilateral communication with the auditor. Ms. Dahnke regularly reports to the Supervisory Board about the Audit Committee's work.

The Audit Committee met on a total of seven occasions during the fiscal year and worked on matters such as quarterly and half-year financial reporting and the preliminary figures for the 2020 fiscal year. The Audit Committee examines the risk management system, internal control system, compliance management system, reports from Internal Audit, and the status of significant litigation at regular intervals. A key component of the committee's work is its involvement in the annual and consolidated financial statements, beginning with the definition of audit focus topics; as well as in approving the proposed fee for the auditor, in the relevant audit reports from the auditor KPMG, in the dependency report, in the combined non-financial report (sustainability report) and in the Executive Board's proposal for appropriating net profit. The Audit Committee also regularly discusses and tracks the status of the Group-wide migration of financial reporting systems to IFRS ("IFRS Goes ERP"). The technical implementation of this migration will go ahead as planned under the leadership of Mr. Weber over the Easter break.

Members of the Audit Committee:
- Kathrin Dahnke (Chairwoman)
- Franz-Josef Birkeneder
- Prof. Dr. Klaus Mangold
- Werner Ratzisberger

Strategy Committee

The Strategy Committee advises the Supervisory Board and Executive Board on core issues relating to the Group's strategy, including the Group's business policy and commercial direction. It advises on the analysis and ongoing development of the truck and rail divisions and discusses new business ideas and potential development prospects with the Executive Board. Its duties further include providing strategy advice for divestments, mergers and acquisitions, including monitoring performance after transactions have closed. Moreover, the committee is also responsible for performing strategic evaluations of the Knorr-Bremse Group's global footprint with its sites and subsidiaries and discussing potential improvement with the Executive Board. Finally, the Strategy Committee supports the Executive Board with the development and evaluation of proposals for managing the Company's innovation.

The Strategy Committee convened for a total of 6 meetings during the reporting period. It dealt with matters such as the strategic alignment of the Knorr-Bremse Group, key M&A opportunities and transactions, including on multiple occasions in connection with the potential acquisition of Hella GmbH & Co. KGaA; the Knorr-Bremse Group's China strategy and key growth options.

Members of the Strategy Committee:
- Dr. Stefan Sommer (Chairman)
- Franz-Josef Birkeneder
- Dr. Thomas Enders
- Prof. Dr. Klaus Mangold

Nomination Committee

If necessary, the Nomination Committee proposes appropriate candidates to the Supervisory Board that the latter may propose for election as new Supervisory Board members at Annual General Meetings. The Nomination Committee convened for a total of 3 meetings during the reporting period. It dealt with succession and appointment issues and gave specific recommendations for elections of new shareholder representatives in light of the five-year term of the Supervisory Board ending in May 2021. At its meetings on March 3 and March 30, 2021, the committee passed a resolution to recommend that Dr. Stefan Sommer be elected at the Annual General Meeting. On December 8, 2021, and again on January 27, 2022, the committee discussed my own successor as Supervisory Board Chairman and a successor for Dr. Enders with effect from this year's Annual General Meeting. In nominating Dr. Ploss on the recommendation of the committee, the Supervisory Board nominated a candidate who is eminently suitable for heading the Supervisory Board and leading Knorr-Bremse to a successful future thanks to his decades of leadership experience at an international, high-tech company.

Members of the Nomination Committee:
- Prof. Dr. Klaus Mangold (Chairman)
- Kathrin Dahnke
- Julia Thiele-Schürhoff

Mediation Committee

The Mediation Committee did not convene during the reporting period.

Members of the Mediation Committee:
- Prof. Dr. Klaus Mangold
- Franz-Josef Birkeneder
- Kathrin Dahnke
- Michael Jell

Corporate Governance

The Supervisory Board attaches a great level of importance to ensuring satisfactory corporate governance. This includes the Supervisory Board regularly focusing in great detail on the corporate governance requirements for listed German companies, in particular the ones under the German Stock Corporation Act (AktG), German Codetermination Act (MitbestG) and German Corporate Governance Code as amended. The Supervisory Board made a declaration of compliance pursuant to section 161 AktG for the reporting period in conjunction with the Executive Board on December 9, 2021. This declaration of compliance was made available on the Company's website and is also printed on page 187 of the version of the annual report dated December 9, 2021. Knorr-Bremse AG fulfilled all recommendations and suggestions of the German Corporate Governance Code in fiscal 2021 except for recommendation G.11 (which pertains to clawback provisions in the service agreements of Executive Board members). The reasoning for this exception is explained in detail in the declaration of compliance. An update to the declaration of compliance was published on March 30, 2022, given the correction to the Executive Board's long-term incentive program, which itself was a result of the economic impact of the Covid-19 pandemic and associated deviation from recommendation G.8 of the German Corporate Governance Code. Details are provided in the publication and are also explained in the Compensation Report.

Conflicts of interest

The Supervisory Board conducts continuous monitoring to see if there are potential conflicts of interest in its decision making. The results of this monitoring in the 2021 fiscal year showed that there were no conflicts of interest.

Audit of annual and consolidated financial statements

The Supervisory Board performed relevant audit procedures to ensure that the annual and consolidated financial statements and further financial statements for the 2021 fiscal year met the applicable requirements.

The annual financial statements of Knorr-Bremse AG as compiled by the Executive Board in accordance with Germany's generally accepted accounting principles (HGB), the combined management report of Knorr-Bremse AG and the Knorr-Bremse Group and the consolidated financial statements for the 2021 fiscal year based on the International Financial Reporting Standards (IFRS) were audited by KPMG AG Wirtschaftsprüfungsgesellschaft, Munich and each awarded an unqualified opinion. KPMG was elected as the auditor of the financial statements for the 2021 fiscal year at the Annual General Meeting on May 20, 2021. KPMG has been the auditor of the Knorr-Bremse Group since its IPO in 2018. KPMG had also previously been engaged as the auditor for annual and consolidated financial statements prior to the IPO. Johannes Hanshen is the main auditor overseeing the audit for the purposes of section 319a (1) sentence 4 HGB. Klaus Becker is a further audit partner with responsibility for the audit.

Furthermore, the auditor discusses the half-yearly financial report in detail with the Audit Committee at regular intervals prior to its publication and reports on the status of the audit of the annual and consolidated financial statements when the preliminary figures are published. The auditor audits the report on relations with affiliated companies (section 312 AktG) that is compiled by the Executive Board. The auditor issued the following opinion in regard to the report: "After our professional audit and evaluation, we confirm that 1. the actual disclosures in the report are accurate, 2. the consideration provided by the Company for the transactions listed in the report was not inappropriately large or the disadvantages from these transactions were offset, and 3. there are no circumstances that call for an evaluation of the measures listed in the report that differs significantly to the one performed by the Executive Board."

The aforementioned reports, the Executive Board's proposal for the appropriation of net profit and the auditor's reports were provided to all members of the Supervisory Board in a timely fashion or were displayed for their perusal at the Supervisory Board meeting on March 30, 2022. The Audit Committee conducted a preliminary audit of all documents at its meetings on February 23, 2022 (preliminary figures), March 25, 2022, and March 29, 2022, with Audit Committee Chairwoman Kathrin Dahnke reporting to the Supervisory Board about this at the Supervisory Board meeting on March 30, 2022. The financial statements and reports were presented to the Supervisory Board by the Executive Board and discussed in detail. The auditors present at the meetings reported on the results of their audits. In particular, the Audit Committee had previously set the following focus points for these audits in the reporting period: the process for creating the consolidated and annual financial statements, realization of revenues in project-based business under IFRS 15, fraud risks when recognizing revenues at cut-off dates, continuous reporting on the system conversion accompanying a project ("IFRS Goes ERP"), impairment of specific interests in affiliated companies and specific accounts receivable from affiliated companies.

The Audit Committee did not find any vulnerabilities in the risk management system, internal control system, internal audit system or compliance management system. After our own audit of the annual financial statements, consolidated financial statements and combined management report, we did not have any cause to raise objections, for which reason we agreed with the Executive Board's assessment of the position of Knorr-Bremse AG and the Knorr-Bremse Group. We are approving the financial statements for the 2021 fiscal year in line with the recommendation of the Audit Committee, which means that the annual financial statements of Knorr-Bremse AG are hereby adopted. We discussed the proposal for appropriating the net profit in detail with the Executive Board and agree with the Executive Board's proposal that a dividend of € 1.85 per share with dividend rights be distributed for the 2021 fiscal year. We are therefore proposing a distribution within the range of 40 % to 50 % of net income that was announced at the time of the IPO. A resolution will be made about this distribution at this year's virtual Annual General Meeting on May 24, 2022. The Compensation Report will also be subject to a resolution at the Annual General Meeting. The Supervisory Board made its first decision about the compilation of this report on March 11, 2022, in accordance with section 162 (1) AktG as amended.

Membership changes to Supervisory Board and Executive Board

The composition of the Executive Board and Supervisory Board as at December 31, 2021, is illustrated in the overviews on page 24 for the Supervisory Board and page 11 for the Executive Board.

Supervisory Board

The five-year term of the Supervisory Board ended simultaneously for all Supervisory Board members at the conclusion of the Annual General Meeting on May 20, 2021. The five current Supervisory Board members and Dr. Stefan Sommer, the shareholders' representative, were elected to the Supervisory Board at the Annual General Meeting. I was confirmed in my role as Supervisory Board Chairman at the inaugural meeting that took place after the Annual General Meeting, along with Dr. Weimer and Mr. Birkeneder as my deputies. The employee representatives had already been elected to the Supervisory Board on April 20/21, 2021, based on the provisions of the German Codetermination Act and the associated election rules. Ms. Sylvia Walter was elected as the successor of Mr. Günter Wiese as part of this. The other employee representatives have been confirmed in their positions.

Dr. Thomas Enders and I myself will be exiting the Supervisory Board with effect from this year's Annual General Meeting on May 24, 2022. I wish all the best to my successor who has already been preparing extensively for this role for some time now. I hope that all shareholders will also feel confident in putting their trust in him.

Executive Board

Dr. Jan Mrosik was appointed to the Executive Board as Chief Executive Officer and member for a three-year term as of January 1, 2021. Dr. Mrosik succeeded Mr. Eulitz, who left the Company on August 31, 2020. Dr. Mrosik resigned from his position as Chief Executive Officer and member of the Executive Board with effect from March 12, 2022, and will leave the Company on April 30, 2022, on completely amicable terms. Chief Financial Officer Frank Markus Weber will hold a role as Spokesman for the Executive Board until a successor has been found for the Chief Executive Officer position. In terms of this successor, the profile for the role places great importance on the rapid and global transformation processes in the world's economic development during the current crisis and on the enormous dynamism of the markets.

Dr. Claudia Mayfeld was appointed to the Executive Board as a member for a three-year term as of May 1, 2021. As part of this, Dr. Mayfeld is responsible for the newly created area of Integrity and Legal Affairs.

Mr. Bernd Spies, who had been the Chief Executive Officer of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH since 2014, was appointed as a member of the Executive Board with effect from March 12, 2022. He oversees the Commercial Vehicle Systems division and succeeds Dr. Laier, who left the Company on December 31, 2021, at his own request. On behalf of the Supervisory Board, I wish to express my thanks to Dr. Laier for his fantastic dedication. His achievements include the ongoing development and strategic alignment of Knorr-Bremse's commercial vehicle operations in recent years. Dr. Laier also had a critical role in the successful IPO of Knorr-Bremse in 2018.

Acknowledgment

The year 2021 was shaped significantly by the death of Mr. Heinz Hermann Thiele, majority shareholder and member of the Supervisory Board. We were again confronted with the economic fallout of the Covid-19 pandemic, which came with persistent challenges for Knorr-Bremse, its governing bodies and its employees. The Supervisory Board thanks the members of the Executive Board, the managers and all employees of the Knorr-Bremse Group. They have guided and are continuing to guide the Company securely and successfully through the crisis, which also includes the geopolitical and economic consequences of Russia's invasion of Ukraine. The violation of international law that this invasion constitutes is unacceptable. The Supervisory Board has examined the consequences of the conflict for Knorr-Bremse on multiple occasions. We unequivocally condemn Russia's attack on a sovereign state, which also represents an attack on peace in Europe and the world.

Munich, March 30, 2022

Best regards and all
the best
yours Klaus Mangold

Prof. Dr. Klaus Mangold
Chairman of the Supervisory Board

Supervisory Board of Knorr-Bremse AG

Prof. 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 Cortec GmbH, Freiburg
- Vice-Chair of Rothschild Europe, Frankfurt am Main/Paris
- Chairman Advisory Board, Eastsib Holding, London
- Member of the Board of Directors, ACRA Analytical Credit Rating Agency, Moscow

Heinz Hermann Thiele, Munich (until 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 (CFO) and member of the Management Board of Ottobock SE & Co. KGaA (from Apr. 16, 2020)
- Member of the Supervisory Board of B. Braun SE

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
- Chair of Group Works Council of Knorr-Bremse AG
- Member of the Supervisory Board of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH

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

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

Dr. Stefan Sommer, Meersburg (from May 20, 2021)
- Independent Consultant
- Member of the Presidential Council of DEKRA e. V.

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

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

Sylvia Walter*, Berlin (from May 20, 2021)
- Accounting Officer – Balance Sheet Accountant
- Member of the Works Council of Hasse & Wrede GmbH

Dr. Theodor Weimer, Frankfurt am Main
- Deputy Chair of the Supervisory Board (from May 20, 2021)
- Chief Executive Officer of Deutsche Börse AG
- Member of the Supervisory Board of Deutsche Bank AG

Günter Wiese*, Berlin (bis 19.05.2021)
- 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

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

Dr. Theodor Weimer
Deputy Chairman of the Supervisory Board,
Chief Executive Officer of Deutsche Börse AG, Frankfurt

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

Michael Jell *
Full-time Member of the Works Council
of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH,
Knorr-Bremse AG, Knorr-Bremse Services GmbH, Chair of Group
Works Council of Knorr-Bremse AG, Munich

Kathrin Dahnke
Chair of the Audit Committee,
Chief Financial Officer (CFO) and member of the Management
Board of Ottobock SE & Co. KGaA, Munich

Dr. Stefan Sommer
Former member of the Executive Board of Management of Volkswagen AG with responsibility for Components and Procurement, Advisor, Meersburg

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

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

Erich Starkl *
First Authorized Representative of IG Metall Passau

Sylvia Walter *
Accountant, Employee Commercial Administration, Member of the Works Council of Hasse & Wrede, Berlin

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

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

* Employee representative.

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 listed 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, intellectual property 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 market analyses and estimates for fiscal year 2020.

The product portfolio comprises:

- braking, entrance and HVAC systems;
- power electrics and control technology: hardware and programming tools for train control and 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 and estimates for fiscal year 2021.

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, 2021, the Group comprised 135 consolidated German and foreign subsidiaries directly or indirectly controlled by the Company. These include 10 German companies in liquidation, whose liquidation was concluded in January 2022. The Group is represented at more than 100 locations in over 30 countries.

Changes to the Group's portfolio and asset deals

Information on changes to our portfolio may be found in the "Events of Material Importance to Business Performance" chapter.

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 2021, we generated 47% 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 (30%) and North and South America (23%). Both divisions have a substantial aftermarket business. In 2021, our aftermarket activities accounted for approximately 36 % 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 our products and services. We regularly implement various initiatives in our divisions to increase quality awareness and sustainably foster a quality-oriented mindset across the Group. We employ a 360-degree management system 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 54% of the Rail Vehicle Systems division's revenues are generated by OE business. In 2021, aftermarket sales accounted for 46% 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 2021 (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 50.4 % in 2021 (2020: 48.1%). This underscores the importance of procurement and supply chain management for Knorr-Bremse.

Our Group-wide Supplier Code of Conduct includes 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). In the event of significant market fluctuations (price, availability), we develop risk mitigation or minimization measures for relevant categories of goods and/or suppliers as part of our risk management.

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.

In the two years of the Covid-19 pandemic, supply chain management has put a greater focus on potential delivery risks. In RVS division, for example, more than 700 projects were managed globally, risks in the chain were identified early and appropriate countermeasures were taken at the height of the pandemic in 2020. Comprehensive supply chain analytics were developed and form the backbone of the approach.

Global sourcing

To leverage the potential of Asian supplier markets for the RVS division, we have set up a purchase office in India to support our European and North American purchasing teams. As part of our global commodity management strategy, we installed a team in China which systematically taps into the Chinese procurement market for the RVS division's global requirements, achieving synergies for the Group. We have set up a global supplier selection process for the CVS division. In the CVS division, a global purchasing office in Pune, India, supports the strategy of further optimizing the proportion of our supplies sourced from best-cost countries.

We make sure to limit our dependency on individual regions and retain alternative sources of supply. Suppliers are therefore always presented to a multidisciplinary 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 and constantly further developed this program. Under the 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.

Global category strategy

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.

Challenges in 2021

The global procurement activities continued to be shaped by the global Covid-19 pandemic in 2021. Despite the short-term closure of sub-suppliers, we managed to optimally supply our production plants and customers with material so that, except for in a small number of cases, 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. Supply bottlenecks and price increases, especially in the area of logistics, but also in energy and packaging, plus rising inflation have made the two divisions' procurement activities more difficult in indirect purchasing.

Due to a strained supply situation with semiconductors, semi-finished products and raw materials in the 2021 fiscal year, the challenges for the procurement departments were particularly great this year. It was possible to largely ensure supply with task forces set up cross-functionally in each of the two divisions, but alternative supply strategies and product designs are nevertheless being evaluated. In the Rail segment, necessary escalations were initiated and pursued at global level during the entire reporting year. The tensions in global supply chains, including due to external influences such as the collision in the Suez Canal or Covid-19-related closures of ports presented additional challenges for the supply of our production plants and customers. Overall and with a great deal of effort, the challenges were successfully overcome.

Locations and Distribution of Work within the Group

Knorr-Bremse operates production plants in Europe, Africa, 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, Mexico and South America.

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:

- 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 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 and forecasts. 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 **incoming orders**[1] and **order book**[2] 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 RVS 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.

In the CVS 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 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** (NWC) in days' sales[5] and ROCE, as well as the number of employees[6] (FTEs), which is the most important non-financial performance indicator. The quarterly and annual movements of these figures are compared with the

[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 time frame 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
[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 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
[6] FTE represents the workload associated with a job and indicates whether the job is full-time or part-time

previous reporting period in each case. The performance indicators are regularly reviewed for their significance and adjusted and refined where necessary. Knorr-Bremse will therefore introduce **free cash flow**[7] as an additional significant performance indicator beginning in 2022 and dispense with net working capital in days' sales, (operating) EBITDA and (operating) EBITDA margin. See the "Corporate Management Indicators" chapter 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. Since January 1, 2020, long-term executive performance has been geared 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 chapter 04. "Compensation Report."

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.

Research and Development

Our innovation agenda focuses on technological developments that help shape the wider social megatrends of urbanization, sustainability, digitalization and mobility and is geared to safety, customer benefits, added value and growth. 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.

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 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, the technology for both disk brakes and screw compressors was transferred from our RVS division to our CVS division.

At Group level, we invested € 431.4 million (representing 6.4 % of revenues) in our R&D activities in the 2021 fiscal year. Of this, € 211.1 million or 6.4 % of associated revenues was spent in the Rail Vehicle Systems division and € 220.3 million or 6.5 % of associated revenues in the Commercial Vehicle Systems division. Table → 2.01

Synergies require close collaboration; valuable innovations require closeness to our customers. Our R&D activities are spread in a correspondingly well-balanced way across globally operating and locally specialized sites. There are significant globally responsible sites in Munich and Schwieberdingen (Germany), Budapest (Hungary) and Pune (India).

Local sites with a significant concentration on customer-specific requirements and projects are to be found in, for example, Elyria and Watertown (USA) and Suzhou (China).

We cooperate intensively on joint research & development projects with customers, universities and technical institutes: We have close relationships and partnerships with, for example, 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 or through regular comparison of the focus areas of suitable start-ups with our partner Techfounders to gain access to technology and accelerate our research and development. In total, our external R&D network comprises more than 15 partnerships. Knorr-Bremse is also an active driver and founding member of the most important European research and innovation initiative Europe's Rail (ERJU) and will be jointly investing more than € 1 billion in rail transportation and the EU together with almost 30 other key companies here in the next eight years. This collaboration enables us to help shape the rail industry for the coming decades, anticipate sector trends and create future-proof norms and standards.

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 biennial trade fairs that should have been held in 2020 were postponed due to the Covid-19 pandemic. We are expecting leading trade fairs to be held again in 2022, meaning that the latest developments can be presented to customers.

[7] Free cash flow is calculated by deducting disbursements 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

2.01 KEY R&D INDICATORS

in € million	2021	2020
R&D costs*	**431.4**	**396.4**
Capitalized development costs	83.1	76.1
Amortization of capitalized development costs	19.4	15.7
R&D employees (Dec. 31)	3,980	3,793

* 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.

In the Rail Vehicle Systems division, our development activities have focused on identifying solutions to increase the availability of systems and enhance operational efficiency in order to optimize life cycle costs. Efforts have centered above all on automated train operation (ATO), eco-design and product digitalization. The trend toward sustainable mobility and the necessary shift of transportation to rail offers the major opportunity of making rail transportation the transportation of the future. As a partner of train manufacturers and train operators around the world, Knorr-Bremse invests in new digital solutions for networked, safe and efficient rail transportation. Digital technologies offer crucial starting points for making the rail system more reliable, more available, more flexible and safer. Knorr-Bremse continues to expand its digital portfolio in the field of data-based services, digital freight trains, cybersecurity and sensor-based environment monitoring.

Condition-based maintenance means data can be generated for braking systems, entrance systems, HVAC systems and other subsystems, and immediately subjected to smart, algorithmic analysis. This enables high-precision monitoring of the condition of safety- and function-critical subsystems. For example, the early warning system is capable of informing operators that a door still has a guaranteed number of opening and closing cycles left before potential failure so they can schedule component replacement in advance. Overall, the technology helps train manufacturers and operators to optimize fleet life-cycle costs while ensuring that more vehicles are available for passenger transportation more often.

Knorr-Bremse is developing digital solutions for smart, automation-enabled freight trains at railcar, train and fleet level: Digital Automatic Couplers (DACs), smart communication solutions, connecting these solutions to an onboard energy management system for supplying electricity and a new electropneumatic breaking and/or automation system for performing a wide variety of new functions.

At train level, Knorr-Bremse is helping rail operators to automate the operational processes for preparing trains: For example, brake testing – previously a time-consuming manual operation that rail crews had to carry out before every journey – can now be automatically performed by digital systems in the driver's cab, making a huge contribution to improved time efficiency.

At fleet level, Knorr-Bremse is rapidly developing features for automating fleet operators' maintenance, service and operational processes. These include, for example, real-time condition monitoring solutions, driver assistance systems for optimizing energy consumption such as LEADER© and sensor systems for detecting obstacles and surroundings for more efficient, safer shunting and freight transportation.

As train connectivity grows, so too do the potential risks of hacker attacks. The system-level cybersecurity concepts devised by Knorr-Bremse Group subsidiary Selectron make use of the Threat Detection Solution (TDS), which is integrated in the control software of braking, entrance and HVAC systems, as well as other subsystems, and which ensures that it complies with all relevant IT security legislation such as the EU Directive on Network and Information Security (NIS). Acting as both probe and sensor, the TDS constantly monitors all data flows and reports any unusual movements to the Rail Security Operations Center (Rail SOC) so that potential threats can be identified in good time.

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.

In view of developments in e-mobility, fundamental changes to commercial vehicle architecture are to be expected. From traction, braking and steering, all the way to suspension, damping and supplying the systems with energy, this opens up multiple opportunities for efficient and scalable technologies. For Knorr-Bremse, this presents a unique chance to shape future systems for all-electric commercial vehicles. To push the development of innovative solutions in this field, Knorr-Bremse has set up a specialized development unit – the eCUBATOR. In the eCUBATOR, up to 60 in-house and external experts are currently working on innovative future-oriented solutions at the sites in Munich and Budapest, and the number is rising. For first-generation electric commercial vehicles, for example, Knorr-Bremse has developed screw-type compressors, which are primarily built into electric buses and trucks. Knorr-Bremse is also well positioned in the field of brake control: The Group has channeled its experience with brake blending, involving interplay of the service brake, the retarder and an additional exhaust brake, into brake blending solutions for electric vehicles as well. Here, the braking effect of the electric motor is combined with the service brake to generate not only optimal deceleration but also maximum energy recovery. This leads to an improvement in vehicle efficiency while at the same time ensuring maximum vehicle stability – even in adverse conditions. With a view to second-generation electric vehicles, which will enter the market from approximately 2025 onwards, Knorr-Bremse is working on solutions including future energy management systems, electromechanical actuators and enhanced functionalities related to vehicle stability and propulsion.

Employees

As of year-end 2021, the Knorr-Bremse Group had a total of 30,544 employees, including temporary staff – up 2.8% on the previous year (2020: 29,714). These figures represent full-time equivalents (FTEs). Excluding temporary staff, the Group employed 27,578 people (2020: 27,035). This increase was primarily due to organic growth. As of December 31, 2021, the Rail Vehicle Systems division employed a total of 16,308 people (2020: 16,074) and the Commercial Vehicle Systems division employed a total of 13,459 people (2020: 12,871).

At year-end 2021, Knorr-Bremse employed 15,512 people (14,765 excluding temporary staff) in the Europe/Africa region, compared with 14,821 (14,276 excluding temporary staff) in the previous year. At 50.8%, the percentage of employees in this region was higher than last year's figure of 49.9%. In Germany, the headcount rose from 5,117 (4,995 excluding temporary staff) to 5,465 (5,262 excluding temporary staff) as of December 31, 2021. Over the year under review, the number of employees in North and South America decreased to 6,270 (6,016 excluding temporary staff) as of December 31, 2021 from 6,314 (6,041 excluding temporary staff) in the previous year. The percentage of the workforce in this region fell to 20.5% (2020: 21.2%). By the end of 2021, the headcount in the Asia-Pacific region had risen to 8,763 (6,798 excluding temporary staff) from 8,579 (6,719 excluding temporary staff) the year before. The number of employees in the region as a percentage of the Group's total workforce thus fell to 28.7%, compared with 28.9% in the previous year.

Further Details of Corporate Governance

Corporate Governance Statement

The Corporate Governance Statement for Knorr-Bremse AG will be published on Thursday, March 31, 2022, 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 Friday, December 31, 2021, 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. On March 25, 2021, Mrs. Nadia Thiele informed Knorr-Bremse AG in accordance with sections 33 and 34 WpHG that the stake in Knorr-Bremse AG held by KB Holding GmbH is attributed to her. As evidenced by the voting rights notification of May 17, 2021, made by the executor, Mr. Robin Brühmüller, he has controlled the voting rights from KB Holding GmbH's stake in Knorr-Bremse AG since May 17, 2021. Knorr-Bremse AG has not been notified of any other direct or indirect interests in Knorr-Bremse AG's share capital that exceed 10% of voting rights, nor is it aware of any other such interests.

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 of 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) no. 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 € 750 million Knorr-Bremse AG bond issued on June 14, 2018, which will mature in 2025. According to the terms and conditions of the 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 the bonds is withdrawn or changed from an investment-grade rating to a non-investment-grade rating.

Sustainability and Non-financial Statement

This non-financial statement pursuant to the CSR Directive Implementation Act applies to the Knorr-Bremse Group in accordance with section 315b and 315c in conjunction with section 289b to section 289c HGB. The description covers the information material for the Group due to its relevance to business activities with regard to the required aspects of environmental, employee and social matters, as well as respect for human rights and combating corruption and bribery. In the interests of targeted reporting, the non-financial statement does not follow a framework.

To avoid duplication of the content in the management report, we refer to other chapters. Knorr-Bremse's business model is described in the "About the Group" chapter in the management report. Risk reporting can be found in the "Report on Risks, Opportunities and Expected Developments" chapter of the management report. No further non-financial risks were identified.

The review of the content of the non-financial statement is the responsibility of the Supervisory Board. The Supervisory Board was supported by KPMG Wirtschaftsprüfungsgesellschaft AG through a limited assurance engagement in accordance with assurance engagement standard ISAE 3000 (revised).

Our 2021 Sustainability Report meets our stakeholders' more far-reaching information and transparency requirements for Knorr-Bremse's sustainability management. The report is expected to be published on www.knorr-bremse.com/en/responsibility in May 2022.

Sustainability at Knorr-Bremse

Knorr-Bremse is committed to acting sustainably and wants to contribute solutions to economic, environmental and social challenges. As a successful global player in the mobility industry in the fields of brakes and other rail and commercial vehicle systems, developing solutions for sustainable and safe transportation is an integral part of Knorr-Bremse's corporate identity. We therefore have high sustainability standards and pursue a consistently responsible approach to employees, partners, the environment and society. We see this as the basis for business success and have therefore anchored our corporate responsibility (CR) program strategically in the Group.

The concrete structure of our CR management is based on statutory frameworks and internal rules, such as policies and guidelines. These include both our CR guidelines and policies such as the Code of Conduct and our Human Rights Policy. We also use established management systems to pursue sustainability goals and implement corresponding measures.

International guidelines and conventions additionally give us guidance on sustainable business. These include the UN Global Compact, the UN Guiding Principles on Business and Human Rights, the International Labour Organization (ILO) conventions and international standards such as ISO 14001, ISO 50001 or ISO 45001. In addition, we are guided by the UN Sustainable Development Goals (SDGs). In particular, we want to make a contribution to SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action). Furthermore, Knorr-Bremse supports SDG 4 (Quality Education) and SDG 6 (Clean Water and Sanitation) through the activities of Knorr-Bremse Global Care e. V.

Sustainability Strategy and Organization

Knorr-Bremse structures its work on corporate responsibility in terms of six distinct areas of activity. "Strategy and Management" and "Communication and Cooperation" provide the framework for the other four, more content-focused areas of "Products and Partners," "Employees and Leadership," "Environment and Climate" and "Commitment and Society." These areas of activity provide a framework for tackling strategic issues derived from international guidelines, our materiality analysis and external ratings and assessments. We also gain important input through communicating with our stakeholders on topics relevant to sustainability.

As part of a strategy project launched in 2021, we reviewed whether our existing areas of activity and the key sustainability topics were up to date and defined a profile of strengths and weaknesses for our activities. External assessments, peer groups benchmarking and legal requirements formed the factual basis for this analysis, which was made with the involvement of the entire Executive Board and the departments. As a result, we were able to confirm the focus issues for our existing sustainability strategy and set ambitious but realistic target levels for these. To achieve the target state, we are identifying necessary measures that we will roll out internally within a restructured sustainability strategy that is more strongly aligned with the capital market's ESG (environmental, social and governance) approach.

With a clear organizational structure, we want to ensure that the field of sustainability is implemented in the Group's highest decision-making bodies. The Executive Board has joint responsibility for sustainability. The Corporate Responsibility division handles the topic of sustainability and reports directly to the CFO and the Knorr-Bremse Corporate Responsibility Council. The CR Council, which meets twice a year, comprises a member of the Executive Board, a representative of the European senior management from each of the two divisions, the Chair of Knorr-Bremse Global Care e. V. and the Head of CR. The council makes decisions on the CR program with its projects and is centrally responsible for developing, managing, implementing and monitoring these projects together with the CR department. In addition, committees and the departments supplement the implementation and development of the CR program. Established bodies – e.g., for sustainable purchasing, climate protection or EcoDesign – communicate on individual specialist topics and monitor operational implementation. The Executive Board and the Supervisory Board are informed about sustainability topics and involved in important decisions. In the reporting year, the focus of the work of the Supervisory Board was the critical appraisal of the new Knorr-Bremse sustainability strategy, including the newly defined Group-wide ESG targets. As part of Executive Board and CR reviews, the Supervisory Board is also regularly informed about current sustainability activities such as the status of Climate Strategy 2030, current ESG ratings of Knorr-Bremse and the internal procedural preparation for upcoming statutory regulations such as the German Supply Chain Due Diligence Act. Furthermore, the Supervisory Board actively addressed the introduction of a syndicated loan that is linked to a sustainability rating, the variable remuneration for top management based on new ESG criteria (see below) and sustainability reporting.

To further reinforce the idea of sustainability throughout management, a new remuneration system has been agreed. It applies to management level 0-2 (Executive Board, senior management, regional managing directors, heads of division) from the 2022 fiscal year. The short-term variable remuneration (short-term incentive) will be partially based on the achievement of sustainability targets on climate protection and job safety and on sustainability ratings.

Sustainable Financial Market and EU Taxonomy

As a player in the capital market, Knorr-Bremse sees orientation toward environmental, social and governance (ESG) criteria as increasingly important. Financial market players measure corporate performance in the area of sustainability by means of ESG criteria and use the findings as criteria for investment decisions. Numerous conversations with investors and rating agencies in 2021 have made the capital market's growing interest in sustainability issues at Knorr-Bremse clear. Knorr-Bremse has already received many ratings of above average for its sustainability measures. For example, ISS again awarded Knorr-Bremse the prime status C+, putting us in the top 20% in the industry. Knorr-Bremse was awarded an A rating by MSCI and gold status by EcoVadis. In CDP's rating on climate protection performance and mitigation of potential effects of climate change, Knorr-Bremse was rated B (management level) and is thus one of the best 39% within the comparison group.

A new syndicated loan that has been linked to a sustainability rating shows Knorr-Bremse's intensified focus on the ESG approach. Since January 2022, we have had a credit line of € 750 million available to us, whose interest rate is linked to our sustainability rating by ISS Corporate Solutions.

In order to transparently represent our corporate climate risks and opportunities, we have started to implement the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We will publish a reference table for the climate-related reporting in our 2021 Sustainability Report.

Under the EU Taxonomy Regulation 2020/852 of the European Parliament and of the Council of June 18, 2020 and pursuant to article 8 on the transparency of undertakings in non-financial statements, we are required to disclose our environmentally sustainable economic activities for the first time for the 2021 reporting year. However, under the exemption granted by the EU in the reporting year, only the proportions of Taxonomy-eligible and Taxonomy non-eligible economic activities in revenue, capital expenditure (CapEx) and operating expenditure (OpEx) need to be disclosed in the reporting year. Taxonomy eligibility exists as soon as an economic activity is listed in the annexes to the delegated act with reference to the environmental objectives. In the 2021 reporting year, this concerns Annex I (Substantial contribution to climate change mitigation) and Annex II (Substantial contribution to climate change adaptation). Moreover – in addition to the direct economic activities – enabling activities and transitional activities, which Knorr-Bremse discloses on a voluntary basis in accordance with the FAQ published by the European Commission on February 2, 2022, are also defined.

In principle, all fully consolidated Group companies are included in this analysis with respect to their revenue, capital expenditure and operating expenditure. Because all Taxonomy-eligible proportions of revenue and CapEx make an equally significant contribution to both environmental objectives (climate protection mitigation and climate change adaptation), the proportions have not been broken down for the environmental objectives. All proportions were taken into account and offset only once within these figures, which means there is no double counting. In the case of Taxonomy-eligible proportions of OpEx, double counting was excluded in the audit through cross-comparisons between the different economic activities. Both qualitative and quantitative criteria were used to determine the materiality threshold of the three KPIs.

The economic activities covered include the manufacture of rail vehicles and low-emission commercial vehicles. Knorr-Bremse supplies components for these vehicles. However, manufacturing components of low-emission vehicles is an indirectly enabling activity and is not covered by the EU

Taxonomy. Knorr-Bremse's OE business is therefore inapplicable. This also includes revenue generated with electric rail vehicles with operators through supplied components. The business activities of a subsidiary as a manufacturer of electric vehicles are an exception. The repair and maintenance of systems carried out on electric rail vehicles in the RVS division can also be reported as Taxonomy-eligible. By contrast, there is no possibility for the CVS division to recognize a proportion of revenue, as Knorr-Bremse supplies parts and components to commercial vehicle manufacturers as a tier 1 supplier. The aftermarket business cannot be reported as Taxonomy-eligible either, as it is a series production business and the services are carried out without the vehicle concerned being known to Knorr-Bremse.

Pursuant to section 315e (1) HGB, Knorr-Bremse's consolidated financial statements as of December 31, 2021, have been prepared in accordance with IFRS. The amounts used for calculating the revenue, CapEx and OpEx figures are thus based on the figures reported in the consolidated financial statements.

The revenue of € 6,705,640 thousand reported in the consolidated income statement is evaluated across all Group companies to determine whether it was achieved with Taxonomy-eligible economic activities pursuant to Annex I (Substantial contribution to climate change mitigation) and/or Annex II (Substantial contribution to climate change adaptation) of the Delegated Regulation 2021/2139. Revenue is allocated to the Taxonomy-eligible economic activities through a detailed analysis of the items included in the revenue. The sum of the revenue generated with Taxonomy-eligible economic activities for the 2021 fiscal year forms the numerator. The total revenue forms the denominator. Knorr-Bremse's economic activities were classified as Taxonomy-eligible on the basis of the economic activities described in the Delegated Regulation (Annexes I and II) under the activities "3.3 Manufacture of low carbon technologies for transport" and "6.14 Infrastructure for rail transport."

The basis of the capital expenditure is the additions to property, plant and equipment and intangible assets during the fiscal year under review before depreciation, amortization (application of IAS 38, 40, 41, IFRS 16). The sum of the additions that reflect a Taxonomy-eligible investment forms the numerator of the CapEx figure. This is the proportion of capital expenditure that is associated with a Taxonomy-eligible economic activity, is associated with a credible plan to expand or achieve an environmentally sustainable economic activity or relates to the acquisition of products and services from a Taxonomy-eligible economic activity. For Knorr-Bremse, this means that the Taxonomy-eligible proportion of CapEx relates to capital expenditure in connection with the economic activities covered in Annexes I and II of "3.3 Manufacture of low carbon technologies for transport," "6.14 Infrastructure for rail transport," "7.7 Acquisition and ownership of buildings," "7.2 Renovation of existing buildings," and "9.1 Close to market research, development and innovation." This means both capital expenditure in the field of research as well as leases, provided they include additions to non-current assets in connection with IFRS 16. Total capital expenditure pursuant to the EU Taxonomy Regulation is € 183,649 thousand and covers various additions to property, plant and equipment and intangible assets, which form the denominator. This figure comes from the statements of changes in fixed assets 3.35 and 3.39 in the 2021 notes to the consolidated financial statements.

The OpEx figure represents the proportion of operating expenditure within the meaning of the EU Taxonomy that is associated with Taxonomy-eligible economic activities with an above-described CapEx plan or the acquisition of products from a Taxonomy-eligible economic activity. To calculate the Taxonomy-eligible OpEx proportion, any account that reflects the direct, uncapitalized costs for research and development expenditure, building renovation measures, short-term leases, maintenance and servicing expenditure were used to calculate the denominator. The numerator is calculated from an analysis of the assets related to the expenditure recorded in the aforementioned accounts regarding their Taxonomy-eligibility. The economic activities relevant in relation to the OpEx were identified as Taxonomy-eligible on the basis of the economic activities described in the Delegated Regulation (Annexes I and II) under the activities "3.3 Manufacture of low carbon technologies for transport," "7.2 Renovation of existing buildings," and "9.1 Close to market research, development and innovation."

A summary of the Taxonomy-eligible portions and the enabling activities and transitional activities for all the KPIs are presented in Table → 2.02.

2.02 TAXONOMY ELIGIBILITY

	2021		
in %	Revenues	CapEx	OpEx
Total Taxonomy-eligible portion	8	30	3
Taxonomy-eligible portion with enabling activities/transitional activities*	8	9	3
Non-Taxonomy-eligible portion	92	70	97

* The FAQ document of February 2, 2022, is used for the interpretation of the Delegated Act without checking compliance with the technical screening criteria.

Materiality Concept and Non-financial Matters

The selection of matters presented in this statement is based on an extensive materiality analysis conducted in 2018, which has since been reviewed in various procedures and validated annually. In the materiality analysis, key topics relevant to the development and performance of the business and the position of the Group and relevant effects of business activities on non-financial matters are defined with the involvement of responsible experts. The material facts were reviewed within our sustainability strategy project in the reporting year (see Sustainability Strategy and Organization paragraph). In the course of this review, the Executive Board and Supervisory Board have confirmed the existing definition and categorization of the topics. There is no need to include additional matters. Table → 2.03

2.03 MATERIAL NON-FINANCIAL ASPECTS PURSUANT TO CSR-RUG

Environmental matters	Climate protection* Environmental product design
Employee matters	Employment conditions Personnel development Diversity and equal opportunities Occupational health and safety
Social matters	Product and system safety
Other: Sustainability in the supply chain	Sustainability in the supply chain
Human rights**	Sustainability in the supply chain Employment conditions
Combating corruption and bribery	Compliance and combating corruption

* Called “Energy and CO_2 emissions” until the 2020 reporting year
** The topic of human rights is an integral component of the issues of sustainability in the supply chain and employment conditions and is operationally managed there. In the Respect for Human Rights section, we describe the strategic management approach of our human rights due diligence duty.

Environmental Matters

Resource consumption and climate change are major challenges for business and society. Knorr-Bremse aims to reduce its environmental impact with optimized production processes and innovative products and services. We want to reduce energy consumption and carbon emissions and make a clear contribution to the goals of the UN Paris Agreement with our Climate Strategy 2030. Knorr-Bremse’s EcoDesign supports the ability of our products’ material sustainability aspects to be taken into account across the entire life cycle. In use, our products promote the attractive and sustainable mobility of rail and commercial vehicles.

Climate Protection

We see climate protection as part of our corporate responsibility to live up to our own expectations as well as those of our customers and society. As a manufacturing company, Knorr-Bremse primarily consumes energy through the use of buildings, the operation of facilities and through manufacturing processes. This is associated with corresponding carbon emissions, which Knorr-Bremse wants to minimize with its resource-conserving environmental management and its climate strategy. At the same time, Knorr-Bremse is exposed to potential risks from the consequences of both climate change and global decarbonization to limit climate change. These include, for example, extreme weather events and regulatory requirements entailing costs. We therefore analyze our corporate climate risks and opportunities, with the support of Group-wide risk management.

The Health, Safety and Environment (HSE) Policy sets out the principles of environmental and climate protection and energy management in the Knorr-Bremse Group. The divisional, integrated HSE management systems form the basis of all activities in this regard. We implement these using uniform processes at our global sites and can thus control the energy management and monitoring there. Environmental and energy management has the task of evaluating and improving processes in the Group on an ongoing basis with respect to energy requirements. For example, consumption data can be monitored at sites, savings potential can be found and the efficiency of any measures implemented can be audited.

HSE management takes account of statutory and customer requirements and internal policies and process instructions. In addition, it is guided by national and international standards such as ISO 9001, ISO/TS 22163, IATF 16949 (quality management), ISO 14001 (environmental management), ISO 45001 (occupational safety) and ISO 50001 (energy management). We require relevant sites to be certified in accordance with the international environmental management standard ISO 14001, and an energy management system pursuant to ISO 50001 is implemented at the most energy-intensive production sites. Table → 2.04. Knorr-Bremse uses regular internal and external audits to monitor its environmental management, auditing compliance with specified standards in the Group and the implementation of defined improvement measures.

2.04 NUMBER OF CERTIFIED BUSINESS UNITS

	2021	2020
in accordance with environmental management standard ISO 14001	70	67
in accordance with energy management standard ISO 50001	38	36

The HSE central departments of the RVS and CVS divisions are responsible for managing and implementing the environmental management system. They develop strategic guidelines and bring together all cross-site management and coordination tasks. Knorr-Bremse’s senior management is involved in strategic and operational environmental management through regular meetings, ad hoc reporting or via the CR Council. HSE managers implement the strategic requirements, goals and programs at the Knorr-Bremse sites with the local managers. Local environmental protection and energy officers, regional coordinators and experts from the departments involved provide support as needed.

In 2019, Knorr-Bremse set itself goals that will help to achieve SDG 13 with Climate Strategy 2030. By doing this, we want to make our contribution to the goals of the 2015 UN Paris Agreement to limit global warming to a maximum of 1.5 degrees. The climate strategy relates to the direct carbon emissions (Scope 1) and the market-based indirect carbon emissions (Scope 2) of the Greenhouse Gas Protocol. In the medium-term, Scope 3 emissions from the upstream and downstream value chain will also be taken into account. We will report selected Scope 3 emissions for the first time in Knorr-Bremse's 2021 Sustainability Report.

Knorr-Bremse is pursuing two goals with the climate strategy: reducing carbon emissions and carbon neutrality for the sites. Firstly, Knorr-Bremse wants to reduced carbon emissions arising as a result of energy consumption by Knorr-Bremse's global factory buildings and vehicle fleet by 50.4% by 2030. This equates to an average CO_2 reduction of 4.2% per year compared with 2018. This is to be achieved through the three levers of energy efficiency measures, producing our own renewable energy and purchasing renewable energies externally. As a second contribution to climate protection, Knorr-Bremse has committed to the carbon neutrality of its sites from 2021. To this end, we will reduce remaining emissions beyond the 4.2% target by using additional renewable energy and offsetting them by means of high-quality climate protection certificates. The Climate Strategy 2030 is implemented with the divisional HSE managers and with representatives of the Americas and Asia regions, the CR department and Energy Purchasing. The Knorr-Bremse climate protection officer coordinates the approach with the departments.

We have achieved our climate protection goals: By means of the three levers, we have been able to reduce carbon emissions by 73.8% compared with the base year and 34.2% compared with 2020. Table → 2.05. The remaining emissions of around 35,000 metric tons of CO_2 are offset by atmosfair gGmbH's climate protection projects. This means we are operating our Knorr-Bremse sites in a carbon-neutral way for the first time in 2021.

The increase in energy efficiency is supported by a systematic potential analysis. To this end, we continued the energy audits we had external energy consultants conduct at energy-intensive sites in 2020 through our own analyses of sites in the reporting year. Energy-efficiency measures resulting from the analyses can be realized using a Group-wide climate strategy budget set by the Executive Board. In the reporting year, the Group realized projects including the renewal of lighting systems and the optimization of heating, ventilation and air-conditioning, as well as insulation measures at the Bendix locations Acuña, Mexico, and Bowling Green, USA. With the measures realized through the climate budget since 2019, we expect energy savings of 5,500 MWh/year. In 2021, new energy saving projects with potential savings of 2,100 MWh/year were also approved.

We are improving our carbon footprint by generating our electricity from renewable energy at sites including Suzhou (RVS division), China, Pune (CVS division) and Faridabad (RVS division), both in India, Huntington (CVS division), USA, and Munich (headquarters), Germany. In 2021, the proportion of self-generated electricity from renewable energy increased slightly. The photovoltaic system put into service in autumn in Huntington in 2021 increases the proportion of self-generated renewable energy at Knorr-Bremse by around 1,900 MWh/year to around 3,300 MWh/year. Corresponding photovoltaic systems were approved for Granville and Darra, Australia (RVS division), Getafe, Spain (RVS division), and Acuña, Mexico (CVS division). They should be put into operation in 2022 and will generate 3,100 MWh/year in the future. Table → 2.06

We want to maximize the proportion of purchased renewable energy in our total energy consumption. In 2021, 98% of the electricity supplied to Knorr-Bremse came from renewable energy sources, obtained via green electricity contracts or green electricity certificates. Renewable electricity is purchased via a green electricity contract for our sites in Austria, Sweden and France and via a power purchase agreement in Brazil. And we obtain green energy certificates for additional global Knorr-Bremse sites: In Europe, it is European proofs of origin with the exception of specific local proofs of origin in Poland and the United Kingdom. Renewable Energy Certificates (RECs) are used in the US and Canada, and International Renewable Energy Certificates (I-RECs) are used in China, India, Mexico, Russia, South Africa and Turkey.

2.05 DIRECT AND INDIRECT CARBON EMISSIONS*

in thousand metric tons of CO_2	2021	2020
Scope 1 direct carbon emissions	28	26
Scope 2 indirect market-based carbon emissions	7	27
Scope 2 indirect location-based carbon emissions	152	147
Total market-based carbon emissions	**35**	**53**
Total location-based carbon emissions	**180**	**173**
Carbon intensity in metric tons of CO_2/€ million	**5.2**	**8.6**

* The recording of carbon emissions is geared to the recognized requirements of the Corporate Accounting and Reporting Standard (Scopes 1 and 2) of the Greenhouse Gas Protocol; location-based carbon emissions were audited for the first time in 2021

2.06 ENERGY CONSUMPTION*

in GWh	2021	2020
Primary energy consumption**	130	119
Natural gas	99	91
Fuels	31	26
Secondary energy consumption	301	287
Purchased electricity	286	273
Of which from renewable energy in %	98	86
District heating	14	13
Self-generated renewable electricity	2	1
Total energy consumption	431	406
Energy efficiency in MWh/€ million of revenue	64.3	65.9

* The figure for 2021 relates to all sites under operating control, excluding sites with fewer than 50 employees other than production sites or service workshops. This covers around 93% of Knorr-Bremse's employees.
** The difference in the total amount in 2020 results from one-time oil consumption at a high level

Environmental Product Design

Knorr-Bremse can make a contribution to climate and environmental protection with systematically environmentally oriented product development, while achieving a medium- and long-term competitive edge using the resulting solutions. Knorr-Bremse EcoDesign – environmental product design – can improve the total environmental impact of a product, process or service across the complete product life cycle. As a result, products with environmental product design set and fulfill our economic objectives and follow our corporate vision and HSE policy. We can ensure the future viability of our product portfolio because we have integrated health, energy and environmental matters into our development processes. In addition to our own technical and environmental standards in EcoDesign, the requirements of regulatory stipulations, standards and customer expectations also influence product development. These include sustainability aspects such as long service life, weight reduction, resource conservation, increasing energy efficiency and avoiding pollutants and waste.

Our rail services and truck services business is another driver of sustainable product design. Knorr-Bremse refurbishes products industrially, extending their useful life. That can increase environmental and economic sustainability for customers and in our Group. That is why we design our products for remanufacturing and the possibility of reconditioning – i.e., future refurbishment – right from the research and development stage. Revenue with refurbished products represented around 10% of Group revenue in 2021.

EcoDesign is organizationally incorporated into both divisions in such a way that it supports strategic R&D planning and creates synergies and standardized processes between the Group divisions. The EcoDesign experts of the RVS and CVS divisions have one central function here. They are integrated in the development departments and help, for example, with the assessment of product development. The EcoDesign experts also form the cross-divisional working group EcoDesign with representatives of the CR department and, where required, the Remanufacturing department. In monthly dialogue, they develop, among other things, standards in product development and processes for the product life cycle. In addition, an initiative concerning SDG 9 implemented at Executive Board level supports cross-divisional product development approaches.

We see training engineers and developers as key to the successful implementation of EcoDesign in our processes. We want to give them a shared understanding of EcoDesign standards for evaluating product development. 145 engineers, primarily from the Knorr-Bremse Technology Center India (TCI), received cross-divisional EcoDesign training with this focus in 2021. The CVS division strengthened its EcoDesign organization in 2021 through central EcoDesign training with selected participants. More than 120 managers were given basic knowledge on the topic. 20 key contacts were taught the detailed methodology of the EcoDesign process for better integration of the requirements. As the newly appointed Truck EcoDesign contacts, they are the interface to the central EcoDesign team and are intended to pass on knowledge on the EcoDesign approach within the center of competence (CoC).

Knorr-Bremse wants to proactively integrate EcoDesign aspects into product development and is working on systematically anchoring sustainability criteria in the processes – from strategic planning through innovation to product development. In our innovation process, we assess projects' and product ideas' potential for development and implementation. Orientation toward the megatrends that are strategically relevant for Knorr-Bremse plays an important role here. In the RVS division, new innovation projects are now assessed and prioritized using EcoDesign criteria in addition to other criteria. This is because EcoDesign is one of five different assessment criteria in the planning process. In the reporting year, around 100 projects were classified in respect of EcoDesign criteria. The projects are given a development budget to bring them to market maturity in accordance with the prioritization ranking.

When developing new products and solutions, we want to take account of and minimize environmental impact from the start. This is why we assess them along the product life cycle in accordance with EcoDesign criteria and derive improvements from this. To this end, we established a binding process in the two divisions in 2021, in which the following EcoDesign criteria are taken into account:

- Material extraction and production phase: hazardous substances, weight (CVS division), choice of materials, origin of materials (conflict minerals)
- Use phase: weight (RVS division), energy efficiency, longevity, direct emissions
- End of product life: recyclability

In the RVS division, the EcoDesign assessment form is provided to the development teams for the mandatory assessment of innovation projects and complex customer projects. It defines requirements for product design and makes assessment tools available. For example, the new EcoDesign standard on hazardous substances in products must be taken into account. The EcoDesign assessment form also offers supporting standards and methods for evaluating environmental impacts. The recyclability analysis of the materials used helps us to reduce the environmental impact across the life cycle. In 2021, a total of 31 projects in the RVS division were reviewed on the basis of a recyclability analysis in accordance with ISO 22628 and/or ISO 21106. Here, the result of the rail vehicle business area's products is more than 90% recyclability for Knorr-Bremse products . The CVS division has defined concrete EcoDesign requirements in the product development and commercialization (PDC) process for new products and products with material changes. These need to be implemented in the phases of project planning through to product and process development. The specification of objectives ensures that the requirements can be measured and fulfilled. Specific policies and concrete tools and methods, such as the EcoDesign assessment form, support the process of defining objectives and assessment.

Employee Matters

The mobility industry is dynamic and undergoing change. The transformation is strongly influenced by sustainability and digitalization objectives. We are actively helping to shape this change through further developments in the product portfolio and in the Group's organization and thus also in human resources.

To ensure ongoing corporate success, we need to be an attractive employer so as to be able to attract and retain the best specialist staff and managers. We want to counter the skills shortage this way, as Knorr-Bremse, as a driver of innovation, depends on highly qualified employees, professionals and junior staff. Especially in industrialized countries, we also need to find answers to the demographic change with an aging society. It is therefore fundamentally important to offer all employees the best conditions for developing their personal capabilities in their professional environment. We are guided by the principles of the UN Global Compact, the UN Universal Declaration of Human Rights and the International Labour Organization (ILO) conventions relating to human rights. The standards we set ourselves are defined in the Knorr-Bremse Code of Conduct and in our new Human Rights Policy. Within the Knorr-Bremse organization, these form the basis for daily interaction among employees. Compliance with these principles is a prerequisite for a safe and healthy working environment, respectful interaction with one another, fair working conditions and the promotion of equal opportunities and equal treatment of our employees around the world. Where they need information on our principles or in the event of breaches of these, employees can fall back on established processes, use a global whistleblower system or turn to points of contact such as the HR department, works councils, their direct manager or the compliance organization.

The global HR Strategy 2025 guides us in our responsibility for employees. It is derived from our corporate strategy and has the aim of continuously improving employment conditions, thus increasing employer attractiveness. We see personnel development and the encouragement of a respectful and trustworthy corporate culture as the key here. As a learning organization that actively helps shape the change toward digitalization and new forms of work, our ambition is to constantly progress. The HR transformation project ONEHR aims to use a new organizational structure to standardize processes and make them more efficient, and thus obtain transparent information in the field of HR. On the basis of a new IT infrastructure and a globally adapted data set, it was possible to implement the employee platform HR Connect in autumn 2021. Further modules, including on Group-wide recruitment, are gradually being rolled out internationally.

The Group-wide Human Resources (HR) department plans, manages and monitors all overarching activities regarding our employees at Knorr-Bremse unless otherwise indicated in the non-financial statement. The Head of Human Resources bears the overall responsibility and regularly reports to the CEO. Regional HR officers are responsible for implementing the HR measures in the regions. Local HR officers are guided by the requirements of the central HR department and local circumstances.

Employment Conditions

We want satisfied employees who judge their employment conditions to be good and value an open and supportive corporate culture. It is Knorr-Bremse's aspiration to protect employees' rights and ensure fair and appropriate pay. Furthermore, Knorr-Bremse offers its employees support in individual life situations.

One important indicator of good employment conditions is employee satisfaction. In order to analyze and manage this, we conduct global employee surveys. The seventh employee survey is planned for 2022. It should also result in proposals for improving employment conditions. A program for developing the corporate culture that is oriented toward changing economic and societal conditions is also intended to contribute to this. It was conceived in the reporting year and will be further pursued in 2022 with the involvement of international management.

To strengthen employee satisfaction, Knorr-Bremse has increasingly geared its organization to promoting a good work/life balance in the last few years. Our comprehensive options for mobile working and also online training, with its flexibility both in terms of time and location, contribute to this. The necessary IT structures were already well-established at Knorr-Bremse and were expanded during the Covid-19 pandemic. The "New Work" program will continue to follow this path. Our flexible working-hour models and supportive family and health programs are also fundamental contributions to a good work/life balance. Our commitment to an HR policy that is conscious of both family and life stage and promotes individuality and diversity is evidenced by our certificate from berufundfamilie. Following the Munich site, the other six German Knorr-Bremse sites were also awarded certification for the first time in 2021.

Knorr-Bremse wants to be a fair employer that ensures its employees receive rates of pay in line with the market worldwide. Salaries at Knorr-Bremse should only differ on the basis of employees' qualifications and performance. Minimum wages are not relevant for the majority of the workforce due to the high level of qualifications required. With the objectives of fair pay and international comparability of pay, we intend to assess all job profiles in accordance with a globally uniform system and compare them with reference values. This has currently been implemented for 68% of all employees (2020: 59%). In addition to pay, Knorr-Bremse offers its employees site-dependent, voluntary additional benefits, mostly in the form of financial benefits or benefits in kind. In September 2021, Knorr-Bremse launched the Heinz Hermann Thiele share program. It enables eligible Knorr-Bremse employees to purchase subsidized shares in Knorr-Bremse AG each year. At the launch of the program, all the employees in ten selected countries who had been employed by the Group for at least six months were eligible (around 20,500 employees). The participation rate among these eligible employees was 25%.

For codetermination by employees and their representatives, Knorr-Bremse relies on cooperation in a spirit of trust. This includes factual communication with bodies representing employees, such as the Group Works Council. We respect employees' right to freedom of association and assembly and to collective bargaining, wherever this is legally permitted and possible. The members of bodies representing employees and trade unions are treated equally in the Group and neither disadvantaged nor favored.

2.07 STAFF TURNOVER RATE*

in %	2021	2020
Staff turnover worldwide	14.1	14.0
Staff turnover limited to employee resignations**	8.7	5.1

* Definition: Number of employees leaving as a proportion of the average total workforce; does not take account of fixed-term employees, trainees or temporary staff.
** The higher fluctuation rate in the Group compared to the previous year is due to an increased self-termination rate in North America (the "Great Resignation")

Personnel Development

Qualified employees are a competitive advantage and a basis for corporate success. Strategic personnel development therefore aims to attract new employees and talent with appropriate measures (source) and encourage the development of employees and managers (develop). In terms of the content of the training measures, we are guided both by our corporate objectives and by market requirements such as new job profiles influenced by the digital transformation.

Personnel development offers qualification and training measures tailored to individual employee needs, including in the areas of social skills, project and quality management, technology and IT applications. A training platform initiated at the start of the pandemic in 2020 includes virtual training on mobile working for employees. In addition to the user training in certain application programs, there was a training focus on the topic of collaboration and leadership. In addition to in-person and virtual training, the self-learning tool LinkedIn Learning has supplemented the training of 13,721 employees since the start of 2021. It offers around 16,000 courses on various topics relevant to work. In 2021, 6,663 employees used the LinkedIn tool for a total of 17,931 hours.

The findings of the Staff Dialogue are relevant to the professional and personal development of employees. Table → 2.08. The annual employee appraisal results in an evaluation of performance and potential capabilities and individual written agreements on targets. We see these as a good basis for developing training programs.

2.08 STAFF DIALOGUE COVERAGE AND COMPLETION RATES

in %	2021	2020
Coverage rate*	78.2	82.1
Completion rate	90.7	89.7

* The decreased coverage rate compared to 2020 is due to the partially outstanding implementation of the Staff Dialogue at new Group companies and at Knorr-Bremse Rail Systems (UK)

In personnel development, in addition to ongoing training programs and promoting specialist careers, we also focus on developing managers because good leadership is essential when it comes to maximizing the Group's performance, creativity and long-term success. The Knorr-Bremse Leadership Principles set out what leadership should look like in practice. Vacant management positions are to be filled by internal candidates wherever possible. To promote leadership development and succession planning, Knorr-Bremse employs potential analysis procedures (Development Center) and Group-wide management development programs (Management Potential Groups). In 2021, we developed a management development program that will be rolled out in 2022.

Additional findings on managers' individual development needs are derived from the Leadership Feedback process, which has to be carried out within a period of two years. In this, managers responsible for three or more employees are given feedback on their leadership. Measures for improved cooperation can be developed on the basis of the results. With a completion rate for the Leadership Feedback process of 92% in the implementation period, managers are achieving an average of 4.9 out of 6 points in the feedback results at Knorr-Bremse. The next Leadership Feedback process starts in 2022.

Looking to the future, Knorr-Bremse is training people for careers in areas that are in demand in the Group. These include industrial mechanics, machining technology, electronics, mechatronics and IT. In the year ended December 31, 2021, 219 young people (2020: 254) completed an apprenticeship at Knorr-Bremse. In the area of academic training, especially in the dual approach, we work closely with German and international universities. To retain young talent and 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).

Diversity and Equal Opportunities

Knorr-Bremse sees the internationalism and diversity of its workforce as a corporate success factor and a driver of creativity, innovation and cultural competence in business partnerships. We have set out the requirements for diversity and equal opportunities in our Code of Conduct and our new Human Rights Policy. 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. We confirmed this in 2020 by signing the Diversity Charter in Germany. Procedures for the possible detection of risks and breaches of our requirement for diversity and equal opportunities are established in the Group. On the topic of raising employee awareness, we use training on, for example, uncovering unconscious bias. It was offered at the German sites in 2021.

We also want to gradually integrate diversity management into the HR and sustainability strategy in the next few years. In doing so, Knorr-Bremse will concentrate on the four focus issues of cultural diversity, gender equality, age and severe disability.

As a global group, cultural diversity is an important success factor for Knorr-Bremse. Around 82.1% of employees are employed at sites outside of Germany. At Knorr-Bremse's German sites, our non-German colleagues represent 9.5% of the workforce and come from 63 different countries. So as to take local and cultural circumstances into account, top management roles in the regions are mainly filled with local people (2021: 84.9%, 2020: 83.6%). We support international communication with intercultural training, language courses, cross-site projects and stays abroad.

Knorr-Bremse is committed to gender equality and has been an active member of the UN Global Compact's Target Gender Equality initiative since 2021. Using measures already implemented, which were developed in an SDG 5 initiative, Knorr-Bremse wants to increase the proportion of women in management, support women's careers and attract qualified women. Table → 2.09. A quota plan for increasing the proportion of women in job appointments that was adopted in 2020 stipulates a minimum proportion of women for applications in level 2-4 management in German Knorr-Bremse companies. There should be at least one female candidate in the final selection of candidates. At least one third of the participants in Knorr-Bremse development programs should be women. The trainee program MEP currently nearly meets this target with women currently representing 30% of its participants. In addition, Knorr-Bremse supports various development programs for female trainees and junior staff. For example, we cooperate with the Technical University of Munich and support female students studying scientific and technical degrees with the mentorING program. Internally, the newly founded women's network Women@Knorr-Bremse defines additional measures and projects to advance women.

2.09 GLOBAL PROPORTION OF WOMEN*

in %	2021	2020
Proportion of female employees	20.3	19.9
Proportion of female managers	14.1	13.2

* Proportion of workforce included in calculation of the proportion of women in 2021: around 99.6% of total workforce

Generation management helps us implement the standard we have set ourselves of offering every employee the best employment conditions at every phase of life. The demographic trend is leading to the average employee age in Germany and other industrialized countries rising. The average age in 2021 at Knorr-Bremse was 41.3 (2020: 40.4) Table → 2.10. We can offer our older employees ergonomically designed workstations that place lower demands on the body.

2.10 AGE STRUCTURE IN THE GROUP*

in %	2021	2020
Up to 20	1.4	1.2
21-25	5.5	4.0
26-30	11.4	12.7
31-35	17.2	20.3
36-40	15.6	17.2
41-45	13.3	13.0
46-50	11.4	11.2
51-55	10.1	9.6
56-60	9.5	7.3
over 60	4.6	3.5

* The proportion of the workforce included in the age calculation was significantly improved from a level of around 56% in 2020 to almost 100% in 2021. The comparability of the data with the previous year's data is therefore only limited.

We have implemented inclusion measures for the particular protection and special advancement of employees with severe disabilities and health limitations. The disabled persons' delegation helps people with disabilities to find the right workplace for them, equipped according to their needs, within the Group. The aggregate ratio of people with severe disabilities at the German sites was 4.4% in 2021 (2020: 4.5%).

Occupational Health and Safety

Our sustainability strategy's important objectives include providing a safe working environment and protecting and promoting employee health. We see this as a responsibility to the individual employee and as a prerequisite for long-term corporate success. Our measures and processes encourage preventive health management, medical care, ergonomic workplaces and the avoidance of accidents at work.

The Group-wide Health, Safety and Environment Policy defines obligations and material guidelines for strategic planning and measure planning in the areas of health and safety. The Executive Board has the overarching responsibility for these areas. The central HSE departments of the RVS and CVS divisions develop strategic guidelines and bundle all cross-site management and coordination tasks. The HSE professionals at the sites bring together all the activities on health and safety and support the managers in implementing them. A key task is assessing injury and accident risks through production facilities, workplaces and work processes for all types of employee and the development of measures based on this.

The importance of functioning occupational health protection was also demonstrated in the second year of the pandemic when it came to protecting employees from Covid-19 infection. Knorr-Bremse had put the crisis team into action as early as January 2020 and subsequently introduced a coordinated protection plan. The plan included implementing strict travel guidelines, hygiene measures and the infrastructure requirements for mobile working and multi-shift operation in production. The implementation of the key measures was primarily coordinated and planned among Corporate Security, Human Resources and the divisions. These specifications provided the local managing directors with a framework for implementing the measures at their sites. This also applied to the vaccination campaigns for protection from the Covid-19 virus that were run at Knorr-Bremse sites in this reporting year.

Occupational safety management is defined through the Group's own HSE processes and embedded in our structures. The processes and standards are geared to laws and international standards such as DIN ISO 45001, DIN EN ISO 14001 and DIN EN ISO 9001. System and process audits, HSE safety audits, equipment acceptance audits and inspections at the sites encourage compliance with the processes. The following regularly recurring measures also make a contribution to safety awareness in the workforce and thus to effective prevention of accidents at work and health risks: internal training, information campaigns and regular meetings on occupational safety and reporting together with follow-up. Table → 2.11

In the Rail Vehicle Systems division, 44 production and service sites around the world are certified on occupational health and safety in accordance with ISO 45001 (2020: 43).

2.11 SAFETY*

	2021	2020
Number of workplace accidents per 200,000 contractually agreed hours of work	0.8	0.9
Number of workplace accidents resulting in lost days per 200,000 contractually agreed hours of work	0.6	0.7

* In 2021, a change was made in the method of determining the key figures. For this reason, the figures are no longer directly comparable with the prior-year figures. The figure relates to all sites under operational control excluding sites with fewer than 50 employees other than production sites or service workshops. This covers around 93% of Knorr-Bremse's employees.

Social Matters

Knorr-Bremse makes its important contribution to safe, efficient and networked transportation with braking systems and other rail and commercial vehicle systems. As many of our products are safety-critical, a high level of availability, reliability and quality are crucial reasons our customers choose to buy from us. Both divisions therefore implement integrated management systems whose processes satisfy the requirements for quality assurance and environmental and health protection. In accordance with our idea of excellence, we continuously develop the high level of safety and quality of our business processes and product portfolio in both divisions.

Product and System Safety

We aim to contribute to improved traffic safety by supplying reliable, high-quality products, systems and services. The divisions' developments for higher traffic safety include our knowledge of braking systems that we have acquired over the course of decades and our in-depth expertise in driver assistance systems and forward-looking digital solutions. Our products and systems are subject to high safety requirements arising from customer requirements, legal requirements and standards, and we carefully monitor compliance with these. To this end, Knorr-Bremse makes routine use of extensive quality-planning, quality-assurance and testing procedures. We also set high quality standards in all areas and processes and have integrated quality management systems.

Knorr-Bremse acknowledges product safety and quality in its vision, corporate values and Code of Conduct. Moreover, there are separate safety and quality policies for the two divisions that the sites have to introduce. The permanent improvement of our product and system quality is a core topic here, along with the safe production and work processes that must be implemented by employees. The zero-defect philosophy is intended to help us achieve our objectives with all our products and services: increasing efficiency, maximum flexibility and productivity throughout every stage from the vehicle's manufacture to when it is in service, maximum delivery reliability, accident prevention and better utilization of infrastructure.

Knorr-Bremse has integrated its product and system safety management into the Group's organization. Top management, the divisions' quality management units and the respective business units responsible for products are responsible for implementing corresponding measures for product and system safety. In both Knorr-Bremse divisions, the international quality managers regularly meet in a global committee for overarching targets and strategies to improve product and system quality.

We describe and manage the product and system safety management processes using the management systems Rail Excellence (REX) and Truck Excellence (TEX). The process manuals and work instructions set out all the basic rules for the processes. We aim to comply with quality and safety standards at every stage of the value chain that we are in a position to influence by using various measures. That covers the development and testing phase through careful supplier selection and production to how the product is used by customers. In addition to failure mode and effects analyses (FMEA), this also includes production safety audits and product safety reviews, supplier monitoring, separate auditing of production lines, product safety training for employees, product and field testing and close monitoring of the relevant markets. Regular internal audits and assessments serve to verify and optimize the implementation of our process management system. In addition to worldwide monthly reporting on the quality organization to monitor quality standards, Knorr-Bremse regularly conducts regional, global and product-specific quality reviews. The reviews and strict escalation processes ensure that potential safety-critical incidents are assessed and resolved at an early stage.

International standards form the basis of the Knorr-Bremse quality management systems. In the RVS division, these are the quality standards ISO 9001 and ISO/TS 22163 (formerly IRIS, International Railway Industry Standard). The rail-specific requirements included in ISO/TS 22163 are firmly anchored in the division's processes and manuals and the Knorr-Bremse production system. For the CVS division, the IATF (International Automotive Task Force) 16949 quality standard applies. 101 Knorr-Bremse sites around the world had a certified quality management system (ISO 9001, ISO TS 22163 for IATF 16949) in 2021 (2020: 96); no Knorr-Bremse sites have had a certificate revoked to date.

In order to meet supplier management quality standards, both divisions monitor and audit their supplier base. In addition to a process audit for suppliers, the RVS division uses prior information suppliers have provided about themselves, including on quality certificates such as ISO/TS 22163. The standard is a requirement for achieving preferred supplier status at Knorr-Bremse. In the CVS division, every supplier goes through the product safety audit and a Sourcing Board assessment.

Sustainability in the Supply Chain

Taking responsibility along the value chain is part of our self-image as a sustainable business. As a global business, we work with a large number of largely local suppliers. We currently purchase products and services from approximately 30,000 suppliers from over 60 countries. 72% of procurement spending is accounted for by more than 6,000 manufacturing and production partners for parts, components and materials that are incorporated in our products. We are aware that Knorr-Bremse's selection of suppliers has a significant impact on the environment and society in production countries. That is why we require our suppliers to comply with our high sustainability standards in the supply chain. Breaches by suppliers could entail reputational and cost risks for Knorr-Bremse, its customers and its investors.

We have set out Knorr-Bremse's commitment to sustainability in the supply chain in our Code of Conduct and our CR guidelines. We want to integrate sustainability aspects into our own processes to an even greater extent and improve sustainability performance in the supply chain. Accordingly, we require our suppliers to act in a manner that is in line with our values and takes account of international environmental and human-rights guidelines and standards. These include the principles of the UN Global Compact, the International Labour Organization (ILO) conventions and the UN Universal Declaration of Human Rights. These principles are specified and defined in our Code of Conduct for Suppliers, our Human Rights Policy, the Conflict Minerals policy and in Knorr-Bremse's Quality Guidelines.

Our Group-wide Code of Conduct for Suppliers is intended to promote and require the systematic inclusion of sustainability aspects in the production methods and conduct of our suppliers. The code sets out the standards our suppliers are required to meet with respect to working conditions, human rights, environmental protection, safety, business ethics and compliance. We expect our suppliers to comply with the code and implement it in their upstream supply chain. The Code of Conduct for Suppliers is an integral component of all supplier contracts and binding for all our suppliers. While the supplier code has already been rolled out for direct suppliers (production materials), this process started in 2020 for indirect suppliers (non-production materials). At the end of 2021, the Code of Conduct was integrated into supply contracts representing 80% (2020: 37%) of Knorr-Bremse's indirect purchasing volume. The Knorr-Bremse Human Rights Policy published in 2021 additionally describes our expectations regarding respecting human rights (see Respect for Human Rights section).

The Knorr-Bremse strategy for sustainable procurement is embedded in purchasing processes across the Group. The purchasing managers for direct and indirect materials are responsible for its implementation. Compliance with and optimization of sustainability standards in the supply chain are supported by a separate function at Group level. The Sustainable Procurement Committee discusses and decides on strategic and current sustainability topics several times a year and consists of the heads of Knorr-Bremse's global purchasing units and the CR department. The topics in 2021 included the calculation of the carbon emissions of purchased goods and services on an expenditure basis (Scope 3.1), which we will publish for the first time in the 2021 Sustainability Report. We provide process descriptions and guidance for implementing our sustainability standards in internal procurement processes. These give employees in Purchasing an overview of the sustainability criteria and management approaches to be incorporated throughout the entire global purchasing organization. Internal guidelines specify the extent to which sustainability aspects are to be taken into account in purchasing decisions for various categories, including renewable energy, business travel or energy-efficient products, equipment and services. In addition, training Knorr-Bremse employees is a key prerequisite for sustainable purchasing management. Around the world, they should develop the know-how to be able to assess, advise and audit suppliers. We therefore held webinars on the topic of "Sustainability in procurement" for purchasing specialists in 2021. In addition, a binding e-learning module was developed for all global purchasing employees and rolled out in December 2021.

Knorr-Bremse uses various measures such as assessments, audits and training to implement and apply the sustainability standards at its suppliers.

Sustainability assessments at suppliers are continuously conducted by external service providers with experience in the industry. They survey and assess the implementation of suppliers' sustainability management systems. Currently, 1,983 suppliers have been assessed. The coverage rate is thus 61% of the global purchasing volume – an encouraging improvement in view of the global positioning of a complex product range and diversified supply chains. Table → 2.12. We have thus reached our annual target of 60%, and the proportion of our global purchasing volume covered should further increase by 2025.

2.12 COVERAGE RATE OF SUPPLIER SUSTAINABILITY ASSESSMENT*

	2021	2020
in % of purchasing volume	61	48

* The figure was expanded to include indirect suppliers. For better comparability of the data, the previous year's figures have been adjusted accordingly. Due to the change in the scope of the figure, the figure for 2020 has not been externally audited.

We take account of suppliers' sustainability assessments in our contract award process. To be able to reach the highest supplier status, Knorr-Bremse requires a valid supplier sustainability assessment or proof that such assessment is in progress. Moreover, the suppliers should be able to present a certified environmental management system that is in line with the international standard ISO 14001. Currently, a number of suppliers covering 61% of the direct production volume meets this requirement.

In addition, we use the findings from the sustainability assessments of both divisions to conduct a risk assessment of the suppliers. Based on the individual assessment results, we classify our suppliers into the categories A, B and C, where C represents the level with the potentially highest sustainability risks. We want to reduce the proportion of suppliers in the C category in the future. To this end, we draw up action plans for improving their sustainability performance with the suppliers in question. We also have the option of reducing the volume of purchases we make from the suppliers.

We want to audit and assess suppliers' sustainability performance beyond the external sustainability assessments mentioned. To this end, we conduct external sustainability audits and integrate sustainability aspects into standard supplier visits. During these visits, we use the supplier on-site sustainability risk checklist. It contains questions and practical tips for Knorr-Bremse employees in the area of supplier development so that they can identify and assess these sustainability risks on site at suppliers. The results of the completed checklists are used as a decision-making criterion regarding additional sustainability audits on-site or other in-depth investigations. In 2021, 56 colleagues completed the online webinars offered on the use of these internal checklists.

Independent experts assess compliance with the applicable social and environmental standards in independent external sustainability audits. 18 on-site audits were conducted this way in 2021, of which eight were follow-up audits. If an audit or a sustainability assessment reveals breaches or improvement potential, Knorr-Bremse develops and implements action plans for improvement with the suppliers. In 2021, we reviewed and refined this process and also set up follow-up audits.

In order to protect human rights in the area of conflict materials, we have introduced a due diligence process. Key instruments for managing and reporting conflict materials include the Group-wide binding Conflict Minerals Policy and supplier surveys. As recommended by the Responsible Minerals Initiative, we ensure transparency in the procurement process for minerals from conflict or high-risk areas, including tin, tantalum, tungsten and gold ("3TG"). In an annual survey, we ask direct suppliers with 3TG relevance for information on the origin of the minerals used using the Conflict Minerals Reporting Template (CMRT). Table → 2.13. Our last survey identified six smelting plants classifiable as critical, and corresponding processes to minimize risk were introduced. Moreover, we held a supplier seminar on conflict minerals in September 2021. The training materials provided include our new data collection on cobalt, which will be used from the 2022 reporting year.

2.13 REPORTING OF CONFLICT MINERALS*

	2021	2020
Number of suppliers invited to take the CMRT survey	2,449	1,517
Response rate of the suppliers surveyed in %	45	62

* The key figure on conflict minerals was introduced in 2021. It relates to the number of suppliers who have provided us with information on the origin of conflict minerals in the June 2020–April 2021 reporting period. Due to the introduction of this new key figure, the prior year figures have not been externally audited.

As a leading and global actor in the industry, Knorr-Bremse actively participates in industrial sustainability initiatives. We are an engaged founding member of the Railsponsible initiative in the rail industry and an active member of the German Association of the Automotive Industry (VDA) in the automotive industry. This means we can improve sustainability standards in the supply chain together with customers, competitors and other stakeholders.

Respect for Human Rights

Knorr-Bremse wants to fulfill its human rights due diligence duty along its value chain: to its own employees, contractors, employees in the supply chain, customers and society. To respect and protect human rights, we are systematically expanding our processes and external guidelines in accordance with our internal obligations. Knorr-Bremse has signed the UN Global Compact, thus also committing itself to compliance with human rights. Moreover, we commit to respecting the respective national legal frameworks, the International Labour Organization (ILO) conventions relating to human rights and the UN Universal Declaration of Human Rights. We orient our processes on the UN Guiding Principles on Business and Human Rights and the German federal government's National Action Plan for Business and Human Rights (NAP).

The Code of Conduct, which is binding for all Knorr-Bremse employees includes central principles and rules for respecting human rights. The Human Rights Policy rolled out globally in 2021 specifies the code's requirements and combines all human rights aspects from various internal policies. The Human Rights Policy can be viewed on Knorr-Bremse's website. It describes how we want to protect the human rights of everyone who directly or indirectly works for us by reducing any negative impact of our actions. The respect for human rights the Human Rights Policy requires of suppliers and subcontractors supports and adds to corresponding requirements in the Knorr-Bremse Code of Conduct for Suppliers. Our Group-wide Knorr-Bremse Conflict Minerals Policy, which we introduced in 2020, also influences the human rights due diligence duty.

In the Knorr-Bremse organization, the Executive Board has responsibility for taking remedial action in the event of possible human rights breaches. In 2021, the new position of human rights manager was filled in the Compliance department. The human rights manager develops and coordinates cross-functional measures to embed human rights more strongly in global corporate processes. In doing so, the human rights manager involves representatives of the Compliance, HR, CR, HSE, Purchasing and Legal Affairs departments in the decision-making processes on human rights issues.

Our existing processes – for example, in staff, purchasing and HSE management – take account of aspects of human rights due diligence. The relevant business units all responsible for the operational implementation and review of these activities. At the same time, we are working on integrating human rights due diligence even more strongly into our operating processes to minimize human rights risks and prevent negative effects. To do this, we use the results of the human rights risk analyses and associated information on potential human rights breaches.

The starting point for ensuring we fulfill our duty of human rights due diligence is our gap and risk analysis at country and site level and regarding possible human rights risks along the value chain from 2018. We reviewed the value chain as part of the gap analyses of our management approach on human rights due diligence in 2021 and were able to confirm the risk areas. The target in the reporting year was to evaluate the existing structures and processes regarding the German Supply Chain Due Diligence Act, which will apply from 2023. The result is a timetable and action plan and their implementation starting from 2022 to let us efficiently meet the requirements of the German Supply Chain Due Diligence Act. In a first step, we will, in particular, deal with adapting the risk management process to cover all the legal requirements mentioned.

Based on the analysis results, Knorr-Bremse is currently particularly focusing on the due diligence duty regarding labor law for potential risk groups. Temporary agency workers, service providers at our sites and employees in the supply chain were identified as key risk groups here. In our annual risk analysis planned from 2022, we will therefore be putting the focus on these risk groups and also want to report potential risks on the topic of ethical recruitment as part of this.

Since 2019, our site-based human rights risk analysis has been included as a criterion in the selection of internal auditors to conduct audits. Selected human rights are audited on site within this regular audit and, in the event of complaints, remedial actions are determined.

We identify potential human rights risks in the supply chain using sustainability assessments and audits and rank the risk of suppliers. To protect human rights in the field of conflict materials, we use the key instruments of the Conflict Minerals Policy and supplier surveys (see "Sustainability in the supply chain" section).

Knorr-Bremse employees and external stakeholders can report information on suspected human rights breaches anonymously or choose to provide their contact details (see the Compliance and Combating Corruption section). All complaints received are reviewed and passed on to the relevant bodies for thorough investigation. In every substantiated case, appropriate measures are taken to remedy the situation. Employees can also submit complaints in the Incident Notification and Alarm Services (INAS) reporting system. The new human rights manager and the compliance organization are also available as direct contacts.

Knorr-Bremse promotes awareness of human rights due diligence within the Group and along the supply chain. We engage in constant dialogue on the topic with the departments. In top management, the Chief Compliance Officer regularly provides information on realized and planned Group-wide activities in close communication with the Head of Corporate Responsibility. The Supervisory Board is also informed about current developments on the protection of human rights and corresponding measures by Knorr-Bremse. Knorr-Bremse employees are informed about the obligation to respect human rights by the Code of Conduct and by the Human Rights Policy, which was rolled out and internally communicated in 2021. The compliance management system supports mandatory training on the Code of Conduct and will, in the future, support target-group-oriented mandatory training on the Human Rights Policy. We maintain a dialogue on a wide range of topics with suppliers and offer them training on various sustainability issues.

In addition, we are actively involved in the automotive industry dialogue on the NAP of the German federal government's Federal Ministry of Labor and Social Affairs. Together with other companies, politicians, civil society and NGOs, we want to develop solutions to be able to live up to the increasing requirements for protecting human rights.

We strive to continuously expand our reporting on human rights due diligence. Our annual sustainability report explains our activities in more detail. Furthermore, since 2016 Knorr-Bremse has been publishing a separate declaration on the Group's website setting out our guidelines on preventing modern slavery and people trafficking, thus fulfilling the requirements of the UK Modern Slavery Act. As of 2021, we are also committed to complying with the Australian Modern Slavery Act and publish the corresponding report on our website.

Compliance and Combating Corruption

Compliance management is guided by our aspiration of always complying with laws, internal regulations and voluntary commitments. This is because only as a reliable business partner will we gain the trust of employees, customers and business partners needed for sustainable corporate growth and thus shareholder value. We therefore place great emphasis on dealing with our business partners and employees with integrity and responsibility. Combating corruption and bribery is an important part of corporate responsibility and one of the key topics in compliance management at Knorr-Bremse. We do not tolerate any form of corruption or other unfair business practices and expect the same of our business partners (details on current processes can be found in the Report on Risks and Opportunities and in the notes to the consolidated financial statements under H.9. Legal disputes and litigation). Any conflicts of interest, including and especially in dealing with our business partners, must be avoided. We have established corresponding compliance policies.

Our compliance requirements across the entire supply chain are set out in a global code of conduct. This defines the principles for Group-wide responsible business conduct, including a prohibition of corruption in any form, on the basis of Knorr-Bremse's corporate values and the principles of the UN Global Compact. These principles of action and rules are binding for all the Group's employees and have been a component of new employees' written employment contracts since 2021. We have given concrete expression to these principles through four Group-wide compliance guidelines: dealing with gifts and invitations, anti-corruption, conflicts of interest and fair competition. Our mandatory Group-wide Code of Conduct for Suppliers also includes the aspect of combating corruption.

Relevant compliance risks are compiled and assessed in the compliance management system (CMS). The CMS is also used to define the key objectives pursued with the compliance requirements, develop the compliance organization and implement compliance requirements in business processes.

Corruption prevention, ensuring fair competition and avoiding conflicts of interest are defined as the focus issues for Knorr-Bremse's CMS. The basis of this decision is a compliance risk analysis, which was carried out with the involvement of selected business units and markets and was renewed in 2021. As part of a worldwide compliance risk assessment, possible compliance risks were compiled and assessed on the basis of risk scenarios. The compliance processes were also reviewed and the manner of their implementation was recorded regionally. Around 50 Knorr-Bremse companies, which cover more than 80% of Knorr-Bremse AG's revenue, were assessed. We have derived concrete risk minimization measures from this analysis and will gradually implement them from 2022.

The Chief Compliance Officer (CCO) is responsible for implementing the CMS and reports to the member of the Executive Board responsible for integrity and legal affairs. Along with the global heads of Knorr-Bremse's Controlling, Human Resources, Accounting, Legal and Internal Audit departments, the CCO is a member of the Compliance Committee. The Compliance Committee advises on initiatives and strategies for developing the CMS, on current compliance topics and on the focuses of compliance activities. In the Knorr-Bremse regions, regional compliance officers take on the role of advising and training employees, processing compliance cases and identifying local risks. In 2021, the recruitment of additional full-time compliance officers in large Knorr-Bremse markets and Knorr-Bremse markets that are high risk according to the Corruption Perception Index (CPI), such as China, India, Russia, Brazil and the USA, was expedited. Local compliance officers are also involved in the local implementation of the compliance management system at almost all Knorr-Bremse sites. The internal Group audit department supports the Executive Board in its monitoring function through independent and objective audit procedures. These are geared to improving business processes and uncovering any breaches of laws or internal rules or guidelines. The internal control system (ICS) additionally serves to verify compliance with compliance guidelines. Knorr-Bremse sites have to use spot checks to prove that they effectively implement the guideline requirements.

Employees, business partners and external individuals can report information on any possible compliance breach to the compliance organization via email, directly through the compliance officers or online through an independent and anonymous whistleblower system. This globally accessible portal operated by an external service provider allows information on any compliance breaches to be reported in 31 different countries and in 20 languages. Reference is made to the system at internal information and training events and in the Group-wide intranet. Our guideline for using the whistleblower system sets out the legal framework for any report made. Confidentiality and data protection are maintained at all times in this process. In the 2021 reporting year, 45 reports made via the whistleblower system were recorded across the Group (2020: 21). This number exceeds the level before the start of the pandemic. We attribute this to increased awareness of our whistleblower system and expect a further increase in reports in the medium-term for this reason in view of the Group's approximately 30,500 employees around the world. We follow up on every suspicious activity report or forward it on to the competent departments for further investigation. Where the initial suspicion is substantiated, investigations have been or will be carried out and any misconduct found is penalized. In addition, the Incident Notification and Alarm Services (INAS) system is used for non-anonymous reporting of time- and safety-critical events from the areas of compliance, data protection, information security and Group security. Events classifiable as critical reach the responsible area of the Group directly via the system.

To prevent compliance breaches, Knorr-Bremse relies on transparent communication and employee training. For example, a video address by the CEO on the topic was made available on the Intranet to raise awareness in 2021. A global e-learning module on our Code of Conduct is available in 13 languages and needs to be completed online every two years. In December 2021, more than 97.5% (2020: more than 95%) of the 17,000 employees with access to e-learning platforms (approximately 55% of the entire workforce) had a valid certificate. Knorr-Bremse also regularly audits managers' knowledge on the Code of Conduct and its active communication. The e-learning is supplemented by in-person events that are appropriate for the target group. In 2021, we ran 25 training modules that taught employees specific compliance content and our policies around the world. Due to the pandemic, these were largely run in online formats.

Business Report

General Economic and Industry-related Conditions

Economic Activity and Industry Environment

STRONG RECOVERY DURING THE PANDEMIC

The global economic recovery that began in the second half of 2020 continued during the first half of the fiscal year in 2021. (Source: OECD) The continuation and reintroduction of successful public health measures for combating the pandemic played a key role in limiting the transmission of Covid-19. In particular, the rapid introduction of vaccinations, which played a particularly important role in combating the pandemic in developed economies, is worth mentioning. (Source: World Bank)

During the year, macroeconomic imbalances reached an unprecedented level across the board. Government spending, budget deficits and debt-to-GDP ratios climbed to new record levels in several leading economies. Central bank balances have additionally absorbed quantities of non-current assets, the accumulation of which was largely financed by bank reserves. (Source: World Bank) At the same time, the pressure on markets increased as a result of markedly rising inflation and increasing commodity prices. The rapid spread of the Delta variant and the associated global supply bottlenecks over the course of the year meant global manufacturing came under pressure. (Source: OECD) The recent upsurge in infections due to the Omicron variant additionally increased uncertainty – particularly in Europe. The economic recovery was hit by a significant setback and took place only at reduced speed, thus remaining behind expectations in the second half of the year. (Sources: IMF, OECD)

The development of GDP growth was a consistent picture across regions in 2021, similar to what had already been observed in 2020 – albeit with the signs now pointing in the opposite direction. The change in global GDP increased from -3.1% in 2020 to +5.9% in 2021. The change in economic output in the same period increased from -6.4% to +5.2% in the eurozone, from -3.4% to +5.6% in the USA and from +2.3% to +8.1% in China. (Source: IMF).

FINANCIAL MARKETS: SPREAD OF THE OMICRON VARIANT HALTS THE STEEP RISE

2021 was a turbulent year. In the United States, the Federal Reserve decided to accelerate the tapering of its securities purchases in view of increasing price and wage pressure and signaled that it is going to hike interest rates more than previously expected in 2022. The European Central Bank (ECB) has announced that it will end the net purchases of assets in the pandemic emergency purchase program in March 2022, whereas it will temporarily increase the net purchases in its longer-term program for purchasing assets by a modest amount. The European Central Bank maintained its low interest rate policy irrespective of high inflationary pressure. Loose monetary policy drove share prices and, as a consequence, continued to strongly stimulate the equity market's performance. Many companies reported positive fundamental figures and the trend in the markets at times appeared to be detached from the progress and existence of the pandemic. In the meantime, markets reached record levels, while global logistics problems continued to afflict many industries. In winter, the equity markets' sharp rise ended with the rapid spread of the Omicron variant. (Source: Refinitiv)

For example, during the year the DAX reached a record high of +18.5% compared with the figure for year-end 2020 and closed 2021 15.8% up on 2020. The MDAX performed similarly in the same period, peaking at +17.8% and ending the year 14.1% up on the reference level in 2020. (Source: Refinitiv)

Bilateral exchange rates against the US dollar experienced significant fluctuations over the course of the year. For example, the EUR/USD exchange rate fluctuated between 1.12 and 1.23. (Source: Refinitiv)

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 market researchers, the global rail vehicle market will grow significantly in long-distance, regional and local transportation in 2021 compared with 2020 due to the Covid-19 pandemic. Compared with 2019, the transport volume remains below the prior-year level in passenger transportation. In rail freight, according to its most recent forecast the market research institution expected the transport volume to rise in 2021 and approach the pre-crisis level.

Overall, the Covid-19 pandemic affected the rail vehicle market at different times in different regions during 2021. All countries continued to be hit by the impact of the Covid-19 pandemic, with restrictions in various forms.

Reduced vehicle mileage in some cases led to reductions in the aftermarket volume. Nevertheless, positive developments emerged over the course of the year.

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, orders were not canceled on a large scale but only postponed, despite significantly reduced passenger numbers. A rise in passenger numbers was seen over the course of the year, particularly in the summer and early fall. As of year-end, restrictions increased again, leading to a reduction in passenger volume.

North America/South America

Despite further waves of Covid-19, the freight market in North America saw a rise compared with 2020. Passenger traffic continued to be impacted by lower passenger numbers.

Asia-Pacific

The recovery in the Asia-Pacific market for passenger and freight transportation is also advancing. Due to the continuing Covid-19 restrictions, however, the level before the pandemic was mostly not yet reached in the individual countries in this region, even though a recovery can be seen in 2021 compared with 2020. China continues to be the largest rail vehicle market in the world but has significantly reduced new vehicle purchases compared with the previous year and reports a reduced aftermarket volume.

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 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 2022 as well as the Company's estimates.

In 2021, the global commercial vehicle market fell by 1% year on year measured by the truck production rate. In 2021, Knorr-Bremse benefited from its global market position and, in particular thanks to its strong aftermarket business in Europe and the expansion of its market position in China, was able to increase revenue even in an environment of stagnation in the global market for commercial vehicles. While there was a general recovery of production rates in Europe and North and South America, Asia saw a sharp reduction, especially in the second half of 2021.

Europe/Africa

Bottlenecks in global supply chains curbed the recovery of vehicle production in 2021 in Western Europe in particular. Nevertheless, commercial vehicle production rose by 20% year on year to around 445,000 units. In Eastern Europe, production in the same period increased by 14% to around 77,000 units.

North America/South America

Commercial vehicle production in North America also suffered due to global supply chain shortages, particularly of semiconductors, only recovering by 20% to around 350,000 units. The rise in commodity prices and the great demand for medium and large transporters supported the sharp rise in Brazilian truck and bus production by 59% to around 176,000 units.

Asia-Pacific

Looking at the world as a whole, only commercial vehicle production in China reported a decrease in 2021, falling 20% to around 1,466,000 units compared with the previous year following a government-supported rise in 2020. In India, by contrast, production increased sharply by 80% to around 251,000 units due to the reopening of the economy following strict restrictions a year previously. In Japan, domestic truck demand in particular rose, resulting in a 15% increase in commercial vehicle production year on year to around 191,000 units. Overall, commercial vehicle production fell by 11% to around 1,908,000 units in the Asia region.

General Statement by the Executive Board and Achievement of Objectives

The Executive Board of Knorr-Bremse AG is very satisfied with the Company's business performance in 2021, a year still impacted by the coronavirus pandemic and semiconductor crisis. Knorr-Bremse proved its resilient and crisis-proof business model once again and realized an increase in revenues and a high level of profitability. Continuing strict cost discipline meant it was possible to achieve an increased EBIT margin, a stable EBITDA margin, very strong free cash flow, and thus comfortable liquidity. The Group's incoming orders and order book reached new highs. Incoming orders and the order book are taken from management reporting and are not audited. Knorr-Bremse's performance against key indicators in 2021 was as forecast. (Table → 2.14)

2.14 ACHIEVEMENT OF OBJECTIVES (TARGET-ACTUAL COMPARISON)

		2021 actual	November 2021 target	March 2021 target	2020 actual
Most significant performance indicators					
Revenues	in € million	6,706	6,600 - 6,800	6,500 - 6,900	6,157
Operating EBITDA margin (as % of revenues)	%	17.9	17.5 - 18.0	17.5 - 19.0	18.0
Operating EBIT margin (as % of revenues)	%	13.5	13.0 - 13.5	13.0 - 14.5	13.2
ROCE	%	24.9	25 - 30	25 - 30	25.6
Net working capital (in days' sales)	Days	47.0	45 - 50	45 - 50	43.6
Employees (FTEs as of Dec. 31)		30,544	29,500 - 30,500	29,500 - 30,500	29,714
Other Performance Indicators					
Capital expenditure/revenues	%	5.6	5.0 - 6.0	5.0 - 6.0	5.6

Despite the still noticeable effects of the Covid-19 pandemic, **revenues** increased by 8.9 % to € 6,705.6 million (2020: € 6,156.7 million) and, as expected, developed very positively compared with the previous year. Knorr-Bremse thus achieved the revenue guidance narrowed down in our quarterly report for Q3 of € 6,600 million to € 6,800 million. The increase in revenues resulted from the Commercial Vehicle Systems division (+20.2 %) as a consequence of appreciable growth, especially in the OE business. The Rail Vehicle Systems segment was able to reach almost the prior-year level (-0.6 %). At Group level, despite a moderate increase in absolute aftermarket revenues, the aftermarket share of total revenue fell slightly year on year from 36.6 % to 36.2 %.

The operating **EBIT margin** came to 13.5 % of revenues and was thus at the upper end of the margin guidance of 13.0% to 13.5%, which was narrowed in our quarterly report for Q3, and above the corresponding prior year (13.2 %). Operating EBIT was € 908.1 million and thus significantly below the prior-year level by 11.6 % (2020: € 814.0 million). Compared with the reported EBIT of € 916.1 million, operating EBIT was adjusted for the book gain realized (€ 19.1 million) from the sale of the Berlin representative offices and, conversely, the Rail Vehicle Systems division's expenses for severance payments as part of the restructuring with regard to Kiepe (€ 8.0 million) and in North America (€ 3.2 million).

The operating **EBITDA margin** came to 17.9 % of revenues and was thus at the upper end of the guidance of 17.5% to 18.0%, which was narrowed in our quarterly report for Q3, and almost at the level of the previous year (18.0 %). The operating EBITDA of € 1,198.6 million, adjusted for the aforementioned one-off effects, was 8.3 % higher than the previous year. Reported EBITDA reached € 1,206.5 million (2020: € 1,106.9 million) or 18.0 % of revenues (2020: 18.0 %).

Corporate Management Indicators

The most significant financial key performance indicators at Knorr-Bremse in the 2021 reporting year were revenues, (operating) EBITDA/(operating) EBITDA margin, (operating) EBIT/(operating) EBIT margin, net working capital in days' sales and ROCE. The capital expenditure[8] to revenue ratio was used as another key management indicator. Beside the capital expenditure to revenue ratio, the (operating) EBITDA, the (operating) EBITDA margin and the net working capital in days' sales will also be dispensed with in the future. From the 2022 fiscal year, revenue, (operating) EBIT/(operating) EBIT margin and the newly added free cash flow will be deemed to be among the most significant financial performance indicators. Going forward, ROCE will no longer serve as a significant performance indicator, but rather an additional key management indicator at Knorr-Bremse. We are using these changes 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 → 2.15, 2.16

[8] 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.

2.15 MANAGEMENT INDICATORS

	2021	2020
Revenues (€ million)	6,705.6	6,156.7
EBITDA (€ million)	1,206.5	1,106.9
EBITDA margin (as % of revenues)	18.0%	18.0%
Operating EBITDA margin (as % of revenues)	17.9%	18.0%
EBIT (€ million)	916.1	814.0
EBIT margin (as % of revenues)	13.7%	13.2%
Operating EBIT margin (as % of revenues)	13.5%	13.2%
ROCE (%)	24.9%	25.6%
Net working capital in days' sales	47.0	43.6
Employees (as of Dec. 31, incl. temp. staff)	30,544	29,714

2.16 DIVISIONAL REVENUES AND EBIT

	2021	2020
Rail Vehicle Systems		
Revenues (€ million)	3,317.0	3,336.8
EBIT margin (as % of revenues)	17.6%	19.1%
Operating EBIT margin (as % of revenues)	17.9%	19.1%
Commercial Vehicle Systems		
Revenues (€ million)	3,390.2	2,819.4
EBIT margin (as % of revenues)	10.7%	8.3%
Operating EBIT margin (as % of revenues)	10.7%	8.3%

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 Sustainability and Non-Financial Statement chapter and in the Knorr-Bremse Group Sustainability Report (published separately).

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. In the 2021 fiscal yearthe 2021 fiscal year, this included not only the Rail Vehicle Systems division's expenses for severance payments as part of restructuring in North America and in connection with the reduction of staff at Kiepe, and, in the opposite direction, also the book gain realized in connection with the sale of the Berlin representative offices. There were no comparable transactions in 2020 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.

In the 2021 fiscal year, the reported ROCE of 24.9 % was below the prior-year level (25.6 %) and, after rounding, at the lower end of the guidance of 25% to 30%. The decrease resulted, despite higher EBIT, from the higher capital employed and is partly due to the acquisition of the EVAC Group as well as effects from currency translation.

The ROCE (in %) is calculated as follows:

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

The net working capital in days' sales increased to 47.0 days compared with the prior-year reporting date (2020: 43.6 days' sales) and was thus within the forecast target range of 45-50 days' sales.

The number of employees as of December 31, 2021 was 30,544 , which, as forecast in the 2020 annual financial report, is higher than the previous year (29,714). Adjusted for the 2021 acquisition of the EVAC Group (230 employees), the number of employees was within the guidance of 29,500-30,500.

The definitions of the key figures in this report have not changed since the 2020 Annual Report.

Events of Material Importance to Business Performance

The following material events should be highlighted in the 2021 fiscal year:

COVID-19 PANDEMIC

In the past year, the Covid-19 pandemic also affected public life, overall economic development and the business development of the Knorr-Bremse Group. Softening demand as a consequence of the temporary closures of customer operations and the postponement of orders are the main reasons for this. As in the previous year, Knorr-Bremse responded swiftly to these developments with a corresponding action program to safeguard the Company's stability in this challenging environment and protect our employees to the best of our ability.

At the beginning of the pandemic in 2020, additional credit facilities in the amount of € 750 million were drawn to increase flexibility for operations. In October 2020, € 250 million of this credit facility was repaid, and the remainder of the credit amounting to € 500 million was fully repaid in the first half of 2021. In December 2021, our € 500 million corporate bond matured and was repaid as scheduled. Additionally, we continuously monitored our supply chains and safeguarded them as necessary with corresponding temporary measures.

We took comprehensive protective measures around the world for our employees or continued the existing regulations, comprising, for example, location-specific hygiene concepts and the necessary changes to organization and infrastructure. These include a strict separation of teams in both production and administration, the use mobile working and provision of protective equipment and rapid antigen tests. These protective measures were also retained during a slight easing in the second and third quarters of 2021 and were consistently continued with the resurgence of the pandemic following the summer months.

CHANGES TO THE GROUP'S PORTFOLIO

As a result of the purchase agreement of March 11, 2021 and the closing of the transaction on June 1, 2021, Knorr-Bremse acquired 100% of the shares in EVAC GmbH, Wedel, Germany, and the operating assets of Monogram Train LLC, Carson, California, USA, from Galli Participation S.A.S., Paris, France. As of December 31, 2021, the purchase price of € 85.9 million was already paid in full with cash. The acquisition of the EVAC Group's know-how in the field of integrated sanitary systems adds to Knorr-Bremse AG's portfolio in the area of onboard systems and positions Knorr-Bremse AG as a global system integrator. The EVAC Group contributed revenues of € 31.2 million to consolidated revenues in the 2021 fiscal year.

Knorr-Bremse acquired a minority shareholding of 5.5% in the Israeli start-up Autobrains for € 21.4 million on October 28, 2021. The company provides video object recognition based on self-learning artificial intelligence (AI) to facilitate system solutions for driver assistance systems and automated driving. Autobrains' proven self-learning AI technology has the potential to significantly shape the development of advanced driver assistance systems (ADAS) and highly automated driving (HAD) in the commercial vehicle industry. It needs less data and computing power, enabling significant reductions in development times and costs. The collaboration will complement the existing partnership between Knorr-Bremse and Continental with regard to radar and camera systems for driver assistance systems and automated driving.

The purchase price liability recognized in connection with the acquisition of the minority interests in Bendix Spicer Foundation Brake LLC as of December 31, 2020, was settled in full as of October 1, 2021, in the amount of € 25.1 million. Bendix Spicer Foundation Brake LLC, was already fully consolidated in prior years because the Company held an 80% interest. With effect as of December 31, 2020, Bendix Spicer Foundation Brake, LLC was merged into Bendix Commercial Vehicle Systems LLC.

CHANGES IN THE SUPERVISORY BOARD

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. He had been the deputy chairman of the Supervisory Board of Knorr-Bremse AG since 2020. In its meeting of March 30, 2021, the Supervisory Board elected Dr. Theodor Weimer as a Member of the Executive Committee and as the Additional Deputy Chair of the Supervisory Board. Dr. Stefan Sommer was elected to the Supervisory Board as a new member at Knorr-Bremse AG's Annual General Meeting on May 20, 2021. On the employee side, Ms. Sylvia Walter was newly elected to the Supervisory Board for Mr. Günter Wiese. The other members of the Supervisory Board were confirmed in office with effect as of May 20, 2021.

CHANGES IN THE EXECUTIVE BOARD

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 March 11, 2022, the Supervisory Board resolved that the CEO of Knorr-Bremse AG, Dr. Jan Michael Mrosik, will leave the Company effective on April 30, 2022, and will resign from the Executive Board effective on March 12, 2022. Until a successor has been determined, CFO Frank Markus Weber will assume the responsibilities of the CEO on an interim basis.

At its meeting on March 30, 2021, the Supervisory Board of Knorr-Bremse AG unanimously appointed Dr. Claudia Mayfeld as an additional member of the Executive Board for the newly formed department of Integrity and Legal Affairs with effect as of May 1, 2021.

Dr. Peter Laier, member of the Executive Board of Knorr-Bremse AG and globally responsible for the Commercial Vehicle Systems division (CVS), left the Executive Board at his own request with effect from December 31, 2021, in order to pursue new professional perspectives. The division was managed on an interim basis by the CEO Dr. Jan Michael Mrosik from January 1, 2022, to March 11, 2022. On March 11, 2022, the Supervisory Board decided to appoint Bernd Spies to the Executive Board as the member responsible for the Commercial Vehicle Systems division effective on March 12, 2022.

LEGAL DISPUTES AND LITIGATION

A detailed description of the material legal disputes and litigation and their development is available in the notes to the consolidated financial statements in Chapter H.9. Legal Disputes and Litigation.

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 chapter titled "Control System").

Financial performance

At € 7,286.7 million, the Group's **incoming orders** reached a new high and were thus significantly higher than the prior-year level of € 6,441.8 million by 13.1 %. This was attributable to strong demand in the global commercial vehicle market. The **book-to-bill ratio**, representing the ratio of incoming orders to revenues, came to 1.09 in the 2021 fiscal year (2020: 1.05), representing a solid basis for 2022. As of December 31, 2021, the **order book** amounted to € 5,558.1 million (2020: € 4,977.0 million) and also grew to a new record level due to the good order situation. This results in a forward order book[9] of 9.9 months. Driven by higher volumes, **consolidated revenues** increased by 8.9 % to € 6,705.6 million in the reporting year compared to the previous year (€ 6,156.7 million), thereby meeting the forecast of € 6,600 million to € 6,800 million provided in our quarterly report for Q3 2021. Currency-adjusted to actual rates in 2020, the increase in revenues amounted to 9.8%. Table → 2.17

2.17 GROUP KEY INDICATORS

in € million	2021	2020
Incoming orders	7,286.7	6,441.8
Order book	5,558.1	4,977.0
Revenues	6,705.6	6,156.7
EBITDA	1,206.5	1,106.9
EBIT	916.1	814.0
EBT	880.8	750.6
Net income	647.4	532.2
Capital expenditure (before IFRS 16 and acquisitions)	375.5	341.7
Depreciation, amortization and impairments	290.4	292.9
R&D costs	431.4	396.4
Employees (as of Dec. 31, incl. temp. staff)	30,544	29,714

The increase in revenues was attributable to all regions except Asia/Pacific. The Commercial Vehicle Systems division was very significantly up on the previous year by 20.2 %. The Rail Vehicle Systems division, by contrast, was slightly down on the previous year by -0.6 % in the 2021 fiscal year. Table → 2.18

2.18 DIVISIONAL KEY INDICATORS

	Rail Vehicle Systems		Commercial Vehicle Systems	
in € million	2021	2020	2021	2020
Revenues	3,317.0	3,336.8	3,390.2	2,819.4
EBITDA margin (as % of revenues)	21.5%	22.9%	14.8%	13.5%
Operating EBITDA margin (as % of revenues)	21.9%	22.9%	14.8%	13.5%
EBIT margin (as % of revenues)	17.6%	19.1%	10.7%	8.3%
Operating EBIT margin (as % of revenues)	17.9%	19.1%	10.7%	8.3%

At Group level, despite a moderate absolute increase in aftermarket revenues, the aftermarket share of total revenue fell slightly year on year from 36.6 % to 36.2 % (breakdown based on management reporting; unaudited) as a result of a disproportionate rise in OE revenues.

In the **Europe/Africa** region, revenues increased – particularly due to significant growth in the OE business in both divisions – by 13.5 % to € 3,168.5 million (2020: € 2,792.3 million), which is equivalent to 47 % (2020: 45 %). The **North America region** contributed € 1,397.9 million (2020: € 1,261.3 million) or 21 % (2020: 21 %) to consolidated revenues. The significant increase in revenues (+10.8 %) resulted from an appreciable increase in OE revenues in the Commercial Vehicle Systems division. In the **South America** region, revenues rose very significantly by 51.9 % to € 115.2 million (2020: € 75.8 million), which is equivalent to 2 % (2020: 1 %). In **Asia-Pacific**, by contrast, revenues decreased slightly by -0.2 % to € 2,024.0 million despite growth in the Indian and Japanese OE commercial vehicle business, especially as a result of a decrease in Chinese OE revenues in both divisions (previous year: € 2,027.3 million), which is now equivalent to 30 % of the Group's revenues (previous year: 33 %). Table → 2.19

[9] The order backlog (work in progress) is calculated in months by dividing the order book by annualized revenues multiplied by a factor of 12.

2.19 CONSOLIDATED REVENUES BY GROUP COMPANY LOCATION

in € million	2021	2020
Europe/Africa	3,168.5	2,792.3
North America	1,397.9	1,261.3
South America	115.2	75.8
Asia-Pacific	2,024.0	2,027.3
Total	**6,705.6**	**6,156.7**

The **cost of materials** was € 3,376.7 million (previous year: € 2,961.1 million). It increased year on year by 14.0 % and thus more sharply than revenues. The **cost of materials ratio** was significantly higher than the previous year's level at 50.4 %, largely as a result of a change in the sales mix and higher freight and procurement costs owing to the scarcity of semiconductors and to other components (previous year: 48.1 %). By contrast, the **personnel expenses ratio** decreased year on year to 24.6 % of revenues (2020: 24.8 %). This was mainly due to the disproportionate increase in revenues. In absolute terms, by contrast, **personnel expenses** increased by 8.0 % to € 1,647.7 million (2020: € 1,525.5 million). Total **other operating expenses and income** fell by € 31.1 million to € 596.9 million (previous year: € 628.0 million) and is attributable to, among other things, lower currency translation losses, the income from the sale of the representative office in Berlin and continued strict discipline with regard to costs.

Research and development (R&D) costs in 2021 were € 431.4 million and are thus 8.8 % higher than the previous year's level (2020: € 396.4 million), underscoring the Group's long-term innovation priorities. Relative to revenues, the R&D ratio of 6.4 % remained at the same level as the previous year (6.4 %).

Operating **EBIT** of € 908.1 million increased significantly by € 94.1 million or 11.6 % compared with the previous year. The operating EBIT margin improved to 13.5 % compared to the previous year (13.2 %). This was adjusted for the Rail Vehicle Systems division's expenses for severance payments in North America (€ 3.2 million) and in connection with the staff reduction at Kiepe (€ 8.0 million) and, in the opposite direction, was adjusted for the book gain in connection with the sale of the Berlin representative offices (€ 19.1 million). At 13.7 %, the reported EBIT margin was also above the prior-year level of 13.2 %.

The **Rail Vehicle Systems** division contributed € 594.7 million to operating EBIT, corresponding to an operating EBIT margin of 17.9 % (2020: 19.1 %). The **Commercial Vehicle Systems** division generated operating EBIT of € 361.1 million, representing an operating EBIT margin of 10.7 % (2020: 8.3 %). Including consolidation adjustments, an operating EBIT figure of € -47.6 million is attributable to "**Other**" business (previous year: € -57.7 million), adjusted for the aforementioned positive one-off effect from the sale of the Berlin representative offices.

Operating **EBITDA** also grew, rising by 8.3 % in 2021 to € 1,198.6 million (previous year: € 1,106.9 million). At 17.9 %, the operating **EBITDA margin** thus almost matched the prior-year level of 18.0 %. This was adjusted for the one-time expenses specified in the 2021 fiscal year and the book gain realized in connection with the sale of the Berlin representative offices in the same amount, as with operating EBIT. Reported EBITDA was € 1,206.5 million with a reported EBITDA margin of 18.0 %.

The **number of employees** (including temporary staff) rose by 830, from 29,714 on December 31, 2020, to 30,544 on December 31, 2021. On average, the Group employed 30,431 people in the 2021 fiscal year (2020: 29,004). The increase compared with December 31, 2020, was largely due to the significantly higher sales volume and also the acquisition of the EVAC Group.

The negative net **financial result** improved significantly by € 28.2 million year on year in the 2021 fiscal year to € 35.3 million (2020: € 63.4 million). The previous year was impacted in particular by negative currency translation differences.

The Knorr-Bremse Group's **income before taxes** also increased considerably with a rise of 17.4 % to € 880.8 million in 2021 (2020: € 750.6 million).

The **tax rate** decreased significantly to 26.5 % in the 2021 fiscal year compared with 29.1 % in the previous year. This is attributable to lower dividend distributions within the Group, primarily in Asia, as well as the use and reversal of impairments of tax loss carry-forwards not applied previously.

This resulted in **earnings after taxes** of € 647.4 million or 9.7 % of revenues in the 2021 fiscal year, compared with € 532.2 million or 8.6 % of revenues in 2020. After deduction of non-controlling interests, earnings per share reached € 3.85 (2020: € 3.07).

Our **proposed dividend** for the 2021 fiscal year comes to € 1.85 per share. The payout ratio of 46% of net income after taxes (2020: 46%) thus falls into the 40% to 50% range defined by our dividend policy. Knorr-Bremse AG's remaining unappropriated retained earnings of € 348.5 million (2020: € 311.8 million) will be carried forward.

SEGMENT REPORT FOR DIVISIONS

Rail Vehicle Systems Division

Incoming orders in the **Rail Vehicle Systems** division decreased slightly year on year, falling -0.4 % from € 3,485.1 million to € 3,470.7 million. Growth in the Europe and North America regions was not able to completely compensate for the decrease in demand from the Asia-Pacific region, which had a particularly noticeable impact on the Chinese business. By contrast, the **order book**, which stood at € 3,875.1 million as of December 31, 2021, was up on the prior-year level of € 3,721.4 million, driven by the positive order situation, especially in the second half of the 2021. Table → 2.20

2.20 RAIL VEHICLE SYSTEMS DIVISION KEY INDICATORS

in € million	2021	2020
Incoming orders	3,470.7	3,485.1
Order book (Dec. 31)	3,875.1	3,721.4
Revenues	3,317.0	3,336.8
EBITDA	714.2	764.2
EBITDA margin (as % of revenues)	21.5%	22.9%
Operating EBITDA margin (as % of revenues)	21.9%	22.9%
EBIT	583.5	636.6
EBIT margin (as % of revenues)	17.6%	19.1%
Operating EBIT margin (as % of revenues)	17.9%	19.1%
Capital expenditure (before IFRS 16 and acquisitions)	118.7	109.0
Depreciation, amortization and impairments	130.7	127.7
R&D costs	211.1	202.6
Employees (as of Dec. 31, incl. temporary staff)	16,308	16,074

The Rail Vehicle Systems division saw a slight year-on-year decrease in **revenues** by -0.6 % to € 3,317.0 million (2020: € 3,336.8 million.). Of this, OE business accounted for around 54% of revenues (2020: 55%) and aftermarket business accounted for 46% of revenues (2020: 45%). The slight decrease in revenues was partly caused by Covid-19 and a decrease in the OE volume in all regions other than Europe. In the Asia-Pacific region, and here especially in China, year-on-year decreases in revenues were seen in the high-speed trains and metro businesses. In the North America region, among others, the regional & commuter business and the freight and metro business declined. In the Europe region, significant growth in high-speed trains and in the railway carriage business more than compensated for revenues below the prior-year level in the light rail vehicles business and the regional & commuter business. The acquisition of the EVAC Group made during the 2021 fiscal year contributed revenue of € 31.2 million in the Rail Vehicle Systems division.

In 2021, the Rail Vehicle Systems division's operating **EBIT** fell by -6.6% to € 594.7 million due to volume and mix factors (2020: € 636.6 million). At 17.9 % of revenue, the operating EBIT margin was moderately below the prior-year level of 19.1%. Compared with the reported EBIT of € 583.5 million, this was adjusted for the aforementioned restructuring expenses in North America (€ 3.2 million) and in connection with Kiepe (€ 8.0 million). There were no comparable circumstances in the previous year that would have led to an adjustment. In the fiscal year, the division benefited, among other things, from the cost-cutting program launched in the previous year, which had a stabilizing effect.

The Rail Vehicle Systems division's operating **EBITDA**, adjusted for the aforementioned restructuring expenses, fell by -5.1% to € 725.4 million due to volume and mix factors (2020: € 764.2 million), leading to an operating EBIT margin from revenues of 21.9%, which was thus moderately lower than the prior-year level of 22.9%.

The Rail Vehicle Systems division's **capital expenditure** of € 118.7 million in 2021 (2020: € 109.0 million) focused primarily on capacity expansions of high-growth product groups, automation projects and, additionally, replacement investments. At € 130.7 million, **depreciation and amortization** was slightly up on the previous year (2020: € 127.7 million).

R&D costs in 2021 came to € 211.1 million, thus increasing moderately by € 8.5 million or 4.2% year on year (2020: € 202.6 million). Compared with the previous year (6.1%), the R&D-to-revenue ratio increased to 6.4% of revenue. Development activities continued to concentrate on solutions for increasing transportation capacity, eco-friendliness, availability, life-cycle management and digitalization.

As of December 31, 2021, the Rail Vehicle Systems division had 16,308 **employees**, which was 234 more than the prior-year level of 16,074 employees (including temporary staff). This was due not only to the acquisition of the EVAC Group with its 230 employees but also to strategically building up headcount for future-related topics (in R&D, among others).

Commercial Vehicle Systems Division

The **Commercial Vehicle Systems** division reported significant growth in **incoming orders** by 29.2% to € 3,818.0 million in 2021 (2020: € 2,954.2 million). This positive trend was attributable to a global market recovery that benefited all regions and boosted results in the first half of 2021 in particular. Continuing supply bottlenecks across the entire commercial vehicle industry led to delays and decreases in incoming orders in the second half of 2021 and primarily affected the North America region and China. The overall significant growth in incoming orders in the 2021 fiscal year was also reflected in the **order book**, which increased by 33.7 % year on year to € 1,696.8 million as of December 31, 2021 and reached a new record level (2020: € 1,269.0 million). Table → 2.21

2.21 COMMERCIAL VEHICLE SYSTEMS DIVISION KEY INDICATORS

in € million	2021	2020
Incoming orders	3,818.0	2,954.2
Order book (Dec. 31)	1,696.8	1,269.0
Revenues	3,390.2	2,819.4
EBITDA	500.6	381.2
EBITDA margin (as % of revenues)	14.8%	13.5%
Operating EBITDA margin (as % of revenues)	14.8%	13.5%
EBIT	361.1	235.1
EBIT margin (as % of revenues)	10.7%	8.3%
Operating EBIT margin (as % of revenues)	10.7%	8.3%
Capital expenditure (before IFRS 16 and acquisitions)	234.1	210.1
Depreciation, amortization and impairments	139.5	146.1
R&D costs	220.3	194.0
Employees (as of Dec. 31, incl. temporary staff)	13,459	12,871

Revenues increased significantly year on year by 20.2% to € 3,390.2 million (2020: € 2,819.4 million). This increase was primarily attributable to a global increase in truck production worldwide and the associated strong growth in OE revenues and significant growth in the aftermarket. All regions benefited from this trend, particularly the core markets of North America and Europe. OE customers' share of the division's total revenues increased by 0.4 percentage points year on year. As a consequence of this sharper growth in the OE business, the aftermarket share of total revenues decreased slightly year on year to 26.7% despite aftermarket revenues increasing in absolute terms (2020: 27.1%).

The Commercial Vehicle Systems division's operating and reported **EBIT** rose very significantly by € 126.0 million or 53.6% to € 361.1 million in 2021 (previous year: € 235.1 million). The operating and reported EBIT margin increased year on year by 240 basis points to 10.7% (2020: 8.3%). This was due not only to the significant increase in revenues but also to systematically continuing the cost control measures introduced. This represents a significant improvement in profitability despite higher costs for freight and procurement owing to the scarcity of semiconductors and to other components.

Operating and reported **EBITDA** also grew very significantly year on year by 31.3% to € 500.6 million. At 14.8% of revenue, the EBITDA margin achieved was thus significantly higher than the prior-year level of 13.5%.

In 2021, the Commercial Vehicle Systems division's **capital expenditure** increased by € 24.1 million year on year to € 234.1 million. As in the previous year, major investments were made in the global provision of supplier tools. In addition, investments were made in connection with our GSBC product platform and for the integration of R. H. Sheppard. **Depreciation, amortization and impairment** in the Commercial Vehicles Systems division was € 139.5 million and thus € 6.6 million below the previous year (€ 146.1 million).

The division's **R&D costs** rose to € 220.3 million in the 2021 fiscal year (2020: € 194.0 million), partly as a result of intensified research and development activity in ADAS/HAD and steering. The disproportionate rise in revenues meant the R&D to revenue ratio fell from 6.9% in the previous year to 6.5% in 2021 despite an increase in R&D costs in absolute terms. Research and development activities focused on the megatrends of road safety, automated driving, emission reduction, e-mobility and connectivity.

The Commercial Vehicle Systems division had 13,459 **employees** as of December 31, 2021 (previous year: 12,871) and thus 588 or 4.6 % more employees than as of December 31, 2020. This resulted largely from the significant increase in revenues and was particularly due to the area of production.

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 € 1,380.2 million cash and cash equivalents at the end of 2021 were down 39.4% on the previous year's figure of € 2,277.0 million due to the repayment of our € 500 million corporate bonds and the full repayment of our credit facilities drawn in connection with the Covid-19 action program. This means that they accounted for 19.2% of total assets compared with 30.8% on 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 chapter titled "Currency, Interest Rate, Liquidity, Commodity Price and Credit Risks, and Financial Instruments for Minimizing Risks."

KNORR-BREMSE GROUP'S FINANCING STRUCTURE

Following the issue of a € 500 million corporate bond in December 2016 (repaid in 2021), in June 2018 we issued a € 750 million bond with an annual coupon of 1.125% and a seven-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 as early as September 2020 and increased to € 3,000 million. The DIP increases our room to maneuver, allowing us to respond quickly to crises such as 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.

In the first half of 2021, the remaining credit facilities of € 500 million from the Covid-19 action program were repaid in full. The effect was a significant reduction in liabilities to banks by € 477.9 million to € 126.6 million. The Knorr-Bremse AG € 500 million corporate bond that matured in December 2021 was repaid as planned and led to a corresponding reduction in bonds and debt instruments. Conversely, lease liabilities increased by € 123.1 million and other financial liabilities by € 61.5 million. Table → 2.22

2.22 FINANCIAL LIABILITIES (DEC. 31)

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Derivatives	(24,378)	(12,794)
Liabilities towards credit institutions	(126,634)	(604,567)
Bonds and debt instruments	(751,818)	(1,250,526)
Liabilities resulting from options on minority interests	(379,616)	(379,616)
Purchase price liabilities	(10,920)	(58,860)
Lease liabilities	(510,272)	(387,221)
Other financial liabilities	(344,872)	(283,346)
	(2,148,510)	**(2,976,930)**
thereof:		
Current	(852,379)	(1,818,194)
Non-current	(1,296,131)	(1,158,737)

CASH FLOW

Cash flow from operating activities

In 2021, the cash inflow from operating activities decreased year on year by € 60.5 million to € 975.5 million. Compared with the previous year, the net income for the period increased by € 115.2 million to € 647.4 million largely due to positive business development. Depreciation, amortization and impairments reduced slightly year on year by € 2.5 million to € 290.4 million. The gain of € -15.9 million on the disposal of fixed assets, which has not yet led to a cash inflow, resulting in a change of € -21.8 million compared with the previous year. Conversely, other non-cash expenses and income increased by a total of € 27.5 million. Income tax payments increased by € 38.8 million compared with the previous year. The previous year was primarily influenced by reduced advance tax payments due to Covid-19 and by tax refunds. The income tax expense was up by € 15.1 million year on year with the increase in pre-tax earnings throughout the Group. The changes to inventories, trade accounts receivable and other assets increased by € 89.5 million compared with the previous year and include measures to preserve global supply chains. In contrast, the changes to trade accounts payable and other liabilities decreased slightly by € 13.3 million. In total, due to volume and the EVAC acquisition among other factors, net working capital increased by € 129.4 million to € 875.8 million (previous year: € 746.4 million). The commitment in days' sales increased by 3.4 days to 47.0 days (previous year: 43.6 days). Table → 2.23

2.23 ABBREVIATED CASH FLOW STATEMENT

in € thousand	2021	2020
Net income (including minority interests)	647,368	532,171
Adjustments for		
Depreciation, amortization and impairment losses on intangible assets and property, plant and equipment	290,438	292,897
Change of impairment on inventories	796	6,596
Change of impairment on trade accounts receivable and contract assets	19,963	7,458
(Gain)/loss on the sale of consolidated companies and other business units	(2,929)	111
(Gain)/loss on the disposal of fixed assets	(15,883)	5,868
Adding to, reversing and discounting provisions	85,554	145,411
Non-cash changes in the measurement of derivatives	19,115	7,992
Other non-cash expenses and income	(19,227)	8,237
Interest result	39,971	35,519
Investment result	2,339	(1,972)
Income tax expense	233,444	218,392
Income tax payments	(182,287)	(143,526)
Changes of		
inventories, trade accounts receivable and other assets that cannot be allocated to investment or financing activities	(115,111)	(25,570)
trade accounts payable as well as other liabilities that cannot be allocated to investing or financing activities	84,821	98,124
Provisions due to utilization	(112,884)	(151,720)
Cash flow from operating activities	**975,489**	**1,035,988**
Cash flow from investing activities	**(534,374)**	**(576,395)**
Cash flow from financing activities	**(1,424,895)**	**(10,367)**
Cash flow changes	**(983,778)**	**449,226**
Change in cash funds resulting from exchange rate and valuation-related movements	69,551	(61,967)
Change in cash fund	**(914,227)**	**387,259**
Free cash flow	**599,993**	**687,301**

Cash flow from investing activities

In the 2021 fiscal year, cash outflow from investing activities fell by € 42.0 million to € 534.4 million. The main driver of the moderate decrease is the € 35.4 million fall in disbursements for the acquisition of consolidated companies to € 87.8 million, which included the payment of the purchase price for the acquisition of the EVAC Group totaling € 85.9 million. Additionally, investments made in financial assets reduced by € 13.9 million to € 92.7 million in the 2021 fiscal year. Unlike in the previous year (outflow of € 8.9 million), cash inflow of € 5.7 million from the disposal of consolidated companies and other resulted in the reporting year. Conversely, disbursements for investments in property, plant and equipment increased by € 20.6 million to € 261.9 million. Moreover, disbursements for investments in intangible assets increased by € 13.3 million to € 133.6 million.

Cash Flow from Financing Activities

In the 2021 fiscal year, there was a cash outflow from financing activities in the amount of € 1,424.9 million, which represents a € 1,414.5 million higher cash outflow compared to the previous year. The key drivers for this change were not only the € 752.5 million lower proceeds from borrowings, which decreased in connection with the Covid-19 action program in 2020, but also the payments made to repay the loans of € 1,044.5 million, an increase by € 645.2 million compared with the previous year. This includes the repayment of the remaining credit facilities from the Covid-19 action program, in particular the scheduled repayment in December 2021 of the € 500 million corporate bond we issued in 2016. Furthermore, the cash flow from financing activities results partly from dividends of € 245.0 million paid to shareholders of the parent company, a € 45.1 million decrease year on year. In addition, dividends were paid out to minority shareholders totaling € 29.8 (previous year: € 48.4 million). Payments for lease liabilities amounted to € 58.8 million, a slight decrease of € 3.5 million compared to the previous year. In addition, there were payments of € 25.1 million for the acquisition of non-controlling interests. These relate to the settlement in full of the purchase price liability 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[10] was € 600.0 million and was thus € 87.3 million lower than the previous year's level of € 687.3 million. This decrease was due not only to the moderately low cash flow from operating activities but also to increased capital expenditure in the previous year.

LIQUIDITY

The decrease in cash and cash equivalents to € 1,326.5 million. (previous year: € 2,240.7 million) was primarily the result of the positive balance of cash inflow from operating activities (€ 975.5 million), cash outflow from investing activities (€ 534.4 million) and cash outflow from financing activities (€ 1,424.9 million). The net cash balance[11] increased moderately from € 102.8 million in the previous year to € 108.5 million in 2021. Table → 2.24

2.24 CASH FUNDS (DEC. 31)

in € million	2021	2020
Cash and cash equivalents (Jan. 1)	2,240.7	1,853.5
Cash flow from operating activities	975.5	1,036.0
Cash flow from investing activities	(534.4)	(576.4)
Cash flow from financing activities	(1,424.9)	(10.4)
Other	69.6	(62.0)
Cash funds (Dec. 31)	**1,326.5**	**2,240.7**

The ratio of the Group's net cash balance to equity was 4.5% (previous year: 5.3%). The decrease compared to the previous year resulted – in spite of an increase of € 5.8 million in the net cash balance – from a significant increase in equity of € 503.9 million. The Group has access to approved credit facilities totaling € 1,995.6 million, of which around 71.6% remained undrawn as of the end of the fiscal year. Interest rates on liabilities conform with prevailing market terms, according to maturity.

At year-end 2021, the undiscounted maximum level of liability for loan guarantees/sureties and contract-performance guarantees/sureties for third-party services totaled € 22.0 million (previous year: € 19.9 million). Other financial obligations included rental and lease obligations (€ 29.9 million). They also include financial obligations for capital expenditure projects (€ 25.7 million), liabilities associated with major maintenance and repair work (€ 10.4 million) and other liabilities (€ 172.7 million). The other liabilities item includes loan commitments and bank guarantees. For further details, see also chapters 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 our existing credit ratings 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 attests to greater stability and reduced dependence on cyclical economic trends due to the rising revenue and earnings contributions from the rail vehicles business. Moody's continues to give the Group an A2 rating and raised the outlook back to "stable" in November 2021 on the basis of the robust earnings situation. 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.

ASSETS AND CAPITAL STRUCTURE

The Group's **total assets** fell by 2.6 % to € 7,199.2 million compared with December 31, 2020 (€ 7,390.0 million), mainly due to the balance sheet contraction as a result of the repayment of our € 500 million corporate bond and the full repayment of the credit facilities drawn in connection with the Covid-19 action program. This was offset by, among other things, acquisitions, as described under "Changes to the Group's Portfolio," investments as described in the divisions' reporting and effects from currency translation. As of year-end 2021, committed assets represented 107.4% of revenues. Table → 2.25

[10] Free cash flow is calculated by deducting disbursements 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

[11] This is the result of offsetting (netting) cash and cash equivalents (including securities) against bank loans, bonds, notes and lease liabilities

2.25 BALANCE SHEET RATIOS

in € million	2021	2020
Net debt/(cash) (Dec. 31)	(108.5)	(102.8)
Net debt to EBITDA	0	0
Gearing (Dec. 31)	0	0
Net working capital (NWC) (Dec. 31)	875.8	746.4
Net working capital in days' sales	47.0	43.6
Turnover rate – inventories	6.7	7.3
Receivables/days' sales outstanding	66.0	66.7
Equity ratio (Dec. 31)	33.7%	26.0%
Total assets (Dec. 31)	**7,199.2**	**7,390.0**

* 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. This is calculated by dividing the annualized revenue by inventories
Receivables/days' sales outstanding refers to the number of days that elapsed between the invoicing date and the receipt of payment.

Net working capital, defined as the sum of inventories, trade accounts receivable and contract assets less trade accounts payable and contract liabilities, stood at € 875.8 million at year-end (2020: € 746.4 million). This increase compared to the previous year was due to volume, among other things, and the acquisition of EVAC. Measured in terms of days' sales, this corresponds to a commitment of 47.0 days (2020: 43.6 days).

As of December 31, 2021, the Knorr-Bremse Group had an **equity ratio** of 33.7%. The significant rise compared to December 31, 2020 (26.0%), results from an increase of € 503.9 million to € 2,425.5 million (previous year: € 1,921.7 million) in equity, largely as a result of higher earnings contributions, at the same time as lower total assets, particularly as a result of the decrease in financial liabilities. Table → 2.26

2.26 EQUITY

in € million	2021	2020
Subscribed capital	161.2	161.2
Other equity	2,167.1	1,669.5
Equity attributable to the shareholders	**2,328.3**	**1,830.7**
Non-controlling interests	97.2	91.0
Total equity	**2,425.5**	**1,921.7**

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 € 375.5 million in the 2021 fiscal year, representing 5.6 % of revenues (2020: 5.6 %). Major investments were made in forward-looking 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. Furthermore, capacity expansions were implemented for high-growth product groups and for automation projects. -Table → 2.27

2.27 CAPITAL EXPENDITURE, DEPRECIATION AND AMORTIZATION

in € million	2021	2020
Capital expenditure on property, plant and equipment	264.9	241.3
Investments in intangible assets	110.6	100.4
Depreciation, amortization and impairments	290.4	292.9

Supplementary Report

Prof. Mangold will resign from office as the Chairman of the Supervisory Board as planned with effect as of the end of the Annual General Meeting on May 24, 2022, and step down from the Supervisory Board. On February 11, 2022, Knorr-Bremse AG's Supervisory Board decided unanimously to propose Dr. Reinhard Ploss for election as a new Supervisory Board member at the Annual General Meeting. The Supervisory Board intends to elect Dr. Ploss as the Chairman of the Supervisory Board at its inaugural meeting after the Annual General Meeting. With effect as of the end of this year's Annual General Meeting, Supervisory Board member Dr. Thomas Enders is resigning from his position and will be leaving the Supervisory Board.

Dr. Peter Laier, member of the Executive Board of Knorr-Bremse AG and globally responsible for the Commercial Vehicle Systems division (CVS), resigned from the Executive Board at his own request with effect from December 31, 2021, in order to pursue new professional perspectives. The division was managed on an interim basis by the CEO Dr. Jan Michael Mrosik from January 1, 2022, to March 11, 2022. On March 11, 2022, the Supervisory Board decided to appoint Bernd Spies to the Executive Board as the member responsible for the Commercial Vehicle Systems division effective on March 12, 2022. Additionally on March 11, 2022, the Supervisory Board resolved that the CEO of Knorr-Bremse AG, Dr. Jan Michael Mrosik, will leave the Company effective on April 30, 2022, and will resign from the Executive Board effective on March 12, 2022. Until a successor has been determined, CFO Frank Markus Weber will assume the responsibilities of the CEO on an interim basis.

To secure long-term financing, Knorr-Bremse AG concluded a syndicated credit facility of € 750 million in January 2022. The credit facility is initially agreed for a period of 5 years and can be extended twice, by one year each time. Knorr-Bremse has tied the new financing to an ESG rating by ISS Corporate Solutions. Within the framework of a *bonus–malus* system, changes to this rating have a corresponding positive or negative impact on the loan spread.

In a letter dated February 11, 2022, Ruhrbahn GmbH claimed damages in the amount of € 9.0 million from the Kiepe/Heiterblick consortium and notified its intention to take legal action if payment is not made. Ruhrbahn is basing its claim on the violation of duties of consideration associated with an appeal on an award procedure from 2020. The consortium will defend itself against the claim, which it considers unfounded. No provisions were recognized for this process.

On February 24, 2022, Russia began a military invasion of Ukraine (Russia–Ukraine war). In response, the European Union and the United States imposed sanctions against Russia. Knorr-Bremse established a task force early on, is continuously monitoring the current developments and sanctions, and is no longer delivering any sanctioned products or components to Russia. Additionally, Knorr-Bremse has decided to no longer deliver any products or systems for Russian locomotives for which it cannot be excluded that they could be used for military purposes. Knorr-Bremse will also withdraw from Kama Systems for Commercial Vehicles, the joint venture with Russia-based Kamaz. You will find a presentation of the potential risks as well as other information in the subsequent "Report on Risks, Opportunities and Expected Developments."

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

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. Due to the changes to Auditing Standard 340 of the Institut der Deutschen Wirtschaftsprüfer (IDW AuS 340 new version), which applied from the 2021 fiscal year, process changes have been made in the risk management system compared to 2020. In the course of this, the risk categories "M&A" and "Strategy" were combined into "Strategy, M&A/PMI." The categories "Market & Customers" and "Project Management" were also combined into the new category "Market & Customers Project Management." "Compliance" and "Sustainability" were introduced as additional risk categories. The division of risks into the ranges very low, low, medium, and high were reduced to the three ranges low, medium, and high. The threshold was increased from EUR 40 million to EUR 50 million, although the risk reporting is now measured by the weighted risk after measures and after risk provisions rather than by the weighted risk after measures but before risk provisions, as it was before. In order to create comparability between 2020 and 2021, the risk values from 2020 were prepared in accordance with the new logic for comparison with the figures from 2021.

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 discussed and adopted in the Risk Committee. The participants in the Risk Committee are the heads of finance with regional responsibility, the heads of other governance functions and the global quality managers. The Group risk report is then presented to the Knorr-Bremse Group's Executive Board at quarterly intervals and explained and discussed 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 liquidity 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 risk provisions. Factoring in the probability of occurrence allows us to quantify the weighted net risk. For the purpose of recognizing risk provisions in the balance sheet, appropriate provisions and loss allowances must be recognized in the annual financial statements in compliance with accounting regulations. After deducting the risk provisions recognized in the balance sheet, an expected value for the remaining potential impact on earnings of each risk is obtained.

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. This process of aggregation, the performance of a plausibility check and validation is also part of the Risk Committee's quarterly agenda.

The aggregated risks are classified in accordance with the risk's materiality to the Group as follows:

- Low (< € 10 million)
- Medium (€ 10 million to € 50 million)
- High (> € 50 million)

In addition to the quantified risks described above, risk management also assesses qualitative, abstract 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. Process-integrated monitoring is the Risk Committee's task. The examination and process-independent monitoring of 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 2021 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 regularly provides the Supervisory Board with a detailed breakdown of ICS and Internal Audit results once a year as part of the Audit Committee meeting.

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 pertaining to 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 and after risk provisions) to the Group per risk category. Table → 2.28

2.28 KNORR-BREMSE GROUP – RISK CATEGORIES

	Low (< € 10 million)	Medium (€ 10 million to € 50 million)	High (> € 50 million)
Strategy, M&A/PMI		■	
Legal & Regulatory	■		
Compliance		■	
Research & Development	■		
Purchasing			■
Market & Customers Project Management			■
Logistics	■		
Production	■		
Quality & Product Liability	■		
HR	■		
Finance & Treasury		■	
IT Systems & IT Security		■	
Sustainability	■		
External/Other	■		

Material changes occurred in the risk portfolio compared with the previous year in the Purchasing category. The increase in the Purchasing category is attributable to supply bottlenecks for electronic components from the semiconductor industry and to the global rise in the market price of commodities and energy.

Changes in the area of Legal & Regulatory as well as in the area of Quality & Product Liability do not concern content, but rather are attributable to process changes that are described in the introductory paragraph "Principles and Objectives." The change in the area of Legal & Regulatory is therefore attributable to the additional risk category "Compliance." The change in the area of Quality & Product Liability is attributable to the fact that risk reporting is now measured by the weighted risk after measures and after risk provisions rather than by the weighted risk after measures but before risk provisions, as it was before.

The further course of the Russia–Ukraine war, which is currently difficult to foresee, and the additional sanctions as a result could lead to risks that have an effect on various risk categories. For example, there could be restrictions in Procurement, Production and Finance & Treasury, as well as Market & Customers Project Management in particular, which could lead to high risks in the net assets, financial position and results of operations. In particular, this could result in an impairment risk for the assets in Russia in the amount of an upper two-digit-million figure, in connection with the withdrawal from the KB Kama joint venture and a potential expropriation of our Russian subsidiaries. This could lead to revenue losses in the low three-digit millions and corresponding margin losses.

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

STRATEGIC RISKS, RISKS ASSOCIATED WITH MERGERS AND ACQUISITIONS (M&A) AND POST-MERGER INTEGRATION (PMI)

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. 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. These may take the form of restructuring costs, value adjustments or similar risks – for example, in the event of relocations or closures.

Risks can arise from both strategic and operational perspectives 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. 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.

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.

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. Details of current proceedings can be found in the Notes to the consolidated financial statements under H.9. Legal disputes and litigation.

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.

COMPLIANCE-RELATED RISKS

Corruption, anti-competitive practices, conflicts of interest and fraud or embezzlement have been identified by the compliance management system as potential compliance risks. The basis of this categorization is a compliance risk analysis, which was carried out with the involvement of selected business units and markets and was renewed in 2021. Alleged irregularities in conjunction with the initiation of business were reported via the Knorr-Bremse whistleblower system. Provisions for tax risks in the range of single-digit millions were recognized in the consolidated financial statements as of December 31, 2021, for issues identified as part of the investigation concluded in January 2022. Should these issues become the subject of an investigation by the authorities, and should this investigation determine there had been violations of applicable law, this could lead to additional risks for the companies.

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 Covid-19 pandemic, in particular late deliveries, quality defects and rising supplier prices that cannot always be passed on in full to customers, or 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, the present supply bottlenecks for electronic components from the semiconductor industry and the global rise in the market price of commodities and energy are currently worth highlighting.

MARKET RISKS AND RISKS IN CUSTOMER PROJECT MANAGEMENT

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, in particular, 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, as is 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.

Customer-project-specific risks may arise in the Rail Vehicle Systems division in particular, owing to the division's reliance on project-related business. 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. The Wuppertal Suspension Railway customer projects and the Hanover customer project are current examples. As far as possible, risk provisions have been recognized for these in the balance sheet. To avoid such risks, we rely on effective project management and controlling, fine-grained monitoring and intensive communication with our customers.

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 cover these risks through our best estimates.

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 chapter 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". Where necessary, risk provisions are recognized for these in the balance sheet.

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. Further risks may also arise in connection with, among other things, software licenses.

RISKS ASSOCIATED WITH SUSTAINABILITY

The category of sustainability encompasses risks in connection with environmental and climate protection and the protection of human rights. The risks relating to environmental and climate protection concern, for example, rising energy costs as a result of increased environmental regulations and price increases for energy-intensive production materials in a decarbonized economy. In the future, meeting ESG requirements will have an increasing influence on the financing of the Knorr-Bremse Group.

In addition, climate change may disrupt supply chains and impact material properties that are relevant to product quality. We deal with these risks at an early stage in order to be able to react to them adequately and with appropriate measures in all areas.

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 as a result of external fraudulent activities, 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 swaps, currency options and interest rate swaps. Derivatives 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 the 2019 fiscal year 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 2018 and borrowings from bilateral credit facilities. The bond issued in 2016 was repaid as planned in December 2021. 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 € 312.1 million, pension provisions at the end of the year were below the previous year's level (previous year: € 354.9 million), and thus 4.3% (previous year: 4.8%) 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 accounts receivable from customers and 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 carrying amount 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 excellent credit standing and solid balance sheet structure. As of December 31, 2021, Knorr-Bremse had approved credit facilities of € 1,995.6 million in place, of which around 71.6% remained undrawn, plus a bond totaling € 750 million that will mature in 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 be found in chapter 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. In the opinion of management, 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 divisions.

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 of companies. 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: Decreasing Momentum in the Recovery

According to IMF analysts, the global economy enters 2022 in a weakened state. The global outlook is marred by various downside risks. With the spread of the new Omicron variant of Covid-19, by the start of 2022 many countries had reintroduced restrictions on social life, which had previously been gradually lifted over the course of 2021. Rising energy prices and supply disruptions at times contributed to higher and broader inflation. Many governments face record levels of debt in connection with combating the effects of the pandemic, which limits the degree of freedom for further measures. Following the sustainable recovery in 2021, global GDP growth is expected to be 4.4% in 2022 and 3.8% in 2023 (Source: IMF).

Following a remarkable rebound since the start of 2021, the speed of growth in the eurozone slowed toward the end of the year. This was partly due to a strong resurgence of the new Omicron variant, cases of which hit Europe particularly hard, but also partly due to the continuing impact of supply-side bottlenecks on the manufacturing industry. Some industries – such as the automotive sector – and economies that are highly sensitive to global influences are suffering more as a result while simultaneously remaining exposed to sluggish supply chains and volatile energy prices. Analysts nevertheless expect growth in the eurozone at a solid level at 3.9% for 2022 and 2.5% for 2023 (Source: IMF).

The speed of recovery in the United States also slowed in the second half of 2021, as the US is facing considerable drops in private consumption and manufacturing production. In addition to Covid-19 outbreaks, increasing supply bottlenecks, rising energy prices and the increase in inflation, combined with pressure on wages contributed to tensions. World Bank analysts do not expect a quick recovery but see a further, additional risk factor in a possible reduction of monetary policy support. Nevertheless, growth forecasts of the IMF are 4.0% for 2022 and 2.6% for 2023 (Source: IMF).

Disruptions due to the pandemic in connection with the zero-tolerance policy on Covid-19 led to interruptions of industrial production in China. The roller coaster ride of coal prices, which ended at an all-time high in the fourth quarter of 2021, accompanied by power outages, decreased real estate investments and a significant decline in public investment contributed to a significant slowdown of economic growth, in particular in the second half of 2021. IMF analysts expect similar signs in 2022 and estimate GDP growth at 4.8%, while it is expected to stabilize at 5.2% in 2023 (Source: IMF).

The current assumptions and expectations reflect the assessments of the economic institutes in December 2021/January 2022. 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 definitely 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. Table → 2.29

Sources: IMF World Economic Outlook (January 2022), World Bank Global Economic Prospects (January 2022), OECD Economic Outlook (December 2021), IEA Coal Report (January 2021)

2.29 FULL-YEAR GUIDANCE FOR THE GROUP

		2022 target	2021 actual
Most significant performance indicators			
Revenues	€ million	6,800-7,200	6,706
Operating EBIT margin (as % of revenues)	%	12.5-14.0	13.5
Free cash flow	€ million	500-600	600
Other Performance Indicators			
ROCE	%	≥25	24.9
Employees (FTEs as of Dec. 31)		31,000-32,000	30,544

Global Rail and Commercial Vehicle Markets

GLOBAL RAIL VEHICLE PRODUCTION

Despite the continuing 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.

In Europe, 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. Moreover, alternative drive systems, which are intended to replace diesel multiple units and diesel locomotives, are playing an increasing role. Further impetus from governments regarding rail transportation and systematic implementation of the Green Deal is also expected.

The long-term development of the North American market is shaped by political and economic trends. In particular, the infrastructure package adopted at the end of 2021 includes high levels of investment in the rail industry. Growth is mainly expected not only in freight transport but in the national passenger transportation segments and in urban transportation. New emission standards and safety regulations are expected to favor the industry.

In Asia and the Pacific region, increasing growth is expected in the markets of India and Southeast Asia. Due to massive fleet expansion in China in the past few years, stronger growth is expected in the aftermarket. However, annual new-vehicle purchases will be reduced compared to previous years and aftermarket overhaul cycles further extended, and slightly lower mileages will be recorded, leading to lower demand.

These market assessments are based on leading industry studies.

GLOBAL COMMERCIAL VEHICLE PRODUCTION

For 2022, Knorr-Bremse expects a stable level of global commercial vehicle production at around 2,960,000 units. A further drop in vehicle production is expected in China, which will be offset by markets continuing to recover in Europe and North America.

For example, the strongest recovery is expected in North America with a 25% increase to 425,000 vehicles. In South America, the production level is expected to stabilize.

Knorr-Bremse anticipates that commercial vehicle production will increase slightly in Western Europe in the current year, with a rise of 7% to around 475,000 units expected. In Eastern Europe, a slight rise in commercial vehicle production by 3% to around 79,000 units is also expected.

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 6% for the second year in a row in the Asian region to around 1,802,000 units in 2022. By contrast, rising production rates are expected in India and Japan.

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

Revenue, Profitability and Free Cash Flow

The outlook for 2022 is subject to largely stable exchange rates year-on-year, no significant resurgences in the coronavirus pandemic and, in general, stable geopolitical and economic environments. We expect continued scarcity of semiconductors and bottlenecks in the supply chain for both divisions. Potential negative effects of the Russia–Ukraine war on the business development cannot be conclusively assessed and are not contained in our guidance. Additionally, effects from acquisitions or disposals are generally not taken into account.

From today's perspective, we therefore anticipate revenues of between € 6,800 million and € 7,200 million for the 2022 fiscal year. Based on this revenue forecast, we expect an operating EBIT margin of between 12.5% and 14.0%. Free cash flow should be in a range between € 500 million and € 600 million.

Other Performance Indicators

For ROCE in 2022, we forecast a figure of slightly above or equal to 25%.

We expect our headcount to fall within a range from 31,000 to 32,000 as of the end of 2022.

The dividend proposal for 2021 (€ 1.85 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 into account and assuming there are largely stable exchange rates year-on-year and no new slumps as a result of the pandemic or the Russia–Ukraine war, which cannot yet be conclusively assessed and is not included in our outlook, in general we estimate that the Group's most important key performance indicators will evolve as follows in the 2022 fiscal year:

Revenues are expected to increase in 2022; the target range is € 6,800 million to € 7,200 million. The EBIT margin is expected to be in a target range from 12.5% to 14.0% and free cash flow is expected to be between € 500 million and € 600 million.

In addition to continuing to deal with the effects of the coronavirus pandemic, supply chain bottlenecks, the Russia–Ukraine war and a marked increase in inflation, 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 to continue to pursue a sustainable dividend policy and further expand the Group by means of acquisitions as well.

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 2021, Knorr-Bremse AG had 122 employees (2020: 125).

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.

Knorr-Bremse AG's net assets and financial position is impacted by the redemption of a bond in an amount of € 500.0 million and the repayment of current liabilities to banks, also in the amount of € 500.0 million. Current liabilities to banks decreased to a total of € 6.5 million (2020: € 507.2 million). Equity rose from € 735.2 million in 2020 to € 825.1 million in 2021, mainly as a result of profit retention in the fiscal year. The total assets of Knorr-Bremse AG decreased primarily as a result of the above-mentioned transactions and amounted to € 2,164.9 million as of December 31, 2021 (previous year: € 2,945.1 million).

In 2021, a lower investment result resulted in a decrease in earnings before taxes to € 362.7 million (2020: € 398.6 million). Contrary to the original plan, the net profit for the year of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich, Germany, was retained and not received as a dividend. In deviation from the forecast, this led to a significant decrease in the investment result in 2021 to € 380.7 million (2020: € 452.4 million). Taxes on income increased sharply year on year, which is mainly the result of the lower corporate tax credit. Overall, Knorr-Bremse AG therefore saw lower earnings after taxes compared with the prior 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. Regardless of the negative conditions caused by the Covid-19 pandemic, Knorr-Bremse AG's performance is evaluated positively overall.

Appropriation of Retained Net Earnings

Knorr-Bremse AG posted retained net profit of € 646.7 million in the 2021 fiscal year (previous year: € 556.8 million). The Executive Board of Knorr-Bremse AG will suggest that the Annual General Meeting distribute a total dividend of € 298.2 million for the past fiscal year. This corresponds to a dividend per share with dividend rights of € 1.85 (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 6 (4) AktG. To the Executive Board's knowledge, the majority of Stella's shares were held by Mr. Heinz Hermann Thiele, Munich, Germany, from 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 7 AktG were also dependent on Mr. Thiele until February 23, 2021. On March 25, 2021, the Company published a release pursuant to section 43 (2) and section 40 (1) WpHG, according to which the voting rights are attributed to Mrs. Nadia Thiele as the heir pursuant to section 34 WpHG. On May 18, 2021, the Company published a release pursuant to section 43 (2) and section 40 (1) WpHG, according to which, following the acceptance of the role of executor for the estate of the late Heinz Hermann Thiele and the associated control of the voting rights, the indirect shareholding of KB Holding GmbH, Grünwald, Germany, in Knorr-Bremse AG amounting to 58.99% is attributed to Mr. Robin Brühmüller.

Pursuant to section 312 AktG, the Executive Board has drawn up a Report on Relations with Affiliated Companies that 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 sharp rise in the investment result in 2022. Our future ability to pay dividends thus remains assured. 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 25, 2022
Knorr-Bremse AG

Executive Board

FRANK MARKUS WEBER   DR. CLAUDIA MAYFELD   BERND SPIES   DR. JÜRGEN WILDER

Limited Assurance Report of the Independent Auditor regarding the non-financial group statement[12]

To the Supervisory Board of Knorr-Bremse AG, Munich
We have performed an independent limited assurance engagement on the non-financial group statement of Knorr-Bremse AG, Munich (further "Company" or "Knorr-Bremse"), which is published as part of the Management Report, (further "non-financial group statement") for the period from January 1 to December 31, 2021.

Management's Responsibility

The legal representatives of the Company are responsible for the preparation of the non-financial group statement in accordance with Sections 315b, 315c in conjunction with 289c to 289e HGB and with Article 8 of REGULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of June 18, 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (further "EU Taxonomy Regulation") and the supplementing Delegated Acts as well as the interpretation of the wordings and terms contained in the EU Taxonomy Regulation and in the supplementing Delegated Acts by the Company as disclosed in Section "Sustainable Financial Market and EU Taxonomy" of the non-financial group statement.

This responsibility of the legal representatives includes the selection and application of appropriate methods to prepare the non-financial group statement and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. Furthermore, the legal representatives are responsible for the internal controls they deem necessary for the preparation of the non-financial group statement that is free of – intended or unintended – material misstatements.

The EU Taxonomy Regulation and the supplementing Delegated Acts contain wordings and terms that are still subject to substantial uncertainties regarding their interpretation and for which not all clarifications have been published yet. Therefore, the legal representatives have included a description of their interpretation in Section "Sustainable Financial Market and EU Taxonomy" of the non-financial group statement. They are responsible for its tenability. Due to the innate risk of diverging interpretations of vague legal concepts, the legal conformity of these interpretations is subject to uncertainty.

Practitioner's Responsibility

It is our responsibility to express a conclusion on the non-financial group statement based on our work performed within a limited assurance engagement.

We conducted our work in the form of a limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information", published by IAASB.

Accordingly, we have to plan and perform the assurance engagement in such a way that we obtain limited assurance as to whether any matters have come to our attention that cause us to believe that the non-financial group statement of the Company for the period from January 1 to December 31, 2021 has not been prepared, in all material respects, in accordance with Sections 315b and 315c in conjunction with 289c to 289e HGB and with the EU Taxonomy Regulation and the supplementing Delegated Acts as well as the interpretation of the wordings and terms contained in the EU Taxonomy Regulation and in the supplementing Delegated Acts by the legal representatives as disclosed in Section "Sustainable Financial Market and EU Taxonomy" of the non-financial group statement. We do not, however, issue a separate conclusion for each disclosure. As the assurance procedures performed in a limited assurance engagement are less comprehensive than in a reasonable assurance engagement, the level of assurance obtained is substantially lower. The choice of assurance procedures is subject to the auditor's own judgement.

Within the scope of our engagement we performed, amongst others, the following procedures:

12 Our engagement applied to the German version of the non-financial group statement 2021. This text is a translation of the Independent Assurance Report issued in German, whereas the German text is authoritative.

1. Inquiries of group-level personnel who are responsible for the materiality analysis in order to understand the processes for determining material topics and respective reporting boundaries for Knorr-Bremse AG

2. A risk analysis, including media research, to identify relevant information on Knorr-Bremse AG sustainability performance in the reporting period

3. Reviewing the suitability of internally developed Reporting Criteria

4. Evaluation of the design and the implementation of systems and processes for the collection, processing and monitoring of disclosures, including data consolidation, on environmental, employee and social matters, respect for human rights, combating corruption and bribery

5. Inquiries of group-level personnel who are responsible for determining disclosures on concepts, due diligence processes, results and risks, performing internal control functions and consolidating disclosures

6. Inspection of selected internal and external documents

7. Analytical procedures for the evaluation of data and of the trends of quantitative disclosures as reported at corporate level by all sites

8. Evaluation of local data collection, validation and reporting processes as well as the reliability of reported data based on a sample of the sites in Watertown (USA) and Kecskemét (Hungary)

9. Assessment of the overall presentation of the disclosures

10. Evaluation of the process for the identification of taxonomy-eligible economic activities and the corresponding disclosures in the non-financial group statement

The legal representatives have to interpret vague legal concepts in order to be able to compile the relevant disclosures according to Article 8 of the EU Taxonomy Regulation. Due to the innate risk of diverging interpretations of vague legal concepts, the legal conformity of these interpretations and, correspondingly, our assurance thereof are subject to uncertainty.

In our opinion, we obtained sufficient and appropriate evidence for reaching a conclusion for the assurance engagement.

Independence and Quality Assurance on the Part of the Auditing Firm

In performing this engagement, we applied the legal provisions and professional pronouncements regarding independence and quality assurance, in particular the Professional Code for German Public Auditors and Chartered Accountants (in Germany) and the quality assurance standard of the German Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) regarding quality assurance requirements in audit practice (IDW QS 1).

Conclusion

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the non-financial group statement of Knorr-Bremse AG for the period from January 1 to December 31, 2021 has not been prepared, in all material respects, in accordance with Sections 315b and 315c in conjunction with 289c to 289e HGB and with the EU Taxonomy Regulation and the supplementing Delegated Acts as well as the interpretation disclosed in Section “Sustainable Financial Market and EU Taxonomy” of the non-financial group statement.

Recommendation

Without affecting our conclusion presented above, we recommend for the indicator occupational safety to further develop the reporting guideline for the data determination as well as to ensure its consistent implementation through respective processes and internal controls on division and site level related to the data collection of contracted working hours, to increase data quality.

Restriction of Use/General Engagement Terms

This assurance report is issued for purposes of the Supervisory Board of Knorr-Bremse AG, Munich, only. We assume no responsibility with regard to any third parties.

Our assignment for the Supervisory Board of Knorr-Bremse AG, Munich, and professional liability as descriped above was governed by the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 (https://www.kpmg.de/bescheinigungen/lib/aab_english.pdf). By reading and using the information contained in this assurance report, each recipient confirms notice of the provisions contained therein including the limitation of our liability as stipulated in No. 9 and accepts the validity of the General Engagement Terms with respect to us.

Munich, March 29, 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft

[Original German version signed by:]

Hanshen
Wirtschaftsprüfer
[German Public Auditor]

ppa. Baumann

03

Consolidated Financial Statements

Consolidated statement of income

of Knorr-Bremse AG, for the fiscal year from January 1 to December 31, 2021

3.01 CONSOLIDATED STATEMENT OF INCOME

in € thousand	Notes	2021	2020
Revenues	E.1.	6,705,640	6,156,746
Change in inventory of unfinished/finished products	E.2.	39,074	(11,297)
Own work capitalized	E.2.	83,107	76,098
Total operating performance		**6,827,821**	**6,221,547**
Other operating income	E.3.	111,920	92,157
Cost of materials	E.4.	(3,376,685)	(2,961,111)
Personnel expenses	E.5.	(1,647,713)	(1,525,486)
Other operating expenses	E.6.	(708,838)	(720,207)
Earnings before interest, tax, depreciation and amortization (EBITDA)		**1,206,505**	**1,106,900**
Depreciation, amortization and impairment	E.7.	(290,438)	(292,897)
Earnings before interest and taxes (EBIT)		**916,067**	**814,003**
Interest income	E.8.	15,901	19,350
Interest expenses	E.8.	(55,872)	(54,870)
Other financial result	E.8.	4,717	(27,921)
Income before taxes		**880,813**	**750,562**
Taxes on income	E.9.	(233,445)	(218,391)
Net income		**647,368**	**532,171**
Thereof attributable to:			
Profit (loss) attributable to non-controlling interests		26,058	36,672
Profit (loss) attributable to the shareholders of Knorr-Bremse AG		621,310	495,499
		647,368	**532,171**
Earnings per share in €	**E.10.**		
undiluted		3.85	3.07
diluted		3.85	3.07

Consolidated statement of comprehensive income

of Knorr-Bremse AG, for the fiscal year from January 1 to December 31, 2021

3.02 CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

in € thousand	Notes	2021	2020
Net income		**647,368**	**532,171**
Actuarial gains and losses	F.10.	40,776	(24,916)
Equity instruments recognized directly in equity	F.14.3.	3,643	(2,345)
Deferred taxes	E.9.2.	(7,187)	3,298
Items that will not be reclassified to profit or loss		**37,232**	**(23,963)**
Currency translation		106,483	(125,487)
Hedging transactions reserve	F.14.4.	(15,591)	8,392
Reserve for costs of hedging	F.14.4.	(2,858)	(3,003)
Deferred taxes	E.9.2.	5,966	(1,719)
Items that may be reclassified to profit or loss		**94,000**	**(121,817)**
Other comprehensive income after taxes		**131,232**	**(145,780)**
Comprehensive income		**778,600**	**386,391**
Total comprehensive income attributable to non-controlling interests		35,370	30,647
Total comprehensive income attributable to the shareholders of Knorr-Bremse AG		743,230	355,744

Consolidated balance sheet

of Knorr-Bremse AG, as of December 31, 2021

3.03 ASSETS

in € thousand	Notes	2021	2020
Assets			
Intangible assets	F.1.	587,648	491,595
Goodwill	F.2.	418,179	396,174
Property, plant and equipment	F.3.	1,790,359	1,544,731
Investments accounted for using the equity method		22,073	24,663
Other financial assets	F.4.	215,173	140,786
Other assets	F.5.	79,053	57,276
Income tax receivables	F.14.	1,012	–
Assets from employee benefits	F.10.	30,092	20,995
Deferred tax assets	E.9.	117,934	116,416
Non-current assets		**3,261,523**	**2,792,636**
Inventories	F.6.	1,002,178	844,590
Trade accounts receivable	F.5.	1,230,273	1,141,139
Other financial assets	F.4.	63,823	39,828
Other assets	F.5.	130,640	161,793
Contract assets	E.1.	74,985	84,217
Income tax receivables	F.15.	55,529	48,714
Cash and cash equivalents	F.7.	1,380,210	2,277,048
Current assets		**3,937,638**	**4,597,329**
Total equity and liabilities		**7,199,161**	**7,389,965**

3.04 LIABILITIES

in € thousand	Notes	2021	2020
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	13,300
Other components of equity		(196,173)	(317,579)
Profit carried forward		1,714,824	1,464,349
Profit attributable to the shareholders of Knorr-Bremse AG		621,310	495,499
Equity attributable to the shareholders of Knorr-Bremse AG		**2,328,345**	**1,830,653**
Equity attributable to non-controlling interests		97,183	91,008
thereof share of non-controlling interests in net income		26,058	36,672
Equity		**2,425,528**	**1,921,661**
Liabilities			
Provisions for pensions	F.10.	312,066	354,887
Provisions for other employee benefits	F.10.	21,664	17,437
Other provisions	F.11.	227,831	269,010
Financial liabilities	F.13.	1,296,131	1,158,737
Other liabilities	F.12.	3,945	3,490
Income tax liabilities	F.15.	79,787	58,194
Deferred tax liabilities	E.9.	134,861	114,482
Non-current liabilities		**2,076,285**	**1,976,237**
Provisions for other employee benefits	F.10.	7,886	19,172
Other provisions	F.11.	240,740	194,015
Trade accounts payable	F.12.	1,166,062	1,027,682
Financial liabilities	F.13.	852,379	1,818,194
Other liabilities	F.12.	101,992	90,287
Contract liabilities	E.1.	265,567	295,868
Income tax liabilities	F.15.	62,722	46,849
Current liabilities		**2,697,348**	**3,492,067**
Liabilities		**4,773,633**	**5,468,304**
Total equity and liabilities		**7,199,161**	**7,389,965**

Consolidated statement of cash flows

of Knorr-Bremse AG, for the fiscal year from January 1 to December 31, 2021

3.05 CONSOLIDATED STATEMENT OF CASH FLOWS

in € thousand	Notes	2021	2020
Net income (including minority interests)		647,368	532,171
Adjustments for			
Depreciation, amortization and impairment losses on intangible assets and property, plant and equipment		290,438	292,897
Change of impairment on inventories		796	6,596
Change of impairment on trade accounts receivable and contract assets		19,963	7,458
(Gain)/loss on the sale of consolidated companies and other business units		(2,929)	111
(Gain)/loss on the disposal of fixed assets		(15,883)	5,868
Adding to, reversing and discounting provisions		85,554	145,411
Non-cash changes in the measurement of derivatives		19,115	7,992
Other non-cash expenses and income		(19,227)	8,237
Interest result		39,971	35,519
Investment result		2,339	(1,972)
Income tax expense		233,444	218,392
Income tax payments		(182,287)	(143,526)
Changes of			
Inventories, trade accounts receivable and other assets that cannot be allocated to investment or financing activities		(115,111)	(25,570)
Trade accounts payable as well as other liabilities that cannot be allocated to investing or financing activities		84,821	98,124
Provisions due to utilization		(112,884)	(151,720)
Cash flow from operating activities	**G.1.**	**975,489**	**1,035,988**
Proceeds from the sale of intangible assets		890	33
Disbursements for investments in intangible assets		(133,631)	(120,317)
Proceeds from the sale of property, plant and equipment		19,140	12,924
Disbursements for investments in property, plant and equipment		(261,895)	(241,327)
Proceeds from financial investments and from the sale of investments		11,250	4,011
Disbursements for investments in financial assets		(92,652)	(106,583)
Proceeds from/(disbursements for) the sale of consolidated companies and other business units		5,650	(8,948)
Disbursements for the acquisition of consolidated companies and other business units		(87,840)	(123,247)
Interest received		8,333	10,439
Disbursements for investments in plan assets (pensions)		(3,619)	(3,380)
Cash flow from investing activities	**G.2.**	**(534,374)**	**(576,395)**

in € thousand	Notes	2021	2020
Proceeds from borrowings		47,334	799,864
Disbursements from the repayment of borrowings		(1,044,505)	(399,280)
Disbursements for lease liabilities		(58,823)	(62,298)
Interest paid		(36,616)	(32,672)
Dividends paid to parent company shareholders		(245,024)	(290,160)
Dividends paid to non-controlling interests		(29,811)	(48,402)
Payments for acquisition of non-controlling interests		(25,113)	(17,945)
Proceeds from grants and subsidies		8,582	8,855
(Disbursements)/proceeds from settlement of derivatives		(40,919)	31,671
Cash flow from financing activities	**G.3.**	**(1,424,895)**	**(10,367)**
Cash flow changes		**(983,778)**	**449,226**
Change in cash funds resulting from exchange rate and valuation-related movements		69,551	(61,967)
Change in cash fund		**(914,227)**	**387,259**
Cash funds at the beginning of the period		2,240,725	1,853,466
Cash funds at the end of the period	**G.4.**	**1,326,497**	**2,240,725**
Cash and cash equivalents		1,380,210	2,277,048
Short-term securities available for sale		2	2
Short-term liabilities to banks (less than 3 months)		(53,715)	(36,325)

Consolidated statement of changes in equity

of Knorr- Bremse AG, as of December 31, 2021

3.06 GROUP – STATEMENT OF CHANGES IN EQUITY

in € thousand	Notes	Subscribed capital	Capital reserve	Retained earnings	Group earnings	
As of Jan. 1, 2021		**161,200**	**13,884**	**13,300**	**1,959,848**	
Dividends		–	–	–	(245,024)	
Net income		**–**	**–**	**–**	**621,310**	
Other comprehensive income after taxes		–	–	–	–	
Comprehensive income		**–**	**–**	**–**	**621,310**	
Acquisition of non-controlling interests		–	–	–	–	
Gains and losses on hedging transactions and costs of hedging reclassified to inventories		–	–	–	–	
Other changes		–	–	–	–	
As of Dec. 31, 2021	**F.8.**	**161,200**	**13,884**	**13,300**	**2,336,134**	
As of Jan. 1, 2020		**161,200**	**13,884**	**34,156**	**1,754,465**	
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**	

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 (IAS 19)	Equity attributable to the shareholders of Knorr-Bremse AG	Equity attributable to non-controlling interests	Total equity
(188,077)	**(3,353)**	**5,276**	**(35,694)**	**(95,731)**	**1,830,653**	**91,008**	**1,921,661**
–	–	–	–	–	(245,024)	(29,195)	**(274,219)**
–	**–**	**–**	**–**	**–**	**621,310**	**26,058**	**647,368**
97,107	(1,136)	(11,349)	3,643	33,655	121,920	9,312	**131,232**
97,107	**(1,136)**	**(11,349)**	**3,643**	**33,655**	**743,230**	**35,370**	**778,600**
–	–	–	–	–	–	–	–
–	1,267	(1,781)	–	–	(514)	–	(514)
–	–	–	–	–	–	–	–
(90,970)	**(3,222)**	**(7,854)**	**(32,051)**	**(62,076)**	**2,328,345**	**97,183**	**2,425,528**
(70,705)	**(1,686)**	**(651)**	**(32,249)**	**(74,093)**	**1,784,321**	**117,121**	**1,901,441**
–	–	–	–	–	(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**

Notes to the consolidated financial statements

of Knorr-Bremse AG, for the period from January 1 to December 31, 2021

A. Basis of preparation

A.1. About the Company

Knorr-Bremse AG (the "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 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 and 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 and sanitary systems. The product portfolio of the Commercial Vehicles Systems division includes pneumatic braking systems (i.e., brake control systems, disk brakes, drum brakes, brake cylinders, valves and pedal units) and steering systems, 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).

A.2. Accounting principles

The Company's consolidated financial statements were prepared in accordance with the International Financial Reporting Standards (IFRS), as adopted by the European Union (EU), as well as the supplementary provisions of Section 315e (1) of the German Commercial Code (HGB). 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. 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

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

A.4. 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.5. 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 individual performance obligations from customer contracts as well as the estimation of the expected total costs (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 2021, 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 consolidated financial statements were approved for publication by the management board on March 25, 2022.

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, 2021 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 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16: IBOR reform – phase 2
- Changes to IFRS 16: Covid-19-related rent concessions

Knorr-Bremse did not make use of the option of voluntary application of the amendments to IFRS 16 on Covid-19-related rent concessions after June 30, 2021.

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.

3.08 ACCOUNTING STANDARDS ISSUED BY THE IASB

New or revised standards and interpretations	Contents of, or change to, standard or interpretation	Date of mandatory application in EU*
Changes to IFRS 16	Covid-19-related rent concessions after June 30, 2021	04/01/2021
Changes to IAS 37	Onerous contracts – cost of fulfilling a contract	01/01/2022
Annual improvements 2018-2020	Changes to IFRS 1, IFRS 9, IFRS 16 and IAS 41	01/01/2022
Changes to IAS 16	Property, plant, and equipment – proceeds before intended use	01/01/2022
Changes to IFRS 3	References to the Conceptual Framework	01/01/2022
Changes to IAS 1	Classification of liabilities as current or non-current	01/01/2023
Changes to IFRS 17	IFRS 17 Insurance Contracts and changes to IFRS 17 Insurance Contracts	01/01/2023
Changes to IAS 1 and IFRS Practice Statement 2	Disclosure of accounting policies	01/01/2023
Changes to IAS 8	Definition of estimates	01/01/2023
Changes to IAS 12	Deferred Tax related to Assets and Liabilities arising from a Single Transaction	01/01/2023
Changes to IFRS 10 and IAS 28	Sales or contributions of assets between an investor and its associate or joint venture	Postponed indefinitely

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

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.

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 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.

3.09 CURRENCY EXCHANGE RATES

		12/31/2021		Dec. 31, 2020	
		Closing rate	Average rate	Closing rate	Average rate
USA	USD	0.88292	0.84311	0.81493	0.87684
China	CNY	0.13899	0.13058	0.12465	0.12706
Hungary	HUF	0.00271	0.00279	0.00275	0.00285
Czech Republic	CZK	0.04023	0.03891	0.03811	0.03779
United Kingdom	GBP	1.19008	1.16073	1.11231	1.12443
India	INR	0.01187	0.01142	0.01115	0.01183
Japan	JPY	0.00767	0.00771	0.00791	0.00822
Hong Kong	HKD	0.11321	0.10849	0.10511	0.11305
South Africa	ZAR	0.05536	0.05711	0.05549	0.05324
Brazil	BRL	0.15848	0.15609	0.15690	0.16985
Thailand	THB	0.02656	0.02653	0.02723	0.02802

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 companies were established and included in the scope of consolidation for the first time in fiscal year 2021:

- Knorr Brake Rail Mexico, SA de CV, Acuña, Mexico
- Knorr-Bremse Rail Transportation Equipment (Chongqing) Co., Ltd., Chongqing, China
- Knorr-Bremse Rail Transportation Equipment (Guangzhou) Co., Ltd., Guangzhou, China
- Knorr-Bremse Systems for Commercial Vehicles (Suzhou) Co., Ltd., Suzhou, China
- Knorr-Bremse Systemy Pojazdów Szynowych Spóőka z Ograniczoną Odpowiedzilnością, Krakow, Poland
- Selectron Systems Italia S.A.R., Venice, Italy

Microelettrica do Brasil Indústria, Comércio e Importação de Produtos Eletromecânicos Ltda., Barueri, São Paulo, Brazil, was liquidated in the 2021 fiscal year; K&D PROGETTO S.r.l., Bolzano, Italy, and Knorr-Amabhiliki (Pty.) Ltd., Kempton Park, South Africa, are in the process of liquidation. All three companies were deconsolidated in the 2021 fiscal year.

With its sale on December 7, 2021, Kiepe Electric Ges. m. b. H., Vienna, Austria, was deconsolidated.

Additional changes in the scope of consolidation occurred as a result of the following mergers:

- Bendix Spicer Foundation Brake Canada, Inc., Kingston, Ontario, Canada, into Bendix CVS Canada Inc., Anjou, Quebec, Canada
- BSFB Holdings, Inc., Elyria, Ohio, USA, into Bendix Commercial Vehicle Systems LLC, Elyria, Ohio, USA
- Hasse & Wrede GmbH, Berlin, Germany, into STE Schwingungs-Technik GmbH, Berlin, Germany, subsequently renamed Hasse & Wrede GmbH, Berlin, Germany

MATERIAL BUSINESS COMBINATIONS

ACQUISITION OF THE EVAC GROUP

As a result of the purchase agreement of March 11, 2021 and the closing of the transaction on June 1, 2021, Knorr-Bremse acquired 100% of the shares in EVAC GmbH, Wedel, Germany, and the operating assets of Monogram Train LLC, Carson, California, USA, from Galli Participation S.A.S., Paris, France. The shares in EVAC GmbH were acquired by Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich, Germany. The operating assets acquired were acquired by Knorr-Bremse EVAC LLC, Carson, California, USA, a subsidiary of Knorr Brake Holding Corporation, Watertown, New York, USA.

The acquisition of the EVAC Group's know-how in the field of integrated sanitary systems adds to Knorr-Bremse AG's portfolio in the area of onboard systems and positions Knorr-Bremse AG as a global system integrator.

Revenues of € 31,193 thousand and a loss before taxes of € 3,908 thousand contributed to net income in the 2021 fiscal year.

a) Consideration transferred

The purchase price for the EVAC Group is € 85,934 thousand. Of this amount, € 65,779 thousand is accounted for by the acquisition of shares in EVAC GmbH and € 20,155 thousand by the acquisition of the operating assets of Monogram Train LLC. As of December 31, 2021, the purchase price was paid in full with cash.

b) Acquisition-related costs

The Group has so far incurred acquisition-related costs of € 817 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

3.10 FAIR VALUES OF THE ASSETS AND LIABILITIES ACQUIRED

in € thousand	
Customer relationships	18,209
Brands	5,455
Software, licenses and acquired rights	19,180
Other intangible assets	1,351
Property, plant and equipment	2,677
Deferred tax assets	1,485
Other assets	664
Inventories	17,639
Trade accounts receivable	10,709
Contract assets	3,119
Cash and cash equivalents	372
Provisions for other employee benefits	(225)
Other provisions	(3,022)
Trade accounts payable	(3,264)
Financial liabilities	(1,143)
Other liabilities	(43)
Total identifiable net assets acquired	**73,163**
	–
Gross trade accounts receivable	10,929
Impairment losses and gains	(220)
Net trade accounts receivable	**10,709**

Of this, identifiable net assets of € 62,381 thousand are accounted for by EVAC GmbH and identifiable net assets of € 10,782 thousand are accounted for by the operating assets of Monogram Train LLC.

d) Goodwill

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

3.11 DETERMINATION OF GOODWILL

in € thousand	
Consideration transferred	85,934
Fair value of the identifiable net assets	(73,163)
Goodwill	**12,772**

The goodwill primarily results from the future development potential of the existing technologies, the anticipated broadening of the product and customer base and the know-how of the staff. This is allocated to the Rail Vehicle Systems segment. The goodwill of € 9,353 thousand recognized for the acquisition of the operating assets of Monogram Train LLC is tax deductible.

If the acquisition had occurred at the start of the fiscal year, consolidated revenue would have been increased by a further € 20,653 thousand to € 6,726,293 thousand and income before taxes would have been decreased by € 3,458 thousand to € 877,355 thousand. When calculating the amounts, the Executive Board assumed that the fair values from the purchase price allocation at the date of acquisition would also have been valid in the event of an acquisition on January 1, 2021.

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 → 3.94.
Table → 3.12

3.12 COMPOSITION OF THE GROUP

	2021		2020	
Number of fully-consolidated subsidiaries	**Domestic**	**International**	**Domestic**	**International**
As of January 1	**24**	**109**	**23**	**111**
Additions	1	7	1	4
Disposals	(1)	(6)	–	(6)
Reclassifications	–	–	–	–
As of December 31	**24**	**110**	**24**	**109**
Number of proportionately consolidated companies	**Domestic**	**International**	**Domestic**	**International**
As of January 1	**–**	**1**	**–**	**1**
Additions	–	–	–	–
Disposals	–	–	–	–
Reclassifications	–	–	–	–
As of December 31	**–**	**1**	**–**	**1**
Number of associated companies	**Domestic**	**International**	**Domestic**	**International**
As of January 1	**2**	**5**	**2**	**3**
Additions	–	–	–	2
Disposals	–	(1)	–	–
Reclassifications	–	–	–	–
As of December 31	**2**	**4**	**2**	**5**
Non-consolidated subsidiaries	**Domestic**	**International**	**Domestic**	**International**
As of January 1	**2**	**10**	**2**	**11**
Additions	–	–	–	–
Disposals	(1)	(2)	–	(1)
Reclassifications	–	–	–	–
As of December 31	**1**	**8**	**2**	**10**
Investments	**Domestic**	**International**	**Domestic**	**International**
As of January 1	**2**	**2**	**2**	**3**
Additions	–	1	–	–
Disposals	–	–	–	(1)
Reclassifications	–	–	–	–
As of December 31	**2**	**3**	**2**	**2**

C.5. Significant non-controlling interests

Table → 3.13

3.13 NON-CONTROLLING INTERESTS

Name	Registered Office/Country of Foundation	Ownership shares constituting non-controlling interests	
in %		12/31/2021	Dec. 31, 2020
Knorr -Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co., Ltd.	Daxing, China	50.0	50.0

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 boards or committees. This company is therefore fully consolidated in accordance with IFRS 10.

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

3.14 KNORR-BREMSE CARS

in € thousand	2021	2020
Revenues	139,737	160,867
Profit	28,433	30,588
Profit attributable to non-controlling interests	14,217	15,294
Other comprehensive income	9,317	4,350
Comprehensive income	37,750	34,938
Total comprehensive income attributable to non-controlling interests	18,875	17,469
	12/31/2021	Dec. 31, 2020
Current assets	94,422	86,066
Non-current assets	15,848	13,536
Current liabilities	(39,398)	(26,283)
Non-current liabilities	(25,313)	(24,701)
Net assets	45,559	48,618
Net assets attributable to non-controlling interests	22,779	24,309
	2021	2020
Cash flows from operating activities	28,394	28,912
Cash flows from investing activities	6	(156)
Cash flows from financing activities	(37,105)	(39,082)
Net increase in cash and cash equivalents	(8,704)	(10,326)
	2021	2020
Dividends paid during the year to non-controlling interests	18,281	19,224

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 business 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 Chapters F.13., H.2. and H.9. for more information.

C.6. Investments in associates

As of December 31, 2021, 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 € 22,073 thousand (2020: € 24,663 thousand). These companies had a cumulative pro rata loss from continuing operations/pro rata total comprehensive income of € 2,625 thousand (2020: € 3,785 thousand).

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 VEHICLE 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 that 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 result 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 this 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 carrying amount 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 that 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 carrying amounts 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 that does not relate to a business combination and that 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 carrying amounts 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

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

Goodwill is tested annually for impairment.

Please refer to Chapter D.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 carrying amount, 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 carrying amount, 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 lease 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 lease liability. The costs of the right-of-use assets contain the lease 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 Chapter D.19.

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

ii) Lease liabilities

On the commencement date, the Group recognizes the lease 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 lease liability is increased to reflect higher interest and reduced to reflect the lease payments made. In addition, the carrying amount of the lease 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 lease 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 or disposal groups are classified as "Assets held for sale and discontinued operations" if it is highly probable that the associated carrying amount 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 the carrying amount 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 that were caused by past events, that 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 taking account of actual values for claims from the past. They also include provisions for claims already raised by customers.

RESTRUCTURING MEASURES

An accrued liability for restructuring measures is reported as soon as the Group has approved a detailed and formal restructuring plan and the restructuring measures have either started or have been 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 notional amount (SPPI – criterion "cash flow condition").

Measurement at fair value through other comprehensive income 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 that can be converted to cash at any time and that 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 2021.

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 that 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 that 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 carrying amount of the financial instrument is adjusted through profit or loss.

DERIVATIVES

Within the Group, 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 derivatives.

The Group uses 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 carrying amount. Consequently, the effective interest method is applied on the basis of the carrying amount 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 credit default swap spreads (CDS spreads) of the business partner. Generally, a significant increase in the default risk is assumed in the event that the financial instruments are more than 30 days overdue. 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 carrying amount and therefore based on the carrying amount 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 lease 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. Beginning in the fourth quarter of 2020, the determination of forward-looking information was expanded by including CDS spreads and continued in 2021.

Trade accounts receivable and lease 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.

Lease 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 hedging transactions reserve. Within the Group, non-designated portions of hedging instruments – the forward components – are treated as hedging costs. 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 transactions 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 hedging transaction 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 hedging transaction 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 hedging transaction 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 that 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 carrying amounts 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 carrying amount 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 carrying amount 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 SEGMENT

Table → 3.15 shows revenues by segment. Revenues within the segment are presented on a pre-consolidated basis.

3.15 REVENUES BY SEGMENTS (IFRS)

in € thousand	Rail Vehicle Systems		Commercial Vehicle Systems		Other segments and consolidation		Total	
	2021	2020	2021	2020	2021	2020	2021	2020
Total	3,316,961	3,336,755	3,390,235	2,819,446	(1,555)	545	6,705,640	6,156,746

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 € 40,012 thousand (2020: € 14,582 thousand). Of this figure, € 57,758 thousand (2020: € 32,650 thousand) resulted from the Rail Vehicle Systems segment and € 25,577 thousand (2020: € 25,646 thousand) resulted from the Commercial Vehicle Systems segment and € -43,323 thousand (2020: € -43,714 thousand) resulted from other segments and inter-segment consolidation. Table → 3.17

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
									2021 fiscal year
1. Disaggregation of segments									
a) Region (by registered offices of the Group companies)									
Europe/Africa	1,752,635	1,417,246	3,169,880	58,713	10,938	69,651	1,811,347	1,428,184	3,239,532
North America	294,994	1,102,998	1,397,993	1,400	7,618	9,018	296,394	1,110,616	1,407,010
South America	20,381	94,862	115,243	388	4,614	5,002	20,770	99,475	120,245
Asia-Pacific	1,248,951	775,129	2,024,079	(2,743)	2,407	(335)	1,246,208	777,536	2,023,744
	3,316,961	**3,390,235**	**6,707,195**	**57,758**	**25,577**	**83,335**	**3,374,719**	**3,415,812**	**6,790,530**
b) Type of time recording									
Recognition time	1,122,600	–	1,122,600	(1,122,600)	–	(1,122,600)	–	–	–
Recognition at a point in time	2,194,361	3,390,235	5,584,595	1,180,358	25,577	1,205,935	3,374,719	3,415,812	6,790,530
	3,316,961	**3,390,235**	**6,707,195**	**57,758**	**25,577**	**83,335**	**3,374,719**	**3,415,812**	**6,790,530**
2. Other segments and consolidation	**–**	**–**	**(1,555)**	**–**	**–**	**(43,323)**	**–**	**–**	**(44,878)**
3. Total	**3,316,961**	**3,390,235**	**6,705,640**	**57,758**	**25,577**	**40,012**	**3,374,719**	**3,415,812**	**6,745,652**

	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 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**

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
				2021 fiscal year
Elimination of the effect of the over-time-recognition of revenue	25,164	–	–	25,164
Application of the German Accounting Directive Implementation Act (BilRuG) and other effects	32,594	25,577	(43,323)	14,848
Total	**57,758**	**25,577**	**(43,323)**	**40,012**
				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**

REVENUE OF THE REPORTING PERIOD FOR PERFORMANCE OBLIGATIONS SATISFIED IN PREVIOUS PERIODS

The revenue of the 2021 period includes € 1,308 thousand (2020: € 2,196 thousand) from performance obligations fulfilled in the prior years.

TRANSACTION PRICE ALLOCATED TO THE REMAINING PERFORMANCE OBLIGATIONS

The transaction price allocated to the remaining performance obligations amounts to € 2,668,794 thousand as of December 31, 2021 (2020: € 2,768,234 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. The projects have an average term of 5 years. As of December 31, 2021, contracts from project business will last through the year 2063.

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 contract liabilities.

The impairment in accordance with IFRS 9 on contract assets was € 65 thousand as of December 31, 2021 (2020: € 1,633 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, 2021.

Table → 3.18 shows the effects in the reconciliation from the final balance of contract assets and liabilities as of December 31, 2020, to December 31, 2021.

3.18 RECONCILIATION FROM THE CLOSING BALANCE OF CONTRACT ASSETS AND LIABILITIES

in € thousand	Contract assets	Contract liabilities
		2021 fiscal year
As of Dec. 31, 2020	**84,217**	**295,868**
Increase in contract liabilities from invoices and effects from changes in advance payments	–	–
Transfer of the opening balance for contract assets to trade receivables through invoices	(73,594)	–
Change as a result of the recognition of revenue	59,351	(41,893)
Change of impairment on contract assets	1,568	–
Other	3,442	11,593
Closing balance as of Dec. 31, 2021	**74,985**	**265,567**
		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 accounts receivable 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**

Revenue of the reporting period that was included in the opening balance of contract liabilities as of January 1, 2021, amounted to € 149,088 thousand (2020: € 131,694 thousand).

b) Other assets

The other assets include costs to fulfill a contract of € 36,476 thousand (non-current: € 36,476 thousand, current: € 0 thousand), so-called nomination fees, from the Commercial Vehicle Systems and Rail Vehicle Systems segments (2020: € 22,280 thousand; of which non-current: € 22,280 thousand, current: € 0 thousand). The capitalized amounts will be written off against revenue from the start of series production and over the term of series production. In 2021, depreciation recognized on these assets amounted to € 1,079 thousand (2020: € 863 thousand).

The other non-current assets include costs to fulfill a contract of € 25,759 thousand (2020: € 19,642 thousand). These relate to engineering costs in the Commercial Vehicle Systems segment before series production. These will be written off against changes in inventory as from the start of series production and over the term of series production. In 2021, depreciation recognized on these assets amounted to € 1,782 thousand (2020: € 1,782 thousand).

The other non-current assets also include costs to obtain a contract in an amount of € 1,017 thousand (2020: € 1,763 thousand). These will be written off against changes in inventory as from the start of series production and over the term of series production. In 2021, depreciation recognized on these assets amounted to € 1,026 thousand (2020: € 204 thousand).

E.2. Change in inventory and own work capitalized

The change in inventory reflects the change in finished and unfinished products and the contract performance costs and contract initiation costs written off against the change in inventory Table → 3.19. The development of finished and unfinished products is covered in Chapter F.6. Inventories.

3.19 CHANGE IN INVENTORY AND OWN WORK CAPITALIZED

in € thousand	2021	2020
Change in inventory of finished and unfinished products	39,074	(11,297)
Own work capitalized	83,107	76,098

Own work capitalized results from the capitalization of development projects.

E.3. Other operating income

Table → 3.20

3.20 OTHER OPERATING INCOME

in € thousand	2021	2020
Currency translation gains	48,103	58,696
Income from the disposal of land and buildings	22,027	1,377
Income from other services	9,412	5,390
Insurance compensation and compensation payments	8,666	7,233
Income from government grants	6,166	7,644
Rental income	2,073	2,582
Other income	15,473	9,235
	111,920	**92,157**

The increase in other operating income is primarily due to the increased income from the disposal of land and buildings associated with the sale of the representative offices in Berlin. In addition to currency translation gains, other operating income includes 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 increase in other income is primarily attributable to increased refunds of other taxes in Brazil.

E.4. Cost of materials Table → 3.21

3.21 COST OF MATERIALS

in € thousand	2021	2020
Expenses for raw materials, consumables and supplies and for purchased goods	(3,091,945)	(2,730,616)
Expenses for purchased services	(284,740)	(230,495)
	(3,376,685)	**(2,961,111)**

The cost of materials is comprised of the expenditure on raw materials, consumables, supplies, and purchased goods as well as on purchased services. While revenue increased by 8.9 %, cost of materials increased by 14.0 %, primarily due to higher freight and procurement costs in light of the scarcity of semiconductors.

The material cost ratio as a percentage of revenue thus increased from 48.1 % in 2020 to 50.4 % in 2021.

Inventories of € 3,091,945 thousand (2020: € 2,730,616 thousand) were recognized as expenses in the reporting period. The figure also includes increases in write-downs on inventories of € 30,712 thousand (2020: € 24,803 thousand).

Please refer to Chapter F.6 for more information on the changes to inventories.

E.5. Personnel expenses

Table → 3.22

3.22 PERSONNEL EXPENSES

in € thousand	2021	2020
Wages and salaries	(1,267,289)	(1,201,484)
Social security contributions	(270,691)	(234,052)
Expenses for personnel leasing	(80,283)	(66,770)
Termination benefits	(20,638)	(13,065)
Expenses in connection with defined benefit plans	(8,812)	(10,114)
	(1,647,713)	**(1,525,485)**

The personnel expenses primarily include wages and salaries, as well as social security contributions.

The increase in wages and salaries by approximately 6.1 % in 2021 (2020: decrease of 2.4%) is primarily based on the increase of 3.8 % in the average number of employees without leased personnel, from 26,380 in the previous year to 27,393 in 2021.

There was an increased demand for personnel in conjunction with the expanded business volumes in the 2021 fiscal year. Accordingly, expenses for personnel leasing increased from € 13,513 thousand to € 80,283 thousand.

For the 2021 fiscal year, the amounts recognized as an expense for defined-contribution plans totaled € 43,674 thousand (2020: € 43,075 thousand) and also include the contributions for statutory pension insurance.

Personnel adjustment measures due to severance payments that did not result from restructuring measures affected personnel expenses in the 2021 fiscal year with € 9,538 thousand, as compared to € 13,065 thousand in the 2020 fiscal year. In the 2021 fiscal year, restructuring-related personnel expenses were recognized at Kiepe Electric GmbH, Düsseldorf, Germany, in the amount of € 8,000 thousand and in the amount of € 3,100 thousand for restructuring in North America.

E.6. Other operating expenses Table → 3.23

3.23 OTHER OPERATING EXPENSES

in € thousand	2021	2020
Order-related expenses	(102,729)	(119,725)
Legal, consulting and audit costs	(96,332)	(89,190)
Maintenance expenses	(90,775)	(93,143)
Other services	(84,237)	(87,452)
Personnel expenses	(61,767)	(57,447)
External research and development costs	(48,249)	(45,087)
Other taxes	(37,086)	(30,523)
Administrative expenses	(35,223)	(29,820)
Currency translation losses	(33,320)	(65,743)
License and patent fees	(32,238)	(30,840)
Impairment losses	(20,115)	(7,488)
Energy, insurance, and utility costs	(17,427)	(16,077)
Rents and leases	(11,502)	(15,108)
Losses from the disposal of land and buildings	(5,186)	(1,418)
Donations	(5,147)	(4,322)
Other expenses	(27,505)	(26,824)
	(708,838)	**(720,207)**

Other operating expenses decreased minimally in 2021 by 2.2%, from € 720,207 thousand to € 708,838 thousand, which is primarily attributable to the decrease in currency translation losses and order-related expenses. The decrease in order-related expenses is due in particular to higher reversals of provisions for warranty expenses.

The increase in legal and consultancy fees is based on higher consultancy fees for strategy projects. In addition, increased write-downs on trade accounts receivable as a result of increased credit default risks above all in the Rail Vehicle Systems division had the opposite effect.

Other services include services such as logistics, security and building services and cleaning.

Other expenses essentially includes bank charges, hospitality expenses and compensation payments.

E.7. Depreciation, amortization and impairments

Depreciation, amortization and impairments is comprised as follows: Table → 3.24.

3.24 DEPRECIATION, AMORTIZATION AND IMPAIRMENTS

in € thousand	2021	2020
Depreciation, amortization and impairments of intangible assets	**(63,544)**	**(74,883)**
thereof regular depreciation and amortization of intangible assets	(56,516)	(50,926)
thereof impairments of intangible assets	(7,028)	(23,957)
Depreciation of property, plant, and equipment	**(226,894)**	**(218,015)**
thereof depreciation of property, plant, and equipment	(225,511)	(217,609)
thereof impairments of property, plant and equipment	(1,383)	(406)
	(290,438)	**(292,898)**

Depreciation, amortization and impairments decreased by 1%, or € 2,460 thousand, in 2021, from € 292,898 thousand to € 290,438 thousand.

Impairment losses on intangible assets in the fiscal year result largely from discontinued R&D projects in the Rail Vehicle Systems division in the amount of € 6,025 thousand (2020: € 6,710 thousand). In the previous year, primarily impairments of patents that are no longer usable in the Commercial Vehicle Systems division in the amount of € 4,100 thousand and impairment losses on software and software solutions worked on but no longer further developed in the amount of € 11,348 were recognized. The recoverable amount of the assets is € 0 and thus matches their value in use.

Depreciation of property, plant and equipment includes depreciation of leased assets of € 58,797 thousand (2020: € 55,624 thousand).

E.8. Financial result Table → 3.25

3.25 FINANCIAL RESULT

in € thousand	2021	2020
Interest income from financial instruments, thereof	12,472	9,468
a) Financial instruments (AC)	10,379	8,684
b) Financial instruments (FVTPL)	1,290	784
c) Financial instruments (FVOCI)	803	–
Interest income from defined benefit plans	3,731	5,113
Other	(302)	4,770
Interest income	**15,901**	**19,351**
Interest expenses from financial instruments, thereof	(30,176)	(28,360)
a) Financial instruments (AC)	(29,585)	(28,122)
b) Financial instruments (FVOCI)	(591)	(238)
Interest expenses from defined benefit plans	(7,123)	(9,035)
Compounding of provisions	(2,006)	(3,668)
Lease interest expenses	(13,308)	(10,844)
Other	(3,259)	(2,964)
Interest expenses	**(55,872)**	**(54,870)**
Currency translation differences, thereof	3,806	12
a) Financial instruments (FVOCI)	–	12
c) Financial instruments (FVTPL)	3,806	–
Income from disposals of financial instruments	3,462	–
Income from the revaluation of financial instruments (FVTPL)	7,047	–
Other	554	1,387
Other financial income	**14,869**	**1,399**
Currency translation differences, thereof	(3,212)	(11,113)
a) Financial instruments (AC)	(3,122)	(434)
b) Financial instruments (FVOCI)	(90)	–
c) Financial instruments (FVTPL)	–	(10,679)
Expenses from the deconsolidation of subsidiaries	(74)	(2,791)
Expenses from the revaluation of financial instruments (FVTPL)	(3,893)	(1,421)
Share of profits and losses of companies accounted for using the equity method, after taxes	(2,345)	(1,992)
Dividends to non-controlling interests	(616)	(11,932)
Other	(11)	(72)
Other financial expenses	**(10,152)**	**(29,320)**
Other financial result from other financial income and other financial expenses	**4,717**	**(27,921)**
Financial result	**(35,254)**	**(63,440)**

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 2021, 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.

Dividends paid to non-controlling interests in the previous year exclusively comprise dividends paid to the minority shareholder Bosch of € 11,932 thousand, which only accompanied dividends of € 616 thousand in 2021.

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 at total income of € 3,976 thousand (2020: € 862 thousand). Of which, € 293 thousand (2020: € 150 thousand) is interest expense, € 93 thousand (2020: € 30 thousand) is interest income, and € 4,176 thousand (2020: € 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.

E.9. Taxes on income

E.9.1. Taxes reported in profit and loss Table → 3.26

3.26 TAXES REPORTED IN PROFIT AND LOSS

in € thousand	2021	2020
Current year	(197,500)	(180,357)
Previous years	(14,171)	(2,195)
Current tax expense	**(211,671)**	**(182,552)**
Recognition/reversal of temporary differences	(27,714)	(34,561)
Temporary differences from previous years	4,782	2,736
Tax losses/credits	1,159	(4,014)
Deferred tax expense	**(21,773)**	**(35,839)**
Tax expenses	**(233,444)**	**(218,392)**

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/credit of € 1,852 thousand (2020: € 847 thousand) relate to the current year and € -693 thousand (2020: € -4,861 thousand) the previous year.

The change in deferred taxes in the current year is essentially due to 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.

3.27 TAXES REPORTED IN OTHER COMPREHENSIVE INCOME

in € thousand	Before tax	Deferred tax assets (-)/ liabilities (+)	After tax
			12/31/2021
Revaluation of net debt from defined benefit plans	89,010	(26,934)	62,076
Currency translation differences	90,970	–	90,970
Revaluation of equity instruments	32,051	–	32,051
Hedge Accounting	16,369	(5,293)	11,076
Total	**228,400**	**(32,227)**	**196,173**
			12/31/2020
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**

E.9.3. Taxes reported directly in equity

No taxes were reported directly in equity in 2021. Tax expenses reported in previous years amount to € 272.

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 from temporary differences and tax loss carry-forwards as well as non-creditable withholding tax on dividends, which were largely recognized under the line item "Other." The decrease in the line item "Other" is attributable in particular to lower dividend distributions within the Group.

The items "Tax from previous year" and "Change/write-off of deferred tax assets on loss carry-forwards" include impairment reversals of € -3,214 thousand and write-downs of € 12,037 thousand on deferred tax assets. In the latter item, € -1,867 thousand is also attributable to the utilization of loss carry-forwards on which no deferred taxes were recognized. Table → 3.28

3.28 RECONCILIATION OF THE EFFECTIVE TAX RATE

	12/31/2021		Dec. 31, 2020	
	%	in € thousand	%	in € thousand
Income before taxes		880,813		750,562
Expected taxes	32.3	284,502	32.3	242,432
Differences between the local and hypothetical tax rate at the top level	(10.0)	(87,912)	(11.7)	(88,186)
Changes to the tax rate	0.4	3,491	0.5	3,989
Effects from permanent differences due to different accounting under the IFRS and tax return	0.0	87	0.2	1,605
Increase in tax due to non-tax deductible expenses	2.1	18,217	3.2	23,850
Tax-exempt income	(0.6)	(4,853)	(0.3)	(2,536)
Change/write-off of deferred tax assets on loss carryforwards	0.7	6,073	1.3	9,569
Change/adjustment of unrecognized temporary differences	0.3	2,619	0.5	4,007
Tax from previous year	1.1	10,082	0.6	4,320
Other	0.1	1,137	2.6	19,341
Effective taxes	**26.5**	**233,444**	**29.1**	**218,392**

E.9.5. Change in deferred taxes

Unlike the previous year, the allocation and development of deferred tax items shows a liability surplus that results primarily from the increase in R&D capitalization. The changes in other comprehensive income mainly relate to pension obligations and hedge accounting. Effects from first-time consolidations and deconsolidations, changes in tax rates and effects from the previous year are reported under "Other." Table → 3.29

3.29 CHANGE IN DEFERRED TAXES IN THE BALANCE SHEET DURING THE YEAR

							As of Dec. 31	
in € thousand	Net as of January 1	In profit/ loss	In other income	Other	Net currency translation differences	Net	Deferred tax assets	Deferred tax liabilities
								2021 fiscal year
	–	–	–	–	–			
Intangible assets	(85,578)	(24,816)	–	3,120	(555)	(107,829)	14,191	(122,020)
Property, plant and equipment	(140,674)	(21,705)	–	266	(5,425)	(167,538)	4,151	(171,689)
Investments	(19,386)	(8,016)	1,027	(15)	(886)	(27,276)	2,334	(29,610)
Inventories	29,559	6,781	–	289	843	37,473	41,597	(4,124)
Other assets	(49,641)	40,769	170	(982)	(2,108)	(11,792)	1,118	(12,910)
Tax loss carry-forwards	11,231	1,159	–	–	148	12,538	12,538	–
Pension obligations	50,237	(320)	(8,200)	(657)	347	41,408	54,188	(12,780)
Other provisions	33,226	3,943	–	26	2,592	39,787	55,792	(16,005)
Liabilities	172,960	(19,568)	6,132	302	6,477	166,302	181,541	(15,239)
Tax assets (liabilities) before netting	**1,934**	**(21,773)**	**(871)**	**2,350**	**1,433**	**(16,927)**	**367,451**	**(384,378)**
Netting of taxes	–	–	–	–	–	–	(249,517)	249,517
Net tax assets (liabilities)	**1,934**	**(21,773)**	**(871)**	**2,350**	**1,433**	**(16,927)**	**117,934**	**(134,861)**
								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)**

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 → 3.30

3.30 UNRECOGNIZED DEFERRED TAX ASSETS

	12/31/2021		Dec. 31, 2020	
in € thousand	Gross	Tax effect	Gross	Tax effect
from deductible temporary differences	27,846	5,937	12,686	3,879
from tax losses	154,469	44,632	125,373	35,782
	182,316	**50,569**	**138,059**	**39,661**

The non-capitalized tax loss carry-forwards expire as shown in Table → 3.31.

3.31 NON-CAPITALIZED TAX LOSS CARRY-FORWARDS

	12/31/2021		Dec. 31, 2020	
in € thousand		Expiration date		Expiration date
Expirable	89,090	1-10 years	46,082	1-10 years
Non-expirable	65,379		79,291	
	154,469		**125,373**	

E.9.7. Additional disclosures

The parent company recognized deferred tax liabilities of € 8,089 thousand as of December 31, 2021 (2020: € 6,194 thousand) for temporary differences arising from future dividend distributions (outside basis differences). No other deferred tax liabilities in connection with temporary differences (outside basis differences) in the amount of € 265,715 thousand (2020: € 226,052 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 increased in 2021 by 22 % or € 115,198 thousand, from € 532,171 thousand to € 647,368 thousand.

Undiluted earnings per share are calculated in accordance with IAS 33 from the earnings attributable to Knorr-Bremse AG shareholders and the weighted average number of shares outstanding during the year. Table → 3.32

3.32 EARNINGS PER SHARE

	2021	2020
Net income (in € thousand)	647,368	532,171
Income after taxes from continuing operations (attributable to Knorr-Bremse shareholders) (in € thousand)	621,310	495,499
Weighted average of shares outstanding (in thousands)	161,200	161,200
Earnings per share in EUR (undiluted)	3.85	3.07
Earnings per share in EUR (diluted)	3.85	3.07

The number of shares in circulation is unchanged at 161,200,000 for the whole of 2021 and is thus also the same as the weighted average. Table → 3.33

3.33 CHANGE IN NUMBER OF SHARES

	in thousands of pieces	Nominal amount in €	Subscribed capital in € thousand
Shares as of Jan. 1, 2021	161,200	1.00	161,200
Shares as of Dec. 31, 2021	161,200	1.00	161,200

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

F. NOTES TO THE CONSOLIDATED BALANCE SHEET

F.1. Intangible assets Table → 3.34

3.34 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 con-struction	Other assets	Total
Acquisition and production cost							
As of Jan. 1, 2020	**381,137**	**370,869**	**152,337**	**244,116**	**86,377**	**15,842**	**1,250,678**
Currency translation differences	(10,463)	(20,815)	(757)	(6,418)	253	(622)	(38,822)
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**
As of Jan. 1, 2021	**396,174**	**439,713**	**156,584**	**279,938**	**48,296**	**17,496**	**1,338,201**
Currency translation differences	9,233	12,606	4,635	5,936	1,352	1,305	35,067
Additions	–	14,927	168	77,382	18,154	–	110,631
Disposals	–	(2,556)	(4,150)	(1,670)	(952)	(809)	(10,137)
Acquisitions resulting from business combinations	12,772	19,339	23,664	(159)	–	1,351	56,967
Disposal from the scope of consolidation	–	–	–	–	–	(1,421)	(1,421)
Reclassifications	–	3,415	4,720	–	(9,279)	1,144	–
As of Dec. 31, 2021	**418,179**	**487,444**	**185,621**	**361,427**	**57,571**	**19,066**	**1,529,308**
Accumulated depreciation, amortization and impairment expenses							
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)**
As of Jan. 1, 2021	**–**	**(310,505)**	**(68,450)**	**(55,206)**	**(10,288)**	**(5,983)**	**(450,432)**
Currency translation differences	–	(13,466)	(3,397)	(1,379)	217	(648)	(18,673)
Additions	–	(29,770)	(10,792)	(12,372)	–	(3,582)	(56,516)
Disposals	–	1,728	4,150	1,037	–	832	7,747
Impairments	–	–	–	(7,028)	–	–	(7,028)
Disposal from the scope of consolidation	–	–	–	–	–	1,421	1,421
As of Dec. 31, 2021	**–**	**(349,909)**	**(79,754)**	**(74,789)**	**(10,071)**	**(8,958)**	**(523,481)**
Carrying amount as of Dec. 31, 2020	**396,174**	**129,208**	**88,134**	**224,732**	**38,008**	**11,513**	**887,769**
Carrying amount as of Dec. 31, 2021	**418,179**	**137,535**	**105,867**	**286,638**	**47,500**	**10,108**	**1,005,827**

The increase in goodwill in this fiscal year resulted primarily from the acquisition of EVAC. For further details, please refer to Chapter C.3.1. Additions to the consolidated companies.

In 2021, additions to intangible assets increased by 5 %, or € 5,314 thousand, from € 105,317 thousand thousand to € 110,631 thousand. This was mostly due to an increase in additions of internally generated intangible assets totaling € 10,909 thousand.

The additions from the acquisition of business combinations result entirely from the acquisition of EVAC. See the explanations in Chapter C.3 for details.

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 € 77,382 thousand (2020: € 66,473 thousand), of which € 30,293 thousand (2020: € 24,780 thousand) resulted from the Rail Vehicle Systems area and € 47,089 thousand from the Commercial Vehicle Systems area (2020: € 41,693).

As long as know-how is not ready for use, an impairment test is performed at least as of December 31 of the relevant fiscal year.

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 is € 348,271 thousand (2020: € 320,295 thousand).

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 cash-generating units. For the purpose of impairment testing, the following goodwill is allocated to the cash-generating units of the Group as follows: Table → 3.35.

3.35 GOODWILL

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Rail Vehicle Systems	206,877	189,470
Commercial Vehicle Systems	211,302	206,704
	418,179	**396,174**

The year-on-year increase in goodwill is due to the acquisition of the EVAC Group in the Rail Vehicle Systems segment (€ 12,772 thousand) and due to exchange rate fluctuation.

The determination of the recoverable amount for the respective cash-generating unit is based in each case on the fair value less costs of disposal, 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 cash-generating unit 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.

Table → 3.36 represents the average sales growth rates utilized in the course of determining the amount of the cash-generating units, the average EBITDA margins, discount rates and the growth rates for extrapolation of the cash flow forecasts.

3.36 CASH-GENERATING UNITS

in %	12/31/2021	Dec. 31, 2020
Rail Vehicle Systems		
average sales growth rates in the detailed planning phase	7.3	5.7
average EBITDA margin in the detailed planning phase	22.0	23.1
Weighted average cost of capital (WACC)	7.8	8.4
Sustainable growth rate	1.0	1.0
Commercial Vehicle Systems		
average sales growth rates in the detailed planning phase	4.4	9.4
average EBITDA margin in the detailed planning phase	17.0	16.3
Weighted average cost of capital (WACC)	8.6	8.1
Sustainable growth rate	1.0	1.0

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 carrying amount of goodwill at the end of each fiscal year for impairment.

The impairments tests did not indicate any need for impairment.

F.3. Property, plant and equipment Table → 3.37

3.37 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, 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**
As of Jan. 1, 2021	**932,712**	**1,043,552**	**797,705**	**226,164**	**3,000,133**
Currency translation differences	32,236	38,437	29,021	9,041	108,735
Additions	188,546	42,711	61,832	156,339	449,428
Disposals	(44,540)	(14,288)	(69,937)	(5,026)	(133,791)
Acquisitions qualifying as business combinations	1,140	63	1,139	334	2,676
Disposal from the scope of consolidation	(5,579)	–	(187)	–	(5,766)
Reclassifications	23,050	78,420	37,645	(139,115)	–
As of Dec. 31, 2021	**1,127,565**	**1,188,895**	**857,218**	**247,737**	**3,421,415**
Accumulated depreciation, amortization and impairment expenses					
As of Jan. 1, 2020	**(219,259)**	**(578,243)**	**(583,583)**	**(4,154)**	**(1,385,239)**
Currency translation differences	9,347	30,388	30,994	161	70,890
Additions	(64,900)	(78,647)	(74,070)	8	(217,609)
Disposals	8,749	32,922	31,322	2,307	75,300
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)**
As of Jan. 1, 2021	**(266,157)**	**(592,058)**	**(595,094)**	**(2,093)**	**(1,455,402)**
Currency translation differences	(9,461)	(20,786)	(20,477)	(32)	(50,756)
Additions	(63,880)	(79,109)	(82,521)	–	(225,510)
Disposals	17,792	12,910	67,929	792	99,423
Impairments	–	(1,104)	–	(279)	(1,383)
Disposal from the scope of consolidation	2,435	–	137	–	2,572
Reclassifications	–	(1,058)	(334)	1,392	–
As of Dec. 31, 2021	**(319,271)**	**(681,205)**	**(630,360)**	**(220)**	**(1,631,056)**
Carrying amount as of Dec. 31, 2020	**666,556**	**451,494**	**202,611**	**224,071**	**1,544,732**
Carrying amount as of Dec. 31, 2021	**808,294**	**507,690**	**226,858**	**247,517**	**1,790,359**

Additions to property, plant, and equipment increased by 29 %, or € 100,113 thousand, in 2021, from € 349,315 thousand to € 449,428 thousand.

Additions to land and buildings related primarily to the newly concluded or extended leases that are included in additions at € 174,338 thousand in accordance with IFRS 16 (2020:

€ 97,433 thousand). In the reporting year, this included in particular additions from newly leased spaces with long-term contracts at a location in the United States totaling € 73,604 thousand and additions of € 42,989 thousand from the last building transferred as part of the sale-and-leaseback transaction at the Munich location in 2019.

Other right-of-use assets under IFRS 16 were capitalized in an amount of € 9,939 thousand (2020: € 10,062 thousand) under other equipment, factory and office equipment and in the amount of € 258 thousand (2020: € 493 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 related to 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 for the GSBC product platform and for the integration of R.H. Sheppard.

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 impairments). **Table →** 3.24

As of December 31, 2021, as in the previous year, a parcel of land in the property leasing company Sanctor is encumbered by a land charge. The registered land charge amounts to € 28,924 thousand (2020: € 28,924 thousand). The land charge reported for K&D Progetto in the previous year expired with the sale of the parcel of land to Knorr-Bremse Sistemi per Autoveicoli Commerciali S.p.A., Arcore, Italy, and the corresponding repayment of the financing loan.

The carrying amounts of the land and buildings, as well as the assessed values of the land charges, have developed as shown in **Tab. →** Fehler! Verweisquelle konnte nicht gefunden werden.

3.38 CARRYING AMOUNTS

	2021		2020	
in € thousand	Carrying amount	Value land charge	Carrying amount	Value land charge
K&D Progetto	-	-	7,176	7,176
Sanctor	22,865	27,297	23,697	27,385
	22,865	**27,297**	**30,873**	**34,561**

F.4. Other financial assets

Table → 3.39

3.39 OTHER FINANCIAL ASSETS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Derivatives	6,072	18,123
Equity instruments	69,850	36,842
Purchase price receivables from disposal of land	52,526	30,336
Securities	116,695	68,037
Other financial assets	33,853	27,276
	278,996	**180,614**
Current	63,823	39,828
Non-current	215,173	140,786

The securities recognized in other financial assets are entirely attributable to the special fund's bonds and Pfandbriefe, of which an amount of € 20,489 thousand is current assets (2020: € 2,316 thousand). The equity instruments comprise the special fund's equities and participation certificates amounting to € 22,554 thousand (2020: € 11,703 thousand), which are classified as non-current (2020: current) assets.

The increase in purchase price receivables from disposal of land results from the purchase price receivable for the representative offices in Berlin of € 22,000 thousand, which was settled in January 2022.

F.5. Trade accounts receivable and other assets Table → 3.40, Table → 3.41

3.40 TRADE ACCOUNTS RECEIVABLE

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Accounts receivable due from associated and related companies and parties	30,226	42,620
Trade accounts receivable	1,200,047	1,098,519
Current	1,230,273	1,141,139
Non-current	–	–

Trade accounts receivable increased in the reporting period by 7.8 % or € 89,134 thousand, from € 1,141,139 thousand to € 1,230,273 thousand, due to the increase in revenue in 2021.

Due to a higher relative increase in revenues (8.9 % from 2020 to 2021), the “days sales outstanding” indicator decreased from an average of 66.7 days to 66.0 days. Changes in impairments under IFRS 9 and a breakdown of trade accounts receivable by industry can be found in Chapter F.14.2.

3.41 OTHER CURRENT AND NON-CURRENT ASSETS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Non-current		
Nomination costs	36,476	22,280
Costs to fulfil a contract	25,759	19,642
Prepaid expenses	7,514	9,321
Tax receivables	6,304	2,708
Other	3,000	3,324
Other non-current assets	**79,053**	**57,276**
Current		
Receivables from other taxes	76,298	54,957
Deferred assets	29,526	28,789
Advance payments	13,002	14,227
Advances on wages	893	799
Advance on travel expenses	325	510
Other	10,596	62,511
Other current assets	**130,640**	**161,793**
Other assets	**209,693**	**219,069**

In the previous year, current remaining other assets primarily included 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. The real estate was completed and transferred in the first quarter of 2021.

F.6. Inventories

Table → 3.42

3.42 INVENTORIES

in € thousand	Raw materials and supplies	Unfinished goods	Finished goods	Merchandise	Goods in transit	Advance payments	Total
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**
Gross inventory as of Dec. 31, 2021	**620,560**	**122,863**	**173,833**	**129,746**	**73,487**	**5,065**	**1,125,554**
Write-down to net realizable value	(70,302)	(7,902)	(23,865)	(21,307)	–	–	(123,376)
As of Dec. 31, 2021	**550,258**	**114,961**	**149,968**	**108,439**	**73,487**	**5,065**	**1,002,178**

Due to the increase in revenue compared to the previous year, inventories also increased by € 157,588 thousand, or 18.7 %, from € 844,590 thousand as of the end of 2020 to € 1,002,178 thousand as of December 31, 2021. The most significant increases were € 87,424 thousand for raw materials and supplies, € 25,494 thousand for goods in transit and € 21,486 thousand for unfinished goods.

F.7. Cash and cash equivalents Table → 3.43

3.43 CASH AND CASH EQUIVALENTS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Cash and cash equivalents	1,380,210	2,277,048

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. Further information on the rating is provided in Chapter H.1.4.

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 Executive 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 Executive 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. On March 25, 2021, the Company published a release pursuant to section 43 (2) and section 40 (1) WpHG, according to which the voting rights are attributed to Mrs. Nadia Thiele as the heir pursuant to section 34 WpHG. On May 18, 2021, the Company published a release pursuant to section 43 (2) and section 40 (1) WpHG, according to which, following the acceptance of the role of executor for the estate of the late Heinz Hermann Thiele and the associated control of the voting rights, the indirect shareholding of KB Holding GmbH, Grünwald, Germany, in Knorr-Bremse AG amounting to 58.99% is attributed to Mr. Robin Brühmüller.

F.8.2. Capital reserves

The Group's capital reserve remains unchanged at € 13,884 thousand as of December 31, 2021.

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 → 3.44.

3.44 RETAINED EARNINGS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Legal reserves	15,967	15,967
Other retained earnings	(2,667)	(2,667)
Total	**13,300**	**13,300**

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 2021 fiscal year, 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) WpHG, these voting rights are attributable to TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Germany, and Stella Vermögensverwaltung GmbH, Grünwald, Germany, and were attributable to Mr. Heinz Hermann Thiele of Munich, Germany, as the majority shareholder of Stella Vermögensverwaltungs GmbH, until his death on February 23, 2021.

Due to the devolution of the inheritance to the heir, the voting rights in Knorr-Bremse AG attributed to Mr. Thiele transferred to Mrs. Nadia Thiele. Since May 17, 2021, the voting rights attributable to Nadia Thiele have been controlled by Mr. Robin Brühmüller in connection with the execution of the will. Mrs. Thiele and Mr. Brühmüller notified Knorr-Bremse AG of the voting rights attributed to them respectively pursuant to sections 33 and 34 WpHG through separate voting rights notifications on March 25, 2021 (Mrs. Thiele), and on May 18, 2021 (Mr. Brühmüller). Table → 3.45

3.45 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*	New share of voting rights in %	New share of voting rights absolute
Mrs. Nadia Thiele, Germany**	Feb. 23, 2021	50% exceeded	Section 34 WpHG	58.99	95,097,851
Mr. Robin Brühmüller, Germany***	05/17/2021	50% exceeded	Section 34 WpHG	58.99	95,097,851
The Capital Group Companies, Inc.	Apr. 21, 2021	fell below 3%	Section 34 WpHG	2.99	4,815,508

* The aforementioned provisions of the WpHG refer to the version applicable at the time of publication of the voting rights announcement
** Notification due to devolution of the inheritance to the heir owing to the passing of Heinz Hermann Thiele on February 23, 2021
*** Notification due to execution of Heinz Hermann Thiele's will

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) 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 2021 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 2021 fiscal year and beyond can be found on the company's website (https://ir.knorr-bremse.com). Table → 3.45

The voting rights in Knorr-Bremse AG directly held by KB Holding GmbH are attributable to TIB Vermögens- und Beteiligungsholding GmbH and Stella Vermögensverwaltungs GmbH and, until February 23, 2021, were also attributable to Mr. Heinz Hermann Thiele as the majority shareholder of Stella Vermögensverwaltungs GmbH in accordance with section 34 (1) sentence 1 no. 1 of the German Securities Trading Act (WpHG). Mr. Thiele passed away on February 23, 2021.

Due to the devolution of the inheritance to the heir, the voting rights in Knorr-Bremse AG attributed to Mr. Thiele transfer to Mrs. Nadia Thiele. Since May 17, 2021, the voting rights attributable to Nadia Thiele have been controlled by Mr. Robin Brühmüller in connection with the execution of the will. Mrs. Thiele and Mr. Brühmüller notified Knorr-Bremse AG of the voting rights attributed to them respectively pursuant to sections 33 and 34 WpHG through separate voting rights notifications on March 25, 2021 (Mrs. Thiele), and on May 18, 2021 (Mr. Brühmüller).

F.8.6. Dividends

In the fiscal years, Knorr-Bremse AG resolved to pay the dividends summarized in Table → 3.46.

3.46 DIVIDENDS

in € thousand	2021	2020
EUR 1.52 per bearer share (2020: EUR 1.80)	245,024	290,160

The dividends relate in all cases to the prior year. For the 2020 fiscal year, in the 2021 fiscal year a dividend of € 1.52 per bearer share was resolved and therefore paid in the total amount of € 245,024 thousand.

The management board of Knorr-Bremse AG will suggest that the Annual General Meeting distribute a total dividend of € 298,220 thousand for the past fiscal year. This corresponds to a dividend per share of € 1.85.

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[1], 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 Early Payment Program.

In addition, Knorr-Bremse makes targeted use of retained earnings to maintain a stable equity ratio. In future, the Group plans to distribute between 40% and 50% of 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.

[1] 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.

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 Executive Board and selected members of the wider management team of the Group. These structures were approved for the first time in fiscal year 2020.

In the reporting year, the Group committed a total of 92,602 (2020: 59,477) share appreciation rights (SARs) to eligible individuals as of January 1, 2021. 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%.

The following amounts are set aside for the long-term incentive. Table → 3.47

3.47 CARRYING AMOUNT OF THE LTI PROVISION

in € thousand	2021	2020
2020-2023 tranche	2,773	2,942
2021-2024 tranche	2,236	–
	5,008	2,942

The following amounts were recognized as expenses for the long-term incentive: Table → 3.48

3.48 ADDITION TO THE LTI PROVISION

in € thousand	2021	2020
2020-2023 tranche	(170)	2,942
2021-2024 tranche	2,236	–
	2,066	**2,942**

The sub-target of EPS development was determined at a factor of 50.0% (as of the reporting date (2020: 100%) for the 2020-2023 tranche and 111.8% for the 2021-2024 tranche. 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 also 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.

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

3.49 VALUATION PARAMETERS AS OF THE RESPECTIVE MEASUREMENT DATE

Tranche	2020-2023	2021-2024
Parameters as of the grant date		
Grant date	01/01/2020	01/01/2021
Closing price of Knorr-Bremse share	90.75	111.68
Calculated dividend yield	2.00%	1.39%
Knorr-Bremse volatility	28.00%	30.15%
Risk-free interest rate	-0.54%	-0.76%
Remaining term in years until allocation	4.00	4.00
Parameters as of the December 31, 2021 grant date		
Closing price of Knorr-Bremse share	86.90	86.90
Calculated dividend yield	1.75%	1.75%
Previous year's dividend paid by Knorr-Bremse	1.52	1.52
Knorr-Bremse volatility	32.12%	31.34%
Risk-free interest rate	-0.69%	-0.62%
Remaining term in years until allocation	2.00	3.00

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

F.10.1. Employee benefits

3.50 EMPLOYEE BENEFITS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Assets from employee benefits	30,092	20,995
Provisions for pensions	(312,066)	(354,887)
Other personnel related provisions	(29,550)	(36,609)
Provisions for employee benefits	**(341,616)**	**(391,496)**
Non-current	(333,730)	(372,324)
Current	(7,886)	(19,172)

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 commitments are measured based on actuarial principles using the projected unit credit method. The 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 of the reporting date, less the fair value of the plan assets. An excess of plan assets beyond the present value of the defined benefit obligation is limited to the present value of the benefit attributable to the Company, from the reimbursement of contributions or the reduction of future contribution payments.

The defined benefit plans in Germany and United Kingdom represent the majority of the gross obligation at approximately 79%. Minor pension obligations from defined-benefit pension schemes also exist in Austria, France, India, Italy, Japan, Mexico, 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 plant participants play a major role as part of a risk consideration, as the benefits are primarily paid in the form of an annuity. However, the risk was reduced by closing the pension plan to new admissions.

GREAT BRITAIN

In 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 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.10.3. Change in net debt

Table → 3.51

3.51 CHANGE IN NET DEBT

	Defined benefit obligation		Fair value of plan asset		Net debt	
in € thousand	2021	2020	2021	2020	2021	2020
As of Jan. 1	**(635,057)**	**(614,497)**	**301,165**	**302,835**	**(333,892)**	**(311,662)**
Current service costs	(8,812)	(8,770)	–	–	(8,812)	(8,770)
Past service costs	–	(236)	–	–	–	(236)
Gains/losses from settlements	–	(1,109)	–	–	–	(1,109)
Interest income	–	–	3,731	5,113	3,731	5,113
Interest expense	(7,123)	(9,035)	–	–	(7,123)	(9,035)
Net cash flow	9,654	16,108	(10,152)	(14,744)	(498)	1,364
Remeasurements	39,727	(41,576)	1,049	16,660	40,776	(24,916)
a) Return on plan assets	–	–	1,049	16,660	1,049	16,660
b) Actuarial gains/losses (change in demographic assumptions)	12,721	0	–	0	12,721	1
c) Actuarial gains/losses (change in financial assumptions)	22,847	(39,846)	–	–	22,847	(39,846)
d) Effect of experience adjustments	4,159	(1,730)	–	–	4,159	(1,731)
Currency translation differences	(17,559)	12,588	19,236	(13,497)	1,677	(909)
Employer contributions	13,811	12,524	3,619	3,765	17,429	16,289
Participant contributions	(1,084)	(1,036)	1,084	1,036	–	–
Increase/decrease due to effect of business combinations/divestitures	0	(18)	–	(3)	0	(21)
Transfers	4,739	–	(1)	0	4,738	0
As of Dec. 31	**(601,704)**	**(635,057)**	**319,730**	**301,165**	**(281,974)**	**(333,892)**
thereof						
Germany	(253,891)	(275,896)	1,788	1,597	(252,103)	(274,299)
Great Britain	(220,142)	(222,317)	248,821	242,056	28,679	19,739
Other countries	(127,671)	(136,844)	69,121	57,512	(58,550)	(79,332)

F.10.4. 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 Great Britain and Switzerland.

In order to reduce asset and liability risks (Asset-Liability--Matching, ALM), Knorr-Bremse has developed a risk minimization program in cooperation with trustees. The investment strategy is transferred to a qualified actuary who implements the investment strategy in relation to the pension plans and carries out the investment strategy.

The assets controlled as part of this transfer are allocated to 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.

3.52 PLAN ASSETS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Cash and cash equivalents	10,502	6,411
Equity instruments	3,146	3,052
Debt instruments	222,558	213,285
Real estate	453	-
Assets held by insurance companies	63,859	52,912
Investment funds	16,517	22,898
Other	2,695	2,608
Fair value of plan assets	**319,730**	**301,165**
thereof		
United Kingdom	248,821	242,056
Other countries	70,908	59,109
Return on plan assets (including interest income)	**4,779**	**21,773**
thereof		
Great Britain	(2,915)	18,907
Other countries	7,694	2,866

F.10.5. Actuarial assumptions

The Table → 3.53 lists the key actuarial assumptions (in the form of weighted averages in %) used on the reporting date.

3.53 ACTUARIAL ASSUMPTIONS

in %	12/31/2021	Dec. 31, 2020
Defined benefit obligation		
Discount rate	1.44	1.12
Salary increase	3.20	3.06
Pension increases	2.09	1.87

The most important defined benefit plans exist in Germany and 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 the Great Britain, the mortality tables with projection CMI 2017 are used as the biometric basis.

Age-dependent turnover tables are also taken into account.

F.10.6. Future cash flows

In fiscal year 2022, employer payments into the plan assets are expected to amount to € 4,003 thousand. As of December 31, 2021, average annual benefit payments from pension plans in the amount of € 25,866 thousand (2020: € 24,343 thousand) were expected for the upcoming ten fiscal years.

As of December 31, 2021, the weighted average term of the defined benefit obligation was 15.50 % years (2020: 15,93 years).

F.10.7. Sensitivity analysis

The following sensitivity analysis presents the effects of reasonable changes of individual factors on the defined benefit obligation as of the reporting date. Table → 3.54

3.54 SENSITIVITY ANALYSIS

	12/31/2021		Dec. 31, 2020	
in € thousand	Increase	Decrease	Increase	Decrease
Present value of defined benefit obligation				
Change in discount rate 0.5%	(44,049)	49,620	(47,935)	54,084
Change in salary increase rate 0.5%	5,142	(4,847)	6,353	(5,960)
Change in future pension increases 0.5%	33,978	(30,726)	34,675	(27,122)

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

3.55 OTHER PROVISIONS

In € thousand	Warranty provisions	Contractual provisions	Other provisions	Total
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)
Disposals from the scope of consolidation	–	–	–	–
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
As of Jan. 1, 2021	**343,046**	**26,437**	**93,542**	**463,025**
Currency translation differences	16,170	300	1,530	18,000
Additions	135,037	9,861	30,373	175,271
Additions to the scope of consolidation	1,342	272	25	1,639
Utilization	(95,867)	(5,960)	(16,297)	(118,124)
Reversals	(51,912)	(7,526)	(13,808)	(73,246)
Compounding	1,854	145	7	2,006
As of Dec. 31, 2021	**349,670**	**23,529**	**95,372**	**468,571**
thereof current	172,341	4,161	64,238	240,740
thereof non-current	177,329	19,368	31,134	227,831

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.

Contractual provisions include provisions for onerous contracts amounting to € 23,529 thousand (2020: € 26,437 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 from the compounding of provisions of € 2,006 thousand (2020: € 3,668 thousand) were recognized in the statement of income.

F.12. Trade accounts payable and other liabilities

Table → 3.56, 3.57

3.56 TRADE ACCOUNT PAYABLES

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Trade account payables	(1,166,062)	(1,027,682)
Current	(1,166,062)	(1,027,682)
Non-current	–	–

3.57 OTHER LIABILITIES

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Deferred income	(2,105)	(3,134)
Other	(1,840)	(357)
Non-current	**(3,945)**	**(3,490)**
Liabilities from other taxes	(53,443)	(46,536)
Deferred income	(20,415)	(19,332)
Social security liabilities	(20,933)	(19,133)
Other	(7,305)	(5,285)
Current	**(102,095)**	**(90,287)**
Other liabilities	**(106,040)**	**(93,777)**

Trade accounts payable increased in the reporting period by € 138,381 thousand from € 1,027,682 thousand to € 1,166,062 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

3.58 FINANCIAL LIABILITIES

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Derivatives	(24,378)	(12,794)
Liabilities towards credit institutions	(126,634)	(604,567)
Bonds and debt instruments	(751,818)	(1,250,526)
Liabilities resulting from options on minority interests	(379,616)	(379,616)
Purchase price liabilities	(10,920)	(58,860)
Lease liabilities	(510,272)	(387,221)
Other financial liabilities	(344,872)	(283,346)
	(2,148,510)	**(2,976,930)**
Current	(852,379)	(1,818,194)
Non-current	(1,296,131)	(1,158,737)

Financial liabilities decreased by € 828,420 thousand, from € 2,976,930 thousand to € 2,148,510 thousand. The decrease results primarily from the decrease in liabilities towards credit institutions of € 477,933 thousand due to the repayment of borrowings as part of the Covid-19 action program as well as the repayment of the corporate bond due in December 2021 with a total volume of € 500,000 thousand. The increase in lease liabilities of € 123,051 thousand had the opposite effect.

Bonds and debt instruments include a publicly traded corporate bond with an issued volume of € 750,000 thousand from 2018. The bond has a coupon of 1.125% and matures in June 2025.

In the previous year, the item also included another publicly traded corporate bond with a volume of € 500,000 thousand and a coupon of 0.5%. This bond was repaid in December 2021.

Under other financial liabilities, liabilities to employees in particular increased.

For information on liabilities from options on minority interests, please refer to Chapters C.5 and F.14.

The acquisition of rail friction know-how from Federal Mogul in 2019 has resulted in a purchase price liability of € 38,000 thousand, which was 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 was settled in August 2021 and the final installment of € 3,000 thousand was settled in December 2021. Purchase price liabilities of € 23,977 thousand from the acquisition of the minority shares in Bendix Spicer Foundation Brake LLC, Elyria, Ohio, USA, were settled in October 2021. Non-current purchase price liabilities of € 6,667 thousand are recognized for the acquisition of Sentient IP AB. Table → 3.59

3.59 RECONCILIATION OF MOVEMENTS OF LIABILITIES TO CASH FLOWS ARISING FROM FINANCING ACTIVITIES 2021

					Liabilities	Derivatives (assets) /liabilities
in € thousand	Liabilities towards credit institutions	Bonds and debt instruments	Liabilities from options on minority interests	Other financial liabilities	Lease liabilities	Interest swap liabilities
As of Jan. 1, 2021	**604,567**	**1,250,526**	**379,616**	**283,346**	**387,221**	**5,538**
Change in cash flow from financing activities						
Proceeds from borrowings	47,334	–	–	–	–	–
Disbursements from the repayment of borrowings	(544,505)	(500,000)	–	–	–	–
Disbursements for lease liabilities	–	–	–	–	(58,823)	–
Interest paid	(12,374)	(10,938)	–	–	(13,304)	–
Dividends paid to parent Company shareholders	–	–	–	–	–	–
Dividends paid to non-controlling interests	–	–	(616)	–	–	–
Proceeds from grants and subsidies	–	–	–	8,582	–	–
Payments for acquisition of non-controlling interests	–	–	–	(25,113)	–	–
Disbursements from the settlement of derivatives	(40,919)	–	–	–	–	–
Cash flow from financing activities	**(550,464)**	**(510,938)**	**(616)**	**(16,531)**	**(72,127)**	**–**
Changes arising from obtaining or losing control of subsidiaries or other businesses	**–**	**–**	**–**	**36**	**1,107**	**–**
Effects in foreign exchange rates	**19,238**	**–**	**–**	**1,041**	**9,721**	**–**
Other changes related to liabilities	**–**	**–**	**–**	**–**	**–**	**–**
Other non-cash expenses and income	–	1,292	616	60,449	–	–
Interest income	–	–	–	–	–	–
Interest expenses	12,374	10,938	–	–	13,304	–
New leases	–	–	–	–	171,046	–
Other cash flow changes	40,919	–	–	16,531	–	–
Changes in fair value	–	–	–	–	–	(2,589)
Total other changes, related to liabilities	**53,293**	**12,229**	**616**	**76,980**	**184,350**	**(2,589)**
Total other changes, related to equity						
As of Dec. 31, 2021	**126,634**	**751,818**	**379,616**	**344,872**	**510,272**	**2,949**

					Equity	
	Currency translation	Revaluations from defined pension benefits (IAS 19)	Capital reserves	Retained earnings	Non-controlling shares	Total
	(188,078)	**(95,731)**	**13,884**	**13,300**	**91,008**	**2,745,197**
	–	–	–	–	–	47,334
	–	–	–	–	–	(1,044,505)
		–	–	–	–	(58,823)
	–	–	–	–	–	(36,616)
	–	–	–	(245,024)	–	(245,024)
	–	–	–	–	(29,195)	(29,811)
	–	–	–	–	–	8,582
	–	–	–	–	–	(25,113)
	–	–	–	–	–	(40,919)
	–	**–**	**–**	**(245,024)**	**(29,195)**	**(1,424,895)**
	–	**–**	**–**	**–**	**–**	**1,143**
	–	**–**	**–**	**–**	**–**	**30,000**
	–	**–**	**–**	**–**	**–**	–
	–	–	–	–	–	62,357
	–	–	–	–	–	–
	–	–	–	–	–	36,616
	–	–	–	–	–	171,046
	–	–	–	–	–	57,450
	–	–	–	–	–	(2,589)
						324,880
	97,033	**33,655**	**0**	**245,024**	**35,370**	**411,083**
	(91,045)	**(62,076)**	**13,885**	**13,301**	**97,183**	**2,087,409**

3.60 RECONCILIATION OF MOVEMENTS OF LIABILITIES TO CASH FLOWS ARISING FROM FINANCING ACTIVITIES IN 2020

					Liabilities	Derivatives (assets) /liabilities
in € thousand	Liabilities towards credit institutions	Bonds and debt instruments	Liabilities from options on minority interests	Other financial liabilities	Lease liabilities	Interest swap liabilities
As of Jan. 1, 2020	**196,713**	**1,249,013**	**379,616**	**259,755**	**377,293**	**5,023**
Change in cash flow from financing activities						
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)	–	–
Disbursements from the 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	–	–	–	–	–	515
Total other changes, related to liabilities	**(20,773)**	**12,451**	**11,932**	**32,681**	**83,063**	**515**
Total other changes, related to equity						
As of Dec. 31, 2020	**604,567**	**1,250,526**	**379,616**	**283,346**	**387,221**	**5,538**

					Equity	
	Currency translation	Revaluations from defined pension benefits (IAS 19)	Capital reserves	Retained earnings	Non-controlling shares	Total
	(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
						119,867
	(117,373)	**(21,638)**	**0**	**288,586**	**30,534**	**180,110**
	(188,078)	**(95,731)**	**13,884**	**13,300**	**91,008**	**2,745,197**

3.61 INFORMATION IN ACCORDANCE WITH IFRS 9

in € thousand					12/31/2021
	Carrying amount				
Category	FVTPL	FVOCI	Other	At amortized cost	Total
Financial assets	**144,485**	**61,762**	**3,525**	**2,679,706**	**2,889,478**
Derivatives to which hedge accounting is applied	–	–	3,525	–	3,525
Derivatives to which hedge accounting is not applied	2,547	–	–	–	2,547
Equity instruments	25,243	44,607	–	–	69,850
Securities and debt instruments	116,695	–	–	–	116,695
Trade accounts receivable*	–	17,156	–	1,213,117	1,230,273
Purchase price receivables from disposal of land*	–	–	–	52,526	52,526
Other financial liabilities*	–	–	–	33,853	33,853
Cash and cash equivalents*	–	–	–	1,380,210	1,380,210
			–		
Financial liabilities	**(4,408)**	**–**	**(530,242)**	**(2,779,922)**	**(3,314,572)**
Derivatives to which hedge accounting is applied	–	–	(19,970)	–	(19,970)
Derivatives to which hedge accounting is not applied	(4,408)	–	–	–	(4,408)
Liabilities towards credit institutions	–	–	–	(126,634)	(126,634)
Liabilities resulting from options on minority interests	–	–	–	(379,616)	(379,616)
Bonds and debt instruments	–	–	–	(751,818)	(751,818)
Lease liabilities	–	–	(510,272)	–	(510,272)
Purchase price liabilities*	–	–	–	(10,920)	(10,920)
Other financial liabilities*	–	–	–	(344,872)	(344,872)
Trade accounts payable*	–	–	–	(1,166,062)	(1,166,062)

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**
Derivatives to which hedge accounting is applied	–	–	13,719	–	13,719
Derivatives to which hedge accounting is not applied	4,404	–	–	–	4,404
Equity instruments	17,244	19,598	–	–	36,843
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)**
Derivatives to which hedge accounting is applied	–	–	(8,090)	–	(8,090)
Derivatives 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)

* Without information on fair value due to the fact that the carrying amount approximately equals fair value

	Fair value			
	Level 1	Level 2	Level 3	Total
	164,648	**23,227**	**21,897**	**209,772**
	–	3,525	–	3,525
		2,547	–	2,547
	47,952	–	21,897	69,850
	116,695	–	–	116,695
	–	17,156	–	17,156
	–	–	–	–
	–	–	–	–
	–	–	–	–
	(774,308)	**(150,737)**	**(379,616)**	**(1,304,661)**
	–	(19,970)	–	(19,970)
		(4,408)	–	(4,408)
	–	(126,359)	–	(126,359)
		–	(379,616)	(379,616)
	(774,308)	–	–	(774,308)
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–

	Fair value			
	Level 1	Level 2	Level 3	Total
	104,350	**28,968**	**528**	**133,845**
	–	13,719	–	13,719
		4,404	–	4,404
	36,315	–	528	36,843
	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)
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–

F.14. Financial instruments

F.14.1. Financial instruments

The Table → 3.61 presents the non-netted carrying amounts 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 Chapter D.18.

The market value of derivatives is the price at which a party would take over the rights and/or obligations from another party. The market values are calculated based on the market information available on the reporting date using recognized measurement methods:

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

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

In addition, default risks are taken into account when measuring 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. As a result, the fair value as of December 31, 2021, depends on non-observable input factors and is recognized under 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

3.62 GLOBAL OFFSETTING

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Financial assets		
Gross values in the balance sheet	6,072	18,123
Potential netting capability	5,122	8,655
Net value	950	9,468
Financial liabilities		
Gross values in the balance sheet	(24,378)	(12,794)
Potential netting capability	(5,122)	(8,655)
Net value	(19,256)	(4,139)

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 that 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. The Group has only practiced factoring with derecognition from the balance sheet since the 2020 fiscal year.

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 2021 fiscal year, receivables of € 330,427 thousand (2020: € 286,912 thousand) were transferred in this way.

Due to the short term, the fair value of the receivables sold roughly corresponds to the carrying amount 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.

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.

3.63 FINANCIAL INSTRUMENTS IN IMPAIRMENT SCOPE

in € thousand	Impairment Dec. 31, 2020	Net change	Derecognition	Impairment 12/31/2021
2021 fiscal year				
Cash and cash equivalents	118	1,431	(1,509)	41
Trade accounts receivable (AC) and contract assets	8,784	8,403	(1,147)	16,040

3.64 BREAKDOWN OF TRADE ACCOUNTS RECEIVABLE AND CONTRACT ASSETS BY SEGMENT

in € thousand	Rail vehicle systems	Commercial vehicle systems	Other	Total
12/31/2020 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
12/31/2021 Trade accounts receivable and contract assets	758,210	547,040	7	1,305,257
Contract assets	74,985	–	–	74,985
Trade accounts receivable	683,226	547,040	7	1,230,273

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 Table → 3.65

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 has held an investment in Haldex AB, Landskrona, Sweden, 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 the other result. No OCI release or OCI recycling will occur for these adjustments in future. In 2021 no shares in Haldex AB were sold. For 2021, a gain of € 3,643 thousand was recognized (2020: loss in the amount of € 2,345 thousand) in OCI.

Knorr-Bremse received no dividend from the aforementioned instrument in the reporting period (2020: € 0 thousand).

In the reporting year, the Company acquired a shareholding in Autobrains Technologies LTD, Tel Aviv, Israel, in the amount of € 21,364 thousand, which corresponds to 5.5%. This shareholding has a long-term nature. The Company exercises the accounting option and assigns the investment to the "at fair value in OCI" category. For the balance sheet date, the investment is measured at its fair value as of the balance sheet date. This was confirmed using a discounted cash flow model. This involved discounting the expected future cash flows using a risk-adjusted interest rate. The expected revenues are the most important non-observable input factor in the DCF model for determining the fair value of the investment. If the expected revenues, as one of the material valuation parameters (other parameters used remain constant), should increase or decrease by 10%, the value of the investment would increase or decrease accordingly by € 2,136 thousand.

3.65 CHANGES IN EQUITY

	Fair value	
in € thousand	Dec. 31, 2021	Dec. 31, 2020
Investments at FVOCI		
AUTOBRAINS TECHNOLOGIES LTD	21,364	-
HALDEX SE	23,242	19,599
	44,607	**19,599**

	Income / expense	
in € thousand	Dec. 31, 2021	Dec. 31, 2020
Adjustment*		
AUTOBRAINS TECHNOLOGIES LTD	-	-
HALDEX SE	3,643	(2,345)
	3,643	**(2,345)**

* Reported in the OCI with no effect on income.

F.14.4. Derivatives in hedge accounting

The Table → 3.66 presents the notional amounts, the non-netted carrying amounts, the average hedging rate and the 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.

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, 2021, 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 hedging transaction reserves and reserves for costs of hedging in 2021 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 €		Carrying amounts in € thousand	
Risk category - exchange rate risk	**Notional amount of forward exchange contracts < 1 year**	**Notional amount of forward exchange contracts > 1 year**	**Receivables**	**Liabilities**
				2021 fiscal year
Forward exchange contracts – revenues	143,649	75,775	2,574	5,952
Forward exchange contracts – purchases	186,829	163,046	951	14,018
				2020 fiscal year
Forward exchange contracts – revenues	171,280	108,274	770	8,090
Forward exchange contracts – purchases	142,214	41,337	12,949	–

Average hedging rate < 1 year	**Average hedging rate > 1 year**	**Hedge transaction balance sheet item**	**Item in profit or loss affected by the re-classification**	**Change in value of hedged item**	**Change in value of hedging instrument**	**Hedge ineffective-ness that has been recognized in the income statement**
						2021 fiscal year
EUR/CZK: 26.53 EUR/HUF: 365.24	EUR/CZK: 26.67 EUR/HUF: 375,07	Other financial assets and liabilities including derivatives	Revenues and cost of materials	(7,459)	7,459	There is no material ineffectiveness
EUR/USD: 1.18	EUR/USD: 1.20			(1,189)	1,189	
						2020 fiscal year
EUR/CZK: 26.4 EUR/HUF: 344.42	EUR/CZK: 26.62 EUR/HUF: 360.80	Other financial assets and liabilities including derivatives	Revenues and cost of materials	(19,102)	19,102	There is no material ineffectiveness
EUR/USD: 1.15	EUR/USD: 1.12			19,066	(19,066)	

3.67 RECLASSIFICATION OF THE CASH FLOW HEDGE RESERVES

in € thousand	2021 Hedging transactions reserve	2021 Reserve for costs of hedging	2020 Hedging transactions reserve	2020 Reserve for costs of hedging
As of Jan. 1	–	–	–	–
Forward exchange contracts – revenues	11,598	(2,561)	1,222	(1,961)
Forward exchange contracts – purchases	(18,214)	6,337	(270)	4,428
Cash flow hedge				
Changes in fair value				
Forward exchange contracts – revenues	(4,139)	3,567	17,880	(2,462)
Forward exchange contracts – purchases	19,403	1,120	(18,795)	6,488
Amount reclassified to profit or loss:				
Forward exchange contracts – revenues	(6,755)	2,199	(7,504)	1,863
Forward exchange contracts – purchases	7,083	(4,029)	27	(2,886)
Amount reclassified to acquisition costs of inventories				
Forward exchange contracts – revenues	–	–	–	–
Forward exchange contracts – purchases	2,632	(1,873)	824	(1,693)
As of Dec. 31				
Forward exchange contracts – revenues	703	3,206	11,598	(2,561)
Forward exchange contracts – purchases	10,903	1,556	(18,214)	6,337

F.15. Income taxes Table → 3.68

3.68 INCOME TAXES

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Income tax receivables	56,542	48,714
thereof non-current	1,012	-
thereof current	55,529	48,714
Income tax liabilities	142,510	105,043
thereof non-current	79,787	58,194
thereof current	62,722	46,849

The current income tax receivables of € 55,529 thousand relate to receivables from the current years 2019, 2020 and 2021. Non-current income tax liabilities mainly represent tax risks from current and future tax audits. Current income tax liabilities relate to the current 2019 (to the extent not yet assessed), 2020 and 2021 tax calculations.

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 funds, 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 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 and property, plant and equipment, allowances for 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 result and investment result. Moreover, other changes in current assets, liabilities not related to investment and financing activities, and provisions are adjusted. 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.

The cash inflow from operating activities decreased by € 60,499 thousand in 2021 compared with the previous year to € 975,489 thousand.

Based on a € 115,198 thousand increase in net income to € 647,368 thousand, depreciation, amortization and impairments of € 290,438 thousand were recognized in 2021 (2020: € 292,897 thousand).

The net working capital increased during the reporting year by € 129,409 thousand, from € 746,396 thousand to € 875,806 thousand.

Inventory stock and trade accounts receivable also increased compared to the previous year by € 157,588 thousand and € 89,134 thousand respectively. Trade accounts payable also increased during the reporting year by € 138,381 thousand to € 1,166,062 thousand. While contract assets declined by € 9,232 thousand to € 74,985 thousand, contract liabilities also declined by € 30,300 thousand, from € 295,868 thousand to € 265,567 thousand.

Gain on the sale of consolidated companies and other business units of € 2,929 thousand results from the sale of Kiepe Electric Ges. m. b. H., Vienna, Austria.

The gain on the disposal of fixed assets of € 15,883 thousand mainly comprises the gain on the sale of the representative offices in Berlin and the gain on the sale and leaseback transaction in Hungary. In the previous year, it mainly included minor losses on various disposals of assets.

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 € 85,554 thousand (2020: € 145,411 thousand). Due to the utilization of provisions, cash changes in provisions in the fiscal year amounted to € 112,884 thousand (2020: € 151,720 thousand).

Other non-cash expenses and income decreased by € 27,464 thousand, from € 8,237 thousand in the previous year to € -19,227 thousand, primarily due to decreased minority dividends for Bosch compared to the previous year and increased valuation gains within the framework of the special fund.

Tax expenses rose by € 15,053 thousand, from € 218,392 thousand in the previous year to € 233,444 thousand. Income tax payments increased by € 38,761 thousand to € 182,287 thousand after tax payments in the previous year were only € 143,526 thousand as a result of reduced advance tax payments due to Covid-19 and tax refunds from the 2018 annual tax return.

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 payments 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) is reported as cash flow from investing activities.

In fiscal year 2021, cash outflow from investing activities fell by a total of € 42,021 thousand.

Investments in intangible assets increased by € 13,314 thousand to € 133,631 thousand. These include the payment of the final purchase price installment of € 23,000 thousand for the acquisition of intangible assets from Federal Mogul.

Investments in property, plant and equipment increased by € 20,568 thousand to € 261,895 thousand. Furthermore, there was a cash inflow from financial investments in the amount of € 11,250 thousand, which is largely due to disposals in connection with the special fund.

The proceeds from the sale of property, plant and equipment increased by € 6,216 thousand to € 19,140 thousand in the 2021 fiscal year. In addition to a large number of minor payments from disposals of assets, these mainly comprise the purchase price for the sale-and-leaseback transaction in Hungary. The sale of the representative offices in Berlin will not have a cash effect until the 2022 fiscal year.

Cash inflows from the sale of consolidated companies and other business units of € 5,650 thousand (2020: cash outflows of € 8,948 thousand) result from the sale of Kiepe Electric Ges. m. b. H., Vienna, Austria. The company sold largely comprised a plot of land with a building on it at the date of the disposal.

Disbursements for investments in financial assets fell by € 13,931 thousand year on year, to € 92,652 thousand. This item largely comprises payments from the special fund placed in stocks, bonds and Pfandbriefe amounting to € 67,088 thousand. An additional payment of € 21,364 thousand was made for the purchase of a 5.5% stake in AutoBrains Technologies Ltd., Tel Aviv-Yafo, Israel, and an additional payment of € 4,200 thousand was made for the increase in the investment accounted for using the equity method in Rail Vision Ltd., Raanana, Israel.

Moreover, the cash outflow for the acquisition of consolidated companies decreased year on year from € 123,247 thousand to € 87,840 thousand This cash outflow largely concerns a cash outflow for the acquisition of the EVAC Group amounting to € 85,934 thousand, less the cash and cash equivalents taken over within the scope of the acquisition, amounting to € 372 thousand

Investments in the Rail Vehicle Systems division focused on investments in capacity expansions of high-growth product groups, automation projects and also replacement projects. In addition to worldwide investments in supplier tools, the primary investments in the Commercial Vehicle Systems area were in connection with our GSBC product platform and for the integration of R.H. 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 lease liabilities and cash outflows to non-controlling interests. 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. Moreover, the cash flow from financing activities includes proceeds from grants and subsidies.

In the 2021 fiscal year, cash outflow from financing activities increased significantly by € 1,414,528 thousand to € 1,424,895 thousand.

In 2021, proceeds from borrowings of € 47,334 thousand were recognized in cash flow from financing activities. The loans raised in the previous year in the course of the Covid-19 pandemic were repaid in full in the fiscal year with € 500,000 thousand. Furthermore, the € 500,000 thousand bond issued in December 2016 was repaid as scheduled. Overall, the cash outflow from the repayment of borrowings thus increased from € 399,280 thousand in the previous year to € 1,044,505 thousand in 2021.

Interest paid increased by € 3,944 thousand to € 36,616 thousand, of which € 12,374 thousand (2020: € 10,898 thousand) was paid to credit institutions, € 13,304 thousand (2020: € 10,837 thousand) was paid due to leases and € 10,938 thousand (2020: € 10,938 thousand) is attributable to interest for bonds and debt instruments.

Following proceeds of € 31,671 thousand in the previous year, the settlement of derivatives in the fiscal year led to cash outflows of € 40,919 thousand.

The cash outflow from financing activities in 2021 continued to result from the dividends paid to shareholders of the parent company amounting to € 245,024 thousand (2020: € 290,160 thousand) and from the dividends paid to non-controlling interests amounting to € 29,811 thousand (2020: € 48,402 thousand). Dividends paid to non-controlling interests include dividends of € 616 thousand paid to the minority shareholder Bosch and are recognized in the financial result (2020: € 11,931 thousand).

The line item Disbursements for acquisition of non-controlling interests reflects the final purchase price installment for the acquisition of the remaining 20% stake in Bendix Spicer Foundation Brake LLC, Elyria, Ohio, USA, from Dana Commercial Vehicle Products LLC, amounting to € 25,113 thousand.

In the reporting year, repayments of lease liabilities in the amount of € 58,823 thousand (2020: € 62,298 thousand) and lease liabilities paid are contained in cash flow from financing activities. In addition, proceeds from grants and subsidies amounting to € 8,582 thousand (2020: € 8,855 thousand) were recognized in cash flow from financing activities.

As of December 31, 2021, the Group had access to approved credit facilities totaling € 1,995,600 thousand (2020: € 2,336,600 thousand), of which around 71.6% (2020: 52.1%) was undrawn.

G.4. Composition of cash and cash equivalents Table → 3.69

3.69 FINANCIAL FUNDS AT END OF PERIOD

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Cash and cash equivalents	1,380,210	2,277,048
Short-term securities available for sale	2	2
Short-term liabilities to banks (less than 3 months)	(53,715)	(36,325)
	1,326,497	**2,240,725**

In the reporting year, the development of the individual cash flows, after adjustment for effects caused by exchange rates of € 69,551 thousand, resulted in a decrease in cash funds by € 914,228 thousand to € 1,326.497 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.

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 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 → 3.70

3.70 CURRENCY EXPOSURE

in € thousand	USD	HUF	CZK
Dec. 31, 2020			
Operating exposure	211,124	(178,058)	(90,147)
Derivatives	(135,264)	100,480	62,857
12/31/2021			
Operating exposure	279,017	(176,547)	(88,513)
Derivatives	(193,723)	90,594	55,550

Knorr-Bremse uses hedge accounting 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. 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.

The Company uses 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, HUS and CZK. Table → 3.71

3.71 VALUE AT RISK

In € thousand	2021	2020
USD	9,374	11,209
HUF	10,056	12,360
CZK	2,532	4,653

Exposures to other currencies exist, which, however, do not have a material effect on earnings.

H.1.2. Interest rate risks

Interest rate risks arise as a result of market-related fluctuations in the interest rates. They affect the level of the Group's interest expenses. These arise in the Knorr-Bremse Group from variable-interest financial obligations. Interest rate risks are aggregated at headquarters and hedges are made at individual case level, taking into account the hedging period and nominal volume of the risk position.

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 € 28,947 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 → 3.72.

3.72 INTEREST RATE EXPOSURE

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Fixed-interest financial debt	759,186	1,266,330
Variable-interest financial debt	119,266	587,332
Interest rate derivatives	28,947	29,699

Table → 3.73 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.

3.73 EFFECT ON EARNINGS

	12/31/2021		Dec. 31, 2020	
in € thousand	+100 bp	– 25 bp	+100 bp	– 25 bp
Variable-interest financial debt	(1,193)	298	(5,873)	1,468
Interest rate derivatives	583	(146)	875	(219)
Total	**(610)**	**152**	**(4,998)**	**1,249**

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 → 3.74 lists the quantities of commodity exposures on the purchasing side for hedging them. The remaining open position can essentially be passed on the sales side.

3.74 COMMODITY EXPOSURE

in metric tons	12/31/2021	Dec. 31, 2020
Aluminum	7,394	6,214

Table → 3.75 shows the sensitivity of net income to commodity prices (10% increase/decrease in the market price).

3.75 EFFECT ON EARNINGS

	12/31/2021		Dec. 31, 2020	
in € thousand	+10%	-10%	+10%	-10%
Aluminum	(1,400)	1,400	(1,002)	1,002
	(1,400)	**1,400**	**(1,002)**	**1,002**

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 carrying amount 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 derivatives and financial transactions are only concluded with financial institutions with high credit ratings in order to keep the counterparty default risk as low as possible.

In principle, commercial transactions are exposed to the risk of a possible loss of value due to the defaulting of business partners, such as banks, suppliers, and customers.

SCREENING PROCESS FOR BANKS

The monitoring of core banks, including their rating and CDS development, as well as the diversification of the Group's business activities and investments, takes place on a quarterly basis. Compliance with the regulations in the guideline on the management of banking relationships is also reviewed at the same time. This specifies that no more than 40% of total deposits may be held by an individual bank and that business relationships may essentially only be maintained with banks with an investment grade rating. Financial investments are fine-tuned and adjusted as required on this basis. As a result, the assumption of low credit risk is supported by the investment guidelines only for investment-grade rated banks through regular controls.

IMPAIRMENT OF DEPOSITS

All of the Company's deposits are held in the business accounts of a small number of selected banks, most of which belong to the group of core and principal commercial banks used by the Group. A public issuer rating is provided by established rating agencies for all core and principal commercial banks. For the Impairment of these cash holdings, the probability of default is calculated according to the rating scale. The rating indicators and probabilities of occurrence are updated quarterly. Table → 3.76, 3.77

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, for which regular checks are carried out, to the rating portfolio).

3.76 RATINGS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
AAA to A-	935,846	1,012,912
A- to BBB-	137,954	825,292
Not allocated, but within the investment grade range	306,410	438,844
	1,380,210	**2,277,048**

3.77 RATINGS – EXPECTED CREDIT LOSS

In € thousand	Dec. 31, 2021	Dec. 31, 2020
AAA to A-	33	78
A- to BBB-	1	38
Not allocated, but within the investment grade range	7	2
	41	**118**

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.

IMPAIRMENT OF RECEIVABLES

The credit rating structure of the Company's receivables portfolio is illustrated in Table → 3.78, 3.79.

3.78 CREDIT STRUCTURE FOR TRADE ACCOUNTS RECEIVABLE AND CONTRACT ASSETS

In € thousand		Dec. 31, 2021	Dec. 31, 2020
Top customers	AAA to A-	401,837	418,979
Top customers	A- to BBB-	361,901	256,508
Top customers	Worse than BBB-	18,999	192,255
Other receivables without a rating allocation on an individual basis		522,521	357,614
		1,305,257	**1,225,356**

3.79 CREDIT STRUCTURE FOR TRADE ACCOUNTS RECEIVABLE AND CONTRACT ASSETS – EXPECTED CREDIT LOSS

In € thousand		Dec. 31, 2021	Dec. 31, 2020
Top customers	AAA to A-	145	115
Top customers	A- to BBB-	198	175
Top customers	Worse than BBB-	265	1,052
Other receivables without a rating allocation on an individual basis		15,432	7,442
		16,040	**8,784**

As of the reporting date, there were no material agreements that limit the maximum default risk. No significant collateral was received in the 2021 fiscal year. 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.

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 exposure totaling € 22,554 thousand was held in the fund on December 31, 2021. (2020: € 11,703 thousand). If the equity share price level on December 31, 2021, had been 10% higher (lower), this would have resulted in additional income (losses) in the financial result of € 2,255 thousand (2020: € 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.

The Group has sufficient cash and cash equivalents available to meet its payment obligations. In addition, there are credit, overdraft and guarantee lines totaling € 1,995,600 thousand (2020: € 2,336,646 thousand), € 1,420,600 of which is usable as cash drawdowns and € 150,000 thousand of which relates to medium-term credit facilities (term until 2024). The new bilateral loans raised in connection with the Covid-19 crisis in 2020, which were still valued at € 500,000 thousand as of December 31, 2020, were repaid in full in the 2021 fiscal year. On June 14, 2018, the Company issued a € 750,000 thousand bond maturing in 2025. Another bond, which had a volume of € 500,000 thousand and was issued in the 2016 fiscal year, was repaid in December 2021. 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 → 3.80 shows the remaining contractual maturities of the financial liabilities as of December 31, 2021, including the estimated interest payments. This relates to undiscounted gross amounts, including estimated interest payments.

3.80 MATURITIES

in € thousand	Carrying amount	Contractually agreed cash flows	Up to 1 year	1 to 5 years	Over 5 years
					2021 fiscal year
Derivatives	(24,378)	(24,378)	(11,233)	(13,145)	–
Liabilities towards credit institutions	(126,634)	(127,138)	(90,367)	(33,842)	(2,929)
Liabilities resulting from options on minority interests	(379,616)	(379,616)	(379,616)	–	–
Bonds and debt instruments	(751,818)	(783,748)	(8,437)	(775,311)	–
Purchase price liabilities	(10,920)	(10,920)	–	(10,920)	–
Lease liabilities	(510,272)	(605,247)	(75,548)	(214,270)	(315,429)
Other financial liabilities	(344,872)	(356,323)	(307,176)	(48,529)	(618)
Trade accounts payable	(1,166,062)	(1,165,991)	(1,165,217)	(775)	–
	(3,314,573)	**(3,453,362)**	**(2,037,593)**	**(1,096,792)**	**(318,976)**
					2020 fiscal year
Derivatives	(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)**

H.2. Events after the reporting date

CHANGE OF LEADERSHIP

On March 11, 2022, the Supervisory Board decided to appoint Bernd Spies to the Executive Board as the member responsible for the Commercial Vehicle Systems division effective on March 12, 2022. The division was managed on an interim basis by the CEO Dr. Jan Michael Mrosik from January 1, 2022, to March 11, 2022.

Additionally on March 11, 2022, the Supervisory Board resolved that the CEO of Knorr-Bremse AG, Dr. Jan Mrosik, will leave the Company effective on April 30, 2022, and will resign from the Executive Board effective on March 12, 2022. Until a successor has been determined, CFO Frank Markus Weber will assume the responsibilities of the CEO on an interim basis.

CHANGES IN THE SUPERVISORY BOARD

Prof. Mangold will resign from office as the Chairman of the Supervisory Board as planned as of the Annual General Meeting on May 24, 2022, and step down from the Supervisory Board.

On February 11, 2022, Knorr-Bremse AG's Supervisory Board decided unanimously to propose Dr. Reinhard Ploss for election as a new Supervisory Board member at the Annual General Meeting. The Supervisory Board intends to elect Dr. Ploss as the Chairman of the Supervisory Board at its inaugural meeting after the Annual General Meeting.

With effect as of this year's Annual General Meeting, Supervisory Board member Dr. Thomas Enders is resigning from his position and will be leaving the Supervisory Board. The Supervisory Board will make its recommendation for replacement by the end of March.

ACQUISITION OF THE MINORITY INTERESTS IN GUANGDONG KNORR-BREMSE GUO TONG RAILWAY VEHICLE SYSTEMS EQUIPMENT CO. LTD.

In December 2021, Knorr-Bremse Asia Pacific (Holding) Limited, Hong Kong, China, concluded a purchase agreement with Guangzhou Guo Tong Industrial Equipment Co., Ltd., Guangzhou, Guangdong, China, for the remaining 51% of the shares in Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong, China. The agreed purchase price is RMB 45.9 million (approximately € 6,400 thousand).

The shares were not yet owned by Knorr-Bremse Asia Pacific (Holding) Limited, Hong Kong, China, as of December 31, 2021, because the necessary registration with the relevant Chinese supervisory authority of the change of ownership to Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong, China, as of December 31, 2021, had not yet taken place. Registration took place by the date of the preparation of the consolidated financial statements.

Since Knorr-Bremse already controlled Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong, China, in the past due to the enforceability of management decisions and control of operations, this company was already fully consolidated in previous years.

CONCLUSION OF A CREDIT FACILITY TIED TO THE SUSTAINABILITY RATING

To secure long-term financing, Knorr-Bremse AG concluded a syndicated credit facility of € 750,000 thousand in January 2022. The credit facility is initially agreed for a period of 5 years and can be extended twice, by one year each time. Knorr-Bremse has tied the new financing to an ESG rating by ISS Corporate Solutions. Within the framework of a *bonus–malus* system, changes to this rating have a corresponding positive or negative impact on the loan spread.

WAR BETWEEN RUSSIA AND UKRAINE

On February 24, 2022, Russia began a military invasion of Ukraine (Russia–Ukraine war). In response, the European Union and the United States imposed sanctions against Russia. Knorr-Bremse established a task force, is continuously monitoring the current developments and sanctions, and is no longer delivering any sanctioned products or components to Russia. Additionally, Knorr-Bremse has decided to no longer deliver any products or systems for Russian locomotives for which it cannot be excluded that they could be used for military purposes. Furthermore, Knorr-Bremse will also withdraw from Kama Systems for Commercial Vehicles, the joint venture with Russia-based Kamaz.

As a value-determining event in the fiscal year 2022, the Russia–Ukraine war has no impact on the consolidated financial statements as of December 31, 2021. There are devaluation risks for receivables from companies in the Russian economic area as well as corresponding assets amounting to a figure in the high two-digit million range.

H.3. Number of employees Table → 3.81

3.81 AVERAGE NUMBER OF EMPLOYEES

Number	2021	2020
Wage earners	15,758	14,819
thereof leased personnel	2,811	2,409
Salaried employees	14,451	13,974
thereof leased personnel	226	215
Trainees	221	211
	30,431	**29,004**

In fiscal year 2021, average number of employees increased by 1.427 from 29.004 to 30.431 . The number of employees without leased personnel increased by 4 %, or 1.013 employees, from 26.380 to 27.393. The increase was primarily due to organic growth as well as the increase in employees numbers through the acquisition of EVAC.

H.4. Auditor fees

Table → 3.82

3.82 AUDITOR FEES

in € thousand	2021	2020
Audit services	6,785	5,115
Other assurance services	142	181
Tax advisory services	4	46
Other services	1,050	1,540
	7,981	**6,882**

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. Moreover, the audit included a review of the interim financial statements.

Other assurance services relate to legally prescribed or contractually agreed audits such as the EMIR audit pursuant to section 32 (1) WpHG, audits related to the use of public funding, audit services in connection with non-financial reporting under ISAE 3000, the audit of the Compensation Report pursuant to IDW PS 490 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 (DAC6).

Other services predominantly concern additional quality assurance audit actions in connection with quarterly reporting as well as services in conjunction with the EU Taxonomy.

The total fee in 2021 included € 719 thousand for fees for services from 2020 for which no provision was recognized in 2020.

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.

Until he passed away on February 23, 2021 Mr. Heinz Hermann Thiele was the ultimate parent entity of Knorr-Bremse AG. On March 25, 2021, the Company published a release pursuant to section 43 (2) and section 40 (1) WpHG, according to which the voting rights are attributed to Mrs. Nadia Thiele as the heir pursuant to section 34 WpHG. On May 18, 2021, the Company published a release pursuant to section 43 (2) and section 40 (1) WpHG, according to which, following the acceptance of the role of executor for the estate of the late Heinz Hermann Thiele and the associated control of the voting rights, the indirect shareholding of KB Holding GmbH, Grünwald, Germany, in Knorr-Bremse AG amounting to 58.99% is attributed to Mr. Robin Brühmüller. Mr. Robin Brühmüller is therefore the ultimate parent entity since his assumption of the role of executor of the estate.

To the Company's knowledge, the shares in Stella Vermögensverwaltungs GmbH, Grünwald, Germany, and TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Germany, directly held by Mr. Thiele until February 23, 2021, are currently held by Mr. Thiele's widow Nadia Thiele. Within the first half of 2022, they are expected to be contributed to a foundation under German law currently being established. This contribution had not yet taken place as of the date of the preparation of the 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 Executive Board and the Supervisory Board. The remuneration of members of management in key positions (on an expense basis) includes: Table → 3.83

3.83 REMUNERATION OF MANAGEMENT

in € thousand	2021	2020
Compensation of the Executive Board		
Short-term compensation	8708	6,645
Post-employment benefits	1,300	1,083
Termination benefits	1864	3,472
Other long-term benefits	173	(311)
Share-based payment	1790	2,290
	13835	**13,179**
Compensation for the Members of the Supervisory Board		
Short-term compensation	1,598	1,450
	1,598	**1,450**
Total	**15,433**	**14,629**

The remuneration of the members of the Executive Board includes salaries, benefits in kind and contributions in defined-benefit and defined-contribution plans for post-employment benefits. The post-employment benefits of € 1,300 thousand (2020: € 1,083 thousand) concerned expenses for defined-contribution plans for Executive Board members active in the fiscal year. The termination benefits in the reporting year concern the resignation of Mr. Laier (€ 1,864 thousand).

The other long-term benefits due include expenses from the Executive Board LTI, which was granted until 2019, and, in the previous year with opposite effect, 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 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. 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 EXECUTIVE BOARD IN ACCORDANCE WITH SECTION 314 (1) NO. 6 IN CONJUNCTION WITH SECTION 315E (1) HGB

The total remuneration of the members of the Supervisory Board granted in 2021 amounted to € 1,598 thousand (2020: € 1,450 thousand). In 2021, total remuneration granted amounted to € 14,948 thousand (2020: € 11,000 thousand). Total remuneration granted includes share-based payment for the fiscal year with a fair value of € 4,940 thousand (2020: € 3,272 thousand) and 42,244 (2020: 37,738) virtual performance shares.

Former members of the Executive Board and their surviving dependents were awarded total remuneration of € 4,985 thousand in the fiscal year (2020: € 6,290 thousand). Total compensation in 2021 includes employment termination benefits of € 1,864 thousand arising from the termination of Mr. Laier's employment; in the previous year, it included € 2,347 thousand and € 2,120 thousand from the termination of Mr. Eulitz's and Mr. Heuwing's employment, respectively. After Mr. Heinz Hermann Thiele passed away, the existing pension commitment was revalued in accordance with the agreed commitment terms. Pension provisions for former members of the Executive Board and for their surviving dependents amounted to € 62,990 thousand as of December 31, 2021 (2020: € 71,316 thousand).

H.5.4. Sale of goods and services Table → 3.84

3.84 SALE OF GOODS AND SERVICES

in € thousand	2021	2020
Sale of goods and services		
Associated companies	155,606	159,109
Ultimate parent entity	325	715
Other related companies and persons	4,297	6,466
	160,228	**166,290**

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 € 267 thousand (2020: € 597 thousand) related to reimbursed expenses.

H.5.5. Purchase of goods and services Table → 3.85

3.85 PURCHASE OF GOODS AND SERVICES

in € thousand	2021	2020
Purchase of goods and services		
Associated companies	22,702	36,157
Members of the Management in key positions	25	180
Ultimate parent entity (consulting services)	402	2,538
Ultimate parent entity (rents)	2,147	2,342
Other related companies and persons (rents)	15,559	10,086
Other related companies and persons (goods and services)	1,267	836
	42,101	**52,139**

The purchase of goods and services comprised legal transactions within the framework of and outside normal delivery and service relationships.

Goods and services (including rents) were purchased from related parties at arm's length conditions.

Consulting services obtained from the ultimate parent entity in the previous year 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 under a consulting agreement concluded with effect as of April 1, 2018, with Knorr Brake Holding Corporation, USA, that expired as of the first quarter of 2021.

H.5.6. Miscellaneous business transactions Table → 3.86

3.86 MISCELLANEOUS BUSINESS TRANSACTIONS

in € thousand	2021	2020
Disposal of land and other assets to		
Related companies	6,576	8
	6,576	**8**
Donations to		
Related companies (Knorr-Bremse Global Care e. V.)	3,009	2,330
	3,009	**2,330**
Dividends to		
Parent Company (KB Holding)	144,549	189,176
	144,549	**189,176**
Distributions from		
Heiterblick Projektgesellschaft mbH, Leipzig	1,225	-
	1,225	**-**
Further business transactions		
Associated companies		
Capital increase at Rail Vision Ltd.	-	8,475
	-	**8,475**

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, Munich, Germany, and leased them back under a long-term arrangement. 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 and was received in full by Knorr-Bremse in the fiscal year.

In August 2021, Knorr-Bremse Fékrendszerek Kft., Kecskemét, Hungary, concluded a sale-and-leaseback transaction with OPES Real Estate Hungary Kft., Budapest, Hungary. The purchase price of € 6,300 thousand is based on an assessment by an independent expert. The newly concluded lease has a term of 12 years. The Company generated earnings before interest, tax and depreciation and amortization of € 2,206 thousand from the transaction. The annual net rent exclusive of heating charges is € 359 thousand. At the same time, Knorr-Bremse Fékrendszerek Kft., Kecskemét, Hungary, agreed on the construction of a new, modern office and R&D building on the unused portion of the property by OPES Real Estate Hungary Kft., Budapest, Hungary, in accordance with the requirements of Knorr-Bremse. The new building will also be under a long-term lease once it has been completed.

H.5.7. Balances with related parties and management Table → 3.87

3.87 BALANCES WITH RELATED PARTIES AND MANAGEMENT

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Right-of-use assets pursuant to IFRS 16		
Related companies	114,407	69,984
Ultimate parent entity	19,962	21,564
	134,368	**91,548**
Other assets from the sale and leaseback transaction at the Munich site		
Related companies	-	**45,137**
Receivables to		
Associated companies	29,994	42,027
Related companies	17,645	18,099
Ultimate parent entity	80	365
Members of the Management in key positions	-	-
	47,720	**60,491**
Liabilities to		
Associated companies	6,107	7,832
Related companies	172,947	132,170
Ultimate parent entity	21,942	23,386
Members of the Management in key positions	73	138
	201,069	**163,526**

The increase in the right-of-use assets pursuant to IFRS 16 results from the transfer of the last building as part of the sale-and-leaseback transaction at the Munich location in 2019, which was completed, transferred and subsequently immediately leased back in the first quarter of 2021. This building increased right-of-use assets by € 42,989 thousand. The sale-and-leaseback transaction in Hungary also increased right-of-use assets by € 631 thousand.

Other assets from the sale-and-leaseback transaction at the Munich location, recognized in the previous year at € 45,137 thousand, concern the last finished and transferred building described above. This was transferred in the first quarter of 2021, resulting in Knorr-Bremse receiving a portion of the sale price in the amount of € 50,750 thousand.

Receivables from related parties result from trade receivables and from the sale of land. In the previous year, this included € 340 thousand of other assets (prepaid expenses) for consulting services that are yet to be performed.

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 (until March 11, 2022)
- Responsible in particular for HR, Strategy, Communication, Internal Audit, Security, Digitalization, and IT

Dr. Peter Laier (until December 31, 2021)
- Responsible for the Commercial Vehicle Systems Division, Munich
- Chairman of the Supervisory Board of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich

Dr. Claudia Mayfeld (since May 1, 2021)
- Responsible in particular for Integrity and Legal Affairs

Bernd Spies (since March 12, 2022)
- Responsible for the Commercial Vehicle Systems Division, Munich

Frank Markus Weber
- Responsible in particular for Finance, Taxes, Treasury, Controlling, Legal and Compliance, M&A, Sustainability and Investor Relations

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
- Chairman of the Advisory Board, Eastsib Holding, London
- Member of the Board of Directors, ACRA Analytical Credit Rating Agency, Moscow

Heinz Hermann Thiele, Munich (until 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

Kathrin Dahnke, Munich
- Chief Financial Officer of Osram Licht AG (until June 30, 2021)
- Chief Financial Officer of Ottobock SE & Co. KGaA (since September 1, 2021)
- Member of the Supervisory Board of B. Braun Melsungen AG

Dr. Thomas Enders, Tegernsee
- 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

Werner Ratzisberger*, Aldersbach
- Project Engineer for mechanical processing/surfaces
- Deputy Chair of the Works Council 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

Dr. Stefan Sommer, Meersburg (since May 20, 2021)
- Independent advisor
- Member of the Presidential Council of DEKRA e.V.

Erich Starkl*, Passau
- 1. Authorized Representative of IG Metall trade union,
- Passau office

Julia Thiele-Schürhoff, Munich
- Chair of the Executive Board of Knorr-Bremse Global Care e.V.

Sylvia Walter*, Berlin (since May 20, 2021)
- Accounting employee/accountant
- Member of the Works Council of Hasse & Wrede GmbH

Dr. Theodor Weimer, Frankfurt am Main
- Deputy Chairman of the Supervisory Board (since May 20, 2021)
- Chairman of the Executive Board of Deutsche Börse AG
- Member of the Supervisory Board of Deutsche Bank AG

Günter Wiese*, Berlin (until May 19, 2021)
- 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 representatives

H.7. Other financial obligations Table → 3.88

3.88 OTHER FINANCIAL OBLIGATIONS

in € thousand	Up to 1 year	1 to 5 years	Over 5 years	Total
12/31/2021				
Rent and lease obligations	5,169	5,899	18,800	29,868
Investment projects	25,384	272	–	25,656
Major repairs/maintenance work	8,294	2,030	81	10,405
Other obligations	66,208	61,538	44,957	172,704
	105,055	**69,738**	**63,839**	**238,632**
12/31/2020				
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	125	5,626
Other obligations	52,104	11,378	4,766	68,248
	108,321	**45,646**	**101,931**	**255,898**

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. In the previous year, in particular the leases already entered into but not yet implemented in connection with a sale-and-leaseback transaction in the USA and Munich.

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, logistics service contracts and license obligations.

H.8. Contingent liabilities Table → 3.89

3.89 CONTINGENT LIABILITIES

in € thousand	2021	2020
Guarantees	18,784	19,332
Warranties	389	545
Other	2,809	0
	21,982	**19,877**

Contingent liabilities lead to possible obligations that 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 were issued for outstanding bank bonds, performance warranties for banks as well as a rent guarantee for commercial/factory buildings. The associated probability of occurrence was considered to be low in 2021 due to the ongoing stable business development of the borrower.

Alleged irregularities in conjunction with the initiation of business were reported via the Knorr-Bremse whistleblower system. Provisions for tax risks in the range of single-digit millions were recognized in the consolidated financial statements as of December 31, 2021, for issues identified as part of the investigation concluded in January 2022. Should these issues become the subject of an investigation by the authorities, and should this investigation determine there had been violations of applicable law, this could lead to additional risks for the companies. At the time the consolidated financial statements were prepared, it is not possible to estimate the additional financial impact of this contingent liability.

H.9. Legal Disputes and Litigation

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 and in Knorr-Bremse Commercial Vehicle Systems Japan Ltd. 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. The parties have held discussions on agreeing the purchase price, but have not been able to come to any agreement. As a result, Robert Bosch GmbH submitted a request for arbitration, with which it pleaded for the payment of a purchase price of € 379.6 million plus interest, on July 21, 2021. Knorr-Bremse has recognized this amount as a liability since 2018. The parties are currently negotiating an out-of-court settlement, which is expected to by concluded within the first half of 2022.

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%.

Dated February 10, 2022, the European Commission rejected the complaint and closed the proceedings.

The Brazilian CADE decided on June 23, 2020, to open formal proceedings for a potential breach of the suspensory obligation. 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 also expected in the next few months.

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. The risk is currently assessed as fairly low.

TERMINATION OF LONG-TERM SUPPLY CONTRACTS BY ROBERT BOSCH GMBH

Robert Bosch GmbH terminated a number of long-term supply contracts for several electronic components while price negotiations were ongoing, which 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, and give rise to associated liability risks. Knorr-Bremse responded on March 13, 2020 by initiating arbitration proceedings against Robert Bosch GmbH to ensure that supply continues. After the proceedings were suspended between July 2021 and October 31, 2021, they were resumed in November 2021. No decision is expected before the second half of 2022.

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 behavior. 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.

On March 24, 2021, the court terminated the proceedings against Microelettrica without imposing any conditions or other sanctions. The Italian public prosecutor did not appeal the decision. The proceedings have therefore finally ended.

DISPUTE WITH 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.

The parties have reached an out-of-court settlement agreement in the meantime. The agreement also stipulated that Knorr-Bremse Asia Pacific acquire the shares of GT in Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co. Ltd. The transfer of shares has now taken place. GT retracted the complaints in January 2022.

THREAT OF LITIGATION FROM RUHRBAHN GMBH

In a letter dated February 11, 2022, Ruhrbahn GmbH claimed damages in the amount of € 8,991 thousand in the Kiepe/Heiterblick consortium and notified its intention to take legal action if payment is not made. Ruhrbahn is basing its claim on the violation of duties of consideration associated with an appeal on an award procedure from 2020. The consortium will defend itself against the claim, which it considers unfounded. No provisions were recognized for this process.

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 2021 amounted to € 1,800 thousand (2020: € 2,736 thousand).

Performance-related grants in 2021 amounted to € 6,166 thousand (2020: € 7,400 thousand) and were recognized in income. The year-on-year reduction was due primarily to decreased 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 the fiscal year 2021 in the amount of € 406 thousand (2020: € 3,260 thousand).

H.11. Leases

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. The respective useful lives are specified in Chapter D.11. 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 € 12,709 thousand as of December 31, 2021. (2020: € 6,691 thousand).

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 carrying amounts of the right-of-use assets recognized: Table → 3.90

3.90 RIGHT-OF-USE ASSETS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Assets		
Non-current assets		
Right-of-use assets – land and buildings	453,821	322,934
Right-of-use assets – technical equipment and machinery	1,072	1,556
Right-of-use assets – other equipment and factory and office equipment	16,989	17,058
Total	**471,882**	**341,548**

The following table lists the additions to right-of-use assets as shown in non-current assets: Table → 3.91

3.91 ADDITIONS TO RIGHT-OF-USE ASSETS

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Assets		
Non-current assets		
Right-of-use assets – land and buildings	174,338	97,433
Right-of-use assets – technical equipment and machinery	258	493
Right-of-use assets – other equipment and factory and office equipment	9,939	10,062
Total	**184,534**	**107,988**

The following table shows the carrying amounts of the lease liabilities (which are included in financial liabilities) and the changes during the reporting period: Table → 3.92

3.92 LEASE LIABILITIES

in € thousand	Dec. 31, 2021	Dec. 31, 2020
Liabilities		
Non-current financial liabilities		
Lease liabilities	450,330	335,647
Current financial liabilities		
Lease liabilities	59,942	51,574
Total	**510,273**	**387,221**

The maturity analysis of the lease liabilities is disclosed in Chapter H.1.6.

The following amounts were recognized in profit or loss in the reporting period: Table → 3.93

3.93 AMOUNTS AFFECTING PROFIT OR LOSS

in € thousand	2021	2020
Operating expenses	**12,206**	**15,108**
Expenses from short-term leases	7,886	6,865
Expenses from leases of low value assets	3,858	3,713
Expenses from variable lease payments	925	1,081
Other expenses from leases (e.g. incidental expenses)	(463)	3,449
Depreciation, amortization and impairment	**58,796**	**55,625**
Depreciation of right-of-use assets – land and buildings	48,516	44,606
Depreciation of right-of-use assets – technical equipment and machinery	661	726
Depreciation of right-of-use assets – other	9,619	10,293
Impairments of right-of-use assets	–	–
Financial result	**13,308**	**10,844**
Interest expense on lease liabilities	13,308	10,844
Income from the currency translation of lease liabilities	–	–
Expenses from the currency translation of lease liabilities	–	–

The Group had cash outflows for leases in 2021 of € 72,127 thousand (2020: € 73,135 thousand). The future cash outflows for leases that have not yet commenced are disclosed in Chapter H.7. Of these, € 22,218 thousand (2020: € 49,822 thousand) is attributable to leases that have been entered into but have not yet commenced, € 6,428 thousand (2020: € 85,115 thousand) is attributable to low-value and short-term leases and € 1,221 thousand (2020: € 0 thousand) is attributable to leases with variable payments.

SALE AND LEASEBACK

In December 2019, Knorr-Bremse entered into a sale-and-leaseback transaction with OPES Business Park Am Oberwiesenfeld GmbH, Munich, Germany. The building, which had not yet been completed in the previous years and was delivered in 2021, increased right-of-use assets under IFRS 16 by € 42,989 thousand and lease liabilities by € 34,906 thousand.

In August 2021, Knorr-Bremse Fékrendszerek Kft., Kecskemét, Hungary – a direct subsidiary of Knorr-Bremse AG – concluded a sale-and-leaseback transaction with OPES Real Estate Hungary Kft., Budapest, Hungary. Please refer to Chapter H.5 for more details.

Right-of-use assets of € 631 thousand and lease liabilities of € 2,827 thousand were recognized in the balance sheet under IFRS 16 from the sale-and-leaseback transaction in Hungary.

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 to extend or terminate the lease (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 lease 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).

H.12. List of shareholdings

The Table → 3.94 shows the list of shareholdings in accordance with section 313 (2) HGB:

3.94 LIST OF SHAREHOLDINGS

1. Consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Albatros GmbH, Munich, Germany	100.0	in € thousand	15	(1)	15
Anchor Brake Shoe Company LLC, West Chicago, Illinois, USA	100.0	in € thousand	5,330	(58)	9,013
BCVS Canadian Holdings LLC, Avon, Ohio, USA	100.0	in € thousand	0	0	0
BCVS Mexican Holdings LLC, Avon, Ohio, USA	100.0	in € thousand	0	0	0
Bendix Commercial Vehicle Systems LLC, Avon, Ohio, USA	100.0	in € thousand	301,134	100,315	938,552
Bendix CVS Canada Inc., Anjou, Québec, Canada	100.0	in € thousand	4,628	1,093	14,555
Bendix CVS de Mexico S.A. de C.V, Cd Acuña, Coah, Mexico	100.0	in € thousand	22,299	749	42,077
Bendix Servicios de Mexico S.A. de C.V., Tapodaca Nuevo Leon, Mexico	100.0	in € thousand	6,571	403	9,204
Comet Fans S.r.l., Solaro, Milan, Italy	100.0	in € thousand	4,440	2,276	13,729
Distribuidora Bendix CVS (de) Mexico SA de CV, Cd Acuña, Coah, Mexico	100.0	in € thousand	2,011	79	7,808
Dr. techn. Josef Zelisko, Fabrik für Elektrotechnik und Maschinenbau Ges.m.b.H., Mödling, Austria[1)]	100.0	in € thousand	6,712	(1,627)	38,761
Dyno-Inno Test Center for Brake Equipment (Suzhou) Ltd., Suzhou, China	100.0	in € thousand	1,244	502	1,367
EVAC GmbH, Wedel, Germany	100.0	in € thousand	61,200	(1,162)	78,857
Freios Bre Coahuila, S.A. de C.V., Cd. Acuña, Coah, Mexico	100.0	in € thousand	6,570	(11)	6,571
G.T. Group Ltd., Peterlee, United Kingdom	100.0	in € thousand	7,781	5,217	9,839
GT Emissions Systems Ltd., Peterlee, United Kingdom	100.0	in € thousand	12,761	195	25,469
GT Project Engineering Ltd., Consett, United Kingdom	100.0	in € thousand	(525)	72	0
Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong, China[5)]	49.0	in € thousand	21,655	3,172	48,821
Hasse & Wrede CVS Dalian, China Ltd., Dalian, China	70.0	in € thousand	24,290	11,782	44,862
Hasse & Wrede GmbH, Berlin, Germany	100.0	in € thousand	11,766	4,037	27,255
Heine Resistors GmbH, Dresden, Germany	100.0	in € thousand	4,839	1,966	8,292
IFE-CR a.s., Brünn, Czech Republic	100.0	in € thousand	19,731	4,146	62,407
IFE North America LLC, Westminster, Maryland, USA	100.0	in € thousand	2,509	117	8,011
IFE-VICTALL Railway Vehicle Door Systems (Qingdao) Co., Ltd., Qingdao, China	59.0	in € thousand	28,623	220	94,423
Kalmar Tågkompetens AB, Kalmar, Sweden	100.0	in € thousand	1,127	329	1,610
KB Gamma Beteiligungs GmbH, Munich, Germany	100.0	in € thousand	20	(1)	20
KB Lambda Beteiligungs GmbH, i.L., Munich, Germany	100.0	in € thousand	26	0	26
KB Media GmbH Marketing und Werbung, Munich, Germany[1)]	100.0	in € thousand	87	69	1,989
KB Omikron Beteiligungs GmbH, i.L., Munich, Germany	100.0	in € thousand	22	(1)	22
KB Sigma Beteiligungs GmbH, i.L., Munich, Germany	100.0	in € thousand	25	(1)	25
Kiepe Electric GmbH, Düsseldorf, Germany[1)]	100.0	in € thousand	43,887	(3,133)	186,454
Kiepe Electric India Pvt. Ltd., Faridabad, India	100.0	in € thousand	125	(7)	134
Kiepe Electric LLC., Alpharetta, USA	100.0	in € thousand	4,308	1,972	7,558
Kiepe Electric Schweiz AG, Niederbuchsiten, Switzerland	100.0	in € thousand	(196)	(890)	9,672
Knorr Brake Company LLC., Westminster, Maryland, USA	100.0	in € thousand	45,235	7,835	102,551
Knorr Brake Corporation Canada Holdings Ltd., Montreal, Québec, Canada	100.0	in € thousand	5,329	4,010	5,329
Knorr Brake Holding Corporation, Avon, Ohio, USA	100.0	in € thousand	116,427	83,535	622,136
Knorr Brake Ltd., Kingston, Ontario, Canada	100.0	in € thousand	1,909	50	2,101
Knorr Brake Rail Mexico, SA de CV, Acuña, Mexico	100.0	in € thousand	8,926	(10)	19,743
Knorr Brake Truck Systems Company, Avon, Ohio, USA	100.0	in € thousand	77,135	93,129	170,846
Knorr-Bremse 1520 OOO, Burashevskoe, Russia	100.0	in € thousand	23,701	172	45,355

1. Consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Knorr-Bremse/Nankou Air Supply Unit (Beijing) Co., Ltd., Nankou, China	55.0	in € thousand	10,270	2,260	29,604
Knorr-Bremse Asia Pacific (Holding) Limited, Hong Kong, China	100.0	in € thousand	573,907	294,096	623,674
Knorr-Bremse Australia Pty. Ltd., Granville, Australia	100.0	in € thousand	21,347	3,627	116,374
Knorr-Bremse Benelux B.V.B.A., Heist-op-den-Berg, Belgium	100.0	in € thousand	241	754	1,865
Knorr-Bremse Beteiligungsgesellschaft mbH, Munich, Germany[1)]	100.0	in € thousand	26	0	757
Knorr-Bremse Braking Systems for Commercial Vehicles (Dalian) Co. Ltd., Dalian, China	100.0	in € thousand	75,766	26,217	184,439
Knorr-Bremse Brasil (Holding) Administração e Participação Ltda., Itupeva, Brazil	100.0	in € thousand	26,706	1,539	27,507
Knorr-Bremse CARS LD Vehicle Brake Disc Manufacturing (Beijing) Co., Ltd., Daxing, China	50.0	in € thousand	45,559	28,433	110,270
Knorr-Bremse Commercial Vehicle Systems Japan Ltd., Tokyo, Japan	80.0	in € thousand	39,740	6,300	141,667
Knorr-Bremse Commercial Vehicle Systems (Shanghai) Co., Ltd., Shanghai, China	100.0	in € thousand	14,372	1,813	37,886
Knorr-Bremse Commercial Vehicle Systems (Thailand) Ltd., Bangkok, Thailand	100.0	in € thousand	2,459	(650)	21,023
Knorr-Bremse DETC Commercial Vehicle Braking Technology Co., Ltd., Shiyan, China	51.0	in € thousand	27,112	2,852	78,460
Knorr-Bremse España, S.A., Getafe, Spain	100.0	in € thousand	47,568	16,081	139,051
Knorr-Bremse EVAC, LLC, Carson, California, USA	100.0	in € thousand	20,102	(1,420)	24,367
Knorr-Bremse Fékrendszerek Kft., Kecskemét, Hungary	100.0	in € thousand	54,027	15,199	104,151
Knorr-Bremse Ges.m.b.H., Mödling, Austria	100.0	in € thousand	78,964	45,340	238,408
Knorr-Bremse Ibérica S.L., San Fernando de Henares, Spain	100.0	in € thousand	2,445	366	9,239
Knorr-Bremse India Pvt. Ltd., Faridabad, India	100.0	in € thousand	137,050	44,793	200,032
Knorr-Bremse Investment GmbH, Munich, Germany[1)]	100.0	in € thousand	23,570	(70)	24,166
Knorr-Bremse KAMA Systems for Commercial Vehicles OOO, Naberezhnye Chelny, Russia[5)]	50.0	in € thousand	16,252	2,246	22,662
Knorr-Bremse Nordic Rail Services AB, Lund, Sweden	100.0	in € thousand	6,679	3,297	24,333
Knorr-Bremse Pamplona S.L., Pamplona, Spain	100.0	in € thousand	11,204	2,303	53,519
Knorr-Bremse Pensionsgesellschaft mbH, i.L., Munich, Germany	100.0	in € thousand	24	0	24
Knorr-Bremse Polska SfN Sp. z o.o., Warsaw, Poland	100.0	in € thousand	1,358	852	1,858
Knorr-Bremse Rail Systems CIS Holding OOO, Moscow, Russia	100.0	in € thousand	27,122	8,275	27,452
Knorr-Bremse Rail Systems Italia S.r.l., Campi Bisenzio, Italy	100.0	in € thousand	38,044	15,702	98,687
Knorr-Bremse Rail Systems Japan Ltd., Tokyo, Japan	94.0	in € thousand	13,935	2,806	30,790
Knorr-Bremse Rail Systems Korea Ltd., Seoul, South Korea	100.0	in € thousand	9,563	2,678	13,832
Knorr-Bremse Rail Systems OOO, Moscow, Russia	100.0	in € thousand	15,808	7,590	30,688
Knorr-Bremse Rail Systems Schweiz AG, Niederhasli, Switzerland	100.0	in € thousand	9,905	3,248	18,301
Knorr-Bremse Rail Systems (UK) Ltd., Melksham, Wiltshire, United Kingdom	100.0	in € thousand	52,560	23,106	131,754
Knorr-Bremse Rail Transportation Equipment (Chengdu) Co., Ltd., Chengdu, China[3)]	100.0	in € thousand	1,240	(141)	1,817
Knorr-Bremse Rail Transportation Equipment (Chongqing) Co., Ltd., Chongqing, China	100.0	in € thousand	1,390	0	1,390
Knorr-Bremse Rail Transportation Equipment (Guangzhou) Co., Ltd., Guangzhou, China	100.0	in € thousand	0	0	0
Knorr-Bremse Railway Technologies (Shanghai) Co., Ltd., Shanghai, China	100.0	in € thousand	(13,026)	(2,334)	480
Knorr-Bremse Raylı Sistemler Sanayi ve Ticaret Limited Şirketi, Ankara, Turkey	100.0	in € thousand	1,255	623	2,003
Knorr-Bremse S.A. Holding Company (UK) Ltd., Melksham, Great Britain	100.0	in € thousand	6,278	0	6,278
Knorr-Bremse S.A. (Pty.) Ltd., Kempton Park, South Africa	75.0	in € thousand	5,236	(3,750)	21,119
Knorr-Bremse S.R.L., Bucharest, Romania	100.0	in € thousand	712	111	1,234
Knorr-Bremse Services Europe s.r.o., Stráž nad Nisou, Czech Republic	100.0	in € thousand	3,266	1,970	7,234
Knorr-Bremse Services GmbH, Munich, Germany[1)]	100.0	in € thousand	10,522	(1,541)	120,490
Knorr-Bremse Sistemas para Veículos Comerciais Brasil Ltda., Itupeva, Brazil	100.0	in € thousand	30,974	12,381	53,422
Knorr-Bremse Sistemas para Veículos Ferroviários Ltda., Itupeva, Brazil	100.0	in € thousand	10,977	3,107	16,238
Knorr-Bremse Sistemi per Autoveicoli Commerciali S.p.A., Arcore, Italy	100.0	in € thousand	6,071	1,023	27,962

1. Consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Knorr-Bremse Steering Systems Japan Ltd., Saitama, Japan	100.0	in € thousand	63,513	(15,250)	132,088
Knorr-Bremse SteeringSystems GmbH, Munich, Germany	100.0	in € thousand	4,473	2,623	6,773
Knorr-Bremse System för Tunga Fordon AB, Malmö, Sweden	100.0	in € thousand	680	327	1,058
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich, Germany	80.0	in € thousand	438,415	126,929	894,541
Knorr-Bremse Systeme für Nutzfahrzeuge Pensionsgesellschaft mbH, i.L., Munich, Germany	100.0	in € thousand	24	0	24
Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich, Germany[1]	100.0	in € thousand	127,592	14,681	1,262,924
Knorr-Bremse Systeme für Schienenfahrzeuge Ibero Holding GmbH, Munich, Germany[1]	100.0	in € thousand	47,306	0	60,584
Knorr-Bremse Systemes Ferroviaires S.A., Tinqueux, France	100.0	in € thousand	9,905	3,320	35,930
Knorr-Bremse Systèmes pour Véhicules Utilitaires France S.A.S., Lisieux, France	100.0	in € thousand	42,938	15,848	91,454
Knorr-Bremse Systems for Commercial Vehicles India Pvt. Ltd., Pune, India	100.0	in € thousand	11,958	1,979	58,471
Knorr-Bremse Systems for Commercial Vehicles (Chongqing) Ltd., Chongqing, China	66.0	in € thousand	27,512	10,365	74,252
Knorr-Bremse Systems for Commercial Vehicles (Suzhou) Co., Ltd., Suzhou, China	100.0	in € thousand	695	0	729
Knorr-Bremse Systems for Commercial Vehicles OOO, Moscow, Russia	100.0	in € thousand	8,914	1,403	15,876
Knorr-Bremse Systems for Commercial Vehicles Ltd., Bristol, United Kingdom	100.0	in € thousand	37,519	(748)	63,237
Knorr-Bremse Systems for Rail Vehicles Enterprise Management (Beijing) Co., Ltd., Beijing, China	100.0	in € thousand	3,648	(1,149)	14,660
Knorr-Bremse Systems for Rail Vehicles Kazakhstan LLP, Nur-Sultan, Republic of Kazakhstan	100.0	in € thousand	180	18	277
Knorr-Bremse Systems for Rail Vehicles (Suzhou) Co., Ltd., Suzhou, China	100.0	in € thousand	263,791	161,720	558,621
Knorr-Bremse Systemy Kolejowe Polska Sp. z o.o., Krakow, Poland	100.0	in € thousand	14,003	4,703	21,539
Knorr-Bremse Systemy Pojazdów Szynowych Spoółka z Organiczoną Odpowiedzilnością, Krakow, Poland	100.0	in € thousand	(196)	(209)	341
Knorr-Bremse Systémy pro užitková vozidla ČR s.r.o.,Stráž nad Nisou, Czech Republic	100.0	in € thousand	43,956	6,565	108,385
Knorr-Bremse Technology Center India Pvt. Ltd., Pune, India	100.0	in € thousand	6,064	2,766	18,638
Knorr-Bremse Ticari Arac Fren Sistemieri Limited Sirketi, Istanbul, Turkey	100.0	in € thousand	2,099	2,296	3,138
Knorr-Bremse US Beteiligungs GmbH, Munich, Germany[1]	100.0	in € thousand	50	0	51
Knorr-Bremse US Investment GmbH, Munich, Germany[1]	100.0	in € thousand	25	0	25
Knorr-Bremse Vasúti Jármű Rendszerek Hungária Kft., Budapest, Hungary	100.0	in € thousand	88,847	24,544	191,032
Knorr-Bremse Verwaltungsgesellschaft mbH, Munich, Germany	100.0	in € thousand	25	(1)	25
Merak Jinxin Air Conditioning Systems (Wuxi) Co., Ltd., Wuxi, China	51.0	in € thousand	13,602	2,344	60,472
Merak Knorr Climatización S.A., Buenos Aires, Argentina	100.0	in € thousand	(538)	(171)	148
Merak North America LLC, Westminster, Maryland, USA	100.0	in € thousand	(9,945)	(2,617)	17,253
Microelettrica Heine (Suzhou) Co., Ltd., Suzhou, China	100.0	in € thousand	6,966	821	9,893
Microelettrica Power (Pty.) Ltd., Johannesburg, South Africa	74.0	in € thousand	1,494	(339)	5,421
Microelettrica Scientifica (Pty.) Ltd., Johannesburg, South Africa	100.0	in € thousand	1,152	(124)	1,772
Microelettrica Scientifica S.p.A., Buccinasco, Italy	100.0	in € thousand	14,731	6,610	79,846
Microelettrica-USA LLC, Randolph, New Jersey, USA	100.0	in € thousand	2,821	645	11,057
M.S. Resistances (Microelettrica Scientifica) S.A.S., Saint Chamond, France	51.0	in € thousand	3,455	275	5,685
New York Air Brake LLC, Watertown, New York, USA	100.0	in € thousand	67,556	10,826	187,240
R.H. Sheppard Co., Inc., Hanover, Pennsylvania, USA	100.0	in € thousand	103,943	(10,664)	139,271
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 Schumacher Beteiligungsgesellschaft mbH, Cologne, Germany)	99.0	in € thousand	(4,357)	(164)	24,537
Selectron Systems AG, Lyss, Switzerland	100.0	in € thousand	20,817	1,743	71,765
Selectron Systems Italia S.A.R., Venice, Italy	100.0	in € thousand	0	0	0
Selectron Systems (Beijing) Co., Ltd., Beijing, China[2]	100.0	in € thousand	0	0	0
Semiconductor Solutions (Pty.) Ltd., Pretoria, South Africa	100.0	in € thousand	1,417	523	1,685

1. Consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Sentient Heavy Vehicles AB, Gothenburg, Sweden	100.0	in € thousand	274	(88)	279
Sheppard Asia Steering Systems Ltd., Hong Kong, China	100.0	in € thousand	560	527	560
Skach Ges.m.b.H., Mödling, Austria[1]	100.0	in € thousand	93	21	805
Technologies Lanka Inc., La Pocatière, Québec, Canada	100.0	in € thousand	8,576	1,976	12,488
Unicupler GmbH, Niederurnen, Switzerland	100.0	in € thousand	3,570	(31)	3,868
Universal Investment Universal-KBAM-Fonds, Frankfurt am Main, Germany[10]	100.0	in € thousand	154,031	3,409	154,879
Zelisko Elektrik Sanayi ve Ticaret Limited Şirketi, Istanbul, Turkey	100.0	in € thousand	958	605	1,835

2. Proportionately consolidated companies					
Sentient IP AB, Göteborg, Sweden	50.0	in € thousand	7	1	30

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 (unres. liab. shareholder is Alltrucks Verwaltungs GmbH, Munich, Germany) [4)6)8)]	33.3	in € thousand	1,409	23	2,435
Alltrucks Verwaltungs GmbH, Munich, Germany[4)6)8)]	33.3	in € thousand	38	2	41
China Source Engineered Components Trading Corporation Ltd. Shanghai, China[6]	37.5	in € thousand	4,255	1,911	7,499
Knorr-Bremse DETC Commercial Vehicle Braking Systems (Shiyan) Co., Ltd., Shiyan, China[4)8)]	49.0	in € thousand	3,450	511	39,568
Railnova SA, Brussels, Belgium[4) 6) 8)]	32.0	in € thousand	4,464	82	5,997
Rail Vision Ltd., Raanana, Israel[4)8)]	36.8	in € thousand	9,936	(9,857)	12,814

4. Non-consolidated affiliated companies	Share of capital in %	Currency and unit	Equity	Income	Total assets
Di-Pro LLC., Avon, Ohio, USA[6)8)]	100.0	in € thousand	0	0	0
EKA DOOEL, Skopje, Northern Macedonia[8]	100.0	in € thousand	648	75	852
Heiterblick Projektgesellschaft mbH, Leipzig, Germany[6)8)]	49.0	in € thousand	25	1	668
Kiepe Electric Corporation, Vancouver, Canada[6)8)]	100.0	in € thousand	2,546	414	2,748
Kiepe Electric S.r.l., Cernusco sul Navigilio, Italy[6)8)]	100.0	in € thousand	308	11	1,032
Knorr-Bremse Guo Tong (Guangzhou) Railway Transportation Equipment Co., Ltd., Guangzhou, China[8]	100.0	in € thousand	(53)	(23)	15
Knorr-Bremse Investment UK Ltd., Chippenham, United Kingdom[6)8)]	100.0	in € thousand	26,182	12,356	26,182
RBL-Technologie Ltd., i.L., Naberezhnye Chelny, Russia[7)8)]	100.0	in € thousand	55	63	156
Sichuan Knorr-Bremse Guo Tong Railway Transportation Equipment Co., Ltd., Chengdu, China[8]	100.0	in € thousand	(2)	0	7

5. Associated companies not valued according to the equity method and other investments	Share of capital in %	Currency and unit	Equity	Income	Total assets
AutoBrains Technologies Ltd., Tel Aviv-Yafo, Israel[8]	5.5	in € thousand	30,357	(3,165)	32,573
Haldex AB, Landskrona, Sweden[6]	9.2	in € thousand	163,413	22,474	456,288
IFB Institut für Bahntechnik GmbH, Berlin, Germany[6)8)]	6.7	in € thousand	2,157	172	3,833
MORCAR Grundstücksgesellschaft mbH & Co. oHG, Munich, Germany (unres. liab. shareholder is Knorr-Bremse Beteiligungsgesellschaft mbH, Munich, Germany)[6) 8)]	5.0	in € thousand	757	(6)	768
Shenzhen SF-Trailernet Technology Co., Ltd., Shenzhen, China[8]	14.3	in € thousand	621	(38)	624

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 2021; 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 2020 fiscal year
7) Values refer to the 2019 fiscal year
8) Values determined in accordance with national GAAP
9) No annual financial statements according to local law 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. Segment information

I.1. Basics of segmentation

Table → 3.95, 3.96, 3.97

3.95 INFORMATION ON REPORTABLE SEGMENTS

in € thousand	Reportable segments: Rail Vehicle Systems	Reportable segments: Commercial Vehicle Systems	Reportable segments: TOTAL	Reconciliation to IFRS: Rail Vehicle Systems	Reconciliation to IFRS: Commercial Vehicle Systems	Other segments and consolidation	Group
							12/31/2021
External revenues	3,348,242	3,395,197	6,743,439	(32,050)	(5,959)	210	6,705,640
Intersegment revenues	26,477	20,614	47,091	(25,708)	(19,617)	(1,765)	–
Segment revenues	**3,374,719**	**3,415,812**	**6,790,530**	**(57,758)**	**(25,577)**	**(1,555)**	**6,705,640**
EBITDA*)**)	665,784	430,910	1,096,694	48,464	69,694	(8,347)	1,206,505
Depreciation, amortization and impairment	(94,240)	(131,508)	(225,748)	(36,507)	(7,972)	(20,211)	(290,438)
thereof impairments	–	(1,104)	(1,104)	(6,025)	(1,282)	–	(8,411)
EBIT*)	571,543	299,402	870,945	11,958	61,722	(28,558)	916,067
Interest income	5,697	4,385	10,082	2,180	2,065	1,573	15,901
Interest expense	(13,088)	(9,783)	(22,871)	(14,027)	(2,822)	(16,151)	(55,872)
Other financial result	(3,492)	(793)	(4,285)	2,184	890	5,928	4,717
thereof: Share of profit or loss from companies accounted for using the equity method	(2,353)	8	(2,345)	0	–	–	(2,345)
EBT	**560,660**	**293,212**	**853,872**	**2,295**	**61,854**	**(37,208)**	**880,813**
Net Working Capital	**635,113**	**312,699**	**947,812**	**(106,879)**	**37,427**	**(2,555)**	**875,806**
							12/31/2020
External revenues	3,342,531	2,824,731	6,167,261	(6,373)	(6,047)	1,905	6,156,746
Intersegment 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**

*) Not explicitly included in management reporting to CODM
**)EBITDA is defined as the operating result (EBIT) before depreciation and amortization of property, plant and equipment and intangible assets

3.96 RECONCILIATION OF REVENUES

	2021	**2020**
Revenues of reportable segments (German GAAP)	6,790,530	6,214,497
Revenues of other segments (German GAAP)	182,346	183,481
Inter-segment consolidation	(227,224)	(226,650)
Adjustment over-time-recognition	(25,164)	4,113
Application of the German Accounting Directive Implementation Act (BilRuG) and other effects	(14,848)	(18,695)
Consolidated revenue	**6,705,640**	**6,156,746**

3.97 RECONCILIATION OF EARNINGS BEFORE TAX

	2021	2020
Earnings before tax pursuant to the German Commercial Code (HGB)	817,785	666,008
Adjustment due to amortization not recognized on goodwill	28,188	30,356
Adjustment of over-time recognition and other effects in accordance with IFRS 15	7,651	7,092
Adjustment due to capitalization and amortization of development projects	59,015	53,694
Adjustment due to valuation differences in pension liabilities	10,197	11,725
Inventory valuation adjustment	(12,975)	(9,538)
Adjustment provisions	(16,143)	2,298
Hedging (unrealized profits/losses)	6,845	4,887
Bosch dividend	(616)	(11,932)
Additional depreciation and amortization and other effects from PPA	(2,582)	(5,724)
Adjustment due to IFRS 16	(6,456)	(2,309)
Adjustment due to measurement of equity instruments directly in equity	(3,643)	2,345
Financial instruments	(4,329)	(261)
Other adjustments based on differences between German GAAP and IFRS	(2,124)	1,920
Earnings from continued operations, consolidated and before taxes	**880,813**	**750,562**

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.

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.

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, 2021 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 with the exception of net working capital, which is defined in D.5.

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 → 3.98, 3.99

3.98 REVENUES BY REGION

	2021	2020
Europe/Africa	**3,168,467**	**2,792,252**
thereof Germany	1,588,350	1,334,401
North America	**1,397,934**	**1,261,330**
thereof USA	1,335,237	1,208,233
South America	**115,218**	**75,844**
Asia-Pacific	**2,024,021**	**2,027,320**
thereof China	1,292,794	1,348,748
	6,705,640	**6,156,746**

3.99 NON-CURRENT ASSETS BY REGION

	2021	2020
Europe/Africa	**1,371,081**	**1,216,408**
thereof Germany	843,958	704,459
North America	**606,970**	**440,335**
thereof USA	553,007	406,873
South America	**23,577**	**22,896**
Asia-Pacific	**376,379**	**356,687**
thereof China	150,585	127,088
	2,378,007	**2,036,327**
Goodwill	**418,179**	**396,174**
thereof Rail Vehicle Systems (Global)	206,877	189,470
thereof Commercial Vehicle Systems (Global)	211,302	206,704
	2,796,186	**2,432,501**

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 reporting period nor in the previous years did the Company generate more than 10% of its sales with one customer.

Goodwill is recognized globally at the level of the two segments. 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, 2021 (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 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 section 264 (3) HGB from the obligation to prepare explanatory notes, a management report and from the auditing obligation and obligation to disclosure under section 325 HGB.

K. Compliance declaration to 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 Executive Board and Supervisory Board of Knorr-Bremse AG submitted the declaration of compliance with the German Corporate Governance Code pursuant to section 161 AktG on December 9, 2021. 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 31, 2022.

Munich, March 25, 2022

Knorr-Bremse AG

Executive Board

FRANK MARKUS WEBER DR. CLAUDIA MAYFELD BERND SPIES 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 25, 2022

Knorr-Bremse AG

Executive Board

FRANK MARKUS WEBER **DR. CLAUDIA MAYFELD** **BERND SPIES** **DR. JÜRGEN WILDER**

Based on the results of our audit, we have issued the following unqualified auditor's report:

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 2021, 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 2021, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the management report on the Company and the Group (hereinafter the "group management report") of Knorr-Bremse Aktiengesellschaft for the financial year from 1 January to 31 December 2021.

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.

The group management report contains cross-references that are not required by law and which are marked as unaudited. In accordance with German legal requirements, we have not audited the cross-references and the information to which the cross-references refer.

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 2021, and of its financial performance for the financial year from 1 January to 31 December 2021, 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. The group management report contains cross-references that are not required by law and which are marked as unaudited. Our audit opinion does not extend to the cross-references and the information to which the cross-references refer.

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)(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 2021. 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 6,706 million in financial year 2021. Of this, EUR 3,317 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 1,123 million is recognised over time according to IFRS 15 and relates to the project business in the OE area 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 expected total costs requires 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 recognising 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-driven review 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 non-financial statement included in section "Sustainability and Non-financial Statement" of the group management report,
- the combined corporate governance statement for the Company and the Group 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.

In accordance with our engagement letter, we conducted a separate limited assurance engagement of the non-financial statement. Please refer to our assurance report dated 29 March 2022, for information on the nature, scope and findings of this limited assurance engagement.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

Management is responsible for the preparation of 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 the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB

We have performed assurance work in accordance with Section 317 (3a) HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in the electronic file "kb-2021-12-31-de.zip" (SHA256 hash value: 8b460d5d41fc61490e9f38368e712afd-706cf2e7c03ae6207ac9d4d72d4b6a45) made available and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only 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 these renderings nor to any other information contained in the file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the electronic file made available, identified above and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format. Beyond this 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 2021 contained in the "Report on the Audit of the Consolidated Financial Statements and the Group Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the file identified above.

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the file made available and identified above in accordance with Section 317 (3a) HGB and the IDW Assurance Standard: Assurance Work on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB (IDW AsS 410 (10.2021)). Our responsibility in accordance therewith is further described below. Our audit firm applies 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 rendering 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 such internal control that they have considered 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 Supervisory Board is responsible for overseeing the process of preparing 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 on 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 file made available containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815, as amended as at the reporting date, on the technical specification for this electronic file.

- Evaluate whether the ESEF documents provide an XHTML rendering 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) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, as amended as at the reporting date, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor at the annual general meeting on 20 May 2021. We were engaged by the Audit Committee on 20 January 2022. We have been the group 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).

Other Matter – Use of the Auditor's Report

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the examined ESEF documents. The consolidated financial statements and group management report converted to the ESEF format – including the versions to be published in the German Federal Gazette [Bundesanzeiger] – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the ESEF report and our assurance opinion contained therein are to be used solely together with the examined ESEF documents made available in electronic form.

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Johannes Hanshen.

Munich, 29 March 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft

[signature] Becker
Wirtschaftsprüfer
[German Public Auditor]

[signature] Hanshen
Wirtschaftsprüfer
[German Public Auditor]

04

Compensation Report

Compensation Report

The Compensation Report explains the principles of the remuneration system for the Executive Board and Supervisory Board of Knorr-Bremse AG and the compensation granted and owed within the meaning of section 162 (1) sentence 1 AktG to the current and former members of the Executive Board and Supervisory Board, in each case relating to the reporting period.

The Compensation Report was jointly prepared by the Executive Board and the Supervisory Board. In accordance with the German Act on the Implementation of the Second Shareholders' Rights Directive (ARUG II), the changed framework conditions for reporting apply to this Compensation Report for the first time. The present Compensation Report will be presented for approval to the Annual General Meeting on May 24, 2022. The Compensation Report for 2021 was reviewed with regard to form and content by KPMG AG Wirtschaftsprüfungsgesellschaft above and beyond the requirements of section 162 (3) AktG. The auditor's report is included in the 2021 Compensation Report.

Business performance in the 2021 fiscal year

The global economic recovery that began in the second half of 2020 continued in 2021. (Source: OECD). In particular, the rapid introduction of vaccinations played an important role in combating the Covid-19 virus in developed economies. (Source: World Bank).

Macroeconomic imbalances reached an unprecedented level across the board during the year. Government spending, budget deficits and debt-to-GDP ratios climbed to new record levels in several leading economies. Central bank balances have additionally absorbed quantities of non-current assets, the accumulation of which was largely financed by bank reserves. (Source: World Bank). At the same time, the pressure on markets increased as a result of markedly rising inflation and increasing commodity prices. (Source: OECD). The economic recovery was hit by a significant setback due to the pandemic and took place only at reduced speed, thus remaining behind expectations in the second half of the year. (Sources: IMF, OECD).

The development of GDP growth was a consistent picture across regions in 2021, similar to what had already been observed in 2020 – albeit with the signs now pointing in the opposite direction. Global GDP increased from -3.1% in 2020 to +5.9% in 2021. Economic output in the same period increased from -6.4% to +5.2% in the eurozone, from -3.4% to +5.6% in the USA and from +2.3% to +8.1% in China. (Source: IMF).

The financial markets' sharp rise was halted by the spread of the Omicron variant. For example, during the year the DAX reached a record high of +18.5% compared with the figure for year-end 2020 and closed 2021 15.8% up on 2020. The MDAX performed similarly in the same period, peaking at +17.8% and ending the year +14.1% up on the reference value in 2020. (Source: Refinitiv).

Overall, the Covid-19 pandemic affected the rail vehicle market at different times in different regions during 2021. All countries continued to be hit by the impact of the Covid-19 pandemic, with restrictions in various forms. Reduced vehicle mileage in some cases led to reductions in the aftermarket volume. Nevertheless, positive developments emerged over the course of the year.

Because most rail operations were maintained in Europe, orders were not canceled but only postponed, despite significantly reduced passenger numbers. The freight market saw a rise in North America compared with 2020 despite further waves of Covid-19, whereas passenger traffic continued to be impacted lower passenger numbers. In the Asian countries, continuing Covid-19 restrictions meant a return to the pre-pandemic level was mostly not yet achieved, even though a recovery could be seen in 2021 compared with 2020.

Measured by the truck production rate, the global commercial vehicle market fell by 1% year on year in 2021. While there was a general recovery of production rates in Europe and North and South America, Asia saw a sharp reduction, especially in the second half of 2021.

In western Europe, commercial vehicle production rose by 20% year on year in 2021 to around 445 thousand units. Commercial vehicle production in North America suffered due to global supply chain shortages, particularly of semiconductors, only recovering by 20% to around 350,000 units. The rise in commodity prices and the great demand for medium and large vans supported the sharp rise in Brazilian truck and bus production by 59% to around 176 thousand units. In the Asia region, commercial vehicle production fell by a total of 11% to around 1,908 thousand units. This decrease is particularly due to China, where we saw a 20% year-on-year fall to around 1,466 thousand units – following a government-supported rise in 2020.

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 German Corporate Governance Code (GCGC), adjusting them as necessary. The remuneration system applied in fiscal 2021 came into force with effect from January 1, 2020, taking account of new statutory requirements (ARUG II) and new recommendations in the GCGC. 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. The description in question is available in the Corporate Governance section of Knorr-Bremse AG's website (see https://ir.knorr-bremse.com/websites/knorrbremse_ir/English/7000/corporate-governance.html) and is referred to in addition to the following description.

From January 1, 2022, the remuneration system for the Executive Board, which was presented in the Annual General Meeting of May 20, 2021 and approved with 96.359% of the votes validly cast, applies to all members of the Executive Board. It can also be found under the linked Corporate Governance section above. The Compensation Report for fiscal 2022 should also report on this new remuneration system.

Overview

The Executive Board remuneration system applicable for fiscal year 2021 consists of fixed remuneration components (annual salary, fringe benefits and 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 **2021 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). 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 non-financial 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.

Target remuneration

The target total remuneration comprises the sum of all remuneration components relevant for total remuneration. In the case of the STI and LTI, the target amount is in each case based on 100% target achievement.

For the Executive Board Chair/CEO, the share of fixed remuneration (fixed annual salary, pension contribution and fringe benefits) is approximately 32% of the target total remuneration and the share of the variable compensation is approximately 68% of the target total remuneration. The share of the STI (target amount) is approximately 27% of the target total remuneration here, and the share of the LTI (target amount) is approximately 41% of the target total remuneration.

For the ordinary Executive Board members, the share of fixed remuneration (fixed annual salary, pension contribution and fringe benefits) is approximately 44% to 47% of the target total remuneration and the share of the variable compensation is approximately 53% to 56% of the target total remuneration. The share of the SDI (target amount) is approximately 23% to 24% of the target total remuneration and the share of the LTI (target amount) is approximately 30% to 32% of the target total remuneration.

Maximum remuneration

The total remuneration to be granted to the Executive Board members for a fiscal year (sum of all the remuneration amounts spent for the fiscal year in question, including fixed annual salary, variable remuneration components, pension contribution and fringe benefits) – irrespective of whether they are paid out in this fiscal year or at a later date – has a maximum absolute limit ("maximum remuneration"). The maximum remuneration in accordance with the remuneration system approved by the Annual General Meeting is € 7,490,000 for the Executive Board Chair/CEO and € 4,030,000 for the ordinary Executive Board members. In the case of the current CEO, maximum compensation of € 6,370,000 was agreed upon in the service contract.

The maximum remuneration may differ from the fixed maximum remuneration in the first or second year of their appointment when a new member of the Executive Board takes office if the Supervisory Board in exceptional cases grants the new Executive Board member payments on taking office to compensate for payments foregone from their previous employment. In this case, the maximum remuneration for this one fiscal year increases by up to 50% for the Executive Board Chair/CEO and up to 25% for ordinary Executive Board members.

Executive Board Remuneration in the 2021 Fiscal Year

Information on the Executive Board's fixed remuneration, objectives and target attainment for variable remuneration and individualized disclosures on remuneration granted and owed to individual Executive Board members for fiscal year 2021 can be found below. **Compensation granted and owed for the purposes of section 162 (1) sentence 1** AktG is defined as the remuneration received in a given fiscal year. Additionally, the relevant parts of the report voluntarily show the compensation earned for a given fiscal year in order to illustrate the link between performance and compensation, i.e., the principle of pay for performance, transparently. The illustrated compensation earned consists of amounts that, from a commercial perspective, are attributable to services already performed in full during the fiscal year. Earned compensation is disclosed regardless of any potentially outstanding resolutions of the Supervisory Board regarding compensation amounts. A note is provided if the earned compensation comprises remuneration components of an amount that cannot be computed at the time of reporting. This overview of compensation earned is intended let shareholders compare the remuneration for a fiscal year with the development of earnings indicators in that fiscal year.

Fixed remuneration components

Executive Board members receive a fixed, non-performance-related annual salary (**base remuneration**), which is paid in 12 equal installments as a monthly salary.

In addition, Executive Board members receive **fringe benefits**. For each member of the Executive Board, the Company particularly 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 used privately. Furthermore, Executive Board members are covered by a D&O liability insurance policy.

For the purposes of an **old-age pension**, the Executive Board members receive an annual pension contribution, payable at the end of the fiscal year in question. Aside from this, no occupational pension plan is provided.

The Supervisory Board may, on a case-by-case basis, grant a payment on the occasion of a new Executive Board member taking up office in the first or second year of the new member's appointment. This payment can be used to compensate for, for example, losses of variable remuneration that an Executive Board member faces from a former employer as a result of moving to Knorr-Bremse AG. Table → 4.01

APPLICATION IN THE REPORTING YEAR

The individual components of the fixed remuneration components for fiscal year 2021 whose sum forms the respective minimum remuneration of the Executive Board members in office in the reporting year is reported below. The corresponding presentation of the remuneration granted and owed pursuant to section 162 (1), sentence 1, of the AktG can be seen in Table→ 4.10.

4.01 THE EXECUTIVE BOARD MEMBERS' FIXED REMUNERATION

	Annual fixed salary		Fringe benefits		Pension contribution		Compensation payments on the occasion of taking up office		Total fixed remuneration	
in € thousand	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Dr. Jan Michael Mrosik (Chairman of the Executive Board) (since January 1, 2021)	1,000	–	43	–	300	–	–	–	**1,343**	**–**
Dr. Peter Laier Commercial Vehicle Systems division (since January 1, 2016)	900	900	28	28	300	300	–	–	**1,228**	**1,228**
Dr. Claudia Mayfeld Executive Board Member for Integrity and Legal Affairs (since May 1, 2021)	533	–	19	–	100	–	–	–	**652**	**–**
Frank Markus Weber Executive Board Member for Finance, Controlling and IT (since July 1, 2020)	850	400	36	37	300	150	–	1,000	**1,186**	**1,587**
Dr. Jürgen Wilder Rail Vehicle Systems division (since September 1, 2018)	900	900	22	24	300	300	–	–	**1,222**	**1,224**

CONTRIBUTION TO THE LONG-TERM DEVELOPMENT OF THE COMPANY

The Supervisory Board is convinced that the fixed remuneration is appropriate to the respective Executive Board member's tasks and performance and to the business's overall situation. This is intended to enable the Company to attract people suitable for the long-term development of the Company to work for the Company.

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 Variable 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. For fiscal year 2021, 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. The definition of the respective target parameters can be found in the remuneration system description at https://ir.knorr-bremse.com/websites/knorrbremse_ir/English/7000/corporate-governance.html.

For the CEO, CFO and the Executive Board member responsible for integrity and legal affairs, financial targets are set in relation to the Group as a whole, whereas for the Executive Board members who are 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. Before the beginning of each fiscal year, the Supervisory Board defines the targets for the individual performance criteria, which are derived from the budget planning. Once the fiscal year has ended, the Supervisory Board determines the concrete level of target attainment based on actual target achievement and sets the payout amounts.

The quality sub-target in the STI puts a focus on actions at an operational level within the business divisions. To this end, the Supervisory Board sets separate quality sub-targets for both divisions for each fiscal year. They can include, for example, "cost of poor quality," "delivery quality" or "ready for assembly," with each target value being equivalent to 100% 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 non-financial goals such as sustainability and diversity, by applying a multiplier ("modifier") ranging from 0.8 to 1.2.

The payout amount is due for payment in the month after the approval of Knorr-Bremse AG's consolidated financial statements for the fiscal year relevant for the STI, which means in April 2022 for fiscal 2021. Accordingly, the STI for fiscal 2020 was paid out in fiscal 2021.

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.

Thus the target attainment corridor for the STI ranges from 80% to 120%. If a specified target has not been achieved at a level of 80% or more, the relevant STI sub-target is considered not to have been achieved and the payout level is set at 0%. If a specified target is achieved at a level of 120% or more, the payout amount is set at 200% (the maximum value). Values in the range between these values are calculated through linear interpolation. The maximum payout amount for the Chief Executive Officer is 180% of the target amount.

Any subsequent change to the financial and non-financial performance criteria is excluded. Only in the event of extraordinary events or developments is the Supervisory Board entitled to temporarily adjust the plan terms of the STI at its reasonable discretion – e.g., on the acquisition or disposal of a business unit.

Application of the performance criteria in the reporting year

The Executive Board members received the STI for the 2020 fiscal year during the reporting period (which is considered compensation granted or owed within the meaning of section 162 (1) AktG). The STI earned for the 2021 fiscal year during the reporting period is also presented below on a voluntary basis in order to illustrate the link between performance and compensation, i.e., the principle of pay for performance, transparently.

The Supervisory Board set targets for the fiscal years 2020 (STI received) and 2021 (STI earned) and determined target attainment after the years ended. The Group-based targets were the same for all Executive Board members. The targets for the divisions affect the division heads Dr. Peter Laier (Commercial Vehicle Systems) and Dr. Jürgen Wilder (Rail Vehicle Systems). The target attainment calculated was the same for all Executive Board members. The Supervisory Board determined the following actual performance in relation to the targets set out below. Table → 4.02

4.02 KEY FIGURES FOR THE STI

	Key figure		Target setting Weighting	Target level	Target achievement Actual value**	Target achievement level
Group	**Revenues**	2021	30%	6,593	6,626	100%
	(in € million)	2020	30%	6,754	6,095	90%
	EBIT	2021	30%	917	907	99%
	(in € million)	2020	30%	1,000	870	87%
	NWC	2021	30%	48	44	108%
	(in days' sales)	2020	30%	42	43	99%
	Quality*	2021	10%			118%
		2020	10%			108%
Commercial Vehicle Systems	**Revenues**	2021	30%	2,992	3,399	114%
	(in € million)	2020	30%	3,069	2,763	90%
	EBIT	2021	30%	288	360	120%
	(in € million)	2020	30%	361	266	74%
	NWC	2021	30%	33	36	92%
	(in days' sales)	2020	30%	29	33	88%
	Quality*	2021	10%			120%
		2020	10%			109%
Rail Vehicle Systems	**Revenues**	2021	30%	3,601	3,229	90%
	(in € million)	2020	30%	3,685	3,332	90%
	EBIT	2021	30%	679	585	86%
	(in € million)	2020	30%	682	652	96%
	NWC	2021	30%	60	54	111%
	(in days' sales)	2020	30%	53	53	100%
	Quality*	2021	10%			116%
		2020	10%			107%

* Quality is measured using various customary separately targeted quality indicators (quality sub-targets). This is based on different quality sub-targets depending on the area of responsibility. The Supervisory Board set division-based quality sub-targets for the 2020 and 2021 fiscal years.
** When calculating target attainment, some unbudgeted extraordinary influences were subtracted out of the score if they inappropriately influenced an Executive Board member's performance against a sub-target. The purpose of this was to deliver a budget vs actual comparison that focuses only on operational aspects as far as possible.

The Supervisory Board calculated individual target attainment levels for the financial targets based on these uniform actual values that were determined for all Executive Board members. The Supervisory Board established an individual modifier for each Executive Board member to calculate the individual performance of each Executive Board member, the collective performance of the Executive Board and the achievement of non-financial targets. The amount payable to an Executive Board member is determined by multiplying the target amount by the target attainment level and the individual modifier. Table → 4.03

4.03 INDIVIDUAL TARGET ATTAINMENT FOR THE STI

		Group (in %)		Total target attainment (in %)	Target amount (in € thousand)	Modifier
Dr. Jan Michael Mrosik	2021	104%		104%	1,300	1.0
(since January 1, 2021)	2020	–		–	–	–
Dr. Claudia Mayfeld	2021	104%		104%	400	1.0
(since May 1, 2021)	2020	–		–	–	–
Frank Markus Weber	2021	104%		104%	600	1.2
(since July 1, 2020)	2020	94%		94%	300	1.0

		Group (in %)	Commercial Vehicle Systems (in %)	Total target attainment (in %)	Target amount (in € thousand)	Modifier
Dr. Peter Laier	2021	104%	110%	107%	600	1.0
(since January 1, 2016)	2020	94%	86%	90%	600	1.2

		Group (in %)	Rail Vehicle Systems (in %)	Total target attainment (in %)	Target amount (in € thousand)	Modifier
Dr. Jürgen Wilder	2021	104%	98%	101%	600	1.1
(since September 1, 2018)	2020	94%	97%	96%	600	1.2

The payout amount is due for payment in the month after the approval of Knorr-Bremse AG's consolidated financial statements for the fiscal year relevant for the STI. In line with these specifications, the Executive Board members received the STI for the 2020 fiscal year in fiscal 2021, for which reason it is counted as compensation granted or owed during the reporting period for the purposes of section 162 (1) sentence 1 AktG. The STI for the 2021 fiscal year is payable in fiscal 2022 according to these specifications and is therefore compensation earned but not yet granted or owed in fiscal 2021 within the meaning of section 162 (1) sentence 1 AktG. The following shows, on a voluntary basis, the STI earned for the 2021 fiscal year alongside the STI received in fiscal 2021 (granted or owed within the meaning of section 162 (1) sentence 1 AktG) to illustrate the link between performance and compensation in the reporting period transparently. The following table (Table →) 4.04 discloses all amounts that the individual Executive Board members have earned in the respective reporting period as compensation for their services as an Executive Board member, even if these are not yet payable or have not yet been received. The compensation received includes amounts that have been received or fallen due (granted or owed within the meaning of section 162 (1) sentence 1 AktG) during the relevant reporting period.

4.04 COMPENSATION GRANTED AND OWED FROM THE STI PURSUANT TO SECTION 162 AKTG

	Compensation earned from the STI		Compensation received from the STI	
in € thousand	**2021**	**2020**	**2021**	**2020**
Dr. Jan Michael Mrosik	1,560	–	–	–
Dr. Peter Laier	804	482	482	634
Dr. Claudia Mayfeld	480	–	–	–
Frank Markus Weber	864	300	300	–
Dr. Jürgen Wilder	686	602	602	660

In fiscal year 2020, the Supervisory Board expanded the target achievement range for the Executive Board's STI for fiscal year 2020 from 80%-120% to 70%-120% in light of the Covid-19 pandemic. In the Supervisory Board's opinion, the resulting greater weighting of the earnings contributions below the 100% level provided a performance-based adjustment to the STI amounts to be paid under the existing remuneration system. The associated deviation from recommendation G.8 of the German Corporate Governance Code was disclosed in an update to the declaration of compliance published on March 30, 2021.

CONTRIBUTION TO THE LONG-TERM DEVELOPMENT OF THE COMPANY

The STI ensures the variable compensation's strategic alignment by directly linking it to the financial performance criteria. The financial performance criteria are not only used at Group level but are also used to strategically align business activities in the individual business units. This promotes alignment of the Executive Board's activities to profitability and further growth. The short-term variable remuneration is based on non-financial performance criteria. This supports the strategic development of the Group, which also includes social and environmental aspects and takes account of sustainable corporate development.

Long-term Variable Remuneration

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

LTI BASED ON PERFORMANCE CASH

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 (EVA®) over the performance period. EVA® is determined by deducting capital expenditure from net operating profit after tax.

At the beginning of the 2018 and 2019 performance periods, the Supervisory Board set a target, a minimum value and a maximum value for the EVA® that was to be calculated for the reporting date at the end of the performance period. The Supervisory Board was also able to define non-recurring (one-time) effects for which adjustments must be made at the end of the performance period. A target attainment level of 100% is assumed if a target is achieved, while a level of 1% is assumed when the minimum value is achieved and 200% when the maximum value is achieved. Target attainment is calculated through linear interpolation for achievement between the minimum value and the target or between the target and the maximum value. The amount to be paid out is calculated by multiplying the respective target amount by the level of target attainment, capped at 200%.

In the event of extraordinary events or developments like the examples listed inconclusively in the LTI plan terms, such as high inflation or significant changes in accounting or measurement policies, the Supervisory Board may, at its reasonable discretion, limit the amount payable or, if the respective Executive Board member would have received a higher bonus in the absence of such an event or development, increase the amount payable – again, at its reasonable discretion.

Further details can be found in the 2019 Compensation Report.

LTI BASED ON PERFORMANCE SHARES

Since the 2020 fiscal year, the LTI has been awarded as a performance share plan based on virtual shares and allocated 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.

The amount paid out is limited to 180% (Executive Board Chair/CEO) or 200% (other Executive Board members) of the target amount. The payout amount is due for payment in the month after the approval of Knorr-Bremse AG's consolidated financial statements for the last fiscal year of the performance period.

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.

In the event of extraordinary events or developments, the Supervisory Board 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.

APPLICATION OF THE PERFORMANCE CRITERIA IN THE REPORTING YEAR

For the EVA®-based LTI tranche for the 2018-2020 performance period, the minimum EVA® specified by the

Supervisory Board was not reached, which meant that no payment was made for this tranche.

For the LTI tranche for the 2019-2021 performance period, the Supervisory Board has deemed the Covid-19 pandemic an extraordinary event and therefore decided to use its reasonable discretion to raise the payout amounts to 80% of the relevant target amount. As it did this, the Supervisory Board considered the change in EVA® during the performance period as well as the quantified effects of Covid-19 on the financial indicators relevant to EVA® as of the reporting date of December 31, 2021. In the Supervisory Board's opinion, the raise provides a performance-based adjustment to the STI amounts to be paid under the existing remuneration system for the 2019-2021 performance period. The LTI will be paid out in April 2022.

The first performance period for the LTI under the remuneration system that applies to the reporting year runs from 2020 through 2023. For this reason, it has been unnecessary to determine whether the targets have been achieved for this tranche. The first payout of the long-term component can be expected in April 2024 – if the relevant targets are achieved. The second performance period for the LTI runs from 2021 through 2024, with payment in April 2025 if the relevant targets are achieved.

The Supervisory Board set the following target remuneration from the LTI for the members of the Executive Board in office during the reporting period for the performance periods 2018 to 2020, 2019 to 2021, 2020 to 2023 and 2021 to 2024. Only the performance period(s) relevant for each Executive Board member are displayed (Table → 4.05):

4.05 TARGET REMUNERATION FOR THE LTI

	Performance	Performance range (in € thousand)		
	period	Minimum value	LTI target amount (= 100%)	Maximum value
Dr. Jan Michael Mrosik	2021 - 2024	–	1,500	2,700
Dr. Peter Laier*	2019-2021	–	700	1,400
	2020-2023	–	800	1,600
	2021-2024	–	800	1,600
Dr. Claudia Mayfeld**	2021-2024	–	533	1,067
Frank Markus Weber***	2020-2023	–	400	800
	2021-2024	–	800	1,600
Dr. Jürgen Wilder****	2018-2020	–	200	400
	2019-2021	–	600	1,200
	2020-2023	–	800	1,600
	2021-2024	–	800	1,600

* Dr. Laier has only received an LTI since the 2019 fiscal year in accordance with his contractual arrangements.
** Dr. Mayfeld's LTI for the 2021-2024 tranche is being prorated for the period from May to December 2021.
*** Mr. Weber's LTI for the 2020-2023 tranche is being prorated for the period from July to December 2020.
**** Dr. Wilder's LTI for the 2018-2020 tranche was prorated for the period from September to December 2018.

The Supervisory Board set the following uniform targets under the LTI for the members of the Executive Board in office in the reporting period for the performance periods 2018 to 2020 and 2019 to 2021. Table → 4.06

4.06 TARGETS FOR LTI BASED ON PERFORMANCE CASH

2018-2020 tranche	Minimum value	Target level	Maximum value
EVA® in 2017 (in € million)	410.2	410.2	410.2
EVA® increase in performance period (in %)	<0.92%	20.92%	≥40.92%
EVA® in 2020 (in € million)	<414.0	496.0	≥578.0
Payout as % of target	0%	100%	200%

Target attainment (in € million)	330.6
Target attainment (in %)	0%

2019-2021 tranche	Minimum value	Target level	Maximum value
EVA® in 2018 (in € million)	441.0	441.0	441.0
EVA® increase in performance period (in %)	<0.84%	18.82%	≥37.64%
EVA® in 2021 (in € million)	<441.0	524.0	≥607.0
Payout as % of target	0%	100%	200%

Target attainment (in € million)	429.0
Target attainment* (in %)	80%

* According to a Supervisory Board decision on March 11, 2022.

For the LTI based on performance shares, the target attainment level is based in equal measure on relative TSR and average EPS during the performance period. The Supervisory Board set a strategic target for the EPS sub-target before the relevant performance period began. For the LTI tranche for the 2020-2023 performance period, the Supervisory Board has deemed the Covid-19 pandemic an extraordinary event and therefore utilized its option to adjust the target set for the EPS sub-target. The Supervisory Board does not set any targets for the relative TSR sub-target. The level of target attainment is calculated at the end of the relevant performance period as the average of the relative percentile ranks that the Company has reached within each of the individual peer groups when comparing TSR. The TSR is defined as the percentage change in the share price during the performance period while factoring in fictitious reinvestment of dividends along with all capital measures. The share price used for this metric is the average share price in the 60 trading days preceding the beginning and end of a performance period. The target for the EPS sub-target, the share price at the beginning of the performance period and the level of target attainment as of the reporting date of December 31, 2021, are shown in **Table → 4.07**. The fair value details incorporate the EPS and the relative TSR as of the reporting date indicated.

4.07 PARAMETERS FOR LTI BASED ON PERFORMANCE SHARES

	2020-2023 tranche	2021-2024 tranche
Adjusted EPS (in €)	3.72	4.08
Average share price used for allocation (in €)	88.33	104.95
Fair value as of Dec. 31 reporting date (in %)		
For Chief Executive Officer	126.27%	79.44%
For ordinary Executive Board members	132.63%	81.44%

Based on the targets presented in **Table → 4.07** and the target adjustment for the 2019-2021 performance period (see above), the individual target attainment as of December 31, 2021, has been calculated as displayed in **Table → 4.08**. The fair value presented for the reporting date is equivalent to the payout amount, assuming that there are no changes to the status quo in the next few years.

4.08 TARGET ATTAINMENT FOR LTI BASED ON PERFORMANCE SHARES

	2020-2023 tranche			2021-2024 tranche		
	LTI target amount (in € thousand)	PSUs allocated*	Fair value as of Dec. 31, 2020 (in € thousand)	LTI target amount (in € thousand)	PSUs allocated*	Fair value as of Dec. 31, 2021 (in € thousand)
Dr. Jan Michael Mrosik	–	–	–	1,500	14,293	1,193
Dr. Peter Laier	800	9,057	1,061	800	7,623	652
Dr. Claudia Mayfeld	–	–	–	533	5,082	434
Frank Markus Weber	400	4,529	531	800	7,623	652
Dr. Jürgen Wilder	800	9,057	1,061	800	7,623	652
Bernd Eulitz	1,333	15,095	1,683	–	–	–

* PSU stands for performance share unit. The number of PSUs allocated is calculated by dividing the target amount by the weighted average price of Knorr-Bremse shares in the 60-day period preceding the relevant performance period.

The target remuneration from the LTI (**Table → 4.06 / Table → 4.07**) and the targets set and achieved for the LTI (**Table → 4.08**) did not result in any payouts from the LTI tranche for the 2018-2020 performance period during the reporting period. For the tranche with the 2019-2021 performance period, € 560 thousand will be paid to Dr. Peter Laier and € 480 thousand to Dr. Jürgen Wilder in April 2022 due to the adjustment of targets (see above) on account of the pandemic.

CONTRIBUTION TO THE LONG-TERM DEVELOPMENT OF THE COMPANY

In order to link remuneration to the Company's long-term development, the long-term variable remuneration makes up a significant proportion of total remuneration. With a term of four years and an annual award, the Company's development is observed over multi-year cycles. A combination of internal and external performance criteria take the stakeholder and shareholder approach into account. Comparison with indices and peers creates incentives for long-term profitability and operational development and for the implementation of strategically relevant projects such as obtaining technology leadership through R&D expertise.

Share ownership obligation (share ownership guidelines (SOG))

In addition to the LTI as an equity-based performance share plan with a four-year performance period, the share acquisition and retention obligation for the Executive Board constitutes a further key component of the remuneration system with the objective of promoting the long-term and sustainable development of the Company. The members of the Executive Board are required to acquire and retain ownership of a minimum holding of shares in Knorr-Bremse AG amounting to 100% of their fixed gross annual salary for the duration of their service agreement (the "SOG target").

A member of the Executive Board is obliged to acquire shares in Knorr-Bremse AG equal to at least 25% of his or her fixed gross annual salary in each fiscal year until the SOG target is achieved. In individual cases, the Supervisory Board can use its reasonable discretion to depart from the SOG provisions, taking into account the circumstances of the case (e.g., on account of restrictions on the acquisition of shares as a result of contractual, internal or legal provisions).

IMPLEMENTATION STATUS OF THE SOG IN THE REPORTING YEAR

The four-year build-up phase for the share ownership program has not yet expired for any of the members of the Executive Board in office in fiscal 2021. As of December 31, 2021, the members of the Executive Board in office held shares in Knorr-Bremse AG under the share ownership program as follows (**Table → 4.09**):

4.09 OVERVIEW OF THE SHARE OWNERSHIP PROGRAM

	End of the build-up phase	Number of shares held	Total acquisition costs of the shares held (in €)	Proportion of the respective fixed gross annual salary
Dr. Jan Michael Mrosik	Dec. 31, 2024	2,921	301,698	30%
Dr. Peter Laier	n/a	8,000	639,253	71%
Dr. Claudia Mayfeld	Apr. 30, 2025	3,000	295,242	55%
Frank Markus Weber	Jun. 30, 2024	4,540	450,933	53%
Dr. Jürgen Wilder	Oct. 11, 2022	10,770	901,681	100%

More information on Executive Board members' transactions in shares in Knorr-Bremse AG can be found at https://ir.knorr-bremse.com/websites/Knorrbremse_ir/English/2000/investor-news.html.

Compensation granted and owed within the meaning of section 162 (1) sentence 2 AktG

The following table (Table → 4.10) shows the compensation individually granted and owed pursuant to section 162 (1) sentence 1 AktG of the members of the Executive Board in office in fiscal 2021. The compensation due or received in a fiscal year (granted or owed within the meaning of section 162 (1) sentence 1 AktG) and, on a voluntary basis, the compensation earned in a given fiscal year are presented in order to transparently illustrate the link between performance and compensation in the reporting period. All amounts that the individual Executive Board members have earned in the respective reporting year as compensation for their services as an Executive Board member are reported, even if these are not yet payable or have not yet been received. The amounts that have been received or become payable in the respective reporting year are reported as compensation received.

4.10 COMPENSATION GRANTED AND OWED

				2021			2020		
				in € thousand	in %	in %	in € thousand	in %	in %
Dr. Jan Michael Mrosik	**Remuneration earned**	**Fixed remuneration**	Fixed salary	1,000	25%	33%	–	–	–
			Fringe benefits	43	1%		–	–	
			Pension contribution	300	7%		–	–	
		Variable remuneration	STI*	1,560	38%	67%	–	–	–
			LTI**	1,193	29%		–	–	
		Other remuneration		–	–	–	–	–	–
		Total		**4,096**	**100%**	**100%**	**–**	**–**	**–**
	Remuneration received	**Fixed remuneration**	Fixed salary	1,000	75%	100%	–	–	–
			Fringe benefits	43	3%		–	–	
			Pension contribution	300	22%		–	–	
		Variable remuneration	STI from previous year	–	–	–	–	–	–
			LTI from previous years***	–	–		–	–	
		Other remuneration		–	–	–	–	–	–
		Total		**1,343**	**100%**	**100%**	**–**	**–**	**–**

				2021 in € thousand	2021 in %	2021 in %	2020 in € thousand	2020 in %	2020 in %
Dr. Peter Laier	**Remuneration earned**	**Fixed remuneration**	Fixed salary	900	34%	46%	900	32%	44%
			Fringe benefits	28	1%		28	1%	
			Pension contribution	300	11%		300	11%	
		Variable remuneration	STI*	804	30%	54%	482	18%	56%
			LTI**	652	24%		1,061	38%	
		Other remuneration		–	–	–	–	–	–
		Total		**2,684**	**100%**	**100%**	**2,771**	**100%**	**100%**
	Remuneration received	**Fixed remuneration**	Fixed salary	900	52%	72%	900	48%	66%
			Fringe benefits	28	2%		28	2%	
			Pension contribution	300	18%		300	16%	
		Variable remuneration	STI from previous year	482	28%	28%	634	34%	34%
			LTI from previous years***	–	–		–	–	
		Other remuneration		–	–	–	–	–	–
		Total		**1,710**	**100%**	**100%**	**1,862**	**100%**	**100%**
Dr. Claudia Mayfeld	**Remuneration earned**	**Fixed remuneration**	Fixed salary	533	34%	41%	–	–	–
			Fringe benefits	19	1%		–	–	
			Pension contribution	100	6%		–	–	
		Variable remuneration	STI*	480	31%	59%	–	–	–
			LTI**	434	28%		–	–	
		Other remuneration		–	–	–	–	–	–
		Total		**1,566**	**100%**	**100%**	**–**	**–**	**–**
	Remuneration received	**Fixed remuneration**	Fixed salary	533	82%	100%	–	–	–
			Fringe benefits	19	3%		–	–	
			Pension contribution	100	15%		–	–	
		Variable remuneration	STI from previous year	–	–	–	–	–	–
			LTI from previous years***	–	–		–	–	
		Other remuneration		–	–	–	–	–	–
		Total		**652**	**100%**	**100%**	**–**	**–**	**–**
Frank Markus Weber	**Remuneration earned**	**Fixed remuneration**	Fixed salary	850	32%	44%	400	17%	25%
			Fringe benefits	36	1%		37	2%	
			Pension contribution	300	11%		150	6%	
		Variable remuneration	STI*	864	32%	56%	300	12%	34%
			LTI**	652	24%		531	22%	
		Other remuneration		–	–	–	1,000	41%	41%
		Total		**2,702**	**100%**	**100%**	**2,418**	**100%**	**100%**
	Remuneration received	**Fixed remuneration**	Fixed salary	850	58%	80%	400	25%	37%
			Fringe benefits	36	2%		37	2%	
			Pension contribution	300	20%		150	10%	
		Variable remuneration	STI from previous year	300	20%	20%	–	–	–
			LTI from previous years***	–	–		–	–	
		Other remuneration		–	–	–	1,000	63%	63%
		Total		**1,486**	**100%**	**100%**	**1,587**	**100%**	**100%**

				2021 in € thousand	2021 in %	2021 in %	2020 in € thousand	2020 in %	2020 in %
Dr. Jürgen Wilder	**Remuneration earned**	**Fixed remuneration**	Fixed salary	900	35%	48%	900	31%	42%
			Fringe benefits	22	1%		24	1%	
			Pension contribution	300	12%		300	10%	
		Variable remuneration	STI*	686	27%	52%	602	21%	58%
			LTI**	652	25%		1,061	37%	
		Other remuneration		–	–	–	–	–	–
		Total		**2,560**	**100%**	**100%**	**2,887**	**100%**	**100%**
	Remuneration received	**Fixed remuneration**	Fixed salary	900	50%	67%	900	48%	65%
			Fringe benefits	22	1%		24	1%	
			Pension contribution	300	16%		300	16%	
		Variable remuneration	STI from previous year	602	33%	33%	660	35%	35%
			LTI from previous years***	–	–		–	–	
		Other remuneration		–	–	–	–	–	–
		Total		**1,824**	**100%**	**100%**	**1,884**	**100%**	**100%**

* The payout amount is due for payment in the month after the approval of Knorr-Bremse AG's consolidated financial statements for the fiscal year relevant for the STI. Payment is made in the respective following fiscal year.

** The LTI is considered earned in the fiscal year in which it is granted, i.e., the LTI for the 2021-2024 performance period is earned in the 2021 fiscal year. The target achievement and the amount owed are determined by the Supervisory Board after the end of the four-year performance period. Because there is not yet a completed performance period for the share-based LTI, the benefit considered earned from the LTI is the amount arrived at by multiplying the number of performance shares allocated by the fair value as of December 31, 2021.

*** The LTI for the 2018 and 2019 fiscal years was granted pursuant to an EVA®-based performance cash plan and is allocated in annual tranches, each with a three-year term. For the LTI tranche for the 2018-2020 performance period, the minimum EVA® specified by the Supervisory Board was not reached, which meant that no payment was made for this tranche. For the LTI tranche for the 2019-2021 performance period, the Supervisory Board has deemed the Covid-19 pandemic an extraordinary event and therefore decided to raise the payout amounts at its reasonable discretion. This LTI will be paid out in April 2022. Since the 2020 fiscal year, the LTI has been awarded as a performance share plan based on virtual shares and allocated in annual tranches. Each tranche has a four-year term. To date, no performance period has expired for the share-based LTI. Therefore, no remuneration became payable or was received from the LTI in 2020 and 2021.

Other information on remuneration

REVIEW OF THE MAXIMUM LIMIT FOR THE REMUNERATION IN TERMS OF AMOUNT (MAXIMUM REMUNERATION)

None of the cash payments made to the Executive Board members during the reporting period exceeded the applicable maximum limit for the total remuneration to be granted (sum of all the remuneration amounts spent for the fiscal year in question, including fixed annual salary, variable remuneration components, pension contribution and fringe benefits or any compensation in conjunction with new appointees commencing their role; altogether termed **maximum remuneration**). Because the expense for the LTI bonus will only occur in the third year after the conclusion of the reporting year due to the full-year performance period, it will, however, only be possible to report conclusively on compliance with the maximum remuneration for fiscal year 2021 in the Compensation Report for fiscal year 2024. If the expense for the LTI bonus were to result in the maximum limit being exceeded, the payout amount for the relevant grant year's LTI is reduced. If the maximum limit for a fiscal year is crossed and reducing the payout amount for the LTI still does not bring the remuneration back beneath the limit, the STI is then reduced. If necessary, the Supervisory Board can exercise its professional discretion to reduce other remuneration components or demand that granted remuneration be paid back.

For fiscal year 2021, there were no contractually agreed exemptions with members of the Executive Board on the occasion their taking up office.

SHARES AND STOCK OPTIONS GRANTED OR PROMISED

In accordance with the remuneration system, the Executive Board members in office in the reporting year were not granted or promised any shares or stock options.

RETENTION (MALUS) AND CLAWBACK

The remuneration system applicable for fiscal year 2021 does not provide for any opportunity to retain or clawback variable remuneration components. The associated deviation from recommendation G.11 of the German Corporate Governance Code was disclosed and justified in the declaration of compliance published on December 9, 2021.

RESOLUTION OF THE ANNUAL GENERAL MEETING PURSUANT TO SECTION 120A (4) AKTG AND DISCUSSION PURSUANT TO SECTION 120A (5) AKTG

In the 2021 reporting year, there was no resolution of the Annual General Meeting pursuant to section 120a (4) AktG or discussion pursuant to section 120a (5) AktG that should have been considered.

BENEFITS PROMISED OR GRANTED BY A THIRD PARTY

In the reporting year, no member of the Executive Board was promised or granted benefits by a third party in respect of his or her work as an Executive Board member.

COMMITMENTS IN THE EVENT OF TERMINATION OF SERVICE AGREEMENTS

The service agreements for the Executive Board members are valid for the duration of the members' appointment. Executive Board members are normally appointed for no more than three years if it is their first appointment. If they are reappointed, their appointment will be for no more than five years. Their service agreements are extended for the duration of their reappointment unless other arrangements are made.

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. During this period, the Executive Board members are entitled to non-compete compensation (*Karenzentschädigung*) amounting to a twelfth of the fixed annual salary per month. The non-compete compensation is set off against any benefits otherwise owed by Knorr-Bremse AG for the period after the termination of the service agreement. Any income earned from an activity not falling under the post-contractual non-compete clause is set off against the non-compete compensation insofar as the non-compete compensation, taking into account the income earned, would exceed the contractual payments last received by the Executive Board member by more than one tenth. Beyond that, there are no commitments in the event of regular termination of service agreements.

In the event of termination of the appointment by mutual agreement, members of the Executive Board receive a compensation payment. The compensation payment consists of the fixed annual salary and the STI for the remaining period of the regular appointment, but for no longer than 24 months. The compensation payment thus does not exceed the value of two years' remuneration but remains below it and also does not remunerate more than the remaining term of the contract. For the STI, the STI paid in the last financial year ended before the termination of the appointment is used. If the appointment ends before the end of the first fiscal year in which an STI is paid, the assessment basis for the STI is the target amount. The compensation payment is set off against any non-compete compensation paid by Knorr-Bremse AG. Even if the appointment is terminated by mutual agreement, the Executive Board member is not entitled to the compensation payment if the premature termination of the appointment was made at the request of the Executive Board member or if Knorr-Bremse AG had good cause to revoke the appointment or terminate the service agreement without notice or if the Executive Board member is subsequently reappointed to the Executive Board following the termination of the appointment by mutual agreement.

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 is extended to a maximum of 24 months to 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, the members of the Executive Board receive their fixed annual salary. The claims to STI and LTI are based on the rules on leaving the Executive Board prematurely described above.

There is no right of special termination in the event of a change of control or any commitment to make payments based on the premature termination of Executive Board membership as a result of a change of control.

COMMITMENTS IN THE EVENT OF PREMATURE TERMINATION OF SERVICE, INCLUDING ANY CHANGES TO THESE COMMITMENTS AGREED DURING THE LAST FISCAL YEAR

The commitments contractually agreed with the Executive Board members in office in the reporting year in the event of a premature termination of service are in line with the requirements of the remuneration system (see above).

COMMITMENTS IN THE EVENT OF REGULAR TERMINATION OF SERVICE, WITH THEIR PRESENT VALUE AND THE AMOUNT SPENT OR SET ASIDE BY THE COMPANY FOR THIS PURPOSE DURING THE LAST FISCAL YEAR, INCLUDING ANY CHANGES TO THESE COMMITMENTS AGREED DURING THE LAST FISCAL YEAR

The commitments contractually agreed with the Executive Board members in office in the reporting year in the event of a regular termination of service are in line with the requirements of the remuneration system (see above).

Under his service agreement in force until December 31, 2018, the Company committed to funding defined benefits for Dr. Laier and this commitment was made non-contributory as of December 31, 2018. Due to this defined-benefit 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. The defined-benefit obligations (IFRS) in respect of Dr. Laier came to € 1,354 thousand in 2020 and to € 1,260 thousand in 2021. Accordingly, the annual pension for Dr. Laier will amount to € 48 thousand as of December 31, 2021.

Knorr-Bremse AG does not have any pension commitments to current members of the Executive Board.

Payments to former Executive Board members

The following table (Table → 4.11) shows the compensation granted and owed to the former members of the Executive Board in fiscal 2021 pursuant to section 162 (1) sentence 1 AktG. Solely the time of payment receipt is used as the basis for this.

4.11 COMPENSATION PAYMENTS TO FORMER EXECUTIVE BOARD MEMBERS

			2021			2020		
			in € thousand	in %	in %	in € thousand	in %	in %
Bernd Eulitz* (until August 31, 2020)	Fixed remuneration	Fixed salary	–	–	–	800	25%	32%
		Fringe benefits	–	–		13	0%	
		Pension contribution	–	–		233	7%	
	Variable remuneration	STI	1,040	100%	100%	227	7%	7%
		LTI	–	–		–	–	
	Other remuneration	Severance	–	–	–	2,000	61%	61%
	Remuneration received		**1,040**	**100%**	**100%**	**3,273**	**100%**	**100%**
Ralph Heuwing* (until April 30, 2020)	Fixed remuneration	Fixed salary	–	–	–	300	11%	15%
		Fringe benefits	–	–		6	0%	
		Pension contribution	–	–		100	4%	
	Variable remuneration	STI	480	100%	100%	634	22%	22%
		LTI	–	–		–	–	
	Other remuneration	Severance	–	–	–	1,800	63%	63%
	Remuneration received		**480**	**100%**	**100%**	**2,840**	**100%**	**100%**
Dr. Peter Laier* (until December 31, 2021)	Fixed remuneration	Fixed salary	–	–	–	–	–	–
		Fringe benefits	–	–		–	–	
		Pension contribution	–	–		–	–	
	Variable remuneration	STI	–	–	–	–	–	–
		LTI	–	–		–	–	
	Other remuneration	Compensation payment**	1,864	100%	100%	–	–	–
	Remuneration received		**1,864**	**100%**	**100%**	**–**	**–**	**–**
Heinz Hermann Thiele (member of Supervisory Board until Feb. 23, 2021)	Fixed remuneration	Retirement pension	217	98%	100%	978	98%	100%
		Fringe benefits	5	2%		21	2%	
	Variable remuneration		–	–	–	–	–	–
	Other remuneration		–	–	–	–	–	–
	Remuneration received		**222**	**100%**	**100%**	**999**	**100%**	**100%**
Dr. Dieter Wilhelm (until June 30, 2016)	Fixed remuneration	Retirement pension	230	100%	100%	230	100%	100%
	Variable remuneration		–	–	–	–	–	–
	Other remuneration		–	–	–	–	–	–
	Remuneration received		**230**	100%	**100%**	**230**	**100%**	**100%**
Executive Board members who left prior to Dec. 31, 2011	Fixed remuneration	Retirement pension	295	100%	100%	289	100%	100%
	Variable remuneration		–	–	–	–	–	–
	Other remuneration		–	–	–	–	–	–
	Remuneration received		**295**	**100%**	**100%**	**289**	**100%**	**100%**

* Remuneration was earned up until the time of leaving due to active work on the Executive Board. This remuneration will be reported as received compensation in the year during which payment is received.

** Dr. Laier is entitled to a compensation payment of € 2,764 thousand, however this was offset against compensation of € 900 thousand for his non-compete clause. The compensation payment of € 1,864 thousand was made at the time of his departure from the Executive Board. The non-compete compensation of € 75 thousand per month became payable in January 2022 for a duration of one year.

Supervisory Board Compensation

Remuneration System for the Supervisory Board

The remuneration system for Knorr-Bremse AG's Supervisory Board applicable for fiscal year 2021 was approved by the Annual General Meeting on June 30, 2020 with 99.4628% of the votes validly cast. It provides for fixed remuneration only.

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 thousand for the chairperson of the Supervisory Board, € 120 thousand for each deputy chairperson of the Supervisory Board, and € 80 thousand for the other members of the Supervisory Board. The chairperson of the Executive Committee additionally receives € 60 thousand, each further member of the Executive Committee € 20 thousand, the chairperson of the Audit Committee € 60 thousand and each further member of the Audit Committee € 20 thousand. The annual remuneration is payable after the end of the general meeting that receives the annual financial statements for the past fiscal year or decides on their approval, in the present case for fiscal 2021 after the Annual General Meeting on May 24, 2022. Supervisory Board members who have not belonged to the Supervisory Board or a committee for a full fiscal year or have not held the role of chair or deputy chair for a full fiscal year receive the corresponding remuneration pro rata temporis, rounding up to a full month.

A Strategy Committee, to which three shareholder representatives and one employee representative belong, was set up through a resolution by the Supervisory Board of May 20, 2021. Subject to the resolution of the Annual General Meeting on May 24, 2022 on the amendment of article 18 of Knorr-Bremse AG's Articles of Association that is required in this regard, the chairperson will additionally receive € 120 thousand and each further member of the Strategy Committee will receive € 40 thousand. This remuneration is granted pro rata temporis in the reporting year, rounding up to full months – i.e., from May 2021.

In accordance with Article 18 (5) of the Company's Articles of Association, the Company reimburses the Supervisory Board members for reasonable expenditure incurred as part of their fulfillment of their roles. 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. Since fiscal 2020, Knorr-Bremse has granted the Supervisory Board remuneration as non-variable fixed remuneration, generally without value added tax, thus taking account of the Federal Court of Finance case law on the entrepreneurial status of supervisory board members (ruling of November 27, 2019, case V R 23/19, V R 62/17 and the relevant Federal Court of Finance letter of July 8, 2021 (ref. III C 2 - S 7104/19/10001 :003). Supervisory Board members are included in the Company's D&O insurance policy without a deductible. No meeting fee is provided for.

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

Application in the Reporting Year and Contribution to the Long-Term Development of the Company

The Supervisory Board remuneration makes it possible to attract suitable candidates for the position of a Supervisory Board member. As a result, the Supervisory Board remuneration contributes to the Supervisory Board as a whole being able to competently fulfill its duties to supervise and advise the Executive Board professionally and competently and thus promotes Knorr-Bremse AG's business strategy and long-term development.

The total board remuneration for fiscal 2021 reported in Table → 4.12 arises on the basis of the remuneration system described above. This is payable after the 2022 Annual General Meeting. Supervisory Board members did not receive any loans from the Company in either fiscal year 2021 or fiscal year 2020.

4.12 COMPENSATION GRANTED AND OWED

Supervisory Board members in office as of December 31, 2021		2021 in € thousand	2021 in %	2020 in € thousand	2020 in %
Prof. Dr. Klaus Mangold (Chairman)	Base remuneration	250	76%	250	76%
	Allowances for Supervisory Board members	80	24%	80	24%
	Received in the fiscal year	**330**	**100%**	**330**	**100%**
	Earned in the fiscal year*	**357**		**330**	
Franz-Josef Birkeneder** (Deputy Chairman)	Base remuneration	120	75%	120	75%
	Allowances for Supervisory Board members	40	25%	40	25%
	Received in the fiscal year	**160**	**100%**	**160**	**100%**
	Earned in the fiscal year*	**187**		**160**	
Kathrin Dahnke	Base remuneration	100	59%	120	60%
	Allowances for Supervisory Board members	70	41%	80	40%
	Received in the fiscal year	**170**	**100%**	**200**	**100%**
	Earned in the fiscal year*	**140**		**170**	
Dr. Thomas Enders (from June 30, 2020)	Base remuneration	40	100%	–	–
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year	**40**	**100%**	**–**	**–**
	Earned in the fiscal year*	**107**		**40**	
Michael Jell**	Base remuneration	80	80%	80	80%
	Allowances for Supervisory Board members	20	20%	20	20%
	Received in the fiscal year	**100**	**100%**	**100**	**100%**
	Earned in the fiscal year*	**100**		**100**	
Werner Ratzisberger**	Base remuneration	80	80%	80	80%
	Allowances for Supervisory Board members	20	20%	20	20%
	Received in the fiscal year	**100**	**100%**	**100**	**100%**
	Earned in the fiscal year*	**100**		**100**	
Annemarie Sedlmair**	Base remuneration	80	100%	60	100%
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year	**80**	**100%**	**60**	**100%**
	Earned in the fiscal year*	**80**		**80**	
Dr. Stefan Sommer (from May 24, 2021)	Base remuneration	–	–	–	–
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year	**–**	**–**	**–**	**–**
	Earned in the fiscal year*	**133**		**–**	
Erich Starkl**	Base remuneration	80	100%	80	100%
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year	**80**	**100%**	**80**	**100%**
	Earned in the fiscal year*	**80**		**80**	
Julia Thiele-Schürhoff	Base remuneration	80	100%	80	100%
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year	**80**	**100%**	**80**	**100%**
	Earned in the fiscal year*	**80**		**80**	
Sylvia Walter** (from May 24, 2021)	Base remuneration	–	–	–	–
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year	**–**	**–**	**–**	**–**
	Earned in the fiscal year*	**53**		**–**	**–**
Dr. Theodor Weimer (from June 30, 2020)	Base remuneration	40	100%	–	–
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year	**40**	**100%**	**–**	**–**
	Earned in the fiscal year*	**125**		**40**	

Former Supervisory Board members		2021 in € thousand	2021 in %	2020 in € thousand	2020 in %
Dr. Wolfram Mörsdorf (until June 30, 2020)	Base remuneration	40	100%	80	100%
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year*	**40**	**100%**	**80**	**100%**
Heinz Hermann Thiele (from June 30, 2020 to February 23, 2021)	Base remuneration	60	86%	–	–
	Allowances for Supervisory Board members	10	14%	–	–
	Received in the fiscal year*	**70**	**100%**	**–**	**–**
Wolfgang Tölsner (until June 30, 2020)	Base remuneration	40	100%	80	100%
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year*	**40**	**100%**	**80**	**100%**
Georg Weiberg (until June 30, 2020)	Base remuneration	40	100%	80	100%
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year*	**40**	**100%**	**80**	**100%**
Günter Wiese** (until May 20, 2021)	Base remuneration	80	100%	80	100%
	Allowances for Supervisory Board members	–	–	–	–
	Received in the fiscal year*	**80**	**100%**	**80**	**100%**

* Payable for fiscal 2021 upon the end of the 2022 Annual General Meeting
** Employee representative

Multi-year overview: Information on the development of Executive Board and Supervisory Board remuneration in relation to the remuneration of the rest of the workforce and to the Company's earnings performance

In accordance with section 162 (1) sentence 2 no. 2 AktG, the following overview presents the relative movement of the remuneration of Executive Board and Supervisory Board members compared with the average remuneration of employees and with selected Knorr-Bremse Group earnings indicators.

The remuneration indicated for the Executive Board and Supervisory Board members, as portrayed in Table →/Table → 4.11 and Table → 4.12 2.12, represents the total remuneration received by these individuals during the reporting period for the purposes of section 162 (1) sentence 1 AktG.

Table → 4.13 The remuneration earned by the Executive Board members serving during the reporting period is additionally presented on a voluntary basis. The purpose of this is to illustrate the link between performance and compensation in the reporting period as transparently as possible by setting out the changes in earned remuneration next to the changes in the Group's declared earnings indicators.

The key figures for which Knorr-Bremse AG has issued guidance in the past fiscal year and the key figures that form the basis of the short- and long-term remuneration of the Executive Board, specifically the Knorr-Bremse Group's consolidated revenues, EBIT, free cash flow and earnings per share (EPS) as well as the HGB-format annual financial statements of Knorr-Bremse AG, are used for the presentation of the results of operations.

The Knorr-Bremse Group's total workforce in Germany is taken into account for the presentation of the average remuneration of employees on a full-time equivalent basis. The remuneration stated represents the remuneration actually received in the reporting year in each case.

4.13 MULTI-YEAR COMPARISON

	2021	Change	2020
Executive Board remuneration			
Remuneration earned by Executive Board members serving in the reporting period	in € thousand	in %	in € thousand
Dr. Jan Michael Mrosik (since January 1, 2021)	4,096	–	–
Dr. Peter Laier (since January 1, 2016)	2,684	-3%	2,771
Dr. Claudia Mayfeld (since May 1, 2021)	1,566	–	–
Frank Markus Weber (since July 1, 2020)	2,702	12%	2,418
Dr. Jürgen Wilder (since September 1, 2018)	2,560	-11%	2,887
Remuneration received by Executive Board members serving in the reporting period	in € thousand	in %	in € thousand
Dr. Jan Michael Mrosik (since January 1, 2021)	1,343	–	–
Dr. Peter Laier (since January 1, 2016)	1,710	-8%	1,862
Dr. Claudia Mayfeld (since May 1, 2021)	652	–	–
Frank Markus Weber (since July 1, 2020)	1,486	-6%	1,587
Dr. Jürgen Wilder (since September 1, 2018)	1,824	-3%	1,884
Remuneration received by former Executive Board members	in € thousand	in %	in € thousand
Bernd Eulitz (until August 31, 2020)	1,040	-68%	3,273
Ralph Heuwing (until April 30, 2020)	480	-83%	2,840
Dr. Peter Laier (until December 31, 2021)	1,864	–	–
Heinz Hermann Thiele (until March 31, 2007)	222	-78%	999
Dr. Dieter Wilhelm (until June 30, 2016)	230	0%	230
Executive Board members who left prior to Dec. 31, 2011	295	2%	289
Supervisory Board remuneration			
Supervisory Board members in office as of December 31, 2021	in € thousand	in %	in € thousand
Prof. Dr. Klaus Mangold (Chairman)	330	0%	330
Franz-Josef Birkeneder** (Deputy Chairman)	160	0%	160
Kathrin Dahnke	170	-15%	200
Dr. Thomas Enders (since June 30, 2020)	40	–	–
Michael Jell**	100	0%	100
Werner Ratzisberger**	100	0%	100
Annemarie Sedlmair** (since April 1, 2019)	80	33%	60
Dr. Stefan Sommer (since May 20, 2021)	–	–	–
Erich Starkl**	80	0%	80
Julia Thiele-Schürhoff	80	0%	80
Sylvia Walter** (until May 20, 2021)	–	–	–
Dr. Theodor Weimer (from June 30, 2020)	40	–	–
Former Supervisory Board members	in € thousand	in %	in € thousand
Dr. Wolfram Mörsdorf (until June 30, 2020)	40	-50%	80
Heinz Hermann Thiele (from June 30, 2020 to February 23, 2021)	70	–	–
Wolfgang Tölsner (until June 30, 2020)	40	-50%	80
Georg Weiberg (until June 30, 2020)	40	-50%	80
Günter Wiese** (until May 20, 2021)	80	0%	80
Earnings indicators		in %	
Knorr-Bremse Group			
Revenues (in € million)	6,706	9%	6,157
EBIT (in € million)	916	13%	814
Free cash flow (in € million)	600	-13%	687
Earnings per share – undiluted (in €)	3.85	25%	3.07
Knorr-Bremse AG			
Net income per HGB (in € million)	335	-13%	385
Workforce remuneration		in %	
Workforce of the Knorr-Bremse Group in Germany		2%	

* Voluntary disclosure
** Employee representative

This Compensation Report was jointly prepared by the Executive Board and the Supervisory Board. The Executive Board and Supervisory Board passed resolutions to approve this Compensation Report in separate meetings on March 25, 2022, and March 11, 2022, respectively.

Munich, March 25, 2022

FRANK MARKUS WEBER
Chief Financial Officer
Knorr-Bremse AG

DR. CLAUDIA MAYFELD
Executive Board member for Integrity and Law
Knorr-Bremse AG

PROF. DR. KLAUS MANGOLD
Chairman of the Supervisory Board
Knorr-Bremse AG

Report on the Examination of the Remuneration Report

We have examined the attached remuneration report of Knorr-Bremse AG, Munich, for the financial year from January 1 to December 31, 2021, including the related disclosures, which was prepared in accordance with the requirements of Section 162 AktG [German Stock Corporations Act].

Responsibilities of the Legal Representatives and the Supervisory 'Board

The legal representatives and the Supervisory Board of Knorr-Bremse AG are responsible for the preparation of the remuneration report, including the related disclosures, in accordance with the requirements of Section 162 AktG. The legal representatives and the Supervisory Board are also responsible for such internal control as they have determined necessary to enable the preparation of a remuneration report, including the related disclosures, that is free from material misstatement, whether due to fraud or error.

Auditor's responsibilities

Our objectives are to render an opinion on the basis of our examination on this remuneration report, including the related disclosures. We performed our examination in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). In accordance therewith, we have to comply with the professional obligations and plan and perform the examination so as to obtain reasonable assurance on whether the remuneration report, including the related disclosures, is free from material misstatement.

An examination includes the performance of audit procedures in order to obtain audit evidence for the amounts included in the remuneration report, including the related disclosures. The election of audit procedures lies in the dutiful discretion of the auditor. This includes the evaluation of the risks of material misstatement in the remuneration report, including the related disclosures, whether due to fraud or error. In evaluating these risks, the auditor takes into account the internal control system that is relevant for the preparation of the remuneration report, including the related disclosures. Our objective in this connection is to plan and perform audit procedures that are appropriate under the given circumstances, but not to render an opinion on the effectiveness of the company's internal control system. An audit also includes the assessment of the accounting methods applied, the reasonableness of the estimated amounts in the accounting determined by the legal representatives and the Supervisory Board and the evaluation of the overall presentation of the remuneration report, including the related disclosures.

We believe that the audit evidence obtained by us is sufficient and appropriate to serve as a basis for our opinion.

Opinion

In our opinion based on our audit findings, the remuneration report for the financial year from January 1 to December 31, 2021, including the related disclosures, complies, in all material respects, with the disclosure requirements pursuant to Section 162 AktG.

Other matter – formal examination of the remuneration report

The examination of the content of the remuneration report described in this audit report includes the formal examination of the remuneration report required by Section 162 paragraph 3 AktG, including the issuance of a report on this audit. Since we are rendering an unqualified opinion on the examination of the content of the remuneration report, this opinion includes the fact that the disclosures required by Section 162 paragraphs 1 and 2 AktG have been made in all material respects in the remuneration report.

Indication of a limitation of our liability

The engagement, in the fulfilment of which we have performed the aforementioned services on behalf of Knorr-Bremse AG, was based on the General Engagement Terms (GET) for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften [German Public Auditors and Public Audit Firms] as amended on January 1, 2017, which are attached to this report as Appendix 2. By taking note of and using the information included in this report, every recipient confirms that they are aware of the arrangements made there, including the limitation of our liability for negligence to EUR 4 million included in Clause 9 GET) and acknowledges their validity in relation to us.

Munich, March 29, 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft

[Original German version signed by:]

Becker	Hanshen
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

Financial calendar*

May 12, 2022	Q1 / Interim Statement 3 months 2022
May 24, 2022	Annual Shareholder´s Meeting
August 12, 2022	Q2 / Hallf year report 2022
November 10, 2022	Q3 / Interim Statement 9 months 2022

* The latest information on the dates can be found on our website www.knorr-bremse.com

Imprint

Please feel free to contact us for further information.

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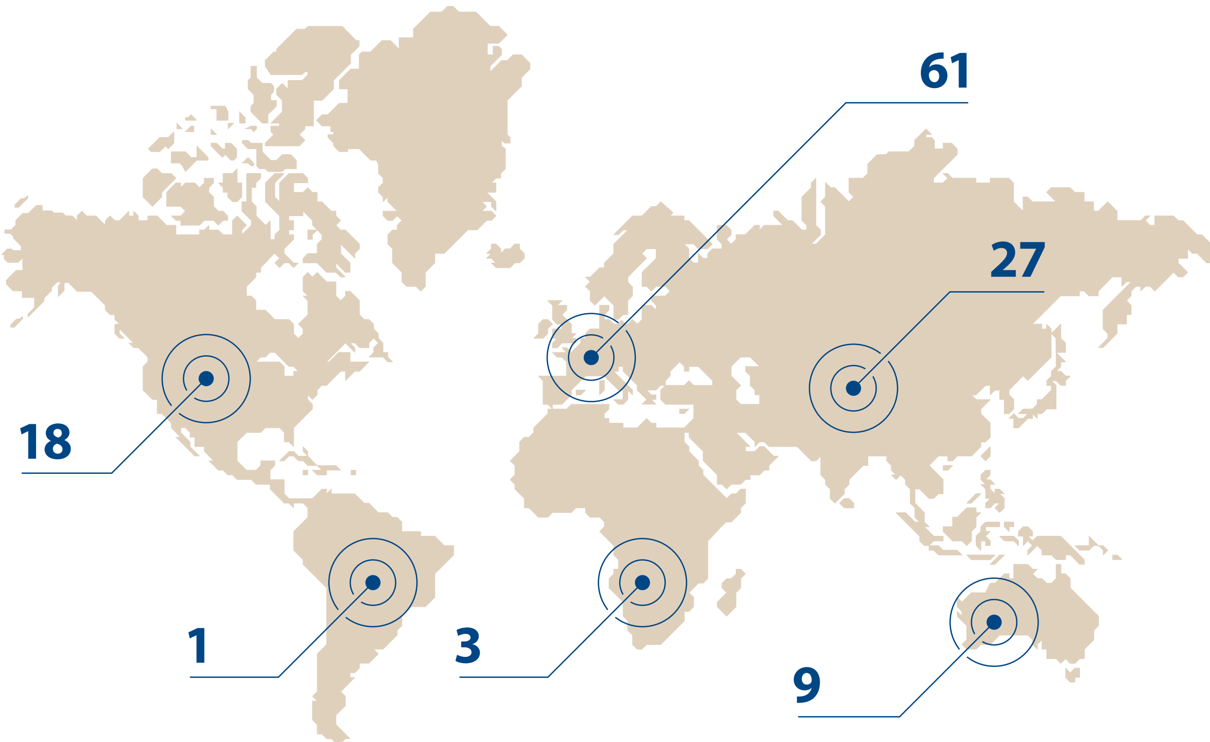
Further information on this report
Due to rounding, numbers presented throughout this report may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.
The Annual Report of Knorr-Bremse Group was published on March 31, 2022 in German and English. The German version is legally binding. The report as well as the magazine „Driving Innovation" are also avalable online www.Knorr-Bremse.com.

Knorr-Bremse Worldwide

Locations by Region



Global Presence. Local Expertise.

Wherever you are, Knorr-Bremse is there for you. We have around 30,500 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