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KNORR-BREMSE

Half-Year Financial Report

JANUARY 1 TO JUNE 30, 2022
KNORR-BREMSE AG

Knorr-Bremse Group Key Performance Indicators

KNORR-BREMSE GROUP KEY PERFORMANCE INDICATORS

		1st Half of 2022	1st Half of 2021
Revenue	€ million	3,406.0	3,418.9
EBITDA	€ million	489.0	632.2
EBITDA margin	%	14.4	18.5
Operating EBITDA margin	%	15.0	18.5
EBIT	€ million	343.2	495.5
EBIT margin	%	10.1	14.5
Operating EBIT margin	%	10.7	14.5
Net income	€ million	237.5	346.1
Earnings per share (basic)	€	1.42	2.07
Order intake	€ million	4,037.6	3,602.9
Order book (June 30)	€ million	6,694.8	5,161.0
Operating cash flow	€ million	(152.9)	223.6
Free cash flow	€ million	(266.6)	108.2
Cash conversion rate	%	(112.3)	31.3
Capital expenditure (before IFRS 16 and acquisitions)	€ million	141.0	129.6
Capital expenditure as % of revenue (before IFRS 16 and acquisitions)	%	4.1	3.8
R&D costs	€ million	232.7	211.8
R&D costs as % of sales	%	6.8	6.2
		06/30/2022	12/31/2021
Total assets	€ million	7,340.4	7,199.2
Equity (incl. non-controlling interests)	€ million	2,440.3	2,425.5
Equity ratio	%	33.2	33.7
ROCE (annualized)	%	16.4	24.9
Net financial debt/(cash)	€ million	588.9	(108.5)
Net working capital	€ million	1,380.5	875.8
Employees (incl. leased ones)		30,655	30,544

1st Half of 2022

- » Order intake at € 4,037.6 million, up 12.1% on the previous year due to a very significant recovery in demand for rail vehicle business in all regions, whereas commercial vehicle business has seen a significant decline in orders received
- » Positive order situation reflected in a new record order book of € 6,694.8 million, a significant 29.7% rise year over year
- » Revenue of € 3,406.0 million almost at the previous year's level (-0.4%) despite a challenging market environment; declining OE revenues in both divisions were largely offset by growth in the aftermarket business
- » Moderate 6.3% rise in aftermarket revenue year over year, attributable to significant growth in the commercial vehicle business; aftermarket's share in total Group revenue grew from 34.2% to 36.4%
- » Profitability: operating EBIT of € 364.6 million a significant 26.4% down on the previous year, with an operating EBIT margin (RoS) of 10.7% (previous year: 14.5%); operating EBITDA margin down by 3.5 percentage points year over year at 15.0% (previous year: 18.5%) due mainly to cost- and mix-related factors. In particular, severe Covid-19 restrictions in China and the withdrawal from Russia-based business had negative impacts on our profitability
- » Free cash flow of € -266.6 million significantly lower than in the previous year (€ 108.2 million), for reasons including lower earnings contributions and a proactive increase of net working capital for maintaining supply chains
- » R&D ratio of 6.8% of revenues (previous year: 6.2%) due to continued investments in strategic and forward-looking innovation and technology projects
- » Updated full-year guidance for 2022:
 - » Revenue: € 6,900 million to € 7,200 million (previously € 6,800 million to € 7,200 million) (2021: € 6,706 million)
 - » Operating EBIT margin: 10.5% to 12.0% (previously 12.5% to 14.0%) (2021: 13.5%)
 - » Free cash flow: € 300 million to € 500 million (previously € 500 million to € 600 million) (2021: € 600 million)

Interim Group Management Report

BUSINESS REPORT

General Economic and Industry-Related Conditions

Economic Activity and Industry Environment

Global Economy and Financial Markets

The global economy suffered from a series of destabilizing shocks during the first half of 2022. After more than two years of a pandemic which had already caused the largest global recession since World War II, the Russian Federation's invasion of the Ukraine led to a further collapse in global economic growth in 2022. The war in the Ukraine is resulting in price rises and volatility in energy markets and has negative consequences for raw material markets. Problems in supply chains are adding further momentum to inflation and are occurring concomitantly with rising interest rates. Taken together, the issues are causing significantly more difficult financial conditions globally. Furthermore, there has also been a significant increase in the prices of agricultural goods, which is putting food security in many emerging and developing economies in danger and comes with an extreme poverty risk. The lockdowns in the important centers of production and commerce in China, which are part of a zero-Covid strategy, are intensifying the effects of the uncertain supply situation. Numerous risks are interrupting the fragile recovery that began at the start of the year and are escalating the risk of ongoing, high inflation globally coupled with only small growth, making the scenario of longer-lasting stagflation more likely. This expectation is forcing the more progressive economies to tighten monetary policy drastically to curb inflation. The increased cost of credit in turn raises the likelihood of a financial stress situation in the future. Analysts believe that the global economy is at risk again. (Source: World Bank, June 2022, pp. 15-18)

Rising inflation has already produced tightened monetary policies worldwide. There have been significant increases in the yields of developed economies' bonds and in stock market volatility. These increases have impacted the valuation of high-risk investments and there was corresponding negative development in stock market indexes in the first half of the year. The DAX fell by 20.2% and the MDAX by 27.2% in the first six months of the year. (Source: Refinitiv & World Bank, June 2022, p. 11;12)

In relation to the development of bilateral exchange rates against the US dollar, the euro has continuously shed value against the US dollar and moved toward parity. During the first six months of the year, the EUR/USD exchange rate fell from a high of 1.15 at the start of the year to a value of 1.04 as the period progressed. (Source: Refinitiv)

Rail Vehicle Market

The rail vehicle market continued to perform as expected at the end of the first quarter and as explained in the 2021 Annual Report. In contrast to the assessment made at the end of the first quarter of 2022, we expect that there will be a substantial decline in business activity in Russia. Moreover, we expect a further reduction of market expectations in China due to the zero-Covid strategy there.

Different regions are influenced by the Covid-19 pandemic in different ways. Some countries, especially China, continue to be affected by the impacts of the pandemic and have restrictions of varying natures, which is leading to delayed projects.

Commercial Vehicle Market

Contrary to the most recent estimate from March 2022, the global commercial vehicle market will weaken somewhat year over year. The Chinese market expectations have reduced as a result of the zero-Covid strategy in particular. This is reflected in the full-year market outlook for 2022.

Corporate Management Indicators

The most important financial performance indicators at Knorr-Bremse are revenue, (operating) EBIT/EBIT margin, and free cash flow. Return on capital employed (ROCE) is used as another key management indicator. They are explained in detail on pages 34 and 62 of the 2021 Annual Report.

MANAGEMENT INDICATORS

	1st Half of 2022	1st Half of 2021
Revenue (€ million)	3,406.0	3,418.9
EBIT (€ million)	343.2	495.5
EBIT margin (% of revenue)	10.1	14.5
Operating EBIT margin (% of revenue)	10.7	14.5
Free cash flow (€ million)	-266.6	108.2
ROCE, annualized (%)	16.4	26.7
Employees (as of June 30, including leased ones)	30,655	30,474

DIVISIONAL REVENUES AND EBIT

	1st Half of 2022	1st Half of 2021
Rail Vehicle Systems		
Revenue (€ million)	1,598.0	1,654.6
EBIT margin (% of revenue)	13.7	18.2
Operating EBIT margin (% of revenue)	15.0	18.2
Commercial Vehicle Systems		
Revenue (€ million)	1,809.0	1,764.9
EBIT margin (% of revenue)	8.3	12.1
Operating EBIT margin (% of revenue)	8.3	12.1

We also regularly measure non-financial performance indicators. These help us with the management and long-term strategic alignment of the Company. The most significant non-financial performance indicator is the number of employees (FTE).

The definitions of the key figures in this report have not changed since the 2021 Annual Report.

Significant Events during and after the Reporting Period

The significant events after the reporting period are provided in the notes to the condensed interim financial statements. Significant changes in related parties are explained in the chapter "Related Party Disclosures." An outline of significant events after the reporting period is provided in the chapter "Events after the Reporting Date."

Significant events during the reporting period:

Acquisition of Minority Interest in Nexxiot AG

Knorr-Bremse signed a € 62.7 million contract for a strategic 33.4% minority interest in Nexxiot AG, Switzerland, in May 2022. Nexxiot is a leading provider in the tradetech sector and is specialized in upgrading train cars and containers with IoT technology to transform them into connected assets. The transaction closed in June 2022. Knorr-Bremse accounts for Nexxiot as an associated company using the equity method. As a result, Knorr-Bremse is continuing to expand its position for safety-critical rail vehicle systems that are essential for operations.

Acquisition of Cojali S.L., Spain

Knorr-Bremse signed a contract to acquire a 55% interest in Cojali S.L., Spain, in July 2022. The purchase price is estimated to be approximately € 200 million. Cojali is a global developer of conventional and remote multibrand diagnostics systems for commercial vehicles and other types of vehicles. The deal is expected to close in the third quarter of the current year. The completion date has not yet been finalized because it also depends on closing conditions that cannot be influenced by the contracting parties alone. Knorr-Bremse is consequently investing in the growing market for connectivity applications and further expanding its in-house digitalization capabilities.

Divestment of Joint Venture Knorr-Bremse KAMA Systems for Commercial Vehicles OOO

In light of the Russia–Ukraine war, Knorr-Bremse has opted to divest Knorr-Bremse KAMA Systems for Commercial Vehicles OOO, Naberezhnye Chelny, Russia—a joint venture with the Russian company Kamaz. Knorr-Bremse has stepped down from all positions on the joint venture’s board and transferred the shares in the joint venture to Knorr-Bremse Kama Systems for Commercial Vehicles OOO, Naberezhnye Chelny, Russia. Under the joint venture agreement, Knorr-Bremse has an entitlement to compensation of € 4.5 million for the transfer of the shares. This amount had not yet been paid as at June 30, 2022. The loss of € -9.2 million on the deconsolidation of Knorr-Bremse KAMA is recognized in the other financial result.

Agreement with Robert Bosch GmbH

In April 2022, Knorr-Bremse and Robert Bosch GmbH resolved their legal dispute regarding the sale price of the shares in the amount of 20% respectively of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and Knorr-Bremse Commercial Vehicle Systems Japan Ltd. In exchange for the payment of a purchase price in the amount of € 360 million, Knorr-Bremse AG—subject to approval by the antitrust authorities, which is expected in the second half of 2022—will take over the shares and become the sole shareholder in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and Knorr-Bremse Commercial Vehicle Systems Japan Ltd. The gain of € 19.6 million resulting from the agreement was recognized in the other financial result.

Portfolio Adjustment – Decision to Sell Kiepe Group

The Kiepe Group companies situated within the Rail Vehicle Systems division are planned to be sold off as part of a portfolio adjustment. The Company expects that it will sign off on the sale of the Kiepe Group by year end in 2022. An overview of the main categories of assets and liabilities classified as for sale can be found in the chapter “Non-Current Assets and Liabilities Held for Sale.”

Sale of Shares in Haldex AB

Knorr-Bremse sold its 9.2% interest in the subscribed capital of Haldex AB to SAF-HOLLAND SE in June 2022. The sale price is € 28.2 million and is due for payment in August 2022. Because the interest was categorized as “at fair value through other comprehensive income” in accordance with an accounting option that was utilized, the income from the sale is recognized in the reserve for adjustments in other comprehensive income. The interest was carried at an amount of € 23.2 million as at December 31, 2021.

Financial Performance

GROUP KEY INDICATORS

In € million	1st Half of 2022	1st Half of 2021
Order intake	4,037.6	3,602.9
Order book	6,694.8	5,161.0
Revenue	3,406.0	3,418.9
EBITDA	489.0	632.2
EBITDA margin	14.4	18.5
Operating EBITDA margin	15.0	18.5
EBIT	343.2	495.5
EBIT margin	10.1	14.5
Operating EBIT margin	10.7	14.5
Net income	237.5	346.1
Capital expenditure (before IFRS 16 and acquisitions)	141.0	129.6
Depreciation and amortization	145.8	136.7
R&D costs	232.7	211.8
Employees (as of June 30, including leased ones)	30,655	30,474

The Group’s order intake in the first six months of 2022 was € 4,037.6 million (previous year: € 3,602.9 million), a noticeable 12.1% increase on the previous year’s level. This development was attributable to very high demand in the Rail Vehicle Systems business, whereas significant declines were recorded in Commercial Vehicle Systems business. The Group’s positive order situation led to an order book totaling € 6,694.8 million as of June 30, 2022 (previous year: € 5,161.0 million), another new record. This accounts for order cancellations of € 47.7 million as a result of the sanctions on Russia. The forward order book of 11.6 (previous year: 9.1) months underscores our good order situation. The book-to-bill ratio—the ratio of incoming orders to revenues—was

1.19 in the first half of 2022 (previous year: 1.05). The order intake, order book, and forward order book and book-to-bill ratio indicators are sourced from the management reporting, which was adjusted during the current fiscal year and is not subject to an auditor's review.

Consolidated revenue in the first half of the reporting period came to € 3,406.0 million and therefore almost reached the previous year's level of € 3,418.9 million (-0.4%). However, currency-adjusted to actual rates in 2021, revenue was 4.9% down on the previous year.

The Rail Vehicle Systems division saw its revenue decline by 3.4% relative to the prior-year period. The decline was attributable to a moderate drop in OE volumes, whereas the aftermarket revenue was slightly above the previous year. In Commercial Vehicle Systems, the revenue growth of 2.5% was attributable to significant growth in the aftermarket business which was more than able to offset the declining OE sales. A global year-over-year reduction in truck production was recorded, especially in China, and this came with declines in OE sales.

At a Group level, moderate growth of 6.3% in aftermarket business along with slightly declining OE sales simultaneously led to aftermarket's share in total revenue increasing significantly from 34.2% to 36.4% (management reporting segmentation and not subject to auditor's review).

In the Europe/Africa region, revenue rose by 3.7% to € 1,668.7 million (previous year: € 1,609.3 million); this represents 49% (previous year: 47%) of total revenues. The North America region also grew by 18.7% to € 838.6 million (previous year: € 706.4 million) and reached 25% (previous year: 21%) of total Group revenues. In the South America region, revenue rose significantly by 32.5% to € 72.2 million (previous year: € 54.5 million), equivalent to a share of 2% (previous year: 2%) of total revenues. In the Asia-Pacific region, on the other hand, revenue decreased significantly by 21.2% to € 826.4 million (previous year: € 1,048.7 million) and now represents 24% of the Group's revenue (previous year: 31%).

CONSOLIDATED REVENUES BY GROUP COMPANY LOCATION

In € million	1st Half of 2022	1st Half of 2021
Europe/Africa	1,668.7	1,609.3
North America	838.6	706.4
South America	72.2	54.5
Asia-Pacific	826.4	1,048.7
Total	3,406.0	3,418.9

The cost of materials was € 1,839.5 million (previous year: € 1,747.4 million), an increase of 5.3% on the previous year. The cost of materials ratio of 54.0% was up on the previous year (previous year: 51.1%) and was due to a changed mix of regions and products in revenue, increased costs for freight and procurement as a result of the shortages in chips and other components, and general inflationary pressure, among other things. Personnel expenses also increased in absolute terms by 7.8% to € 895.8 million (previous year: € 830.8 million). The personnel expenses ratio was 26.3% of revenue and up on the previous year (24.3%), which was attributable to a strategic buildup for future-related topics (research and development) as well as one-time payments. In contrast, the sum of other operating income and expenses decreased by 2.4% to € 292.8 million (previous year: € 300.0 million).

Operating EBIT in the first half of 2022 amounted to € 364.6 million and was therefore 26.4% down on the comparable prior-year period (€ 495.5 million). The operating EBIT margin (RoS) was 10.7% and 3.8 percentage points down on the previous year's level (14.5%), which was mainly attributable to cost- and mix-related effects. The generally high inflationary pressure and especially the severe Covid-19 restrictions in China as well as the withdrawal from Russia-based business had negative impacts on our profitability. For the purposes of disclosing operating EBIT, the reported EBIT of € 343.2 million was adjusted for extraordinary sanction-related factors in connection with Russia-based business at a total amount of € 18.1 million, including impairment losses on inventories (€ 17.1 million), and further restructuring expenses in North America (€ 3.3 million). There were no comparable circumstances in the first six months of the previous year that would have led to an adjustment.

Operating EBITDA in the first half of 2022 also saw a 19.3% decline due to cost- and mix-related factors and came to € 510.4 million (previous year: € 632.2 million). The operating EBITDA margin came to 15.0% and was therefore very significantly less than in the previous year (18.5%).

The negative financial result improved in the first half of 2022 by a total of € 10.1 million to € 7.6 million (previous year: € 17.8 million). This development was attributable to a € 15.6 million increase in interest income as well as a € 4.3 million decrease in interest expenditure compared to the previous year. However, the other financial result deteriorated by € 9.8 million to € 9.2 million for reasons including losses from the deconsolidation of the Russian joint venture Knorr-Bremse KAMA Systems for Commercial Vehicles OOO.

As a result of the lower pre-tax earnings, the tax expenses in the first half of 2022 decreased by 25.5% in absolute terms to € 98.0 million (previous year: € 131.6 million). On the other hand, the tax rate of 29.2% was above the corresponding prior-year level of 27.6%. This development resulted from factors such as the smaller share that low-tax countries, for example China, had in pre-tax earnings and a larger tax burden from intragroup dividend distributions, the latter of which had a stronger impact in percentage terms due to the smaller pre-tax earnings.

The earnings after taxes were € 237.5 million, which was 31.4% down on the previous year (€ 346.1 million). The return on sales after tax, at 7.0%, was 3.1 percentage points below the corresponding prior-year level (previous year: 10.1%). After deduction of non-controlling interests, earnings per share were at € 1.42 (previous year: € 2.07).

EMPLOYEES (JUNE 30)

	06/30/2022	06/30/2021
FTE (including leased employees)		
Rail Vehicle Systems division	16,062	16,409
Commercial Vehicle Systems division	13,816	13,295
Other	777	771
Total employees	30,655	30,474

As of June 30, 2022, the Knorr-Bremse Group had a total of 30,655 employees, including leased ones—up 0.6% on the previous year (previous year: 30,474, including leased employees). The figures relate to full-time equivalents (FTE). Excluding leased employees, the Group employed 27,487 people (previous year: 27,431). The increase compared to the same period in the previous year primarily resulted from the revenue growth in the Commercial Vehicle Systems segment of the past few quarters and to a strategic buildup for future-related topics (including research and development) in both segments.

Rail Vehicle Systems Division

The order intake in the Rail Vehicle Systems division increased by a very significant 46.7% year over year, rising from € 1,450.5 million to € 2,128.0 million. All regions, and Europe most of all, profited from this development. The favorable order situation also caused the order book to grow very significantly to € 4,768.5 million as of June 30, 2022 (previous year: € 3,517.3 million). This figure already accounts for order cancellations of € 43.2 million as a result of sanctions on Russia.

RAIL VEHICLE SYSTEMS DIVISION KEY INDICATORS

In € million	1st Half of 2022	1st Half of 2021
Order intake	2,128.0	1,450.5
Order book (June 30)	4,768.5	3,517.3
Revenue	1,598.0	1,654.6
EBITDA	283.9	360.6
EBITDA margin (as % of revenue)	17.8	21.8
Operating EBITDA margin (as % of revenue)	19.1	21.8
EBIT	218.7	300.9
EBIT margin (as % of revenue)	13.7	18.2
Operating EBIT margin (as % of revenue)	15.0	18.2
Capital expenditure (before IFRS 16 and acquisitions)	43.3	41.4
Depreciation and amortization	65.2	59.8
R&D costs	105.6	104.8
Employees (as at June 30, including leased ones)	16,062	16,409

The Rail Vehicle Systems division saw its revenue decline by 3.4% to € 1,598.0 million (previous year: € 1,654.6 million). This development resulted from moderately declining OE revenue despite rail services business being slightly up on the previous year. OE revenue's backward development was mainly attributable to the Asia-Pacific region and, for reasons relating to the market and Covid-19, had noticeable impacts on metro business as well as the regional and commuter segment in China above all. In

North America, on the other hand, significant OE growth was achieved in an accelerating freight business. In the Europe region, growth—especially in freight as well as light rail vehicles—was able to compensate fully for declining OE volumes in the regional and commuter, metro, and high-speed segments.

Operating EBIT, at € 240.1 million, was a significant 20.24% down on the corresponding prior-year period (€ 300.9 million) for volume-, cost-, and mix-related reasons, making for an EBIT margin (RoS) of 15.0% (previous year: 18.2%). Beside the generally high inflationary pressure, profitability was impacted especially by the declining China-based business, as well as the withdrawal from the Russia-based business. To calculate operating EBIT, the reported EBIT of € 218.7 million was adjusted for the aforementioned extraordinary sanction-related factors in connection with Russia-based business at a total amount of € 18.1 million, including impairment losses on inventories (€ 17.1 million), and restructuring expenses in North America (€ 3.3 million). There were no comparable circumstances in the first six months of the previous year that would have led to an adjustment. Operating EBITDA, at € 305.3 million, was also a significant 15.3% down on the previous year (previous year: € 360.6 million), giving an operating EBITDA margin of 19.1% in the first six months of 2022 (previous year: 21.8%).

The capital expenditure made by the Rail Vehicle Systems division in the first six months of 2022 amounted to € 43.3 million (previous year: € 41.4 million) and went toward automation projects as well as expansions of capacity for high-growth product categories, site optimizations, and equipment upgrades. At € 65.2 million, depreciation and amortization were moderately up on the previous year (previous year: € 59.8 million).

The research and development costs in the first half of 2022 ran up to € 105.6 million, which was slightly higher than the previous year (€ 104.8 million). In relative terms, this led to an R&D ratio that was slightly higher year over year at 6.6% (previous year: 6.3%) of revenue. These outlays were concentrated on industry trends that we identified based on megatrends. For Rail Vehicle Systems, these trends include transportation capacity, eco-friendliness, availability, life cycle management, and digitalization.

The Rail Vehicle Systems division, as at June 30, 2022, had 16,062 employees (previous year: 16,409 employees, incl. leased ones). The decreased headcount compared to the previous year was mainly volume-related and primarily attributable to the Asia-Pacific and Europe regions.

Commercial Vehicle Systems Division

The Commercial Vehicle Systems division recorded a significant 11.3% decline in its order intake in the first six months of 2022 and saw it fall to € 1,910.7 million (previous year: € 2,153.1 million). Continuing supply bottlenecks for the commercial vehicle industry as a whole led to a reduced production volume for commercial vehicle manufacturers and, accordingly, to delays and declining order intakes. All regions were affected by this development, most of all Europe and Asia-Pacific. In the Asia region, declines were recorded in China in particular for market- and Covid-19-related reasons. The order book as at June 30, 2022, on the other hand, was € 1,927.4 million as a result of the favorable order situation during the second half of 2021 and was a significant 16.3% up on the previous year (€ 1,657.2 million). This accounts for order cancellations of € 4.5 million as a result of the sanctions on Russia.

COMMERCIAL VEHICLE SYSTEMS DIVISION KEY INDICATORS

In € million	1st Half of 2022	1st Half of 2021
Order intake	1,910.7	2,153.1
Order book (June 30)	1,927.4	1,657.2
Revenue	1,809.0	1,764.9
EBITDA	220.9	280.4
EBITDA margin (as % of revenue)	12.2	15.9
Operating EBITDA margin (as % of revenue)	12.2	15.9
EBIT	150.6	213.9
EBIT margin (as % of revenue)	8.3	12.1
Operating EBIT margin (as % of revenue)	8.3	12.1
Capital expenditure (before IFRS 16 and acquisitions)	87.4	78.6
Depreciation and amortization	70.4	66.5
R&D costs	127.1	107.1
Employees (as at June 30, including leased ones)	13,816	13,295

A slight rise in revenue was also achieved in the first half of 2022, which increased by 2.5% to € 1,809.0 million (previous year: € 1,764.9 million). This resulted from significant growth in aftermarket business from which all regions were able to benefit,

except for Asia-Pacific (which remained almost at the previous year's level), in spite of supply bottlenecks for the entire commercial vehicle industry. In the Asia-Pacific region on the other hand, especially China, declines in OE revenue were recorded and growth in the North and South America and Europe regions was not able to offset them fully. OE customers accounted for 72.5% of the segment's total revenue, a year-over-year decrease of 3.1 percentage points (previous year: 75.6%). Because of this development and significantly increased aftermarket revenues in absolute terms, there was a very significant year-over-year increase in aftermarket's share in total revenue (management reporting segmentation; previous year: 24.4%) to 27.5% in relative terms.

The operating as well as reported EBIT during the first half of 2022 fell by a very significant 29.6% to € 150.6 million and provided an EBIT margin (RoS) of 8.3%, a year-over-year margin decline of 3.8 percentage points (12.1%). In addition to a changed mix of regions and products in revenue, increased freight and procurement costs as a result of the ongoing supply bottlenecks and high inflation in general were significant factors in this development. The operating and reported EBITDA for the Commercial Vehicle Systems division also fell by a significant 21.2% for cost- and mix-related reasons and came to € 220.9 million (previous year: € 280.4 million). The EBITDA margin, at 12.2%, was 3.7 percentage points down on the previous year's margin (15.9%).

Capital expenditure in the Commercial Vehicle Systems division in the first six months of 2022 increased by € 8.8 million year over year to € 87.4 million (previous year: € 78.6 million). Substantial capital expenditure went toward the provision of supplier tools globally, the expansion of capacity, and production equipment for new generations of products. In addition, investments were made for the ongoing integration of R.H. Sheppard and replacement investments. Depreciation and amortization in the Commercial Vehicle Systems division was € 70.4 million and therefore moderately higher than the prior-year period (€ 66.5 million).

The division's research and development costs in the first half of 2022 rose to € 127.1 million (previous year: € 107.1 million) and resulted in an R&D ratio of 7.0% of sales, which was moderately above the corresponding prior-year level (6.1%). Research and development activities focused on the megatrends of road safety, automated driving, emission reduction, electric vehicles, and connectivity.

The Commercial Vehicle Systems division, as at June 30, 2022, had 13,816 employees (previous year: 13,295) and therefore 521 employees or 3.9% more than it did as at June 30, 2021. This increase is attributable to all regions, especially in production, mainly as a result of the higher business volume as well as a strategic buildup for future-related topics (including research and development).

Financing Structure, Cash Flows, and Liquidity

Financing Structure of the Knorr-Bremse Group

Financial and liquidity management is described together with the financing structure of the Knorr-Bremse Group beginning on page 68 of the 2021 Annual Report. Material changes have taken place since December 31, 2021, within the financial liabilities, specifically the liabilities toward credit institutions, derivatives, and other financial liabilities, and the liabilities resulting from options on minority interests. The last of these liabilities reduced because of the remeasurement of the Bosch option due to the agreement with Robert Bosch GmbH.

FINANCIAL LIABILITIES

In € million	06/30/2022	12/31/2021
Derivatives	(54.6)	(24.4)
Liabilities toward credit institutions	(317.2)	(126.6)
Bonds and debt instruments	(748.0)	(751.8)
Liabilities resulting from options on minority interests	(360.0)	(379.6)
Purchase price liabilities	(10.4)	(10.9)
Lease liabilities	(505.8)	(510.3)
Other financial liabilities	(361.6)	(344.9)
Total	(2,357.6)	(2,148.5)
Thereof:		
Current	(1,061.7)	(852.4)
Non-current	(1,296.0)	(1,296.1)

CONDENSED CASH FLOW STATEMENT

In € million	1st Half of 2022	1st Half of 2021
Cash flow from operating activities	(152.9)	223.6
Cash flow from investing activities	(161.2)	(265.7)
Cash flow from financing activities	(401.7)	(784.5)
Cash flow changes	(715.8)	(826.6)
Change in cash funds resulting from exchange rate and valuation-related movements	40.2	26.2
Change in cash funds	(675.6)	(800.3)
Free cash flow	(266.6)	108.2

Cash Flow from Operating Activities

Unlike the previous year (cash inflow), there was a cash outflow of € -152.9 million from operating activities in the first half of 2022, a significant year-over-year decline of € 376.5 million (€ 223.6 million). This resulted from a € 108.6 million decline in net income to € 237.5 million for the period and, above all, a € 254.3 million year-over-year increase in net working capital to € 1,380.5 million.

Cash Flow from Investing Activities

The cash outflow from investing activities shrank by € 104.5 million year over year to € 161.2 million during the first six months of 2022. In particular, the decline was the result of an € 86.9 million reduction in disbursements for the acquisition of consolidated companies and other business units to € 0.0 million, which was caused by the acquisition of the EVAC Group in the first half of 2021. Moreover, proceeds from financial investments and from the sale of investments increased by € 27.2 million to € 31.2 million. On the other hand, disbursements for financial investments rose by € 8.1 million to € 77.0 million in comparison to the corresponding prior-year period.

Cash Flow from Financing Activities

The cash outflow from financing activities in the first half of 2022 was € 401.7 million, a drop of € 382.8 million year over year (previous year: € 784.5 million). This mainly resulted from a € 508.4 million reduction in disbursements for repaying borrowings, which fell to € 11.7 million. The remaining repayment for credit lines drawn on for the Covid-19 action program was made during the previous year. An opposing effect was had by the increased dividend payments to the controlling interests of Knorr-Bremse AG, which went up by € 53.2 million to € 298.2 million, and to non-controlling interests, which went up by € 11.3 million to € 19.9 million, as well as increased disbursements from the settlement of derivatives, which went up by € 42.5 million to € 42.8 million. Disbursements were also made for the acquisition of non-controlling interests at an amount of € 6.5 million, unlike in the previous year.

Free Cash Flow

Free cash flow during the first half of 2022 was € -266.6 million and a significant € 374.9 million less than the previous year's level of € 108.2 million. This development is primarily attributable to the decreased cash flow from operating activities.

Liquidity

The significant decrease in cash funds to € 650.9 million as at June 30, 2022 (December 31, 2021: € 1,326.5 million), was mainly comprised of the cash outflow from financing activities (€ 401.7 million), the cash outflow from operating activities (€ 152.9 million), and a cash outflow from investing activities (€ 161.2 million). Net debt consequently increased from € 202.5 million as at June 30, 2021, to € 588.9 million as at June 30, 2022.

Assets and Capital Structure

The Group's total assets increased by 2.0% to € 7,340.4 million compared to December 31, 2021 (€ 7,199.2 million). This development occurred for reasons including increased net working capital and increased financial liabilities, while the decline in cash and cash equivalents had an opposing effect.

BALANCE SHEET RATIOS

In € million	06/30/2022	12/31/2021
Net debt/net cash	588.9	(108.5)
Net debt to EBITDA (%)	120.4	0
Gearing (%)	24.1	0
Net working capital (NWC)	1,380.5	875.8
Net working capital in days' sales	73.0	47.0
Turnover rate – inventories	3.0	6.7
Receivables/days' sales outstanding	79.7	66.0
Equity ratio	33.2	33.7
Total assets	7,340.4	7,199.2

Net working capital, defined as the sum of inventories, trade accounts receivable, and contract assets less trade accounts payable and contract liabilities, stood at € 1,380.5 million as at June 30, 2022 (December 31, 2021: € 875.8 million). This corresponds to 73.0 days' sales (December 31, 2021: 47 days' sales). The increase is based on, firstly, seasonal effects and, secondly, proactive measures taken to keep our supply chains functioning. The net working capital increased by € 254.3 million or 13.7 days' sales as of June 30, 2022, compared to the level of the first half of 2021 (June 30, 2021: € 1,126.3 million).

An € 88.6 million decline in pension provisions and € 62.6 million in other provisions countered the increase in financial liabilities that was seen in the development of net assets.

Despite the rise in total assets, the equity ratio of 33.2% as at June 30, 2022, was almost at the same level as December 31, 2021 (33.7%).

EQUITY

In € million	06/30/2022	12/31/2021
Subscribed capital	161.2	161.2
Other equity	2,197.8	2,167.1
Equity attributable to the shareholders	2,359.0	2,328.3
Non-controlling shares	81.3	97.2
Total equity	2,440.3	2,425.5

CURRENT AND NON-CURRENT ASSETS

In € million	06/30/2022	12/31/2021
Intangible assets and goodwill	1,017.4	1,005.8
Property, plant, and equipment	1,786.0	1,790.4
Other non-current assets	517.4	465.3
Non-current assets	3,320.8	3,261.5
Inventories	1,146.3	1,002.2
Trade accounts receivable	1,508.0	1,230.3
Other financial assets	84.3	63.8
Contract assets	66.0	75.0
Cash and cash equivalents	876.1	1,380.2
Assets held for sale and disposal groups	141.4	–
Other current assets	197.4	186.2
Current assets	4,019.6	3,937.6

The assets held for sale and disposal groups include the Kiepe Group, which is held for sale. Further information can be found in the notes to the condensed interim financial statements in the chapter entitled "Assets Held for Sale and Corresponding Liabilities."

Material capital expenditure on property, plant, and equipment mainly went toward expansion of production plant and equipment, automation projects, site optimization, and upgrades as well as the ongoing integration of R.H. Sheppard. Furthermore, there was capital expenditure on intangible assets including IT projects, among other things.

The ROCE in the first half of 2022 was 16.4% and noticeably lower than the corresponding prior year (June 30, 2021: 26.7%) primarily as a result of the lower EBIT contribution and, furthermore, increased capital employed, i.e., the sum of property, plant, and equipment, intangible assets, and net working capital.

REPORT ON RISKS, OPPORTUNITIES, AND EXPECTED DEVELOPMENTS

Report on Risks and Opportunities

Risks and opportunities specific to the Knorr-Bremse Group and the associated risk management system are described in detail beginning on page 86 of the 2021 Annual Report.

The risk portfolio has increased since year end 2021. The increase is attributable, among other things, to the “strategy” risk category which changed from medium to high. This category principally covers the decline of China-based business, which has been triggered by factors including China’s autonomy policy, the pandemic crisis, and the lockdowns associated with it. The “compliance” risk category has moved from medium to high. This category combines factors such as the risk of the Russia–Ukraine war and the related sanctions, which are resulting in a loss of profit. Risk in the “purchasing” category has also developed upward within its range; the principal reasons for this are the ongoing shortages of electronic components in the chip industry and the global increase in market prices for raw materials and energy. However, there exists an opportunity to pass on to customers some of this increase in market prices. Another risk included in the purchasing category is the potential consequences for industry if natural gas is rationed. The risk extends to internal production as well as the complete supply chain. It may lead to limited production, material supply constraints, and a drop in the orders that our customers make for our products. Measures have been taken to counter the risks listed here. For instance, a task force has been established to manage the energy crisis and work on issues including a short-notice transition from natural gas to alternative forms of energy like oil, for example. The “market and customers project management” risk category has gone down from high to medium. The reason for this is that risks in the Rail Vehicle Systems division that were previously categorized under market and customers project management have been subsumed under the “strategy” risk category. A further reason is the reduction or absence of some risks in the Commercial Vehicle Systems division as these have already been dealt with in the guidance.

Report on Expected Developments

Global Economy

In view of the impacts made by the Russian Federation’s invasion of Ukraine, the World Bank’s analysts expect global economic activity to slow down strongly and grow by a lesser amount of 3.2% in 2022. The war in Ukraine is leading to persistently high raw-material prices, additional supply shortfalls, increasing food uncertainty, poverty, and intensified expectations of inflation coupled with a deteriorating financial environment, increased financial vulnerability as a result, and increased political uncertainty. The negative shocks had a heavy impact on the global economy in 2022; analysts are currently not forecasting that there will be a material improvement in 2023 either. The global growth for 2023 is expected to be a lackluster 2.9% due to the many negative influences. In particular, high raw material prices and tight monetary policies along with an increasing risk of stagflation are not expected to disappear in the short term.

(World Bank, June 2022, pp. 15-17; IMF World Economic Outlook Update, July 2022, p. 7)

The growth forecasts issued at the start of the year have been revised down by analysts across the world’s regions. The estimates for emerging and developing countries as a whole are at 3.6%. Even raw material exporters in this category will not profit from the increased raw material prices on the whole since the negative effect from the increased energy prices is larger overall. The brief upturn heralded by rising raw material prices has therefore ended abruptly. Growth in the eurozone is forecast to be 2.6%, in the US 2.3%, and in China 3.3%. These updates reflect a significant downgrade in the economic outlook. Analysts believe that

the complications precipitated by the war are the main driver of this downgrade. (World Bank, June 2022, pp. 15-17; IMF World Economic Outlook Update, July 2022, p. 7)

The current assumptions and expectations reflect the assessments of the economic institutions in June/July 2022. Owing to rapidly changing developments associated with the worldwide spread of Covid-19 and with the Russia–Ukraine war, it is not currently possible to make a reliable statement regarding its economic impact on individual regions.

Global Rail Vehicle Market

Except for the developments in Russia already outlined above and a further intensification of the market in China, the assessment of the developments in the global rail vehicle market in the period up to year end 2022 have not changed since the overview given in the Annual Report in March 2022, which also addressed the current risks in its Report on Risks and Opportunities. Despite the risks outlined in that document and the impact of Covid-19, the rail vehicle market remains a high-growth market, one which is additionally supported by various government stimulus programs and will continue to remain a high-growth market beyond the current fiscal year.

Global Commercial Vehicle Production

The assessment of market developments in global commercial vehicle production in 2022 has deteriorated since spring 2022. For the 2022 fiscal year, Knorr-Bremse now expects a 17% decline in global commercial vehicle production to roughly 2,470,000 units.

The largest decline in 2022, in absolute and percentage terms, is expected to be seen in the Chinese commercial vehicle market (HDT and MDT), where a 42% reduction to approximately 845,000 vehicles is expected because of the government's zero-Covid policy. Rising and stable production rates in India and Japan respectively cannot offset this steep decline and will result in the Asia region as a whole shrinking by 30% year over year.

Knorr-Bremse anticipates that commercial vehicle production will increase in Western Europe in the current year, with a rise of 8% to around 480,000 units expected. In Eastern Europe, on the other hand, a 22% reduction to 59,000 vehicles is expected because of the war in Ukraine.

The commercial vehicle markets in the Americas are expected to recover further. The strongest recovery is expected in North and South America with a 9% increase to 555,000 vehicles.

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

Guidance, Updated

The full-year guidance for 2022 is as follows:

FULL-YEAR GUIDANCE FOR THE GROUP

Key performance indicators	2022 target	2021 actual
Revenue (€ million)	6,900-7,200	6,706
Operating EBIT margin (% of revenue)	10.5-12.0	13.5
Free cash flow (€ million)	300-500	600.0

The guidance for the 2022 fiscal year from February 24, 2022, has been updated based on the latest business developments and the developments expected for the second half of 2022. The impacts of the Russia–Ukraine war and Knorr-Bremse's previously announced withdrawal from Russia-based business as well as the Covid-19 pandemic's negative effects on business, particularly in China, have led to a substantial adjustment of the guidance. It assumes that foreign-exchange rates will remain as they are currently, that there will be no new Covid-19 lockdowns, that inflation will not become significantly more heightened, and that there will be no additional supply chain disruptions caused by potential energy shortages. Knorr-Bremse now forecasts revenue between € 6,900 million and € 7,200 million (previously € 6,800 million and € 7,200 million) (2021: € 6,706 million), an operating EBIT margin between 10.5% and 12.0% (previously 12.5% and 14.0%) (2021: 13.5%), and free cash flow between € 300 million and € 500 million (previously € 500 million and € 600 million) (2021: 600.0). Furthermore, we now expect the lower earnings contribution and increased capital employed will result in a ROCE of approximately 20% (previously slightly more than or equal to 25%, 2021: 24.9%).

To respond to the overall difficult market conditions, the Knorr-Bremse Executive Board launched an extensive Profit & Cash Protection Program (PCPP) back at the start of the year, with comprehensive pricing and cost-cutting measures for the entire Knorr-Bremse Group. The effects made by the PCPP have already been incorporated in the updated guidance. The significantly increased inflation which is currently burdening the cost structure in both divisions will be fully offset as a result, although this remains subject to risks such as potential delays in passing on costs to our customers.

Munich, August 11, 2022

Knorr-Bremse AG
Executive Board



FRANK MARKUS WEBER



DR. CLAUDIA MAYFELD

BERND SPIES

DR. JÜRGEN WILDER

Interim Consolidated Financial Statements

CONSOLIDATED STATEMENT OF INCOME

CONSOLIDATED STATEMENT OF INCOME

In € thousand	1st Half of 2022	1st Half of 2021
Revenues	3,406,026	3,418,891
Change in inventory of unfinished/finished products	62,312	52,244
Own work capitalized	48,747	39,175
Total operating performance	3,517,085	3,510,310
Other operating income	67,753	35,877
Cost of materials	(1,839,488)	(1,747,383)
Personnel expenses	(895,780)	(830,798)
Other operating expenses	(360,573)	(335,851)
Earnings before interest, tax, depreciation, and amortization (EBITDA)	488,997	632,155
Depreciation and amortization	(145,821)	(136,704)
Earnings before interest and taxes (EBIT)	343,176	495,451
Interest income	22,581	6,952
Interest expenses	(21,072)	(25,333)
Other financial result	(9,153)	625
Income before taxes	335,531	477,695
Taxes on income	(98,025)	(131,619)
Net income	237,506	346,076
Thereof attributable to:		
Profit (loss) attributable to non-controlling interests	8,212	12,798
Profit (loss) attributable to the shareholders of Knorr-Bremse AG	229,294	333,278
Earnings per share in €		
undiluted	1.42	2.07
diluted	1.42	2.07

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

In € thousand	1st Half of 2022	1st Half of 2021
Net income	237,506	346,076
Actuarial gains and losses	83,130	28,660
Equity instruments recognized directly in equity	4,922	5,465
Deferred taxes	(18,559)	(7,870)
Items that will not be reclassified to profit or loss	69,493	26,256
Currency translation	59,649	45,840
Hedging transactions reserve	(33,605)	4,708
Reserve for costs of hedging	1,071	(117)
Deferred taxes	10,520	(1,484)
Items that may be reclassified to profit or loss	37,635	48,947
Other comprehensive income after taxes	107,128	75,203
Comprehensive income	344,634	421,279
Total comprehensive income attributable to non-controlling interests	13,817	17,019
Total comprehensive income attributable to the shareholders of Knorr-Bremse AG	330,817	404,261

CONSOLIDATED BALANCE SHEET

ASSETS

In € thousand	06/30/2022	12/31/2021
Assets		
Intangible assets	602,048	587,648
Goodwill	415,380	418,179
Property, plant, and equipment	1,785,965	1,790,359
Investments accounted for using the equity method	83,789	22,073
Trade accounts receivable	1,076	–
Other financial assets	172,842	215,173
Other assets	88,992	79,053
Contract assets	–	–
Income tax receivables	1,139	1,012
Assets from employee benefits	30,300	30,092
Deferred tax assets	139,302	117,934
Non-current assets	3,320,832	3,261,523
Inventories	1,146,283	1,002,178
Trade accounts receivable	1,508,025	1,230,273
Other financial assets	84,342	63,823
Other assets	149,859	130,640
Contract assets	65,992	74,985
Income tax receivables	47,578	55,529
Cash and cash equivalents	876,080	1,380,210
Assets held for sale and disposal groups	141,415	–
Current assets	4,019,573	3,937,638
Total assets	7,340,404	7,199,161

LIABILITIES

In € thousand	06/30/2022	12/31/2021
Equity		
Subscribed capital	161,200	161,200
Capital reserves	13,884	13,884
Retained earnings	9,954	13,300
Other components of equity	(93,239)	(196,173)
Profit carried forward	2,037,915	1,714,824
Profit attributable to the shareholders of Knorr-Bremse AG	229,294	621,310
Equity attributable to the shareholders of Knorr-Bremse AG	2,359,007	2,328,345
Equity attributable to non-controlling interests	81,289	97,183
Thereof share of non-controlling interests in net income	8,212	26,058
Equity	2,440,296	2,425,528
Liabilities		
Provisions for pensions	223,481	312,066
Provisions for other employee benefits	20,036	21,664
Other provisions	199,343	227,831
Trade accounts payable	2,181	-
Financial liabilities	1,295,959	1,296,131
Other liabilities	4,197	3,945
Income tax liabilities	78,502	79,787
Deferred tax liabilities	159,060	134,861
Non-current liabilities	1,982,758	2,076,285
Provisions for other employee benefits	4,856	7,886
Other provisions	206,665	240,740
Trade accounts payable	1,123,646	1,166,062
Financial liabilities	1,061,674	852,379
Other liabilities	134,650	101,992
Contract liabilities	215,017	265,567
Income tax liabilities	49,715	62,722
Liabilities in connection with assets held for sale	121,127	-
Current liabilities	2,917,349	2,697,348
Liabilities	4,900,107	4,773,633
Total equity and liabilities	7,340,404	7,199,161

CONSOLIDATED STATEMENT OF CASH FLOWS

CONSOLIDATED STATEMENT OF CASH FLOWS

In € thousand	1st Half of 2022	1st Half of 2021
Net income (including minority interests)	237,506	346,076
Adjustments for		
Depreciation, amortization, and impairment losses on intangible assets and property, plant, and equipment	145,821	136,704
Change of impairment on inventories	28,262	(2,246)
Change of impairment on trade accounts receivable and contract assets	4,560	10,911
Gain on the sale of consolidated companies and other business units	9,153	–
Profit/loss on sale of property, plant, and equipment	428	(124)
Adding to, reversing, and discounting provisions	19,003	41,114
Non-cash changes in the measurement of derivatives	17,434	18,390
Other non-cash expenses and income	18,489	(16,671)
Interest result	(1,509)	18,381
Investment result	5,103	582
Income tax expense	98,025	131,619
Income tax payments	(104,978)	(89,413)
Changes of		
inventories, trade accounts receivable, and other assets that cannot be allocated to investment or financing activities	(553,191)	(463,326)
trade accounts payable as well as other liabilities that cannot be allocated to investing or financing activities	(15,480)	153,506
Provisions due to utilization	(61,531)	(61,874)
Cash flow from operating activities	(152,905)	223,629
Proceeds from the sale of intangible assets	–	357
Disbursements for investments in intangible assets	(56,389)	(48,807)
Proceeds from the sale of property, plant, and equipment	26,299	9,956
Disbursements for investments in property, plant, and equipment	(83,642)	(76,886)
Proceeds from financial investments and from the sale of investments	31,178	3,972
Disbursements for investments in financial assets	(76,979)	(68,854)
Proceeds/disbursements from the sale of consolidated companies and other business units	(4,475)	–
Disbursements for the acquisition of consolidated companies and other business units	–	(86,905)
Interest received	4,822	3,110
Disbursements for investments in plan assets (pensions)	(1,995)	(1,646)
Cash flow from investing activities	(161,181)	(265,703)
Proceeds from borrowings	24,936	29,661
Disbursements from the repayment of borrowings	(11,695)	(520,083)
Disbursements for lease liabilities	(32,175)	(29,248)
Interest paid	(20,030)	(15,962)
Dividends paid to parent company shareholders	(298,220)	(245,024)
Dividends paid to non-controlling interests	(19,936)	(8,660)
Payments for acquisition of non-controlling interests	(6,498)	–
Disbursement from the settlement of derivatives	(42,780)	(301)
Proceeds from grants and subsidies	4,721	5,135
Cash flow from financing activities	(401,677)	(784,482)
Cash flow changes	(715,763)	(826,555)
Change in cash funds resulting from exchange rate and valuation-related movements	40,165	26,213
Change in cash funds	(675,598)	(800,343)
Cash funds at the beginning of the period	1,326,495	2,240,723
Cash funds at the end of the period	650,897	1,440,380
Cash and cash equivalents	876,080	1,502,028
Short-term securities available for sale	2	2
Reclassification to assets held for sale and disposal groups	5,014	(0)
Short-term liabilities to banks (less than 3 months)	(230,199)	(61,650)

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

In € thousand	Subscribed capital	Capital reserve	Retained earnings	Group earnings
As of Jan. 1, 2022	161,200	13,884	13,300	2,336,134
Dividends	–	–	–	(298,220)
Net income	–	–	–	229,294
Other comprehensive income after taxes	–	–	–	–
Comprehensive income	–	–	–	229,294
Acquisition/disposal of non-controlling interests	–	–	(3,346)	–
Gains and losses on hedging transactions and costs of hedging reclassified to inventories	–	–	–	–
As of Jun. 30, 2022	161,200	13,884	9,954	2,267,208
As of Jan. 1, 2021	161,200	13,884	13,300	1,959,848
Dividends	–	–	–	(245,024)
Net income	–	–	–	333,278
Other comprehensive income after taxes	–	–	–	–
Comprehensive income	–	–	–	333,278
Gains and losses on hedging transactions and costs of hedging reclassified to inventories	–	–	–	–
As of Jun. 30, 2021	161,200	13,884	13,300	2,048,102

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
(90,970)	(3,222)	(7,854)	(32,051)	(62,076)	2,328,346	97,183	2,425,528
–	–	–	–	–	(298,220)	(19,667)	(317,887)
–	–	–	–	–	229,294	8,212	237,506
54,010	725	(22,739)	4,922	64,605	101,523	5,605	107,128
54,010	725	(22,739)	4,922	64,605	330,817	13,817	344,634
–	–	–	–	–	(3,346)	(10,041)	(13,387)
–	282	1,129	–	–	1,411	–	1,411
(36,960)	(2,215)	(29,464)	(27,129)	2,529	2,359,007	81,289	2,440,296
(188,077)	(3,353)	5,276	(35,694)	(95,731)	1,830,653	91,008	1,921,661
–	–	–	–	–	(245,024)	(8,043)	(253,067)
–	–	–	–	–	333,278	12,798	346,076
41,622	(80)	3,187	5,465	20,791	70,984	4,220	75,204
41,622	(80)	3,187	5,465	20,791	404,262	17,018	421,280
–	709	(1,357)	–	–	(648)	–	(648)
(146,456)	(2,724)	7,104	(30,229)	(74,940)	1,989,242	99,984	2,089,226

Notes to the Condensed Interim Consolidated Financial Statements of Knorr-Bremse AG

1. Accounting Principles

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 interim consolidated financial statements include the Company and its subsidiaries (jointly referred to as the "Group" or "Knorr-Bremse"). The Group is a global manufacturer of brake systems for rail and commercial vehicles and other safety-critical systems.

The product portfolio of the Rail Vehicle Systems division includes braking, entrance, and HVAC systems; power electrics, and control technology, including hardware and programming tools for train control and management systems (TCMS). It also includes 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, train window wiper and wash systems, and sanitary systems.

Moreover, 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., antilock 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).

Accounting Policies

The interim consolidated financial statements for the period January 1 to June 30, 2022, are condensed and have been prepared in accordance with IAS 34 Interim Financial Reporting and hence in accordance with the International Financial Reporting Standards (IFRS) as published by the International Accounting Standards Board (IASB) and adopted by the European Union (EU). The interim consolidated financial statements are based on and should be read in conjunction with the consolidated financial statements as of December 31, 2021. The accounting policies that the Group uses in these interim financial statements are generally equivalent to the ones used in the consolidated annual financial statements for 2021.

The interim consolidated financial statements and the Group's interim management report were released for publication by the Executive Board on August 12, 2022.

Other disclosures

The half-year financial report of Knorr-Bremse AG meets the requirements of the applicable provisions of the German Securities Trading Act (WpHG) and is comprised of condensed interim financial statements, an interim Group management report, and a responsibility statement in accordance with WpHG section 115.

The judgments, estimates, and assumptions that affect the accounting policies and that were made for the interim consolidated financial statements as of June 30, 2022, do not differ from those made for the consolidated financial statements as of December 31, 2021.

The applicable nominal tax rate for the Group amounts to 32.3% as of June 30, 2022. The calculation of the Group's income tax expenses for the first six months of 2022 was based on the expected effective tax rate for the full financial year of 29.2% (prior period: 27.6%).

The interim consolidated financial statements are presented in euros (€), the euro being the functional and reporting currency of Knorr-Bremse AG. Unless otherwise indicated, all figures in the interim consolidated financial statements and the interim Group management report are commercially rounded to thousands of euros (€ thousand). Absolute figures or percentages may therefore contain rounding differences.

2. Changes in the Scope of Consolidation

Albatros GmbH, Munich, Germany; KB Gamma Beteiligungs GmbH, Munich, Germany; KB Lambda Beteiligungs GmbH, Munich, Germany; and KB Sigma Beteiligungs GmbH, Munich, Germany were liquidated during the 2022 fiscal year and removed from the scope of consolidation.

In light of the Russia–Ukraine war and the associated sanctions, Knorr-Bremse has fully divested Knorr-Bremse KAMA Systems for Commercial Vehicles OOO, Naberezhnye Chelny, Russia—a joint venture with the Russian company Kamaz. Knorr-Bremse has stepped down from all positions on the joint venture's board and transferred the shares in the joint venture back to Knorr-Bremse Kama Systems for Commercial Vehicles OOO, Naberezhnye Chelny, Russia. The company was deconsolidated in fiscal 2022.

Further changes in the scope of consolidation were incurred through the mergers of Sigma Transit Systems Pty. Ltd., Granville, Australia and Sigma Air Conditioning Pty. Ltd., Granville, Australia into Knorr-Bremse Australia Pty. Ltd., Granville, Australia and of KB Media GmbH Marketing und Werbung, Munich, Germany into Knorr-Bremse Services GmbH, Munich, Germany.

Knorr-Bremse signed a purchase contract in December 2021 for the remaining 51% of shares in Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong, China. The required registration of the change of ownership of Guangdong Knorr-Bremse Guo Tong Railway Vehicle Systems Equipment Co., Ltd., Jiangmen, Guangdong, China was filed with the relevant Chinese supervisory authority during the 2022 fiscal year, with ownership of the shares now having transferred to Knorr-Bremse. 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.

Knorr-Bremse signed a € 62.7 million contract for a strategic 34.3% minority interest in Nexxiot AG, Switzerland, in May 2022. Nexxiot is a leading provider in the tradetech sector and is specialized in upgrading train cars and containers with IoT technology to transform them into connected assets. The transaction closed in June 2022. Knorr-Bremse accounts for Nexxiot as an associated company using the equity method.

3. Assets Held for Sale and Corresponding Liabilities

Kiepe

The Kiepe Group companies situated within the Rail Vehicle Systems division are planned to be sold off as part of a portfolio adjustment. Non-binding purchase price offers were received as part of the buyer search in the 2022 fiscal year and, based on them, the Company expects to sell by year end in 2022. The Kiepe Group will continue to be reported as a component of the Rail Vehicle Systems division until it is sold.

The Kiepe Group is comprised of Kiepe Electric GmbH, Düsseldorf, Germany along with subsidiaries Kiepe Electric Schweiz AG, Niederbuchsiten, Switzerland; Kiepe Electric S.r.l., Cernusco sul Naviglio, Italy; Kiepe Electric Corporation, Vancouver, Canada; Kiepe Electric India Pvt. Ltd., Faridabad, India; Heiterblick Projektgesellschaft mbH, Leipzig, Germany; and Kiepe Electric LLC., Alpharetta, United States.

A fair value measurement based on the non-binding purchase price offers received did not identify any impairment of the carrying amounts of the assets and liabilities recognized as at June 30, 2022. As of June 30, 2022, the Kiepe disposal group comprised the following assets and liabilities that were valued at their carrying amount:

OVERVIEW OF ASSETS HELD FOR SALE AND CORRESPONDING LIABILITIES

In € thousand	06/30/2022
Assets	
Intangible assets	10,498
Property, plant, and equipment	24,857
Other financial assets	2,429

Deferred tax assets	10
Non-current assets	37,794
Inventories	41,802
Trade accounts receivable	22,005
Other financial assets	1,891
Other assets	4,918
Contract assets	27,991
Cash and cash equivalents	5,014
Current assets	103,621
Assets held for sale and disposal groups	141,415
Liabilities	
Provisions for pensions	3,402
Provisions for other employee benefits	1,195
Other provisions	10,672
Financial liabilities	2,473
Non-current liabilities	17,742
Other provisions	17,979
Trade accounts payable	10,286
Financial liabilities	6,176
Other liabilities	3,105
Contract liabilities	65,755
Income tax liabilities	84
Current liabilities	103,385
Liabilities in connection with assets held for sale	121,127
Assets held for sale and liabilities	20,288

4. Revenues

The table below breaks down consolidated revenues in the first half of 2022 by region and timing and reconciles them to revenues in segment reporting.

CLASSIFICATION OF REVENUE AND RECONCILIATION WITH SEGMENT REVENUES

	Revenue			Reconciliation with segment revenues			Revenue as per segment reporting		
	Rail Vehicle Systems	Commercial Vehicle Systems	Total	Rail Vehicle Systems	Commercial Vehicle Systems	Total	Rail Vehicle Systems	Commercial Vehicle Systems	Total
In € thousand									
									06/30/2022
1. Disaggregation of segments									
a) Region (by registered offices of the Group companies)									
Europe/Africa	886,793	782,824	1,669,616	–	–	–	886,793	782,824	1,669,617
North America	167,687	670,961	838,648	–	–	–	167,687	670,961	838,648
South America	12,970	59,391	72,361	–	–	–	12,970	59,391	72,361
Asia-Pacific	530,597	295,844	826,441	–	–	–	530,597	295,844	826,441
	1,598,047	1,809,019	3,407,066	–	–	–	1,598,047	1,809,019	3,407,067
b) Type of time recording									
Recognition time	496,601	–	496,601	–	–	–	496,601	–	496,601
Recognition at a point in time	1,101,446	1,809,019	2,910,465	–	–	–	1,101,446	1,809,019	2,910,465
	1,598,047	1,809,019	3,407,066	–	–	–	1,598,046	1,809,019	3,407,066
2. Other segments and consolidation	–	–	(1,039)	–	–	1,039	–	–	–
3. Total	1,598,047	1,809,019	3,406,027	–	–	1,039	1,598,047	1,809,019	3,407,067

In € thousand	Revenue			Reconciliation with segment revenues			Revenue as per segment reporting		
	Rail Vehicle Systems	Commercial Vehicle Systems	Total	Rail Vehicle Systems	Commercial Vehicle Systems	Total	Rail Vehicle Systems	Commercial Vehicle Systems	Total
									06/30/2021
1. Disaggregation of segments									
a) Region (by registered offices of the Group companies)									
Europe/Africa	901,094	708,836	1,609,930	11,611	5,017	16,628	864,399	524,820	1,389,220
North America	141,557	564,862	706,419	(2,543)	7,583	5,039	195,411	422,390	617,801
South America	11,391	43,111	54,502	48	695	743	10,016	25,826	35,842
Asia-Pacific	600,588	448,089	1,048,677	1,994	938	2,932	682,079	355,896	1,037,975
	1,654,631	1,764,897	3,419,528	11,110	14,233	25,343	1,751,905	1,328,932	3,080,837
b) Type of time recording									
Recognition time	592,625	–	592,625	(573,067)	–	(573,067)	–	–	–
Recognition at a point in time	1,062,005	1,764,897	2,826,903	584,176	14,233	598,409	1,751,905	1,328,932	3,080,837
	1,654,631	1,764,897	3,419,528	11,110	14,233	25,343	1,751,905	1,328,932	3,080,837
2. Other segments and consolidation	–	–	(637)	–	–	(275)	–	–	–
3. Total	1,654,631	1,764,897	3,418,891	11,110	14,233	25,067	1,751,905	1,328,932	3,080,837

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

5. Other Operating Income

OTHER OPERATING INCOME

In € thousand	1st Half of 2022	1st Half of 2021
Foreign currency gains	42,438	22,495
Income from government grants	5,082	2,940
Rental income	4,551	1,138
Income from other services	3,592	3,070
Insurance compensation and compensation payments	3,435	1,634
Income from the disposal of land and buildings	2,762	547
Other income	5,892	4,053
	67,752	35,877

The increase in other operating income results in particular from the significantly increased realized and unrealized income denominated in foreign currency, which is € 42,438 thousand and € 19,943 thousand above the previous year's figure of € 22,495 thousand.

6. Cost of Materials

The cost of materials, at € -1,839,488 thousand (previous year: € -1,747,383 thousand) includes a € 17.1 million write-down of inventories to their net realizable value. This write-down is based on the limited utility of inventory assets in connection with the sanctions imposed on Russia. Inventories were not written down to a different net realizable value during the prior-year comparison period.

7. Other Operating Expenses

OTHER OPERATING EXPENSES

In € thousand	1st Half of 2022	1st Half of 2021
Other services	(53,309)	(46,515)
Maintenance expenses	(46,931)	(43,947)
Legal, consulting, and audit costs	(40,994)	(44,440)
Personnel expenses	(40,271)	(25,936)
Foreign currency losses	(39,585)	(20,357)
Order-related expenses	(31,334)	(44,181)
External research and development costs	(24,217)	(22,519)
License and patent fees	(17,222)	(14,835)
Administrative expenses	(17,110)	(15,624)
Other taxes	(15,049)	(17,671)
Energy, insurance, and utility costs	(11,124)	(7,627)
Rents and leases	(9,041)	(8,484)
Impairment losses	(4,556)	(11,046)
Donations	(3,172)	(2,823)
Losses from the disposal of land and buildings	(925)	(243)
Other expenses	(5,733)	(9,602)
	(360,573)	(335,851)

The other operating expenses rose by € 24,722 thousand to € 360,573 thousand during the first half of the year. The main items to increase were realized and unrealized foreign currency losses, by € 19,228 thousand, and personnel-related expenses, by € 14,335 thousand, as a result of the increased travel and training activity following the Covid-19 restrictions in previous years. Order-related expenses have reduced primarily because of the declining number of warranty claims.

8. Other Financial Result

The other financial result has deteriorated by € 9,778 thousand year over year. In particular, the losses from deconsolidating Group companies have risen by € 8,737 thousand to € 9,517 thousand, after factoring in € 19,616 thousand of income from the remeasurement of the Bosch option, and in 2022 are solely attributable to the removal of Knorr-Bremse KAMA Systems for Commercial Vehicles OOO. Furthermore, the expenses for foreign exchange in particular have increased by € 5,135 thousand and the losses from equity-accounted investments by € 3,997 thousand. The special fund set up in the second half of 2020 contributed a loss of € 6,812 thousand (previous year: income of € 3,178 thousand) to the other financial result in the first half of 2022.

9. Financial Instruments

Classification and Fair Values

The table below shows the unnetted carrying amounts and the fair values of financial assets and liabilities for each category of financial instruments in accordance with IFRS 9. For the classification (hierarchy levels) of fair value in accordance with IFRS 13, please refer to the section on accounting policies in the consolidated financial statements as of December 31, 2021.

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

INFORMATION IN ACCORDANCE WITH IFRS 9

In € thousand	06/30/2022					Fair value			
	Carrying amount								
Category	FVTPL	FVOCI	Other	At amortized cost	Total	Level 1	Level 2	Level 3	Total
Financial assets	134,041	73,162	2,557	2,431,529	2,641,289	143,165	44,697	21,897	209,759
Derivatives to which hedge accounting is applied	–	–	2,557	–	2,557	–	2,557	–	2,557
Derivatives to which hedge accounting is not applied	18,507	–	–	–	18,507	–	18,507	–	18,507
Equity instruments	9,517	49,528	–	–	59,045	37,148	–	21,897	59,045
Securities and debt instruments	106,017	–	–	–	106,017	106,017	–	–	106,017
Trade accounts receivable*	–	23,633	–	1,484,392	1,508,025	–	23,633	–	23,633
Receivables from banks and insurers	–	–	–	–	–	–	–	–	–
Purchase price receivables from disposal of land*	–	–	–	34,835	34,835	–	–	–	–
Other financial liabilities*	–	–	–	36,223	36,223	–	–	–	–
Cash and cash equivalents*	–	–	–	876,080	876,080	–	–	–	–
Financial liabilities	(4,252)	–	(556,217)	(2,922,991)	(3,483,460)	(726,653)	(269,925)	–	(996,577)
Derivatives to which hedge accounting is applied	–	–	(50,390)	–	(50,390)	–	(50,390)	–	(50,390)
Derivatives to which hedge accounting is not applied	(4,252)	–	–	–	(4,252)	–	(4,252)	–	(4,252)
Liabilities toward credit institutions	–	–	–	(317,191)	(317,191)	–	(215,283)	–	(215,283)
Liabilities resulting from options on minority interests*	–	–	–	(360,000)	(360,000)	–	–	–	–
Bonds and debt instruments	–	–	–	(747,969)	(747,969)	(726,653)	–	–	(726,653)
Lease liabilities*	–	–	(505,827)	–	(505,827)	–	–	–	–
Purchase price liabilities*	–	–	–	(10,420)	(10,420)	–	–	–	–
Other financial liabilities*	–	–	–	(361,585)	(361,585)	–	–	–	–
Trade accounts payable*	–	–	–	(1,125,827)	(1,125,827)	–	–	–	–

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

In € thousand	12/31/2021					Fair value			
	Carrying amount								
Category	FVTPL	FVOCI	Other	At amortized cost	Total	Level 1	Level 2	Level 3	Total
Financial assets	144,485	61,762	3,525	2,679,706	2,889,478	164,648	23,227	21,897	209,772
Derivatives to which hedge accounting is applied	–	–	3,525	–	3,525	–	3,525	–	3,525
Derivatives to which hedge accounting is not applied	2,547	–	–	–	2,547	–	2,547	–	2,547
Equity instruments	25,243	44,606	–	–	69,850	47,952	–	21,897	69,850
Securities and debt instruments	116,695	–	–	–	116,695	116,695	–	–	116,695
Trade accounts receivable*	–	17,156	–	1,213,117	1,230,273	–	17,156	–	17,156
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)	(2,779,923)	(3,314,573)	(774,308)	(150,737)	(379,616)	(1,304,661)
Derivatives to which hedge accounting is applied	–	–	(19,970)	–	(19,970)	–	(19,970)	–	(19,970)
Derivatives to which hedge accounting is not applied	(4,408)	–	–	–	(4,408)	–	(4,408)	–	(4,408)
Liabilities toward credit institutions	–	–	–	(126,634)	(126,634)	–	(126,359)	–	(126,359)
Liabilities resulting from options on minority interests	–	–	–	(379,616)	(379,616)	–	–	(379,616)	(379,616)
Bonds and debt instruments	–	–	–	(751,818)	(751,818)	(774,308)	–	–	(774,308)
Lease liabilities*	–	–	(510,272)	–	(510,272)	–	–	–	–
Purchase price liabilities*	–	–	–	(10,920)	(10,920)	–	–	–	–
Other financial liabilities*	–	–	–	(344,873)	(344,873)	–	–	–	–
Trade accounts payable*	–	–	–	(1,166,062)	(1,166,062)	–	–	–	–

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

Receivables at FVOCI relate to receivables in connection with factoring.

Valuation Techniques Used to Measure Fair Value

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 into account forward premiums and discounts. Net present value calculations are performed using yield curves.

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

Options are valued using recognized option pricing models (such as Black-Scholes).

Credit value adjustments are additionally taken into account when measuring the fair value of financial instruments. 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 measured using the discounted cash flow method. This is based on a discount rate, which reflects the issuer's borrowing rate at the end of the reporting period. The Company's own non-performance 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. Knorr-Bremse and Robert Bosch GmbH have agreed on the payment of a purchase price of € 360 million, in return for which Knorr-Bremse will take over the shares in and become the sole shareholder of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and Knorr-Bremse Commercial Vehicle Systems Japan Ltd., subject to approval by antitrust authorities. Knorr-Bremse assumes that the carrying amount of the liability is an appropriate estimate of fair value.

Equity instruments also include non-consolidated companies. Knorr-Bremse Gou Tong (Guangzhou) Railway Transportation Equipment Co., Ltd., Guangzhou, China was included in the consolidated financial statements for the first time as a non-consolidated company as of December 31, 2019. The company does not yet have any material business activities. There is no material impact on the financial position, financial performance, and cash flows of the Group. The other equity instruments valued at fair value level 3 are considered both individually and in total as insignificant to the net asset, financial position, and results of operations of the Group, thus no further information is provided for them as well.

Transfers between Levels of the Fair Value Hierarchy

There were no transfers between levels of the fair value hierarchy in the first six months of the 2022 fiscal year.

Based on the agreement for the purchase price for the shares in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and Knorr-Bremse Commercial Vehicle Systems Japan Ltd., the put option on minority interests was no longer included in the fair value hierarchy levels under IFRS 13 as of June 30, 2022, which differs from its treatment as at year end in 2021 (level 3).

10. Statement of Cash Flows

Altogether, there was a total cash outflow of € 715,763 thousand during the first half of 2022, which was € 110,792 thousand lower than total cash outflow during the first half of 2021 (€ 826,555 thousand).

The cash inflow of € 223,629 thousand from operating activities during the first half of 2021 stands against a cash outflow of € 152,905 thousand during the first half of 2022. The decline of € 376,535 thousand is mainly the result of the development of the net working capital items, the total amount of which changed from € -309,820 thousand in the previous year to € -568,672 thousand, i.e., by € -258,851 thousand, and from the net income of € 237,506 thousand which was € 108,570 thousand lower than the previous year.

The cash flow from investing activities during the first half of 2022 was affected by capital expenditure on intangible assets and property, plant, and equipment and especially by the disbursement of a € 62.7 million purchase price amount for acquiring a minority interest in Nexxiot AG. The transfer of shares in the joint venture Knorr-Bremse Kama Systems for Commercial Vehicles OOO, Naberezhnye Chelny, Russia and the Company's associated removal from the scope of consolidation produced a cash outflow of € 4,475 thousand. Knorr-Bremse holds a claim for compensation of € 4.5 million for the transfer of the shares and it had not yet been paid as at June 30, 2022.

The € 401,677 thousand cash outflow from financing activities was particularly influenced by the payment of the € 298,220 thousand dividend.

11. Events after the Reporting Date

The sale price of € 28,164 thousand for the shares in Haldex AB that were sold in June 2022 was paid by SAF-HOLLAND SE in August 2022.

There were no further material events after the reporting date that would require reporting here.

12. Other Financial Commitments and Contingent Liabilities

OTHER FINANCIAL COMMITMENTS

In € thousand	Up to 1 year	1 to 5 years	Over 5 years	Total
06/30/2022				
Rent and lease obligations	3,357	4,504	20,054	27,914
Capital expenditure projects	29,002	149	–	29,151
Major repairs/maintenance work	8,220	1,894	47	10,160
Other obligations	87,538	59,773	40,007	187,318
	128,117	66,319	60,107	254,544
12/31/2021				
Rent and lease obligations	5,169	5,899	18,800	29,868
Capital expenditure 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

CONTINGENT LIABILITIES

In € thousand	06/30/2022	12/31/2021
Guarantees	19,140	18,784
Warranties	189	389
Other	2,148	2,809
	21,478	21,982
	–	–
	21,478	21,982

The future rental and lease obligations relate to rental agreements that have already been signed but do not commence until after the reporting dates, after which they will be accounted for in accordance with IFRS 16, and to short-term or low-value rental agreements and leases that are not recognized under the exemption in IFRS 16.5.

The 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 building refurbishment and maintenance at the Munich location.

In addition, the other liabilities item includes uncompleted orders as well as purchase obligations for building service charges and license obligations. The increase in other liabilities results in particular from contracts for sourcing logistical services.

The Company's contingent liabilities involve guarantees and warranties. Guarantees were issued for outstanding bank bonds, performance guarantees for banks, and a rent guarantee for commercial/factory buildings.

Warranties exist in the form of performance guarantees for former Group companies. The other contingent liabilities include license payments that cannot yet be estimated reliably.

13. Related Party Disclosures

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.

Except for the events presented in the following, no material changes have arisen relative to the information disclosed with the 2021 consolidated financial statements.

Changes in the Supervisory Board

Prof. Mangold has resigned from office as the Chairman of the Supervisory Board as planned with effect from the Annual General Meeting of Knorr-Bremse AG on May 24, 2022, and has stepped down from the Supervisory Board. Supervisory Board member Dr. Thomas Enders has also resigned from his position and left the Supervisory Board.

Dr. Reinhard Ploss and Dr. Sigrid Nikutta were elected as new members of the Supervisory Board at the Annual General Meeting.

The Supervisory Board elected Dr. Ploss as its new Chairman at a special meeting directly after the Annual General Meeting.

14. Legal Risks

Bosch Arbitration Procedure

In a letter dated June 21, 2018, Robert Bosch GmbH declared it was exercising its put option related to its minority share in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and initiated arbitration proceedings with the aim of enforcing this put option. In December 2020, the court of arbitration issued a ruling confirming this put option. The parties will now have to agree on the purchase price at which Knorr-Bremse AG will acquire the minority interest in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH 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 have reached an agreement in the meantime and resolved the legal dispute. In exchange for the payment of a purchase price in the amount of € 360 million, Knorr-Bremse—subject to approval by the antitrust authorities—will take over the shares and become the sole shareholder in Knorr-Bremse Systeme für Nutzfahrzeuge GmbH and Knorr-Bremse Commercial Vehicle Systems Japan Ltd.

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 had the potential to 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. In its final arbitration decision dated June 29, 2022, the court of arbitration rejected Knorr-Bremse's motion to identify an obligation for Robert Bosch GmbH to supply goods for the current product portfolio. Furthermore, Knorr-Bremse was

compelled to pay higher prices retroactively, including interest (roughly € 3.1 million in total) and to pay expenses (roughly € 0.7 million). Provisions had already been formed for the large majority of this amount. Goods will be supplied based on annual pricing agreements for the future product portfolio.

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 provided notice of 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 of an award procedure from 2020. After the consortium's rejection of the claim outside of court, Ruhrbahn GmbH filed a lawsuit against the consortium for € 9,079,956.74 at the Essen district court on March 25, 2022. The consortium will defend itself against the claim, which it considers unfounded.

Other Legal Risks

For all other legal risks described in section H.9 of the 2021 Annual Report, no new findings or information had arisen up to June 30, 2022.

15. Segment Reporting

The target agreements concerning the Chief Operating Decision Maker (CODM) for the 2022 fiscal year are based on IFRS figures. For this reason, the previous management reporting based on German GAAP was also switched to IFRS during the first half of the 2022 fiscal year. Accordingly, there is no need for an IFRS reconciliation of the management reporting.

INFORMATION ON REPORTABLE SEGMENTS

In € thousand

	Rail Vehicle Systems	Commercial Vehicle Sys- tems	Other seg- ments and consolida- tion	Group
06/30/2022				
External revenues	1,597,595	1,810,092	(1,661)	3,406,026
Intersegment revenues	451	(1,074)	622	–
Segment revenues	1,598,046	1,809,018	(1,039)	3,406,026
EBITDA*	283,943	220,907	(15,853)	488,997
Depreciation and amortization	(65,218)	(70,356)	(10,247)	(145,821)
EBIT*	218,725	150,551	(26,100)	343,176
Interest income	5,705	2,673	14,202	22,581
Interest expenses	(11,336)	(7,780)	(1,956)	(21,072)
Other financial result	(5,803)	(10,046)	6,696	(9,153)
<i>Thereof: Share of profit or loss from companies accounted for using the equity method</i>	<i>(5,242)</i>	<i>80</i>	<i>(0)</i>	<i>(5,162)</i>
EBT	207,291	135,399	(7,158)	335,531
Net working capital	860,969	523,566	(4,003)	1,380,532
06/30/2021				
External revenues	1,654,315	1,764,430	146	3,418,891
Intersegment revenues	315	468	(783)	–
Segment revenues	1,654,631	1,764,897	(637)	3,418,891
EBITDA*	360,649	280,360	(8,853)	632,155
Depreciation and amortization	(59,752)	(66,488)	(10,464)	(136,704)
EBIT*	300,897	213,872	(19,317)	495,451
Interest income	4,351	2,390	211	6,952
Interest expenses	(12,206)	(6,372)	(6,755)	(25,333)
Other financial result	(600)	(1,602)	2,827	625
<i>Thereof: Share of profit or loss from companies accounted for using the equity method</i>	<i>(1,173)</i>	<i>8</i>	<i>(0)</i>	<i>(1,166)</i>
EBT	292,442	208,288	(23,034)	477,696
Net working capital	770,672	364,380	(8,778)	1,126,275

* Not explicitly included in management reporting to the CODM

Geographical Information

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

REVENUES BY REGION

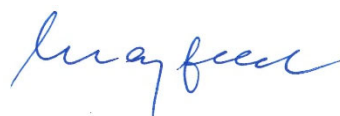
In € thousand	1st Half of 2022	1st Half of 2021
Europe/Africa	1,668,740	1,609,329
North America	838,626	706,386
South America	72,213	54,499
Asia-Pacific	826,437	1,048,677
	3,406,026	3,418,891

Munich, August 11, 2022

Knorr-Bremse AG
Executive Board



FRANK MARKUS WEBER



DR. CLAUDIA MAYFELD



BERND SPIES



DR. JÜRGEN WILDER

Responsibility Statement

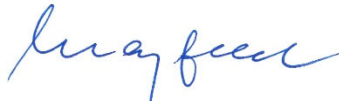
To the best of our knowledge, and in accordance with the applicable reporting principles for half-year financial reporting, the interim consolidated financial statements give a true and fair view of the assets, liabilities, financial position, and profit or loss of the Group, and the interim Group management 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 for the remaining months of the year.

Munich, August 11, 2022

Knorr-Bremse AG
Executive Board



FRANK MARKUS WEBER



DR. CLAUDIA MAYFELD



BERND SPIES



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