



Combined management report

of the Vossloh Group and Vossloh AG as of December 31, 2022

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Business and market environment

Segmentation and competitive position

Vossloh is active in rail infrastructure markets worldwide. The company provides a wide range of rail track-related services under one roof: rail fastening systems, concrete ties, switch systems and crossings as well as innovative and increasingly digital-based services for the entire lifecycle of rails and switches. Vossloh is committed to sustainable governance and climate protection and plays an important role in sustainable passenger and freight mobility with its products and services.

Its business activities are organized into three divisions – Core Components, Customized Modules and Lifecycle Solutions. The Core Components division is made up of two business units, Vossloh Fastening Systems and Vossloh Tie Technologies. The other two divisions comprise one business unit each: Vossloh Switch Systems is part of Customized Modules and Vossloh Rail Services is part of Lifecycle Solutions. You can find detailed descriptions of the individual divisions on page 48 et seq.

Vossloh holds the following competitive positions in the rail infrastructure sector:

- Vossloh is a leading global supplier and technological leader in rail fastening systems.
- Vossloh is one of the global market and technology leaders in the switches and crossings segment.
- Vossloh is a leading supplier of innovative technologies and services for the entire lifecycle of rails and switches.
- Vossloh is a leading manufacturer of concrete ties in North America and Australia.

Organization

The Vossloh Group is active around the world. Local presence and customer proximity are integral elements of our business activities. Important production sites for the rail fastening systems produced by the Fastening Systems business unit are located in Germany, China, Poland and the USA. The Tie Technologies business unit manufactures concrete ties in the USA, Mexico, Canada and Australia. The switch systems in the Customized Modules division are manufactured primarily in France, Sweden, Australia, Luxembourg, Poland, Portugal, Finland, the United Kingdom, India, Serbia and China. The majority of rail services in the Lifecycle Solutions division are provided in Western and Northern Europe, in addition to China.

Vossloh operates globally via sales companies and branches. The company enters into joint ventures and cooperation agreements with expert local partners on a case-by-case basis. Key Group companies and management companies are:

- Vossloh Fastening Systems GmbH, Werdohl, Germany, and Rocla Concrete Tie, Inc., Lakewood, Colorado, USA, for the Core Components division
- Vossloh Cogifer SA, Rueil-Malmaison, France, for the Customized Modules division as well as
- Vossloh Rail Services GmbH, Hamburg, Germany, for the Lifecycle Solutions division.

Controlling system

The most significant financial performance indicators for the Vossloh Group are value added, sales revenues, EBIT (earnings before interest and taxes) and EBIT margin (EBIT / sales revenues). While the company uses sales, EBIT and EBIT margin as key performance indicators for short-term planning, the long-term management of the business units within the framework of the value-oriented growth strategy has a particular focus on value added. Value added is the key earnings indicator for the divisions and business units within the framework of external reporting.

In contrast to the previous year, the EBITDA margin is no longer considered the most significant financial performance indicator as it is based on almost the same factors as EBIT and the indicator is no longer used for Group management purposes.

Positive value added is generated when a premium is earned on top of the return claimed by investors and lenders (cost of capital). This premium is the difference between the return on capital employed (ROCE, calculated as EBIT/average capital employed) and the cost of capital, which is calculated as the weighted average cost of equity and debt. Multiplying the premium by average capital employed gives the value added over a period in absolute terms. For internal controlling purposes, ROCE and value added are calculated before taxes.

Cost of equity is largely composed of a risk-free interest rate plus a market risk premium. The interest rate factor is adjusted according to the result before taxes. Cost of debt is calculated on the basis of the Group's average financing terms. The ratio of equity to interest-bearing debt, which is used to determine the weighted cost of capital, is not derived from balance sheet data since it is not only predicated on a benchmark for the funding structure but also because equity is based on target market values in this case and not the carrying amounts recognized on the balance sheet. A weighted average cost of capital before taxes (WACC) of 7.0 percent was used as the yield expected by investors and lenders for the purposes of intragroup controlling in the 2022 fiscal year, as it was in the previous year.

There are two ways of increasing value added: increasing EBIT and optimizing capital employed. ROCE is derived from both values. Vossloh seeks to improve the parameters it can influence to optimize this performance indicator. As a result, the company also focuses on working capital, working capital intensity (average working capital/annual revenue) and free cash flow.

Management uses nonfinancial performance indicators for the purpose of managing the company and making long-term strategic decisions. However, nonfinancial performance indicators do not play a central role in the management of the company. Instead, they provide information about the situation within the Group and are used as a basis for decisions. Accordingly, the Vossloh Group does not use nonfinancial performance indicators in the sense of Section 289c (3) sentence 5 HGB. Nonfinancial performance indicators that are not primarily relevant for management purposes are provided in the nonfinancial Group statement, which begins on page 78.

The management of Vossloh AG considers monthly financial reporting to be a central element for the ongoing analysis and control of the divisions, business units and the Group itself. To this end, the financial statements and key performance indicators prepared by the Group companies are consolidated and analyzed in the same way as the annual forecast updated each month. Deviations are investigated in relation to their effects on the financial targets. The monthly updates to annual projections are supplemented by risk reports that aim to identify any potential reductions or increases in assets. The effectiveness of measures aimed at ensuring targets are met is continuously analyzed. The figures of the operating units are intensively discussed by their respective management and the Group Executive Board with the involvement of the relevant central departments of Vossloh AG.

Economic report

Macroeconomic and industry-specific conditions

Investments in rail infrastructure are generally made around the world on the basis of long-term decision-making processes. For this reason, short-term economic developments are only reflected in the sales markets for rail technology to a limited extent. More significant is the development of debt levels in Vossloh's sales markets, as the overwhelming majority of the Group's clients are public-sector customers. The debt ratio (the ratio of public debt to GDP) of the euro countries at the end of the third quarter of 2022 was 93.0 percent according to the statistical office of the European Union (Eurostat). This was the most recent figure available when this annual report was prepared. The debt ratio was 97.3 percent at the end of the third quarter of the previous year. At the end of September 2022, the debt ratio of the entire EU was 85.1 percent, compared to 89.7 percent in the previous year. The decline in debt ratios was driven by GDP rising at a faster rate than government debt.

From a global perspective, the rail technology market has shown a steady upward trend for many years. This is the result of rising demand around the world for environmentally friendly, safer and more economical mobility for both people and goods. The driving forces for this development include megatrends such as population growth, urbanization and, most significantly, increasing environmental awareness. No other mode of transport has less of an impact on the environment. Both passengers and freight need to be shifted onto the rail network if the aim is to increase their mobility while also reducing their environmental footprint in the interest of combating climate change. Investment programs are being set up worldwide to promote rail as a mode of transport. Germany, for example, had launched its "Strong Rail" strategy in 2020 and agreed with Deutsche Bahn AG to jointly invest a record sum of 86 billion euros in the maintenance and modernization of the existing rail network by 2030. As part of its "Egypt Vision 2030" infrastructure investment plan, Egypt plans to invest almost 50 billion euros in the expansion of its rail network by 2030, including a 1,800-kilometer section for high-speed connections. To provide another example, Australia plans to invest the equivalent of 77 billion euros in infrastructure development projects – including rail – by 2030. The railway industry is also undergoing a profound transformation beyond this. Digitalization and automation, artificial intelligence and the standardization and liberalization of rail transport are changing the framework conditions significantly. Innovations are becoming increasingly important.

A number of studies regularly analyze developments in the global rail technology market. The most important of these is the "World Rail Market Study", published by the European rail industry association UNIFE. This study is updated every two years. The findings from the most recent study were published in September 2022 at InnoTrans, the world's largest trade fair for transport technology held in Berlin.

According to UNIFE, the current global volume of the rail market is around €177 billion per year. UNIFE currently considers about 61 percent of the total volume of the rail market – some €107 billion – to be "accessible". In this case, accessible means that this market is, in principle, open to European suppliers and market demand is not exclusively met by domestic manufacturers.

Vossloh focuses on rail infrastructure products and services. The market segments of infrastructure and infrastructure services are therefore of particular importance for Vossloh. According to UNIFE data, €22.8 billion of the infrastructure market is accessible each year. UNIFE estimates that around €6.1 billion of the market for infrastructure services is currently accessible.

Results of operations

Vossloh divisions – Orders received and order backlog

€ mill.	Orders received		Order backlog	
	2022	2021	2022	2021
Core Components	554.4	398.4	285.4	211.8
Customized Modules	563.3	452.5	488.1	391.4
Lifecycle Solutions	162.3	122.2	37.5	14.9
Consolidation	(33.0)	(25.5)	(11.4)	(6.7)
Group	1,247.0	947.6	799.6	611.4

In the 2022 fiscal year, Vossloh achieved new record highs in terms of orders received and order backlog. Orders received reached an all-time high and were 31.6 percent higher than in the previous year. This significant increase was driven by all divisions. In the Core Components division, the Fastening Systems business unit achieved particularly notable growth, partly due to large orders in China and Egypt. At Vossloh Tie Technologies, the second business unit in the Core Components division, orders received also markedly exceeded the previous year's level. The business unit recorded a large increase in orders received, particularly in the USA and Australia. The improvement in the Customized Modules division was largely driven by orders received in Europe, above all in Italy, Poland, Portugal, and France. The increase in orders received in the Lifecycle Solutions division was mainly due to a positive development in Germany and the Netherlands. The book-to-bill ratio at Group level, i.e. the ratio of orders received to sales revenues, amounted to 1.19 (previous year: 1.01).

Orders received
at all-time high

The Vossloh Group's order backlog was also very high at the end of 2022, exceeding the previous year's figure by 30.8 percent. Due to the high number of framework agreements, the order backlog performance indicator is only of limited significance, as the order volume from acquired framework agreements is usually only recorded in orders received at the time of the request.

The Vossloh Group achieved a significant increase in sales revenues in the 2022 fiscal year, exceeding the billion euro mark in its core business rail infrastructure for the first time. Sales revenues rose from €942.8 million in the previous year to €1,046.1 million – an increase of 11.0 percent. They were therefore well above the original forecast range of €925 million to €1 billion and at the upper end of the forecast range of €1 billion to €1.05 billion, raised at the end of 2022. All divisions contributed to the increase in sales revenues, with the Core Components division, and above all the Fastening Systems business unit, making the largest contribution. In the Customized Modules and Lifecycle Solutions division, the increase in sales revenue was also due to Futrifer-Indústrias Ferroviárias and Vossloh ETS, being included in the scope of consolidation for a full year for the first time. The total increase in sales revenue resulting from this was €23.3 million.

Sales revenues
significantly higher
than expected,
€ 1 billion mark
exceeded

Vossloh Group – Sales by region

	€ million	%	€ million	%
	2022		2021	
Germany	101.7	9.7	94.6	10.0
France	89.7	8.6	73.1	7.8
Rest of Western Europe	87.7	8.4	71.2	7.6
Northern Europe	130.1	12.4	114.9	12.2
Southern Europe	101.9	9.8	81.3	8.6
Eastern Europe	78.9	7.5	67.4	7.1
Total for Europe	590.0	56.4	502.5	53.3
Americas	122.6	11.7	89.8	9.5
Asia	204.6	19.6	218.9	23.2
Africa	22.3	2.1	28.3	3.0
Australia	106.6	10.2	103.3	11.0
Total	1,046.1	100.0	942.8	100.0

Significant increase in sales revenues in Europe, especially in the Netherlands, France and Portugal

Compared to the previous year, sales revenues in Europe increased by 17.4 percent in the year under review. The increase in Western Europe was mainly due to a rise in sales revenues in the Lifecycle Solutions division in the Netherlands and in the Customized Modules division in France. In Northern Europe, sales revenues exceeded the previous year's level by 13.3 percent. The Lifecycle Solutions division in Denmark and the Customized Modules division in Norway achieved higher sales revenues. In Southern Europe, Vossloh boosted sales revenues by 25.4 percent compared to the previous year. This was mainly due to the Customized Modules division in Portugal contributing an increased level of sales revenues due to consolidation and higher sales revenues in Turkey. Sales revenues were 17.1 percent higher in Eastern Europe than in the previous year. This was mainly driven by the Fastening Systems business unit, which improved its sales revenues in Romania and Czechia.

Sales revenues in the Americas up significantly

In the Americas, sales revenues increased by 36.5 percent year on year in 2022. This was mainly due to higher sales revenues from the Core Components and Customized Modules divisions in Mexico. Sales revenues in Canada also exceeded the previous year's figure thanks to the performance of the Tie Technologies business unit. In contrast, the Group's sales revenues in the USA were slightly below the previous year's value.

Sales in Asia down but still at a high level

In Asia, the Group's sales revenues fell 6.6 percent short of the previous year's high figure. This was largely due to lower sales contributions from the Fastening Systems business unit in the United Arab Emirates.

Sales in Australia up slightly

In Australia, Group sales exceeded the already high level achieved in the previous year by 3.2 percent. The slight increase is largely due to higher sales revenues in the Fastening Systems business unit.

Sales in Africa below the previous year's level

In Africa, the Vossloh Group's sales revenues decreased by 21.2 percent. The decline was mainly due to lower sales revenues in the Customized Modules division in Egypt.

The Vossloh Group's cost of sales totaled €809.3 million in the year under review and, in line with the trend in sales revenues, was significantly higher than in the previous year (€724.8 million). Due in part to a significant increase in material prices, the cost of sales as a percentage of sales revenues was 77.4 percent in the year under review (previous year: 76.9 percent). The Vossloh Group's selling and administrative expenses rose from €160.8 million to €163.7 million. The share of these expenses in sales revenues fell from 17.0 percent in the previous year to 15.6 percent. The other operating result – the balance of other operating income of €20.9 million (previous year: €18.7 million) and other operating expense of €11.3 million (previous year: €7.8 million) – was slightly below the previous year's value of €10.9 million at €9.6 million.

Vossloh Group – Sales revenues and earnings

	€ million	%	€ million	%
	2022		2021	
Sales revenues	1,046.1	100.0	942.8	100.0
EBITDA/EBITDA margin	131.2	12.5	124.2	13.2
EBIT/EBIT margin	78.1	7.5	72.3	7.7
Net income	56.0	5.4	35.9	3.8
Earnings per share (in €)	2.38		1.31	

Vossloh achieved a significant year-on-year increase in earnings before interest and taxes (EBIT) in the 2022 fiscal year. EBIT improved by 8.0 percent. EBITDA (EBIT before depreciation/amortization) was also higher than in the previous year and increased by 5.7 percent. The Customized Modules and Lifecycle Solutions divisions contributed to the increase. Despite the significant negative impact of higher procurement prices, the EBIT margin was at the lower end of the original forecast range of 7.5 percent to 8.5 percent and at the upper end of the revised range of 7.0 percent to 7.5 percent issued at the end of 2022. The EBITDA margin did not reach the original forecast range of 13 percent to 14 percent, but was also at the upper end of the last communicated range of 12.0 percent to 12.5 percent.

EBIT significantly higher despite negative impact of higher procurement costs

Net interest income in the 2022 fiscal year fell to €(10.6) million compared with the previous year's figure of €(7.5) million. This was mainly due to currency translation losses from the measurement of existing foreign currency positions related to Group financing on the reporting date. Earnings before taxes increased to €67.5 million in the year under review (previous year: €64.8 million).

Income taxes in the Vossloh Group amounted to €12.5 million in the year under review. Following a restructuring under company law in the German tax group and an improved outlook for the French companies, the Group was once again able to recognize deferred tax assets. In the previous year, deferred tax assets were impaired in Germany in connection with the hybrid note, which was effective for tax purposes. The result from discontinued operations once again had no significant impact on net income and improved slightly from €(0.3) million in the previous year to €1.0 million. Net income increased significantly by 56.2 percent compared to 2021.

A total of €6.0 million (previous year: €5.1 million) of the net income was attributable to hybrid capital investors, while €8.3 million was attributable to other shareholders (previous year: €7.7 million). Net income attributable to Vossloh AG shareholders of €41.7 million was significantly above the previous year's figure of €23.1 million. Earnings per share improved significantly year on year to €2.38 (previous year: €1.31) based on an unchanged average number of shares outstanding of 17,564,180.

Earnings per share significantly higher than in the previous year

Dividend of €1.00 per share planned for 2022

The Executive Board and Supervisory Board of Vossloh AG are committed to ensuring that its shareholders benefit from the economic performance of the Group. The Executive Board and Supervisory Board will, therefore, propose a dividend of €1.00 (previous year: €1.00) for the 2022 fiscal year at the Annual General Meeting scheduled for May 24, 2023.

Vossloh Group – Value management

€ mill.	2022	2021
Average capital employed	950.6	896.9
ROCE (in %)	8.2	8.1
Value added	11.5	9.5

Value added slightly higher than in previous year

ROCE was on a par with the previous year. Value added slightly exceeded the previous year's figure as a result of an increase in EBIT. Average capital employed increased noticeably due to a rise in average fixed assets and working capital for the year. The weighted average cost of capital before taxes (WACC) remained unchanged at 7.0 percent in the 2022 fiscal year.

The following table presents a reconciliation of the ROCE and value added performance indicators to the EBIT shown in the income statement.

Reconciliation of value added and ROCE to EBIT

€ mill.	2022	2021
Premium in % (ROCE – WACC)	1.2	1.1
Average capital employed	950.6	896.9
Value added	11.5	9.5
Cost of capital on the average capital employed	66.6	62.8
EBIT	78.1	72.3

Financial position and investing activities

As the Group's management holding company, Vossloh AG is responsible for managing the Group's finances and funding. Corporate Treasury Management is responsible for the central management of cash flows and for ensuring the financing of all Group companies as well as for hedging and managing financial risks. These not only include liquidity risks, but particularly risks from interest and exchange rate fluctuations. Derivatives and other financial instruments are used for hedging. The Group companies' funding level is largely ensured by Vossloh AG providing the necessary cash resources. Only in isolated cases where funding outside Germany is either economically preferable or required by law do individual Group companies obtain original local financing.

The net financial debt of the Vossloh Group (calculated as financial liabilities minus cash and cash equivalents and short-term securities) excluding lease liabilities rose from €174.0 million at the end of 2021 to €197.6 million at the end of the 2022 fiscal year. The increase was mainly driven by dividend, lease and interest payments. By contrast, free cash flow was positive in the 2022 fiscal year despite a noticeable increase in working capital – driven by higher procurement prices and increased stockpiling – and helped reduce net financial debt. Net financial debt, including lease liabilities in the amount of €39.9 million (previous year: €41.6 million), came to €237.5 million (previous year: €215.6 million) at the end of 2022.

Net financial debt increased partly due to higher working capital

Financial liabilities amounted to €316.6 million at the end of the year under review, a considerable increase compared to the previous year's figure of €291.6 million. At the end of 2021, €115 million of the financial liabilities were attributed to Schuldschein loans placed in the 2017 fiscal year with terms of seven years (until July 2024). The interest rate is fixed at 1.763 percent for an amount of €90 million, and variable for the remainder of €25 million with a margin of 120 basis points above the Euribor. In addition, a Schuldschein loan in the amount of €25 million with a term of seven years (until December 2028) and a fixed interest rate of 0.8 percent per year was placed at the end of 2021. In January 2022, Vossloh used these funds to prematurely redeem the floating-rate Schuldschein loan in the same amount maturing in July 2024. Current financial liabilities fell year on year from €69.2 million to €49.2 million as a result. At the end of 2022, an additional €88 million in financial liabilities related to drawdowns from the syndicated loan agreed in November 2017, with a total volume of €230 million and with a term that runs until November 2024. The interest rate at the end of the year was 2.75 percent based on the relevant reference interest rate (Euribor or €STR) and a margin agreed in the loan agreement, which is based on the indicator net financial debt to EBITDA. At the end of the year, the margin applied was 1.0 percent. A limit is set for this indicator (covenant). If exceeded, the lending banks are permitted to terminate the agreement ahead of time. Compliance with the covenant is verified every six months; such compliance was affirmed as of the half-year and as of the end of 2022. Furthermore, as in the previous year, Vossloh AG took out a loan of €20 million with DZ Bank with a term until July 2024 and a margin of 0.75 percent above the 3-month Euribor at the end of 2022. When added together, the sum total of cash and cash equivalents and short-term securities came to €79.1 million at the end of the fiscal year under review (previous year: €76.0 million).

The Group's contingent liabilities decreased from €58.0 million at the end of 2021 to €51.7 million. The majority of this, €46.2 million, was attributable to the former Locomotives business unit. For the outstanding contingent liabilities, Vossloh AG received an irrevocable and unconditional guarantee at first request from a first-class bank.

As of the end of the year, the Group had committed but unutilized credit facilities of €219.6 million (previous year: €279.0 million) at its disposal.

The hybrid note issued in February 2021 of €150 million with an indefinite term can be called and repaid by the company for the first time after five years. The interest rate over the first five years is 4.0 percent. In addition, depending on the sustainability performance measured by ISS ESG and MSCI ESG Research ratings, the redemption amount may increase. The structure of the note means that it is treated as equity in the consolidated financial statements. The resulting increase in the equity ratio and the associated strengthening of the balance sheet structure lead to significantly greater financial flexibility, which positively bolsters the implementation of the corporate strategy.

Vossloh Group – Development of cash flows

€ mill.	2022	2021
Cash flow from operating activities	71.6	81.3
Cash flow from investing activities	(44.9)	(57.9)
Cash flow from financing activities	(29.3)	(30.8)
Net cash inflow/outflow	(2.6)	(7.4)
Free cash flow	27.9	30.6

Free cash flow only slightly below previous year's level despite noticeable increase in working capital

Cash flow from operating activities was lower in the year under review than in the previous year. While gross cash flow (calculated as the sum of EBIT from continuing and discontinued operations, depreciation/amortization/impairment losses [less write-ups] of noncurrent assets and changes in noncurrent provisions) increased relative to the previous year due to the rise in EBIT, a considerable increase in working capital had a negative impact. While cash outflows from capital expenditure in intangible assets and property, plant and equipment declined, free cash flow – defined as cash flow from operating activities less capital expenditures in intangible assets and property, plant and equipment as well as capital expenditures in companies accounted for using the equity method plus cash inflows from profit distributions or the sale of companies accounted for using the equity method – was slightly below the previous year. Compared with the previous year, there were fewer cash outflows in cash flow from investing activities. This was mainly due to the cash outflows incurred in 2021 for the acquisition of the Dutch company ETS Spoor BV. Cash flow from financing activities was virtually unchanged compared to the previous year.

Vossloh Group – Capital expenditure and depreciation/amortization

€ mill.	2022		2021	
	Capital expenditure	Depreciation/ amortization	Capital expenditure	Depreciation/ amortization
Core Components	18.9	24.6	23.6	24.3
Customized Modules	16.3	15.1	14.2	13.7
Lifecycle Solutions	16.7	12.7	11.4	12.3
Vossloh AG/consolidation	6.3	0.7	2.1	1.6
Total	58.2	53.1	51.3	51.9

Capital expenditure in the Core Components division was noticeably below the previous year's level. This was caused by lower investments in the Fastening Systems business unit, after the "Factory of the Future" was completed. The largest single item of capital expenditure in the reporting year related to the establishment of series production for Vossloh's innovative composite ties at the Polish production site. Capital expenditure in the Tie Technologies business unit, on the other hand, exceeded the previous year's figure. The business unit invested in the expansion of its production capacities, particularly at its Australian sites. The biggest individual capital expenditure in the Customized Modules division went towards the optimization of production processes at the Swedish production site. In the Lifecycle Solutions division, a high performance milling machine remained the primary focus of investment. The capital expenditure shown in the table above reflects additions in the fiscal year and also includes capital expenditure in assets financed by a lease agreement. Capital expenditure is included in the cash flow statement if it has already resulted in cash outflows. The values therefore differ. Depreciation and amortization at Group level, which is added back to EBIT in the cash flow statement, includes impairments/reversals of impairment losses and were at the same level as in the previous year.

Capital expenditure commitments for the acquisition of intangible assets and property, plant and equipment totaled €23.2 million as of December 31, 2022 (previous year: €12.7 million). The upturn was mainly due to orders for the Fastening Systems business unit's Polish production site in relation to the establishment of series production for composite ties.

Asset and capital structure

Vossloh Group – Asset and capital structure

		12/31/2022	12/31/2021
Total assets	€ mill.	1,368.8	1,289.4
Equity	€ mill.	625.1	587.9
Equity ratio	%	45.7	45.6
Closing working capital ¹	€ mill.	191.6	175.6
Fixed assets ²	€ mill.	731.6	726.0
Closing capital employed ³	€ mill.	923.2	901.6

¹ Working Capital = trade receivables (including contract assets) plus inventories minus trade payables (including contract liabilities) minus prepayments received minus other current provisions (adjusted for matters not attributable to the operating business).

² Fixed assets = intangible assets plus property, plant and equipment plus investment properties plus investments in companies accounted for using the equity method plus other noncurrent financial instruments.

³ Capital employed = working capital plus fixed assets

Equity ratio remains above 45 percent The Vossloh Group's equity at the end of 2022 was well above the previous year's figure. This development was mainly driven by the positive net income in 2022. The equity ratio remained largely unchanged in comparison to the previous year as a result of the increase in total assets.

Working capital intensity almost unchanged The working capital as of December 31, 2022, increased significantly compared to the previous year. The main drivers were inventories that were higher than in the previous year. This was primarily due to higher stocks to avoid supply bottlenecks, as well as higher procurement prices. As a result, average working capital came to €218.1 million, higher than the previous year's figure of €194.7 million. The average working capital intensity – the ratio of average working capital to sales revenues – was 20.8 percent (previous year: 20.6 percent).

General statement on the business performance and economic situation of the Vossloh Group

The 2022 fiscal year was marked by a number of crises, including the war in Ukraine, an enormous rise in procurement prices and the ongoing repercussions of the COVID-19 pandemic. Despite these challenges, Vossloh once again demonstrated a high degree of resilience and continued to grow in 2022. Sales revenues in the rail infrastructure business rose by 11.0 percent year on year to €1,046.1 million, exceeding the billion euro mark for the first time. As a result, sales revenues significantly exceeded the originally forecast range of €925 million to €1 billion. EBIT increased noticeably from €72.3 million to €78.1 million. This improvement is even more remarkable considering the significant rise in procurement costs, which could not be passed on in full to customers. Despite the resulting impact of these cost increases on profitability, the EBIT margin of 7.5 percent was at the lower end of the originally forecast range of 7.5 percent to 8.5 percent. Value added amounted to €11.5 million and was therefore also within the range of €5 million to €20 million forecast by the company.

Orders received also developed very positively. In comparison to the previous year, they grew significantly by 31.6 percent and reached a record level at €1.25 billion. The order backlog rose by 30.8 percent compared with the previous year. The Group's book-to-bill ratio reached the high level of 1.19 against the backdrop of significantly increased sales revenues.

The net assets and financial position of the Group are also in a positive overall situation in light of the underlying conditions. Equity came to €625.1 million, an increase of 6.3 percent compared with the previous year. At 45.7 percent, the equity ratio remained virtually on a par with the high level achieved in the previous year. However, net financial debt increased from €215.6 million at the end of 2021 to €237.5 million at the end of 2022 due to higher working capital. At €27.9 million, free cash flow was only slightly lower than the previous year's figure of €30.6 million. Against the background of higher procurement prices and increased stockpiling to avoid supply bottlenecks, this performance is very satisfactory.

The 2022 fiscal year was also successful from a strategic perspective. Vossloh has reached an important milestone in its pioneering showcase project for data-based switch condition monitoring in Sweden. The validated solution aims to reduce the amount of unplanned downtime for switches, drive up the efficiency of maintenance work and significantly improve track availability. During the year under review, series production for innovative and sustainable composite ties at the Fastening Systems business unit's Polish production site was approved and launched. The innovative composite tie is a more environmentally friendly alternative to wooden ties that is fully recyclable and has significantly lower lifecycle costs.

From an operational and strategic perspective, 2022 was an extremely successful fiscal year overall for the Vossloh Group.

Business performance of Core Components

In the Core Components division, Vossloh has combined its range of industrially manufactured series products, which are required in large quantities for rail infrastructure projects. This includes the rail fastening systems developed, produced and marketed in the Fastening Systems business unit for all areas of application worldwide – from heavy-haul to high-speed rail lines and urban transport. The Tie Technologies business unit is the leading manufacturer of concrete ties in North America and Australia. In addition to concrete rail ties, the business unit also manufactures switch ties, concrete low-vibration blocks for slab track and crossing panels.

Core Components			
		2022	2021
Orders received	€ mill.	554.4	398.4
Order backlog	€ mill.	285.4	211.8
Sales revenues ¹	€ mill.	482.1	429.1
EBITDA	€ mill.	68.4	71.0
EBITDA margin	%	14.2	16.5
EBIT	€ mill.	43.7	46.7
EBIT margin	%	9.1	10.9
Average working capital	€ mill.	125.1	117.5
Average working capital intensity	%	26.0	27.4
Average capital employed	€ mill.	367.6	346.5
ROCE	%	11.9	13.5
Value added	€ mill.	18.0	22.4

¹ Sales revenues include external sales revenues and sales to other divisions.

Significant rise in orders received year on year

In the Core Components division, orders received in the year under review were up by €156.0 million and thus significantly higher than in the previous year. This corresponds to an increase of almost 40 percent. Both business units recorded a significant increase in orders received. The Fastening Systems business unit won three major contracts in 2022 to supply fastening systems for the construction of new high-speed rail lines in China and Egypt in addition to a number of other orders. Orders received in the USA and Australia in the Tie Technologies business unit went up. The order backlog at the end of 2022 was €73.6 million higher than in the previous year, equivalent to a 34.8 percent increase compared to the previous year.

Significant 12.4 percent increase in sales revenues

Sales revenues in the Core Components division went up by 12.4 percent in the year under review. Even though the Fastening Systems business unit was the main contributor to this positive development, the Tie Technologies business unit also posted significantly higher revenue figures compared to the previous year.

2022 EBIT and EBIT margin impacted by higher procurement prices

The EBIT achieved by the Core Components division was €3.0 million lower than the previous year's figure. This decline was largely due to an increase in procurement prices. The increase in procurement prices could not be fully passed on to customers, which had a negative impact on profitability in particular. In addition, an impairment loss was recognized in the year under review on an investment accounted for using the equity method in the Fastening Systems business unit.

As a result of the downturn in EBIT and the increase in average capital employed, return on capital employed (ROCE) decreased in the 2022 fiscal year. Both average working capital and average fixed assets as components of capital employed increased compared with 2021. The change in average working capital was primarily attributed to significantly higher inventories in the year under review. The average working capital intensity was 1.4 percentage points lower than in the previous year due to improved receivables management. Value added was slightly lower in the 2022 fiscal year compared to the previous year.

Vossloh Fastening Systems

In the 2022 fiscal year, orders received by Vossloh Fastening Systems totaled €391.8 million (previous year: €269.5 million). Demand went up in a number of regions. The large orders won for the supply of rail fastening systems for the construction of two new high-speed lines in China and a high-speed line in northern Egypt contributed to this improvement. The order backlog increased by €49.1 million year on year, reaching €199.1 million at the end of 2022.

Orders received significantly higher than in previous year

Sales revenues for Vossloh Fastening Systems amounted to €341.3 million in 2022 (previous year: €292.4 million). This rise was mainly driven by deliveries for projects in Mexico and Turkey in addition to improved sales revenues in Eastern Europe, China and Australia in particular. Higher sales revenues in these regions more than compensated for lower sales in the United Arab Emirates.

Significant increase in sales revenues

The value added for Vossloh Fastening Systems fell in line with EBIT to €18.5 million (previous year: €23.3 million), but remained at a high level.

High positive value added once again

Vossloh Tie Technologies

The Tie Technologies business unit recorded orders received of €178.0 million in the year under review, which represents an increase of €45.7 million compared to the previous year's figure of €132.3 million. The rise was mainly caused by a higher number of new orders in the US market and Australia. Orders received were down slightly compared to the previous year in Mexico and Canada. The order backlog amounted to €89.5 million at the end of 2022 (previous year: €65.1 million).

Orders received above previous year in the USA and Australia

The sales revenues in the Tie Technologies business unit totaled €156.3 million, a significant increase compared to the previous year's figure of €142.3 million. The increase in sales revenues in Canada and Mexico more than compensated for the downturn in sales revenues in Australia. Sales revenues in the USA were almost on a par with the previous year.

Sales revenues up on the previous year

The value added of Vossloh Tie Technologies, at €(0.2) million, was slightly higher than the previous year's figure of €(0.8) million.

Business performance of Customized Modules

All of the Group's services for the manufacture, installation and maintenance of individualized infrastructure modules for the rail industry are bundled in the Customized Modules division. The division includes the Switch Systems business unit, one of the largest providers of switch systems worldwide. The product portfolio covers a very wide range of applications, extending from light-rail to high-speed applications.

Customized Modules

		2022	2021
Orders received	€ mill.	563.3	452.5
Order backlog	€ mill.	488.1	391.4
Sales revenues ¹	€ mill.	456.1	418.7
EBITDA	€ mill.	52.3	47.6
EBITDA margin	%	11.5	11.4
EBIT	€ mill.	37.1	34.0
EBIT margin	%	8.1	8.1
Average working capital	€ mill.	73.1	69.5
Average working capital intensity	%	16.0	16.6
Average capital employed	€ mill.	376.2	366.6
ROCE	%	9.9	9.3
Value added	€ mill.	10.8	8.3

¹ Sales revenues include external sales revenues and sales to other divisions

Order backlog significantly above previous year's level

Orders received in the Customized Modules division were 24.5 percent higher than the previous year's figure. New orders were higher than in the previous year, particularly in Italy and Poland, as well as in Portugal due to consolidation, while orders received were down in Turkey, Mexico and Australia.

Significant rise in sales revenues

The division's sales revenues increased by €37.4 million compared to 2021. This upwards trend was particularly notable in France, Portugal and Turkey and was able to more than offset the downturns in certain areas, particularly Egypt. In Portugal, the upturn was due to a company which was fully consolidated for the first time in the final quarter of 2021 and contributed sales for the entire year in 2022. The total increase in sales revenue resulting from this was €12.6 million.

EBIT above the previous year's result

The division's EBIT was 9.4 percent higher in 2022 than in the previous year despite the impact of higher procurement prices.

Due to the overall improvement, ROCE was significantly higher than in the previous year despite the increase in average capital employed. Value added also improved significantly as a result.

Slight improvement in working capital intensity

Average working capital increased slightly, due mainly to a rise in inventories. However, average working capital went up by a lower percentage than sales revenues. As a result, average working capital intensity was just 0.6 percentage points lower than in 2021.

Business performance of Lifecycle Solutions

Through its Rail Services business unit, the Lifecycle Solutions division concentrates on specialist services for the maintenance of rails and switches. Its innovative technologies promote the safety of rail lines and contribute to extension of the service life of rails and switches as well as improved track availability. The service portfolio mainly includes maintenance, grinding and milling for the corrective and preventive care of rails and switches, welding services and rail and switch logistics. Lifecycle Solutions' extensive range of services complements the product portfolios of Core Components and Customized Modules.

Lifecycle Solutions

		2022	2021
Orders received	€ mill.	162.3	122.2
Order backlog	€ mill.	37.5	14.9
Sales revenues ¹	€ mill.	136.0	115.5
EBITDA	€ mill.	24.2	21.6
EBITDA margin	%	17.8	18.7
EBIT	€ mill.	11.5	9.3
EBIT margin	%	8.4	8.0
Average working capital	€ mill.	24.2	13.0
Average working capital intensity	%	17.8	11.2
Average capital employed	€ mill.	205.0	184.3
ROCE	%	5.6	5.0
Value added	€ mill.	(2.9)	(3.6)

¹ Sales revenues include external sales revenues and sales to other divisions.

In the 2022 fiscal year, the Lifecycle Solutions division recorded orders received that were much higher than in the previous year. This increase was mainly achieved in high-speed grinding and due to additional orders in the Netherlands. The order backlog was significantly higher at the end of 2022 than in the previous year.

Orders received significantly higher than in previous year

The Lifecycle Solutions division recorded a 17.7 percent increase in sales revenues compared to the previous year. The increase was due in particular to higher sales revenues in the Netherlands, Denmark and Germany, which more than offset declines in other countries, particularly Sweden and China. In the Netherlands, the improvement in sales revenues was mainly driven by ETS Spoor which was acquired in the previous year and has been included in the scope of consolidation since August 2021. The total increase in sales revenues resulting from this was €10.7 million compared to the previous year. The Lifecycle Solutions division's degree of internationalization, measured on the basis of sales revenues earned outside of Germany, rose to 54.4 percent in the 2022 fiscal year (previous year: 48.4 percent).

17.7 percent increase in sales revenues

The division's EBIT increased by a significant €2.2 million compared with the previous year. This was partly driven by higher earnings contributions from the Dutch company and higher earnings contributions from machinery sales.

EBIT up by 23.7 percent

Value added increased by €0.7 million. Working capital intensity went up compared to the previous year, largely due to increased stockpiling to avoid supply bottlenecks.

Vossloh AG – Analysis of the separate financial statements

As an operational management and financial holding company, Vossloh AG serves as the parent of the Vossloh Group and controls and oversees all major operations and activities within the Group. In addition to determining corporate strategy and controlling corporate development, Vossloh AG allocates the financial resources, particularly for capital expenditures and acquisitions, and is responsible for corporate accounting and controlling, Group-wide treasury management, risk and opportunity management and internal auditing as well as for innovation and development, EHS/sustainability, IT, legal affairs and compliance, investor relations and corporate communications among others. The company oversees sales activities, including marketing communications. In addition to HR policy, it is also responsible for personnel development and supporting the Group's senior management. Business unit representatives report on the events and developments in their area of responsibility on a regular basis. The Executive Board exerts a direct influence on the operational management of the business units in this context, alongside its management responsibility for different functions. A comprehensive catalog of approval requirements also ensures that the Executive Board is closely involved in significant operational decisions.

Vossloh AG prepares its annual financial statements in accordance with the regulations of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG). The explanations below refer to the annual financial statements. In isolated cases, certain transactions are handled differently in the consolidated financial statements according to IFRS. The relevant provisions of the German Commercial Code (HGB) have not changed significantly in the fiscal year.

Analysis of the separate financial statements

For the 2022 fiscal year, Vossloh AG reported sales revenues of €11.7 million (previous year: €7.6 million), resulting primarily from intercompany allocations with Group companies that obtain a wide range of services via Vossloh AG (mainly in the areas of IT and marketing, in addition to services related to digitalization and international sales).

Operating expenses were mainly incurred in connection with the company's management and financing functions. The business performance and economic development of Vossloh AG follow the activities of its subsidiaries and investees. The most significant performance indicators for Vossloh AG are the general administrative expenses, the net financial result and the result after tax/net income.

Administrative expenses totaled €19.0 million for 2022, a slight increase compared to the previous year (€18.5 million). Personnel expenses of €13.7 million increased slightly compared with the previous year (€12.0 million) as a result of higher wages and adjustments to pension provisions due to anticipated changes to annuities. Trade fair costs also rose compared to the previous year due to the InnoTrans industry trade fair taking place in the year under review after a temporary hiatus. By contrast, consulting fees were slightly lower than in the previous year.

Other operating expenses came to €1.7 million in the year under review, roughly on a par with the previous year (€1.6 million), and exclusively comprises losses from foreign currency measurements. Other operating income totaled €2.6 million. This significant rise compared to the previous year's figure of €0.5 million was caused by the reversal of a provision.

The net financial result fell significantly year on year, from €27.0 million to €(46.3) million in 2022. Significant income from investments (€20.0 million) and profit transfer agreements (€17.1 million) was unable to compensate for the assumption of €6.1 million in losses and, in particular, write-downs on investments totaling €74.7 million. This impairment was primarily driven by the higher risk-free interest rate,

which caused the fair value of the investment to fall accordingly. Interest income of €8.0 million (previous year: €6.7 million) – primarily from passing on these funds in the form of short-term and long-term loans to Group companies – was offset by interest expenses of €11.9 million (previous year: €12.8 million).

The negative net interest result was largely due to the interest expense of €6.0 million (previous year: €5.1 million) on the hybrid note. Loss carryforwards kept income taxes extremely low and unchanged from the previous year at €0.0 million. Vossloh AG's net loss in the reporting year was €64.3 million (net income in previous year: €7.7 million).

Total assets came to €855.0 million, a decrease from the previous year's figure of €918.6 million. Financial assets decreased by €54.7 million as the balance of the write-downs and the increase in loans to subsidiaries, while receivables from affiliated companies fell by €14.9 million. Intangible fixed assets increased significantly from €4.0 million in the previous year to €9.7 million as a result of the work performed in connection with the conversion of the ERP software within the Group.

At €238.0 million, liabilities to banks on the balance sheet increased slightly as of the reporting date compared with the previous year's figure of €210.7 million. Liabilities to affiliated companies fell by €12.6 million to €17.8 million (previous year: €30.4 million). Provisions amounted to €31.6 million. The increase compared to the previous year's level of €28.8 million was driven by the aforementioned additional allocation to pension provisions. Equity went down from €490.3 million to €408.4 million. This significant downturn was due to the dividend payment and the net loss for the year. As a result, the equity ratio fell from 53.4 percent in the previous year to 47.8 percent. Overall, the Executive Board views the financial position of Vossloh AG as of the end of the fiscal year as positive due to the prevailing very high equity ratio. The result of operations, on the other hand, is considered less than satisfactory due to unscheduled impairment losses being recognized for financial assets during the period under review.

Dependency report

The Executive Board of Vossloh AG considers Vossloh AG to be dependent in accordance with Section 17 of the German Stock Corporation Act as Ms. Nadia Thiele respectively Mr. Robin Brühmüller, as executor of the estate of the deceased Heinz Hermann Thiele, continue to indirectly hold 50.09 percent of its share capital on December 31, 2022. In accordance with Section 312 AktG, the company prepared a report on its relationships with affiliated companies containing the following declaration: "In respect of the legal transactions listed in the report on relationships with affiliated companies, the company, according to the circumstances known at the time when the legal transactions were made, received an appropriate consideration for each legal transaction. No measures were enacted that put the company at a disadvantage at the request or in the interest of Ms. Thiele or Mr. Brühmüller, or companies affiliated with the aforementioned persons. This assessment is based on the facts and circumstances known by us at the time such reportable transactions were conducted." The report was audited by the auditor and was issued with an unqualified auditor's opinion.

Statutory takeover-related disclosures pursuant to Section 289a and Section 315a HGB

The provisions of Sections 289a and 315a HGB require that the following takeover-related disclosures be made as of December 31, 2022.

Composition of the subscribed capital

The subscribed capital (share capital) of the company amounts to €49,857,682.23. It is distributed across 17,564,180 no-par-value ordinary shares.

Restrictions on voting rights and share transferability

All shares carry the same rights. Each share grants one vote at the Annual General Meeting. The Executive Board of the company is not aware of any restrictions on voting rights or share transferability.

Shareholdings in excess of 10 percent of the voting rights

On the basis of the notifications of voting rights submitted to the company in accordance with the provisions of the German Securities Trading Act (WpHG), the company holds an interest in the company's capital that exceeds 10 percent of the voting rights. KB Holding GmbH, Grünwald, Germany, holds 50.09 percent of the voting rights in Vossloh AG. Based on the notifications of voting rights pursuant to Section 34 (1) of the German Securities Trading Act, these voting rights are attributable to TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Germany, Stella Vermögensverwaltung GmbH, Grünwald, Germany, Ms. Nadia Thiele, Munich, Germany and Mr. Robin Brühmüller (executor of the estate of the late Heinz Hermann Thiele), Munich, Germany.

Shares with special rights or rights of control

There are no shares with special rights or rights of control.

Voting control of employee shareholdings

Employees who are shareholders in the company exercise their control rights like any other shareholder, directly in accordance with statutory requirements and the Articles of Incorporation.

Appointment/dismissal of Executive Board members; amendments to the Articles of Incorporation

Vossloh AG's Executive Board members are appointed or dismissed in accordance with the provisions of Sections 84, 85 AktG in conjunction with Article 7 of the Articles of Incorporation. Pursuant to Section 84 (1) AktG, Executive Board members are appointed by the Supervisory Board. They are appointed for a maximum term of five years, whereby their reappointment or the renewal of their term of office is permitted. The appointment of an Executive Board member may be revoked in the cases set out in Section 84 (4) AktG.

According to Section 179 (1) AktG, the Articles of Incorporation may be amended by a resolution of the Annual General Meeting. Pursuant to Article 21 (2) of the Articles of Incorporation but subject to overriding statutory provisions to the contrary, the Annual General Meeting may pass its resolutions with the simple majority of votes cast. Where the law prescribes a capital majority in addition to a voting majority, the simple majority of the capital stock represented at the vote shall suffice unless the provisions of the law or Vossloh AG's Articles of Incorporation prescribe otherwise. Article 27 of the Articles of Incorporation authorizes the Supervisory Board to resolve on amendments to the Articles of Incorporation that only affect the wording. Article 4 (4) of the Articles of Incorporation further entitles the Supervisory Board to update the Articles of Incorporation accordingly after the capital stock has been increased by utilizing authorized or contingent capital.

Authority of the Executive Board to issue and buy back shares

The Executive Board's authority to issue shares is defined in Article 4 of the Articles of Incorporation.

Authorized capital

The Executive Board is authorized, subject to the consent of the Supervisory Board, to increase the share capital until May 26, 2025, by up to a total of €24,928,841.11 through one or more issuances of new, no-par-value shares against contributions in cash and/or in kind (Authorized Capital 2020).

The shareholders are entitled to subscription rights. The shares may also be taken over by one or more credit institutions with the obligation to offer them to the shareholders for subscription.

The Executive Board is authorized, however, subject to consent of the Supervisory Board, to exclude the subscription rights of shareholders in the following instances:

- (i) To exclude fractional amounts resulting from the subscription ratio from the subscription right;
- (ii) To grant the holders – or, in the case of registered securities, the creditors – of conversion and/or option rights in circulation at the time when the Authorized Capital 2020 is utilized, or of a conversion obligation from convertible bonds and/or bonds with warrants to be issued by the company or one of its wholly-owned Group companies in the future, a subscription right for new shares to the extent to which they would be entitled after exercising their conversion and/or option rights or after fulfillment of a conversion obligation as shareholders;
- (iii) In the case of capital increases against cash contributions, if the issue price of the new shares is not significantly lower than the stock exchange price of the already listed shares of the same class at the time the issue price is finally fixed and the total number of shares issued does not exceed 10 percent of the share capital neither at the time this authorization becomes effective nor at the time it is exercised. Counting toward this capital limit are: (1.) The sale of treasury shares, insofar as they are sold during the term of this authorization under exclusion of subscription rights pursuant to Section 186 (3) sentence 4 AktG; (2.) Those shares issued or to be issued to service bonds with conversion and/or option rights or a conversion obligation, if the bonds are issued during the term of this authorization under exclusion of subscription rights in analogous application of Section 186 (3) sentence 4 AktG; and (3.) Those shares that were issued during the term of this authorization on the basis of other capital measures under exclusion of shareholder subscription rights pursuant to or in analogous application of Section 186 (3) sentence 4 AktG.
- (iv) In the case of capital increases against contributions in kind.

The authorizations contained in the above paragraphs (i) to (iv) to exclude subscription rights in the case of capital increases against cash and/or contributions in kind are limited to an amount not exceeding 10 percent of the share capital, either at the time this authorization becomes effective or at the time this authorization is exercised. The above-mentioned 10 percent limit must also take into account: (1.) Own shares that are sold during the term of this authorization under exclusion of subscription rights; (2.) Those shares that are issued to service bonds if the bonds were issued during the term of this authorization under exclusion of shareholder subscription rights; and (3.) Those shares that were issued during the term of this authorization on the basis of other capital measures under exclusion of shareholder subscription rights.

The Executive Board is authorized, subject to the consent of the Supervisory Board, to determine the further details of capital increases as well as the conditions for the share issue.

Further details of the authorization can be found in Article 4 of the Articles of Incorporation.

Purchase of treasury shares

There is currently no authorization for the company to purchase treasury shares. As of December 31, 2022, the company did not hold any treasury shares.

Agreements upon a change of control

There are eight material company agreements that are subject to a change of control clause.

In the case of seven of these agreements, a change of control means that a person or a group of persons acting in concert – with the exception of descendants, spouses, heirs, foundations or other beneficiaries in the last will of Mr. Heinz Hermann Thiele – directly or indirectly obtains more than 50 percent of the shares or voting rights in the company.

- A Schuldschein loan arranged by Landesbank Hessen-Thüringen Girozentrale and BNP Paribas: In the event of a change of control, the loan agreement contains the right of the loan issuers to demand payment of the outstanding balance, including accrued interest, within 30 days after becoming aware of the change of control.
- A syndicated loan agreement with Bayerische Landesbank, BNP Paribas' German branch, Commerzbank AG, Deutsche Bank AG's German branch, HSBC Trinkaus & Burkhardt GmbH, Landesbank Baden-Württemberg, Landesbank Hessen-Thüringen Girozentrale and Skandinaviska Enskilda Banken AB's (publ) Frankfurt branch, including the sub-credit line agreements concluded on this basis: If there is a change of control, each individual bank has the right to cancel the loan contract for the amount of the loan attributable to it within 30 days after the announcement has been made. In the event of a cancellation, the outstanding balance, including accrued interest, are due and payable within a period of at least 15 days;
- A guarantee facility agreement with Skandinaviska Enskilda Banken AB's (publ) Frankfurt branch: If there is a change of control, the bank is entitled to an extraordinary cancellation right. In the event of a cancellation, the outstanding balance, including accrued interest, is immediately due and payable;
- A guarantee insurance policy with Tryg Deutschland, a branch of Tryg Forsikring A/S: If there is a change of control, the insurer has the right to cancel the policy without notice within 30 days after becoming aware of the change. If the policy is canceled, the insurer is entitled to demand collateral for outstanding guarantees in the form of a cash deposit;
- A hybrid note arranged by M.M. Warburg & Co. and Jefferies GmbH: In the event of a change of control, the bond grants the issuer the right to cancel the bond and demand payment of the outstanding balance, including accrued interest, by a date to be decided later. If the issuer does not exercise this right, the interest rate used to calculate the accrued interest is increased by 500 basis points;
- A loan agreement with DZ Bank AG: In the event of a change of control, the Parties must reach a mutually agreeable arrangement regarding how the loan should be continued, with different terms if necessary. If an agreement cannot be reached within one month, the bank is entitled to terminate the loan and any accrued interest without notice;
- A Schuldschein loan arranged by Landesbank Hessen-Thüringen Girozentrale: In the event of a change of control, the loan agreement contains the right of the loan issuers to demand payment of the outstanding balance, including accrued interest, within 30 days after becoming aware of the change of control.

In one other agreement, a change of control essentially means the purchase of more than 30 percent of the voting rights by one or several trading individuals. In relation to the descendants, spouses, heirs, foundations or other beneficiaries in the last will of Mr. Heinz Hermann Thiele, a change of control occurs if 50 percent of capital stock is exceeded:

- A guarantee facility agreement with Deutsche Bank AG: In the event of a change of control, negotiations to continue the framework loan are foreseen under amended terms and conditions, if applicable. After a change of control, the bank is not obliged to fund further utilizations.

Compensation agreements upon change of control

No arrangements have been made with Executive Board members or Vossloh employees regarding post-takeover indemnification or other compensation upon a change of control.

Workforce

As of December 31, 2022, there were 3,882 employees¹ within the Vossloh Group contributing to achieving the Group's goals. This represents an increase of 195 employees or 5.3 percent compared to the previous year (3,687 employees).

Workforce-related performance indicators

€ thousand	2022	2021
Personnel expenses per employee	59.8	58.6
Sales revenues per employee	275.7	261.0

The average number of employees was 3,794 in the reporting year compared to 3,612 in the 2021 fiscal year. This 5.0 percent increase is attributable to all divisions. The increase was in part due to the full consolidation of a Portuguese company in the Customized Modules division for the first time at the start of the final quarter of 2021 and the inclusion of its employees in the calculation of the average workforce for the full year in 2022.

Out of the overall average number of employees, 73.6 percent (previous year: 72.9 percent) were employed at locations in Europe. Of the remaining 26.4 percent, 51.7 percent (previous year: 54.1 percent) were employed in Asia, 26.4 percent (previous year: 25.2 percent) in the Americas and 21.9 percent (previous year: 20.7 percent) in Australia.

Personnel expenses

€ mill.	2022	2021
Wages and salaries	182.3	169.5
Social security expenses and charges	38.5	36.8
Pension expenses	6.0	5.5
Total	226.8	211.8

Divisions

The average number of employees is distributed as follows across the divisions. The following revenue was generated on the basis of the associated personnel expenses:

Division	Number Ø employees		Personnel expenses per employee in € thousand		Sales revenues per employee in € thousand	
	2022	2021	2022	2021	2022	2021
Core Components	937	879	65.8	64.7	514.6	488.3
Customized Modules	2,241	2,150	50.4	49.5	203.5	194.7
Lifecycle Solutions	549	520	71.1	69.8	247.7	222.0

In addition, an average of 67 employees (previous year: 63) were employed by Vossloh AG.

For additional information, please refer to the "Occupational health and safety" and "Human resources and leadership" sections of the nonfinancial Group statement.

¹ This section presents the number of employees based on Full Time Equivalents.

Research and development

Vossloh is a technological leader in the rail infrastructure segments in which it operates. Innovation plays a decisive role in ensuring that the company remains competitive from a technological standpoint. In the interest of safety, Vossloh's products and services are subject to detailed technical specifications and standards that must be met. Before products and services for rail infrastructure are ready for market, they usually undergo (further) development and testing for several years, as well as complex approval procedures by independent testing institutions. Research and development projects at Vossloh are therefore usually scheduled to run for several years.

To satisfy the specific expectations of customers in individual market regions over the long term and reinforce its own competitive position, Vossloh adopts a structured approach to managing innovation by continuously investing in the development and optimization of its products and services. Principles and procedures are defined in the Group-wide Innovation Playbook adopted in 2021, the implementation of which is ensured by a Group Innovation Committee. Vossloh intends to increase collaboration across business units to develop new products, services and business models and ensure that customers and suppliers – with their specific expertise – are involved more closely in research and development processes. After reviewing its production processes over recent years, the company is now implementing a range of measures which will provide ongoing efficiency gains, including modernization, increased automation and specialization.

One focus of innovation at Vossloh is digitalization as the link between hardware and services. The company uses specialized sensor systems to collect data about load levels and track condition. This data provides an indication of how worn these components are and other insights, making it easier to identify which maintenance strategies will be most effective, and when they should be used. This can reduce the risk of component failure – and thus the unavailability of routes and infrastructure – during ongoing operations. Artificial intelligence also plays an important role in detecting wear patterns to predict the failure of track components and prevent these failures by planning maintenance measures ahead of time. Vossloh uses its in-depth knowledge of rail structure to meet its customers' main requirement "track availability" and develop comprehensive solutions in partnership with all business units.

In 2022, Vossloh's guiding principle „enabling green mobility“ was also adopted as its motto for its attendance at InnoTrans, the world's largest trade fair for railway technology and infrastructure held in Berlin. In line with the trade fair motto, the focus was on three key topics: Advanced infrastructure, Future turnout environment and Smart maintenance. In Berlin, Vossloh presented solutions designed to ensure that rail infrastructure is more robust and resilient with improved route availability, even though the demands placed on the rail network are constantly increasing. Sustainability criteria (such as reducing the use of materials and energy) also played an important role in the solutions that were presented.

A significant proportion of Vossloh's research and development efforts relate to specific customer contracts. Accordingly, these expenses are reported under cost of sales in the income statement and not under research and development (R&D). Expenses for the development of market-ready products are only capitalized if they satisfy the relevant criteria defined in IAS 38. Development costs that cannot be capitalized are shown as research and development costs if they are not reported under cost of sales.

In 2022, expenses for research and development – including capitalized internally generated assets – came to a total of €11.8 million (previous year: €12.2 million). This represents a share of approximately 1.1 percent of Group sales (previous year: 1.3 percent). R&D expenses in the Core Components division came to €4.1 million (previous year: €4.2 million) and were almost entirely attributable to the Fastening Systems business unit. R&D expenses in the Customized Modules division came to €3.7 million (previous year: €4.8 million). €3.6 million (previous year: €2.5 million) were attributable to the Lifecycle Solutions division, while €0.4 million (previous year: €0.7 million) were attributable to Vossloh AG.

Newly capitalized assets that were generated internally or as a result of third-party deliveries or service performance in the 2022 fiscal year came to €3.5 million (previous year: €3.2 million) and were largely attributable to the Lifecycle Solutions division.

Vossloh Group – Research and development costs

€ mill.	2022	2021
Research and development costs	11.8	12.2
of which capitalized	3.5	3.2
Research and development expenses (income statement)	8.3	9.0
Amortization (of capitalized development costs)	0.4	0.8

Maximizing track availability and reducing lifecycle costs

Vossloh’s research and development efforts in 2022 focused on creating new products and services that provide solutions to the major challenges currently facing the rail sector. This includes increasing the availability of rail tracks and developing solutions to deal with the consequences resulting from the increased load on tracks, such as wear and noise emissions. Vossloh also conducts research with a focus on extending the service life of infrastructure and infrastructure components in order to reduce lifecycle costs. Vossloh possesses comprehensive expertise on rail as a complex mode of transportation. The company is able to leverage this expertise to significantly improve the efficiency of rail network maintenance processes. Digitalization plays a key role in this. The focus is on intelligent rail systems and digital track monitoring. Vossloh’s solutions minimize disruption and lay the groundwork for increasing the amount of traffic on rail networks. Vossloh is therefore helping create more efficient rail infrastructure, which is essential for the environmentally friendly mobility of people and goods, i.e., enabling green mobility.

Predictive maintenance based on track condition data

The digitalization of rail infrastructure opens up new opportunities for Vossloh to create value with its products and services. Apps released by Vossloh bring measurement and track condition data together, provide a quick overview of which routes require action, and suggest suitable measures for repairing damage. Vossloh uses configurable IoT sensors to measure vibrations and provide data from parts of the track in the vicinity of switches. This data is validated and compressed, and then sent to a cloud-based platform developed by Vossloh using a mobile phone network for analysis. The platform processes the data collected by the sensors to identify any atypical track behavior and propose maintenance measures.

Vossloh’s rail profiling machines are also used to diagnose track issues with an array of sensor systems, including laser and eddy current sensors. They record data about the condition of the track without disrupting rail schedules, and then send this data to an asset management system, such as mapl-e or MR.pro, both of which were developed in-house by Vossloh. In addition to visualizing the condition of the track, mapl-e can also identify appropriate maintenance measures and assess the economic viability of the work required. This enables asset managers to plan and budget for maintenance. Vossloh’s customers are able to access measurement data, analyses, assessments and recommendations for their routes from a secure area on our digital analysis platform. This digital service allows Vossloh customers to better understand their infrastructure and increase availability with targeted and preventive maintenance.

Switches are the most critical elements of the rail track, and also the components which require the most maintenance. Switch disruptions are one of the main reasons for track unavailability and unplanned maintenance. Switches are also the ideal starting point for the continuous collection of condition data with sensors. In addition to tracks, a number of signaling and control systems cross each other at switches; as a result, the data collected at switches is particularly useful. A number of digital solutions are now available for switch management purposes. In urban regional transportation, for example, Vossloh's compact electro-hydraulic Easydrive point machine can be equipped with smart sensor technology for remote monitoring. The PM-DiagBox can be added to conventional analog point machines to make them smart. Vossloh offers the innovative Easyswitch MIM-H point machine for mainline routes – a modular plug-and-play solution with excellent reliability. Smart Monitoring Vossloh (SMV) was developed in-house and is already being used to monitor the point machines of a high-speed line in France. This makes it possible to not only predict point machine failures but also detect any need for tamping work in the vicinity of switches.

Vossloh also uses drones to generate digital three-dimensional models of busy routes, for example. These 3D models can be used to optimize track layouts, switch designs and the replacement of sections of track to increase speeds and capacity on routes whilst also reducing the need for maintenance. The V-Drone concept also makes track renovation projects more efficient, safer and more transparent, as it makes measurements and digitization possible without the need to have people on the track, meaning that tracks can continue to be used without any restrictions during the measurements.

Digitalization also offers opportunities for Vossloh's R&D activities. The research and development activities of every division are increasingly focused on data-processing technology – a trend which continued in 2022. Vossloh already uses a combination of multibody and finite element simulation. Vossloh's innovative DYNADeV platform simulates wheel-to-rail contact to predict the mechanical behavior of a switch. This simulation tool removes the need for expensive track measurements and lengthy laboratory testing. In addition to significantly accelerating the development and certification process for switches, the digital process also provides an indication of which trains damage existing rail infrastructure due to deformed wheels and other factors. Another example of a recent success in terms of Vossloh's use of digital tools in a different product line is the new M-generation tension clamp, which was developed by a team of specialists from various fields in just 12 months and provides a wide range of benefits for our customers.

All of Vossloh's innovations also focus on "quiet rails" as noise and vibrations are a major inconvenience, particularly for people in dense urban areas. With dampening rail fasteners, whisper switches and acoustic rail grinding, Vossloh is playing its part in reducing noise emissions. A number of solutions in this area were improved in 2022. The company also provides maintenance measures that are proven to reduce noise emissions. By using sensor technology to monitor noise levels, Vossloh can target specific areas for grinding to guarantee long-term reductions in the amount of noise created by rail infrastructure. This is another example of how the company is using digitalization to improve the quality of life for people in urban areas.

Working towards
"quiet rails"

Cooperation and partnerships Vossloh has long relied on the specific expertise of external specialists for some of its development work. The Group has access to an extensive network of experts. The company works closely with renowned universities and research institutions from all around the world – such as those in Germany, France, Sweden, China, Australia and the USA – as part of long-term partnerships on a variety of levels and in various forms. Vossloh focuses on partnerships with technology companies and startups working in digitalization and big data analysis. The joint venture established with Rhomberg Sersa represents a crucial partnership that offers a wide range of monitoring and maintenance services for switches and rails. The MR.pro software provides the joint venture with a set of open-system digital tools for evaluating and visualizing the condition and material of track infrastructure.

R&D by division The Core Components division focused on the development of the new tension clamp in the Fastening Systems business unit in 2022. The innovative geometry of the clamps and the convex spring arms make it possible to use more elastic systems to reduce vibrations even further. The M generation provides optimized performance, enhanced durability, reduced complexity and a significantly improved carbon footprint thanks to the use of a new micro-steel alloy and a more compact design. A number of models entered testing in Europe and North America in 2022. Vossloh's enhancement of its cellentic intermediate layers focused on completely avoiding the use of harmful nitrosamines during the manufacturing process. Cellentic components optimize the elasticity of the track, reduce vibrations, reduce structure-borne noise and protect the superstructure, particularly when installed in combination with the EPS (engineered polymer sleeper) composite sleeper developed by Vossloh. After many years of testing, a mass production process is currently being established for the EPS. The R&D activities of the Tie Technologies business unit in the reporting year focused on making changes to the composition of concrete used for railway sleepers to reduce the use of materials and energy. One key focus involved the use of an innovative cement mixture, which has a significantly improved carbon footprint due to changes in the composition while retaining the same properties.

The Customized Modules division completed the development of an ultrasonic testing process for cast manganese steel frogs in 2022. This opens up new possibilities for both the foundry and when it comes to inspecting these important switch elements in the track. The Flexidrive-4M point machine is a product created for metro systems and mainline railways. The design process focused on ensuring a very long service life of one million switching operations through the use of low-friction materials and a housing that protects the internal parts from even the harshest climatic conditions, along with other features. These machines are currently being tested in Finland for the first time. A product line was created for the extremely hard rolled steel CogX for frogs and switch points, which had previously been tested for several years in a wide variety of installations. This product line is now available worldwide. The material provides a higher level of resistance to wear and impact compared to traditional solutions, and extends service lives by up to 30 percent. The COGSLIDE coating developed by the division was also incorporated into a product line after several years of successful testing. When slide chairs in switches are coated with this material, points can be moved smoothly and easily without lubrication.

The Lifecycle Solutions division focused its R&D activities on milling machines, onboard rail condition measuring systems and software for evaluating and visualizing even more condition data – all with the aim of enhancing smart maintenance. In 2022, the control systems, sensors and measuring technology of various grinding and milling trains were adapted to reflect changing requirements. The division is systematically investigating alternatives to diesel and petrol-powered locomotives due to increasing customer demand. It tested battery-powered electric motors and using power supplied by an external source via (several coupled) traction vehicles. The SoniQ Rail Explorer – a manually guided ultrasonic inspection system for the detection and location of operational irregularities inside rails – is now market-ready. The new development was impressively light, easy to handle and extremely robust during track testing.

In addition to enhancing its range of products and services, Vossloh is also making consistent improvements to its production processes. The company wants its factories to be smart and highly efficient. A prime example is Vossloh's "factory of the future" at its Werdohl headquarters. This factory produces tension clamps using a digitally managed and highly automated process. The Group's two major switch plants have specialized in specific stages along the value chain (metal milling in Reichshoffen, final assembly and shipping in Fère-en-Tardenois), which has brought significant improvements in efficiency. In 2022, Vossloh increased the level of collaboration between internal units and sped up the exchange of knowledge between business units as part of international development projects. For this purpose, the company uses state-of-the-art communication and collaboration solutions; the IT structure was expanded and standardized in 2022 as a result.

Optimizing
production and
administration

Streamlined processes and digital data flows along the entire value chain are becoming an increasingly important part of Vossloh's internal processes. One of the company's largest projects is „one.ERP“. The Group-wide standardized enterprise resource planning (ERP) system provides a tool for limitless cooperation between all employees. The solution chosen by the Group can be adapted to the business models of different Vossloh units and can interface with other platforms, such as Customer Relationship Management (CRM) and Product Lifecycle Management (PLM). The project proceeded according to plan during the reporting period.

Risk and opportunity report

Principles and organizational structure

Risks and opportunities for the company's net assets, financial position and results of operations are systematically identified, analyzed, evaluated, monitored, managed and reported to the relevant bodies at all levels within the Vossloh Group. For Vossloh, proper management of risks and opportunities is part of responsible corporate governance. Vossloh has established a Group-wide risk and opportunity management system for this purpose. This system serves to prevent or mitigate negative effects resulting from changes while also identifying and harnessing opportunities that arise. The risk and opportunity management system encompasses not only Vossloh AG itself but also all domestic and overseas subsidiaries in which Vossloh AG has a direct or indirect shareholding, irrespective of whether these are consolidated in the Group's financial statements. Acquired companies are promptly integrated into the system.

The risk and opportunity situation of Vossloh AG is addressed separately at the end of this section.

The risk and opportunity management system is a component of the business, planning and control process. The organization of structures and processes is documented in a Group-wide policy. This policy was most recently updated in the 2021 fiscal year to reflect the additional requirements in the amended version of the assurance standard IDW PS 340 and incorporated without changes in the 2022 fiscal year. The majority of the update relates to the assessment of mutual dependencies between reported individual risks and how they are aggregated into an overall risk position (net view) which is then compared to the risk-bearing capacity of the Group. The risk-bearing capacity of the Group is systematically determined using earnings and liquidity ratios and reviewed on an ongoing basis by Corporate Controlling and the Executive Board. All relevant risks with both a significant potential impact and a very low probability of occurrence (less than 5 percent – so-called tail events) are systematically included in the reporting process.

The structure of the risk and opportunity management system is based on the structure of the operating processes of each of the organizational units. There are appointed Risk Managers, Risk Officers and Risk Controllers at all levels of the Group. A permanent inventory identifies risks and opportunities on an ongoing basis and ensures that relevant risks and opportunities are recorded effectively, promptly and systematically.

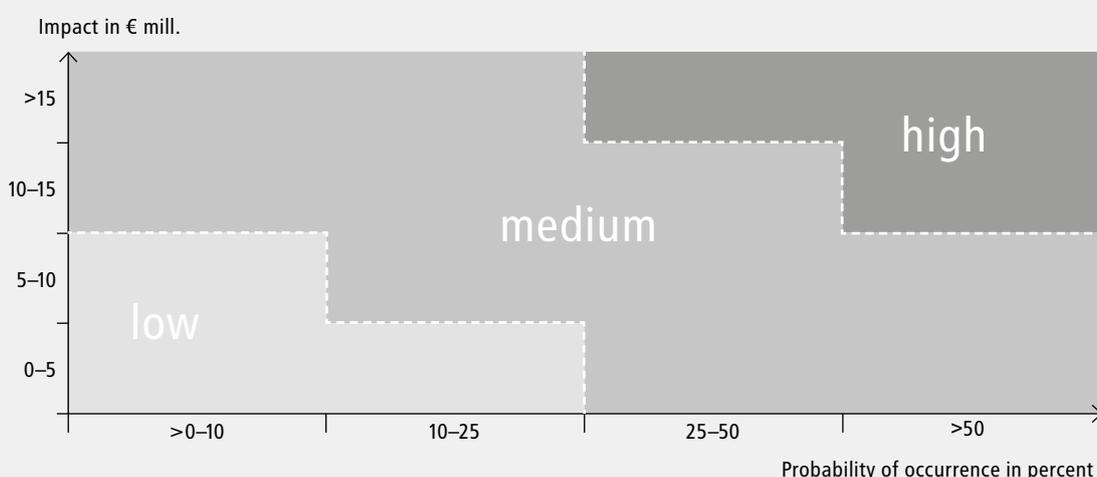
Vossloh evaluates risks and opportunities in regard to their potential impact on the company's earnings and financial position. The possible impact of a risk is primarily calculated using the EBIT as a financial performance indicator. In addition, its influence on the liquidity situation is recorded. Interest and income tax risks and risks from discontinued operations are assessed in light of their impact on net income. This evaluation determines not only the most likely outcome but also the worst-case and best-case scenarios. In line with the value-at-risk method, a minimum probability of 5 percent is required for these. Additionally, an evaluation of the probability of occurrence is carried out. Tail events are reported separately. Besides, nonfinancial risks and opportunities are incorporated into risk reporting. These are assessed to determine their impact on nonfinancial issues, such as environmental and labor concerns.

Vossloh documents and presents risks and opportunities in standardized reports. They contain detailed information on risks and opportunities, the parameters by which they are evaluated, and potential measures to manage these risks or harness these opportunities. The risks and opportunities report is issued on a quarterly basis. It supplements the current annual outlook and also addresses predictable and adequately specific risks and opportunities for the following three years. Ad hoc reports round out the regular reports and provide the means to assess the current situation at any time. The risk reports are addressing the Executive Board of Vossloh AG as well as the management of the Group companies and business units. These are responsible for managing and monitoring risks and opportunities. The business units, Corporate Controlling and the Executive Board discuss the current risk situation on a regular basis. The tight-knit personnel structure enables information to flow quickly and reactions to be invoked at short notice.

The Executive Board has adopted suitable measures in order to promptly identify developments that may jeopardize the Group's standing as a going concern. In addition to the reporting system, Vossloh also uses the internal control system (ICS) to uncover and prevent risks in existing processes in order to avoid possible deficits. Internal Audit checks whether the risk and opportunity management system is adequate and functional and whether it is in compliance with statutory requirements on an annual basis. The changes made in light of the additional requirements in the amended version of the assurance standard IDW PS 340 were reviewed by an external auditor in 2021. The early warning risk control system is audited on a regular basis.

The significance that individual risk categories hold for the Vossloh Group is evaluated on the basis of their potential negative and positive impact on the forecast financial earnings indicators and on the probability of occurrence for the given risk category. The risk situation is analyzed following the implementation of risk mitigation measures (net effect) based on a worst-case assessment. Risks are categorized as high, moderate or low based on their possible negative impact and probability of occurrence.

This is shown in the figure below.



The following statements illustrate the risks and opportunities within the identified risk categories that were relevant as of the reporting date and are material to the development of the Vossloh Group. Individual risks and opportunities are highlighted separately if they have a worst case or best case of more than €2 million (net view) taking into account a minimum probability of occurrence.

General economic risks and opportunities as well as industry-specific risks and opportunities

General economic risks and opportunities arise as a result of economic fluctuations, social and political events, changes in exchange rates and interest rates, and changes to legislation and taxation. Industry-specific risks and opportunities arise from the competitive situation and the characteristics of the target markets as well as global megatrends such as population growth, urbanization, globalization, sustainability and digitalization.

The start of the Russia-Ukraine war in February 2022 had a largely indirect impact on Vossloh, resulting in supply chain difficulties and a significant rise in prices for input materials and on the energy markets. Vossloh is countering these risks by approving alternative suppliers, continuously analyzing the energy market and implementing suitable risk reduction measures. The operations in Russia, the majority of which are primarily pooled in a joint venture and a trading company, only account for a small share of Group sales.

The impact of the COVID-19 pandemic on the Vossloh Group remained noticeable in the 2022 fiscal year. Nevertheless, production issues due to infections among employees or official requirements as well as customers and suppliers being affected by worker shortages only affected operations to a very limited extent. Although it cannot be ruled out that the pandemic may affect operations in 2023, any impact is likely to be minor.

Regulatory activities, the state of rail deregulation in different countries and government budgets also have an influence on Vossloh. The latter has a major impact on the ability of public clients to make investments. Reduced availability of public funding can have a negative impact on the future business performance of Vossloh. Increased availability can conversely have a positive impact. In the infrastructure maintenance markets, which are highly critical to the Group, there has been an increased trend toward cost-cutting in recent years due to the continuing strain on public clients' budgets. In order to combat the sharp increase in inflation in 2022, both the US and European central banks incrementally raised key interest rates significantly over the course of the year. This could place a further strain on the costs for refinancing public budgets and restrict the availability of funding. However, there currently seems to be far more political will to shift a considerable amount of passengers and cargo onto the rail network, the most environmentally friendly means of transport, in order to reach climate targets. Numerous regions around the world have set up rail subsidy schemes as part of climate action initiatives. Many countries have announced economic stimulus programs which include measures to boost investment in rail infrastructure.

Vossloh was active in rail infrastructure markets around the world in 2022. In this field, the Group is one of the leading providers in its core business. Vossloh generates more than 85 percent of its sales revenues in Europe, the Americas and Asia.

The political and economic factors that have an impact on European rail infrastructure markets are largely stable. North American markets are significantly more volatile in terms of demand, as most of the rail and network operators there do not benefit from state funding. Vossloh's performance in Asia is characterized by projects related to the continued rapid growth of the Chinese high-speed network. Activities in these and other markets – particularly in the rest of Asia, Australia and Africa – present opportunities for Vossloh as well as additional risks. In these markets, risks may arise in particular as a result of political and social instability, protectionist tendencies, oil price changes or exchange rate volatility – mainly translation risks – and as a result of legal uncertainty.

In isolated cases, there are also risks that products may be substituted by new technical developments and that new competitors may enter the market. The intensity of competition in the field of rail infrastructure has grown noticeably and sustainably in recent years. Vossloh counters these risks by continuously enhancing its products and services and consistently focusing its activities on the needs of its customers and comprehensive cost reduction measures. Digitalization and the new business models resulting from it are playing an increasingly important role in Vossloh's ambitions to focus on the customer.

Vossloh continues to classify the macroeconomic risk from the Russia-Ukraine war as low due to its low level of direct exposure. The risk arising from the COVID-19 pandemic is likewise still considered to be low overall. As in the previous year, the industry risk for the forecast financial targets is also assessed as low.

Operating risks and opportunities

Operating risks and opportunities can originate from various operational activities, particularly in procurement, production and order performance. In the procurement process, Vossloh seeks to limit price risks by means of long-term contractual agreements or sliding scale pricing clauses with suppliers and customers. However, sliding scale pricing clauses are frequently only possible to implement with a delay, and occasionally not possible at all. Vossloh primarily limits exchange rate risks in relation to procurement through the use of foreign currency forwards. The price changes assumed in medium-term planning for materials and components are largely based on information from suppliers and market analyses.

Vossloh monitors changes in material and energy prices on an ongoing basis. If the prices of the materials used and the energy sources required for the production process do not follow the expected trend due to the pandemic or other factors, risks or opportunities for forecasted results may arise from procurement prices being higher or lower, particularly in the Core Components division. As a result of the considerable rise in inflation, collective agreements may lead to results being higher or lower than forecast. These are significant individual risks or opportunities.

Risks can emerge in the course of the procurement process as a result of the loss of suppliers, a shortage of raw materials, quality problems affecting materials or delays in the supply process. Vossloh minimizes these risks by prioritizing arrangements with well-established partners and improving its vertical integration in selected areas. Even though suppliers are carefully selected, regularly contacted and alternative procurement sources are established, future risks relating to the procurement process can be limited, but never entirely eliminated.

Within the value chain, the operating units are generally exposed to the risk of operational shutdowns and quality problems affecting production as well as health, safety and environmental risks. These risks may be intensified if significant investments impact the production processes at a given location. Vossloh avoids or reduces the ensuing risks by means of extensive policies and directives on product and quality management, safe manufacturing practices, occupational health and safety and environmental protection. The Vossloh Group is certified in accordance with a wide range of international quality, environmental and social standards, such as ISO 9001, ISO 14001, ISO 50001, OHSAS 18001 and ISO 45001. If newly acquired units do not hold equivalent certifications, they are brought into compliance with these standards as quickly as possible.

Vossloh may be exposed to risks arising from the complexity of projects when handling orders, especially when a significant amount of factory capacity is used or if the products involved are particularly technically sophisticated. These scenarios can be caused by unexpected technical difficulties, unforeseeable developments at project sites, problems with partners or subcontractors and logistical challenges, as well as delays in approvals, acceptance and billing. This can lead to significant additional expenditure or contractual penalties in certain cases. These risks can be limited, but not fully eliminated, by formulating contracts appropriately and ensuring that capacity, project and quality management are thorough. On the other hand, there may be isolated indirect opportunities if the recognized risk provisions do not need to be fully utilized.

Risks may also materialize after acquisitions where it becomes necessary to impair goodwill if the medium and long-term operational performance of the units in question is significantly weaker than expected and/or if there is a material change in relevant parameters (e.g., the general interest level). The goodwill of acquired companies is not amortized in accordance with IFRS 3 in conjunction with IAS 36. Instead, this goodwill undergoes impairment testing each year as of the balance sheet date. Impairment testing is carried out during the year if exceptional events occur. This testing involves a comparison of the relevant carrying amount of a group of cash-generating units (CGUs), to which goodwill from business combinations is allocated, against the value in use.

Vossloh has recognized the relevant IFRS regulations for risk provisions for existing operational risks. Despite the provisions for known risks with a very high probability of occurrence, the risk of net profit reductions arising from the restructuring of individual sites cannot be fully eliminated and may have negative effects on the achievement of forecast financial targets. The absolute risk value arising from the completion of projects is dependent on the volume and value of development services connected to the relevant order and on the quality of the products.

Vossloh believes that the amount of risk arising from the value chain, changes in the price of materials and the completion of projects is still moderate. As in the previous year, the risk of possible impairment of goodwill is also classified as moderate. Overall, the other operating risks are still deemed to be low.

Financial risks and opportunities

The Corporate Treasury department monitors and limits financial risk within the Vossloh Group and optimizes Group financing on an ongoing basis. Targets, principles, duties and expertise are consistent with corresponding policies. The prime objective is to preserve the company's status as a going concern by ensuring solvency and liquidity at all times. Synergies and economies of scale are also harnessed within the Group where it seems appropriate to do so.

Vossloh only uses derivative financial instruments to hedge specific risks from existing or expected future underlying transactions. These economic hedges are normally also reported as hedge relationships in the balance sheet. These only make use of previously approved, market-standard financial instruments. The trade, performance and controlling functions are organizationally separated. Group Treasury continuously ensures and monitors the effectiveness of risk hedging. It manages the following specific financial risks: liquidity risks, interest rate risks (cash flow risks), price risks and credit risks.

Liquidity risks

Liquidity risks can arise if Vossloh is unable to settle liabilities in a timely and complete fashion. For this reason, the Group conducts ongoing liquidity management that incorporates reserves for potential special needs and the scope required to implement the company's strategy. Financial balancing measures within the Group – including cash pooling systems in individual countries and intercompany loans – facilitate the use of the excess liquidity of individual Group companies in order to cover the financing requirements of others.

Financing and the provision of liquidity typically take place centrally through Vossloh AG as the Group holding company. In February 2021, Vossloh AG issued a hybrid note of €150 million. The note has an indefinite term and can be called and repaid by Vossloh for the first time in February 2026. The funds from the hybrid note were used to repay the Schuldschein loans of €135 million due in July 2021. The proceeds from a Schuldschein loan of €25 million with a term until December 2028 which was issued at the end of December 2021 were used in January 2022 to pay off a €25 million Schuldschein loan with a variable interest rate which was due to expire in July 2024. Of the Schuldschein loans issued in July 2017, only €90 million in loans remain. These will come due in July 2024. These will come due in July 2024. A syndicated loan concluded with eight banks for €150 million with a term until November 2024 has been in effect since November 2017. In April 2019, the volume of the loan was increased by €80 million to €230 million. If necessary, it can be increased by up to a further €70 million during the term of the loan. The funds are available to the company in the form of a revolving line of credit that can be flexibly accessed. In July 2021, a €20 million

loan with a variable interest rate was agreed with another bank and used. The term of the loan will run until July 2024. As of the end of the year, the Group had unutilized credit facilities of €219.6 million at its disposal – in addition to cash.

There are no financing or liquidity shortages. Vossloh still considers the liquidity risk as a whole to be low.

Interest rate risks

Changes to the future interest rate may cause cash flow volatility where asset and debt positions are subject to variable interest rates. Vossloh hedges this risk as appropriate with the use of interest rate swaps and caps. The company regularly performs analyses to determine how changes to interest rates affect cash flows. For the purposes of active risk management, the variable-rate interest cash flows from a long-term loan concluded in 2018 were replaced with an interest rate swap for fixed cash flows at the same time. In August 2022, two forward payer interest rate swaps were also concluded in order to refinance the Schuldschein loans maturing in mid-2024. This fixed the reference interest rate for 2/3 of the maturing volume for the new maturities over five and seven years. The positive or negative impact of a potential change in the ECB base rate on cash flows is deemed to be low. In contrast to the previous year, this risk is considered to be moderate.

Price risks

Price risks result from the value of a financial instrument changing due to increases or decreases in market interest rates or exchange rates. At Vossloh, existing and expected future liabilities and debts denominated in foreign currencies are usually hedged with foreign currency forwards as of the time the order is issued. Translation risks – arising from the translation of financial statements denominated in foreign currencies – are continuously monitored. Due to the high level of hedging of price risks, this risk is still deemed to be low overall.

Credit risks

Credit risks arise whenever a contract partner does not comply with its obligations in relation to a transaction (or only does so in a delayed fashion), thus causing Vossloh to incur financial losses. The Group minimizes credit risks by ensuring that contract partners mostly have good or excellent credit ratings. These ratings – where available – are mainly based on the statements of international rating agencies. As of the end of 2022, of the financial investments and derivative financial instruments with positive market values, 59 percent were with contract partners with a rating of AA+ to AA–, 17 percent were with contract partners with a rating of A+ to A–, 23 percent were with contract partners with a rating of BBB+ to BBB–, while 1 percent were with contract partners with a rating of BB or no available rating. The Group also distributes its financial assets across a number of credit institutions, thus broadly diversifying its risk exposure. There were and are no dependencies on individual banks.

Credit risk is considered low due to the fact that the majority of Vossloh's customers are in the public sector. However, outstanding amounts owed are continuously monitored by Group companies. Some are also insured by means of credit insurance policies. Despite the precautionary measures taken, it is impossible to entirely eliminate the risk of financial losses from nonpayment of receivables. In the export business, orders are usually concluded with letters of credit to limit the credit risk. All contract partners must have good or excellent credit ratings. As a result, credit risk is still deemed to be low.

Legal risks and opportunities

Legal risks arise for Vossloh in particular on the basis of complaints, warranty claims, compensation claims and litigation. Identifiable risks are covered where possible and economically feasible by insurance and – if the relevant requirements are met – reflected in the balance sheet through provisions. However, it is impossible to eliminate the possibility that losses may arise that are not (adequately) insured or exceed the provisions made. On the other hand, there may be indirect opportunities if risk provisions are not utilized entirely.

Group companies of Deutsche Bahn AG have asserted compensation claims against the Group company Vossloh Rail Services Deutschland GmbH (previously Vossloh Rail Center GmbH), Hamburg. Even though the damages directly attributable to the company were settled in 2016 by a partial settlement with Deutsche Bahn AG, there remains a risk of joint and several liability for as yet unsettled damages. The claims were rejected by the court of first instance in 2022. For any outstanding entitlements, Vossloh Rail Services Deutschland GmbH has a right of recourse that is partially secured with bank guarantees. Various customers have also asserted compensation claims in relation to ongoing or concluded competition law procedures concerning rail switches. Provisions for compensation claims are recognized where the assertion of individual customer claims is deemed to be very likely and a reliable estimate of potential compensation amounts seems possible. This is a significant individual risk or opportunity.

Resulting from the divestments in recent years, the purchasers were granted certain guarantee rights and rights of recourse in the purchase agreements. Risk provisions have been recognized for these claims, where utilization of the guarantees and rights of recourse is deemed to be very likely. Opportunities may arise indirectly if the recognized risk provisions do not need to be fully utilized. These are significant individual risks and opportunities.

For the existing legal risks, risk provisions have been recognized in accordance with IFRS. It is impossible to exclude the possibility of the forecast financial targets for Vossloh being reduced due to legal risks, and these risks are still deemed to be moderate.

Nonfinancial risks and opportunities¹

According to the HGB, it is necessary to report on the nonfinancial risks that are associated with the company's own business activities, business relationships, products and services, where these risks have had or are very likely to have severe negative repercussions on the reportable aspects relating to the environment, employment, social welfare, human rights, anti-corruption and anti-bribery activities. The nonfinancial risks are reflected in the Vossloh Group's risk reporting.

There are presently no material risks that meet the criteria described. Vossloh therefore still deems the risk situation in connection with nonfinancial matters to be low.

¹ Part of the nonfinancial Group statement audit for providing limited assurance carried out by Deloitte GmbH Wirtschaftsprüfungsgesellschaft – see page 114 et seq.

Other risks and opportunities

Other risks consist primarily of personnel and information technology risks. Inadequate human resources, such as due to a lack of managers and specialist personnel, can negatively influence the economic situation of the Group. Personnel risks may also relate to high turnover figures of highly specialized personnel and inadequate training, as well as errors made or theft committed by employees. Vossloh applies a variety of measures to counteract these risks, including in particular the positioning of the company as an attractive employer to enable it to successfully compete for highly qualified specialist personnel. A range of training activities are used to improve the expertise of employees, while attractive pay structures increase the likelihood of retaining personnel within the company in the long term.

Complex and powerful information technology has a decisive effect on the management of operational and strategic business processes. Having high-performance information technology at your disposal is crucial as the digitalization trend continues. Vossloh monitors the ever-growing threats to cyber security worldwide and optimizes its IT infrastructure on an ongoing basis. Through the use of technical and organization precautions in particular, Vossloh minimizes risks related to the reliability, availability and confidentiality of the data stored in its information systems. Vossloh AG is monitored by internal and external security experts on a permanent basis. The company uses cutting edge systems to analyze and prevent potential attacks. In addition to making continuous improvements to the already high security standards within the Group, which comprise measures like hardening our infrastructure and using multifactor authentication, relevant training is provided for employees.

Other risks had no significant impact on net income in 2022. The risk is classified as low overall.

Risks and opportunities of Vossloh AG

Vossloh AG prepares its annual financial statements in accordance with the regulations of the German Commercial Code and the German Stock Corporation Act. The statements below refer to the opportunities and risks in the separate financial assessments of Vossloh AG related to net income, which is largely dictated by general administrative expenses, the net financial result and the tax result.

As an operational management holding company, the net financial result of Vossloh AG is largely subject to the same opportunities and risks as those which apply to the Group. Opportunities and risks can have an effect in the form of changes to dividend payments, higher or lower amounts from profit transfers or losses absorbed, in addition to affecting the value of financial assets.

Changes in interest rates expose the net income figure to fluctuation in pension-related expenses recognized as administrative expenses. Higher interest rates can likewise have a negative impact on the value of financial assets included in the net financial result. Deviations in the utilization of risk provisions for divestment projects recognized by Vossloh AG can have a positive or a negative impact on net income.

Assessment of the risk and opportunities situation

All of the described risks and opportunities that the Vossloh Group and Vossloh AG are exposed to are continuously monitored and managed in terms of their effects on the net assets, financial position and results of operations of the Group. The relevant IFRS risk provisions have been recognized for risks that are currently known and considered probable overall. Other current risks and opportunities are – if adequately specified – accounted for in the current annual outlooks. As in the previous year, Vossloh does not anticipate any significant deviations from its targets for the 2023 fiscal year on this basis at the time this annual report was prepared. Based on current information, there is no risk to the Vossloh Group as a going concern in terms of substance or liquidity based on individual risks or all of the currently known risks collectively. The available Group equity is adequate to cover potential risks. The risk and opportunity situation within the Vossloh Group is therefore considered satisfactory overall.

Internal control system

The internal control system is the entire system of defined controls and monitoring activities designed to ensure the security and efficiency of business processes, the reliability of financial reporting and the compliance of all activities with laws and guidelines. In terms of the accounting process, the internal control system encompasses all principles, processes and activities of the Vossloh Group that aim to ensure the effectiveness, cost-efficiency and legitimacy of the accounting system, and to ensure compliance with relevant legal requirements.

An effective and efficient internal control system has a crucial role to play in the successful management of risks in business processes. The risk of fraudulent actions can be reduced by segregating duties appropriately and applying the double-check principle.

Vossloh's internal control system is designed to cover all material business processes and extends beyond simply implementing controls in the accounting process. A number of monitoring measures and controls are implemented as part of the accounting process to ensure, for example, that the consolidated financial statements are prepared in accordance with regulations. Group-wide guidelines and policies are in place for monthly reporting, capital expenditure, offer submissions, compliance and risk management, for instance. The companies and business units of the Vossloh Group are also required to establish policies for local key divisions.

Vossloh regularly performs system backups for relevant IT systems to minimize data loss and system failures. The security concept includes customized authorizations, access restrictions and similar measures. Vossloh continuously adapts the requirements for the internal control system and makes adjustments to the control landscape to reflect changes to processes.

To ensure that risks are systematically identified early throughout the Group, an early-warning monitoring system for risks that may jeopardize the Vossloh Group as a going concern has been established in accordance with Section 91 (2) of the German Stock Corporation Act (AktG). In addition, a suitable and efficient internal control system and a risk management system have been established in accordance with Section 91 (3) AktG. These systems serve to quickly identify, manage and monitor risks that jeopardize the Group as a going concern as well as other risks. The Group auditor assesses the functional capacity of the early-warning risk control system in accordance with Section 317 (4) HGB.

At a business unit level, the respective management companies are responsible for implementing the internal control system on the basis of a large number of coordinated regulations and guidelines. At Group level, this is mainly the responsibility of the Controlling, Accounting, Treasury and Legal departments, as well as Internal Audit. An internal monitoring system encompasses monitoring activities that are both integrated into and independent from processes. Alongside manual process controls (such as peer reviews), IT processes are also a key element of the process-integrated activities. The Legal department also ensures that monitoring is integrated into processes.

The Supervisory Board, in particular the Audit Committee, Vossloh AG's Internal Audit and Legal departments and the locally appointed employees at the level of the management companies of the business units, are responsible for process-independent audits. The (Group) auditor also performs process-independent auditing activities.

Information technology

Accounting transactions are recorded locally in the respective accounting systems of the Group companies. When preparing the consolidated financial statements of Vossloh AG, the subsidiaries add additional information to the individual financial statements, which are prepared on the basis of standardized Group accounting methods, to form standardized reporting packages. These packages are then incorporated into the Group reporting and consolidation system used by all of the companies included in the consolidated financial statements. This system, Cognos Controller from IBM (current version in use: 10.4.0), is used to both consolidate and provide additional management information.

With a small number of exceptions, Group companies use a standardized accounting system from SAP. This IT system enables central access and centrally initiated controls in regard to the accounting process. The system is currently used within Vossloh AG and the overwhelming majority of companies in all divisions.

Key activities to ensure that (Group) accounting is performed in a legally compliant and reliable manner

The Vossloh Group's "Group Accounting Manual" governs the standardized accounting, measurement and valuation principles applicable to the companies included in Vossloh's consolidated financial statements, in addition to detailed formal requirements for the consolidated financial statements. The formal requirements include the binding application of a standardized and complete set of forms.

The "Group Accounting Manual" is regularly revised and updated; the most recent update was carried out in summer 2022. New and revised editions are made available directly to anyone involved in the Group accounting process via the Group intranet.

Accounting transactions within the Group companies are recorded locally but the monthly and annual financial statements are reviewed by the managing company of the relevant business unit. Checks are carried out at random but are also triggered, most notably, by major or unusual transactions.

At the level of Vossloh AG, further plausibility checks are performed by the Accounting, Legal and Controlling departments using appropriate validation rules to ensure compliance with the applicable requirements of the IFRS and German Commercial Code.

Further data is also prepared and aggregated at Group level for use in the notes and management report (including major events after the reporting period).

Based on the organizational, control and monitoring structures established within the Vossloh Group, the internal control and risk management system helps ensure that all of the company's transactions are recorded, processed and validated, and that they are presented correctly in the Group's accounting system.

Poor discretionary judgments, the circumvention of controls, criminal activities and other circumstances cannot be fully eliminated by their very nature, meaning that even Group-wide application of the utilized systems does not constitute an absolute guarantee that the consolidated financial statements are free of errors.

Qualifying statements

The statements made relate solely to Vossloh AG and to the companies that are included in the consolidated financial statements of Vossloh AG whose financial and business policies can be directly or indirectly influenced by Vossloh AG.

Adequacy and effectiveness of the risk management system and the internal control system¹

The internal control system and RMS are audited on a regular basis by Internal Audit. These audits are carried out either as part of the risk-based annual audit plan or as part of audits performed during the year. Critical vulnerabilities in the control system are reported to Vossloh AG's Executive Board and the Audit Committee of the Supervisory Board. Risks are also reported on a regular basis to the Audit Committee. The Executive Board is not aware of any circumstances based on its involvement with the internal control system and risk management system or from reports that would suggest that the internal control system or risk management system were not adequate or effective as of December 31, 2022, in their respective entirety.

Reference to the Declaration on Corporate Governance pursuant to Section 289f and Section 315d HGB

The Declaration on Corporate Governance is printed in the annual report, which is permanently available on the Vossloh AG website (see www.vossloh.com/en/ > Investor Relations > News and publications > Financial Publications).

¹ Statements in this section have not been audited

Outlook

This outlook contains forward-looking statements that are based on the expectations of Vossloh management in relation to the future development of the Group. These expectations are based on estimates made by management using all available information. Assumptions regarding the future development of the international rail technology market and the specific business expectations of Vossloh Group divisions in particular have been taken into account. The statements made are subject to opportunities and risks that Vossloh cannot entirely control or manage. For more information on this, please refer to the statements made regarding the Group's risk and opportunity report (starting on page 64). Actual results and developments may differ from these forecasts if the assumptions underlying the outlook prove to be inaccurate or the aforementioned risks or opportunities materialize. The Vossloh Group assumes no liability for updating the statements made in this outlook beyond statutory publication requirements.

Macroeconomic developments and outlook for the rail technology market

Global economic fluctuations only have a limited impact on Vossloh's short-term performance. Investments in rail infrastructure around the world are generally made on the basis of long-term decision-making processes. Current economic trends are therefore only reflected in the markets relevant to Vossloh to a limited degree. However over the long term, increased levels of debt in various countries, particularly in our home market in Europe, may negatively impact Vossloh's business activities. The vast majority of Vossloh's customers are publicly funded. Some countries may well implement cost-cutting measures in markets that are relevant to Vossloh if they are heavily indebted. However, there is a global trend towards sustainability, resulting in the increasing attractiveness of rail as a mode of transport and rail subsidy schemes, which is expected to lead to increased investment in the rail infrastructure products and services provided by Vossloh.

The Association of the European Rail Industry UNIFE publishes an extensive biannual analysis of developments in the global rail technology market in its "World Rail Market Study". UNIFE uses this analysis to make well-founded predictions for the coming years. The most recent study was published in September 2022. The annual global volume of the entire rail technology market is expected to grow from an average of €176 billion between 2019 and 2021 to an average of around €211 billion between 2025 and 2027 – an average growth rate of 3.0 percent per year. UNIFE estimates the market accessible to European providers, such as Vossloh, to be worth approximately €127 billion between 2025 and 2027. Accessible markets refers to the markets that are available to European suppliers and non-European markets where demand is not exclusively met by domestic capacity. For markets that can only be addressed by European suppliers via joint venture structures, only half of the market volume is classified as accessible. For comparison, a market volume of around €107 billion per year on average was considered accessible for the 2019–2021 period. The expected increase to €127 billion represents a growth of 2.9 percent per year.

The UNIFE study found that projected market growth varies significantly from region to region. The largest accessible rail technology market has been and continues to be Western Europe, with an annual volume of around €41 billion in the 2019–2021 period. Market growth of 3.9 percent per year to approximately €52 billion is anticipated between 2025 and 2027. This is followed by the NAFTA region with a current annual market volume of approximately €26 billion and future annual market volume of around €31 billion (+3.2 percent) and the Asia-Pacific region with a volume of just under €19 billion, expected to rise to around €21 billion (+2.1 percent). These three regions account for more than three quarters of the total accessible rail technology market. For the remaining regions, UNIFE expects the following growth rates in the coming years: Africa/Middle East 7.7 percent, Eastern Europe 6.7 percent, Latin America 4.9 percent and CIS (23.4) percent.

The European Rail Industry Association breaks the rail technology market down into the following segments: infrastructure, rolling stock, rail control, services and turnkey projects. In view of its Core Components, Customized Modules and Lifecycle Solutions divisions, Vossloh therefore operates in the infrastructure segment as well as the infrastructure services sub-segment of the services segment. The volume of the globally accessible infrastructure market has been quantified by UNIFE at an average of €23 billion per year in the period between 2019 and 2021. An annual growth rate of 3.8 percent is currently forecast for the 2025–2027 period. This will provide an annual market volume of approximately €29 billion. The growth forecast for the infrastructure services sub-segment until the 2025–2027 period is 1.8 percent, meaning accessible market volume is expected to increase from the current €6.1 billion per year to €6.8 billion. In total, the accessible market relevant to Vossloh between 2019 and 2021 came to around €29 billion per year. We expect it to grow to roughly €35 billion by the 2025–2027 period (+3.4 percent).

Outlook for 2023

The forecast for the Vossloh Group is based on the expected development of the three divisions Core Components, Customized Modules and Lifecycle Solutions, as well as of Vossloh AG. These relate, for example, to product perspectives, the anticipated behavior of competitors, project probabilities as well as market opportunities and risks in individual regions. Vossloh's customers are publicly and privately-owned regional, long-distance and freight transport operators whose investments are based on long-term decision-making processes within the framework of longer-term funding. Vossloh supports its customers as a partner for many years, working with them closely to plan and develop solutions for individual product and service needs. This usually involves delivery and project lead times of several months and sometimes even several years.

Outlook for management-related performance indicators

		2022	2023 forecast
Sales revenues	€ mill.	1,046.1	1,050 to 1,150
EBIT	%	78.1	79 to 88
EBIT margin ¹	%	7.5	7.2 to 8.0
Value added	€ mill.	11.5	0 to 10

¹ The range for the EBIT margin relates to the midpoint of the sales revenue forecasts.

Sales revenues expected to grow to between €1.05 billion and €1.15 billion

Vossloh anticipates sales revenues of between €1.05 billion and €1.15 billion for the 2023 fiscal year (2022: €1,046.1 million). This increase is primarily driven by the significant order backlog at the end of the fiscal year 2022. All divisions within the Group are expected to contribute to the growth in sales revenues. Vossloh expects the sales of the Fastening Systems business unit of the Core Components division to be on a par with the previous year. Vossloh expects to see an improvement in the sales revenues of the Tie Technologies business unit, due largely to a significant increase in demand in North America.

Vossloh also expects the Customized Modules division to achieve higher sales revenues driven largely by the French management company and the company in Luxembourg. The Lifecycle Solutions division is expected to report a considerable rise in sales revenues, mainly as a result of the preventive rail maintenance framework agreement concluded with Deutsche Bahn in September 2022.

The Vossloh Group is forecasting a further increase in absolute EBIT for the 2023 fiscal year. All divisions are expected to contribute to the improved EBIT figure. EBIT is currently expected to come to between €79 million and €88 million. Based on the midpoint of these sales revenue forecasts, this corresponds to an EBIT margin of between 7.2 percent and 8.0 percent (2022: 7.5 percent).

EBIT expected to be between €79 million and €88 million

Average capital employed is expected to be slightly higher than the previous year in the 2023 fiscal year. The weighted average cost of capital before taxes (WACC) relevant for internal management purposes will be raised to 8.5 percent in the 2023 fiscal year (previous year: 7.0 percent) in line with changes in interest rates. Despite the increase in WACC, value added is expected to be between €0 and €10 million in the 2023 fiscal year.

Value added expected to be between €0 and €10 million

Vossloh AG prepares its annual financial statements in accordance with the regulations of the German Commercial Code and the German Stock Corporation Act. The statements below refer to the separate financial statements. The net profit of Vossloh AG as an operational management holding company is largely dictated by administration costs and the net financial result. As expected, the administrative expenses of Vossloh AG will go up significantly in the 2023 fiscal year. This will be driven by anticipated higher wages in particular along with an increase in the size of the workforce. Vossloh expects to see a significant improvement in the net financial result compared to the previous year, as the 2022 fiscal year was negatively impacted to a significant degree by impairment losses recognized on financial investments. The result after taxes is expected to improve notably in 2023 compared to the 2022 fiscal year.

Vossloh is focused on continuing to implement its corporate strategy over the coming years. In addition to organic growth with increasing profitability, the focus is on forming specific partnerships and making specific acquisitions in order to strategically develop Vossloh's core business and sustainably increase the company's value. The forecasts presented for the 2023 fiscal year only reflect targeted organic growth.

Nonfinancial Group statement¹

The Group nonfinancial statement of Vossloh in accordance with Sections 315b and 315c HGB for 2022 is submitted to meet the requirements of commercial law. In preparing this statement, Vossloh used the standards of the Global Reporting Initiative (GRI) to select the nonfinancial performance indicators and was guided by the principles of the United Nations (UN) Global Compact.

Vossloh is committed to sustainable corporate governance and climate action; sustainability is one of the company's five core values. The Executive Board's sustainability commitment is published on the www.vossloh.com corporate website (section "Investor relations" > "Sustainability" > "Sustainability strategy and management").

Vossloh's commitment to sustainability

enabling green mobility – for a sustainable future

Vossloh's corporate vision means "sustainable, safe and user-friendly rail mobility for a better world". As a globally successful supplier of integrated rail infrastructure solutions with a history stretching 140 years and a unique portfolio covering all aspects of rail transport, Vossloh is a major contributor to the mobility of people and transport of commodities. Rail is the safest, most efficient and most environmentally friendly mode of transport for both local and long-distance transit. Increasing rail transport is, therefore, a key prerequisite for achieving ambitious climate goals. In this context, the digital transformation happening in the rail industry opens up considerable new opportunities for rail as a mode of transport leveraging its ecological benefits further with the aim of finding a sustainable solution to the global challenges in the transport sector.

However, the company's responsibility is not limited to paving the way for sustainable mobility. Vossloh is convinced that successful companies have to include economic, social and ecological factors in their decisions and behavior. Long-term success requires contributing to the well-being of society and ensuring a safe future for the next generations. Vossloh has therefore consciously chosen sustainability as one of its corporate values: "We take responsibility and care for the world around us."

Sustainability strategy and management

Importance of sustainability for the Vossloh business model

Vossloh offers products and services that keep rail routes performing at a high level and facilitate more widespread rail use. The aim is to increase the availability of existing tracks, facilitate efficient and trouble-free operation, and reduce infrastructure lifecycle costs. For further information on the business model, please refer to page 36 et seq.

Group-wide sustainability strategy

In keeping with its guiding principle "enabling green mobility", Vossloh is a driving force behind customer-focused, innovative and sustainable products and services for rail transport. This motto is also reflected in Vossloh's sustainability strategy. Since the 2021 fiscal year, Vossloh has pursued a revised Group-wide sustainability strategy in order to centrally align and focus sustainability activities within the Group, to further improve Vossloh's positive impact on the environment and society, and to improve the transparency of the Group's sustainability performance. Vossloh AG's Executive Board adopted the sustainability strategy and the guideline supporting it in 2021. Vossloh's sustainability commitment, with which the Executive Board underlined and reaffirmed Vossloh's motto and focus, was published on the company's website.

¹ Not part of the financial statement audit, but part of an audit to obtain limited assurance. The independent auditor's report can be found on page 114 et seq.

The sustainability guideline provides the Group-wide organizational framework and sets out the principles for all Vossloh's sustainability measures and initiatives. The guideline defines in particular the scope of action, as well as organization, responsibility and processes. The direction and focus of sustainability measures were set by a materiality analysis in order to determine the sustainability topics relevant to Vossloh. Specific sustainability goals are then set in relation to these key topics. These goals are pursued through sustainability initiatives and the integration of environmental and social aspects into the company's business and decision-making processes. Vossloh is using internal and external communication to make its sustainability performance transparent and also to further strengthen the commitment of its employees on the way to becoming a sustainable company.

Group-wide
sustainability
program

Vossloh has divided its sustainability activities into eight areas of action, which enable a targeted and efficient pursuit of the material topics identified in the materiality analysis.

- Sustainability strategy and management
- Environmental and climate protection
- Safe and sustainable mobility
- Occupational health and safety
- Human resources and leadership
- Good corporate citizenship
- Sustainable supply chains and operations
- Business ethics and human rights

The overarching area, "Sustainability strategy and management", provides the framework for the seven other areas as well as for the Group's future approach.

The Group's Executive Board bears overall responsibility for all sustainability topics and ensures that Vossloh lives up to its ecological, economic and social responsibilities and makes a positive contribution to the environment and society. In operational management, sustainability is the responsibility of the Chief Operating Officer (COO). In addition, Vossloh AG has the Corporate Sustainability department. Created in 2020, the role of head of Corporate Sustainability, who reports directly to the Executive Board, is responsible for the development and implementation of the sustainability strategy as well as for the management of Group-wide sustainability initiatives. In addition, the Executive Board has established a Group Sustainability Committee to centrally manage all sustainability measures within the Group. The committee is run by the head of Corporate Sustainability. Its members include the division heads of key central offices at Vossloh AG as well as the managing directors and sustainability officers of the business units. In addition, each business unit has appointed a sustainability, health and safety officer.

Sustainability
organization

EU Taxonomy and external ratings

100 percent of sales revenues are taxonomy-eligible; 64 percent are taxonomy-aligned

Vossloh has implemented the EU Taxonomy Regulation reporting obligations since the 2021 fiscal year. The EU taxonomy provides a standardized classification system for defining environmentally sustainable economic activities. As in the previous year, 100 percent of the sales revenues in the reporting year 2022 are classified as taxonomy-eligible. The share of environmentally sustainable and thus taxonomy-aligned sales revenues – the majority of which relate to electrified routes – increased to 64 percent in the fiscal year (previous year: 62 percent). Both of these figures are once again excellent and underline Vossloh's sustainable business model. Detailed information on the requirements of the EU taxonomy, a comprehensive and detailed description of the implementation of these requirements at Vossloh as well as the required key figures according to Annex II to the Commission Delegated Regulation can be found on page 103 et seq.

Ratings underpin Vossloh's sustainability performance

For many years, rating agencies have assessed and recognized Vossloh's sustainability performance on a regular basis. Among other things, the company currently has a "prime status" according to Institutional Shareholder Services (ISS) ESG, which places Vossloh in the top 10 percent of its sector. EcoVadis has also awarded Vossloh silver status, and the score obtained means the company ranks among the top ten percent of all companies assessed. MSCI ESG Research upgraded Vossloh's rating from A to the second-best rating of AA (on a scale from AAA to CCC) in the reporting year 2022. Such rankings play a special role for Vossloh: the company was one of the first companies in Germany to place a sustainability-oriented hybrid note at the beginning of 2021. The redemption amount of the note is linked to the company's sustainability performance as measured by ISS ESG and MSCI ESG Research ratings.

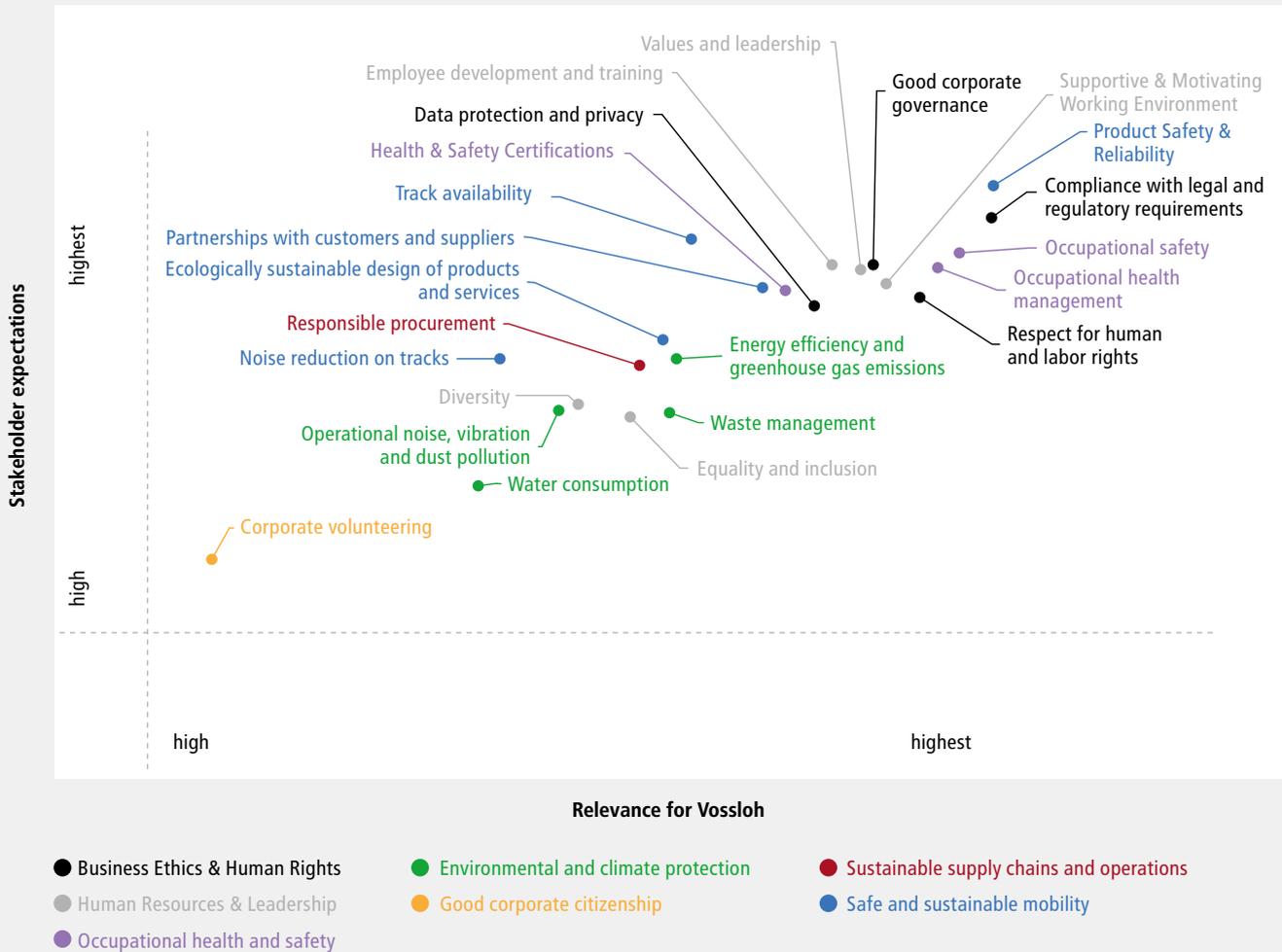
Another criterion for the assessment of Vossloh's sustainability performance is certification in accordance with internationally recognized norms and standards. The great majority of Vossloh units have certifications in at least one of the international quality, environmental, energy efficiency or occupational health and safety standards such as ISO 9001, ISO 14001, ISO 50001, ISO 45001 or its predecessor standard OHSAS 18001, or a comparable national standard and have corresponding management systems in place. As in the previous year, 98 percent of Vossloh employees were employed at a site with one or more of these certifications as of December 31, 2022. 97 percent of operating companies have at least one of these certifications.

Sustainability topics, goals and initiatives

Reporting on nonfinancial topics

In order to identify the relevant sustainability topics, Vossloh conducted a materiality analysis in 2021 with the participation of representative external and internal stakeholders as well as the Group Sustainability Committee and the Executive Board. To this end, a total of 38 potentially relevant sustainability topics were divided into seven areas of action. As part of the materiality analysis, 198 representative stakeholders were surveyed, including 53 external participants. The ranking and prioritization of the sustainability topics were determined by linking stakeholders' expectations to the relevance for Vossloh in each focus area. The Executive Board and Group Sustainability Committee identified a total of seven focus topics to guide the company's further sustainability efforts, each of which was assigned a specific sustainability target. There was no need for any changes or additions with regard to the selection of topics and targets in 2022. For this reason, the report below once again covers 23 individual topics in seven areas of action.

Sustainability areas of action



This statement also reports on how the Group implements the ten principles of the UN Global Compact.

The nonfinancial statement covers Vossloh’s global activities. The companies considered correspond to the scope of consolidation of the consolidated financial statements (see “Consolidation” section, page 128 et seq). The management report contains supplementary and/or more detailed information regarding a number of the nonfinancial topics and these are cross-referenced accordingly. The company’s risk reporting covers all major risks associated with Vossloh’s business activities. It also includes the major nonfinancial risks to which Vossloh may be exposed (see “Nonfinancial risks and opportunities” section on page 70).

Group-wide sustainability goals and initiatives

The table below indicates the seven areas of action with the relevant Group-wide sustainability goals assigned to sustainability factors in accordance with Section 289c HGB:

Sustainability aspects	Areas of action	Group-wide goals
Environmental matters	Environmental & climate protection	- CO ₂ neutrality by 2030 (Scope 1 and Scope 2)
Employee matters	Occupational health and safety	- 20 percent annual reduction in the frequency of workplace accidents
	Human resources and leadership	- introduction and implementation of the new value-based Vossloh leadership principles
		- implementation of a Group-wide diversity, equality and inclusion policy
Social matters	Good corporate citizenship	- implementation of a corporate volunteering program to enhance social commitment
Respect for human rights	Business ethics and human rights	- 90 percent sustainable strategic sourcing volume by 2025
Combating corruption and bribery	Sustainable supply chains and operations	
Other topics	Safe and sustainable mobility	- reduction of the ecological footprint of Vossloh's products and services along the entire value chain

Key performance indicators are defined for all of the above goals, which can be used to measure the degree to which they have been achieved. At the end of 2021, the company also launched a Group-wide sustainability initiative for each goal. These initiatives were continued in 2022 and have produced some initial results, which are covered in the respective sections. Reports on all activities were prepared for the Group Sustainability Committee and the Executive Board on a regular basis.

In addition to these areas of action and sustainability goals, which apply to the entire Group, a wide range of other sustainability initiatives are being implemented in the various business units and at the company's sites. As of December 31, 2022, there were a total of 44 ongoing sustainability initiatives.

Environmental and climate protection

The Vossloh Group takes care to make efficient use of resources and minimize its environmental impact. The continuous optimization of the use of materials, energy and personnel as well as the ongoing enhancement of processes are an integral part of day-to-day business for business management reasons alone. This applies to the manufacture of rail infrastructure products and components as well as the provision of rail track services. In addition, environmental officers have been appointed to tackle relevant issues at the Group companies' sites and corresponding reporting systems have been installed. As of December 31, 2022, 84 percent (previous year: 83 percent) of the Vossloh workforce was employed at a unit bearing ISO 14001 certification. 65 percent of operating companies have been certified in this way.

In terms of “Environmental & climate protection”, Vossloh identified four topics as relevant in the materiality analysis.

- Energy efficiency and greenhouse gas emissions
- Operational noise, vibration and dust pollution
- Water consumption
- Waste management

These are described in more detail below. The Group-wide sustainability goals defined for this area relate to the individual topic „Energy efficiency and greenhouse gas emissions“; all related measures and progress are covered in that section.

Vossloh is particularly focused on CO_{2e} (CO₂ equivalents) emissions due to their impact on climate change. The company has set itself the goal of achieving CO_{2e} neutrality (Scope 1 and Scope 2) in stages by 2030. The extent to which this aim is achieved is measured using the indicators for CO_{2e} emissions, CO_{2e} intensity (CO_{2e} tons /sales revenues in € million) and energy intensity (energy consumption in MWh/sales revenues in € million). Energy intensity and CO_{2e} intensity are the key indicators used by Vossloh to measure its progress in terms of energy efficiency and minimizing CO_{2e} emissions, while also taking the company’s growth targets into account.

Energy efficiency and greenhouse gas emissions

As part of the Group-wide Carbon Neutrality 2030 (Scope 1 & 2) initiative, a cross-divisional team led by the head of Corporate Sustainability introduced plans to reduce energy consumption and CO_{2e} emissions in 2022 with a focus on both the most energy-intensive processes and equipment and the most CO₂-intensive energy sources. The project team compiled data on the initial situation in all units, established detailed targets and defined the measurement tools. The next step was to train employees in all departments.

A comprehensive package of measures was put together at the level of each individual company and site to help them achieve annual reduction targets in stages. Some projects based on these measures were implemented in 2022 and have produced some initial results. For example, all of Vossloh’s sites in Germany as well as several units in Serbia, Finland, Sweden, the UK and the Netherlands now use „green“ energy for all of their electricity needs. Over the next few years, Vossloh expects its action plans to result in a continuous reduction of direct and indirect CO_{2e} emissions in relation to the Vossloh Group’s sales revenues.

The following tables present the consumption of significant energy sources within the Vossloh Group for the year under review and the comparative figures from 2021:

MWh (Vossloh Group)	2022	2021
Gas consumption	80,391.6	90,854.2
Electricity consumption	74,454.5	71,529.5
District heating consumption	3,887.7	4,586.4

Liters (Vossloh Group)	2022	2021
Heating oil consumption	101,638.0	244,403.1
Fuel consumption	1,744,685.5	969,009.0

The amount of Vossloh’s carbon and greenhouse gas (GHG) emissions was determined, as in previous years, on the basis of the Greenhouse Gas Protocol in the categories of scope 1 and scope 2. The results were as follows:

t CO ₂ equivalents, scope 1 (Vossloh Group)	2022	2021
Gas consumption	14,676.2	16,643.5
Heating oil consumption	258.2	620.8
Fuel consumption	4,384.4	2,390.8
Scope 1	19,318.8	19,655.1

t CO ₂ equivalents, scope 2 (Vossloh Group)	2022	2021
Electricity consumption	24,281.6	26,496.0
District heating consumption	1,252.2	1,333.4
Scope 2	25,533.8	27,829.4

The following table shows the energy and CO_{2e} intensity, each in relation to the Vossloh Group's total sales revenues.

Energy and CO ₂ equivalent intensity (Vossloh Group)	2022	2021
Energy intensity (MWh/€ million)	170.4	190.7
CO _{2e} intensity (CO _{2e} tons/€ million)	42.9	50.4

The Vossloh Group noticeably reduced its CO_{2e} emissions (Scope 1 and 2) in the 2022 fiscal year despite a significant increase in sales revenues. While sales revenues went up by 11.0 percent, scope 1 and scope 2 emissions declined by 5.5 percent compared to the previous year. In 2022, Vossloh reduced its CO_{2e} intensity, i.e. its CO_{2e} emissions in tons per € million in sales revenues, by a significant 14.9 percent. This remarkable improvement was mainly driven by a major decrease in gas consumption, especially as a result of efficiency improvements and intensified energy-saving measures, which more than offset a significant increase in fuel consumption due to increased business and travel activities. The lower CO_{2e} intensity was also due to a steadily increasing share of green or lower carbon electricity purchases.

Vossloh does not have sufficient data yet to determine the greenhouse gas emissions relating to the upstream and downstream areas (Scope 3).

All the divisions have been making investments to reduce energy consumption and boost energy efficiency for years. Exemplary measures are the conversion of lighting to LED technology, the use of lost heat from production at several sites and the switch of an increasing number of units over to green energy providers. The units are performing systematic reviews to determine whether installing photovoltaic systems and/or heat pumps could help them to become more energy-efficient. In 2022, the Customized Modules division commissioned an investigation into whether selected sites could integrate a biomass power plant into their energy supply. Energy consumption is an essential decision-making criterion for investment choices and process optimization, particularly in light of rising energy prices. In 2022, Vossloh optimized the heating at its production facilities and administrative buildings, with a particular focus on its European sites. This allowed us to save a significant amount of energy and reduce CO_{2e} emissions while still ensuring pleasant working conditions.

The company's operating units are working on further reducing CO₂ emissions through a wide range of measures. Energy efficiency was one of the guiding principles followed by Vossloh Fastening Systems when building and outfitting the „Factory of the Future“ in Werdohl. Thanks to this focus, the amount of energy used per 1,000 bent tension clamps is now significantly lower compared to the previous production process. Despite this success, the company is always looking for further opportunities to improve – even on a small scale. Making changes to the weekend shutdown of the pickling line and the compressed air leakage testing system were two of the ways Vossloh saved electricity in 2022. The Fastening Systems business unit is also investing in renewable energies. Solar panels have been ordered for the Werdohl site. These are due to be installed in 2023 and will supply up to 560 MWh of energy annually when fully operational. Our site in Anyang, China, also began the process of installing a photovoltaic system on the roof of its plant in 2022. Vossloh started planning the installation of solar cells and heat pumps at its Polish production site.

Along with other measures, the Customized Modules division introduced an energy-based „Gemba“ concept to make it easier to assess the current situation on site during plant tours or training sessions and raise awareness. Rooftop solar systems were installed at an Indian site to cover some of the site’s energy needs. Another Indian site significantly reduced its gas consumption by upgrading its heat treatment plant for switch castings. Significant improvements were made in heating oil consumption at a site in the UK through the use of new and more efficient boilers and continuously monitoring temperatures.

In the manufacture of its products and in the provision of its services, the company endeavors to keep noise and dust emissions as well as oscillations and vibrations at the relevant sites as low as possible to minimize the impact of track construction work on employees, residents and nearby facilities. Vossloh Fastening Systems fitted the bending presses at the Werdohl plant with soundproof booths in 2022. Noise-emitting equipment was also installed at several sites in the Customized Modules division in 2022.

Operational noise,
vibration and dust
pollution

In Vossloh factories, water is mainly used for surface treatment of products, as a coolant in various production processes and for the production of concrete ties. Vossloh units obtain the water from the respective local public water suppliers. The company is committed to using this basic resource as efficiently as possible. As such, used water is reprocessed in our own plants and returned to the operating process, particularly in production areas that require a substantial amount of water. In some cases, the production units work with closed water circuits. At all of its sites, Vossloh disposes of wastewater via the respective public sewage systems. Process water that is heavily contaminated during production is first treated in our own wastewater treatment plants in such a way that it (at least) meets the discharge standards of the public systems.

Water consumption

The following table illustrates the Vossloh Group’s water consumption as determined by the meters:

m ³ (Vossloh Group)	2022	2021
Water consumption	177,797.6	178,173.3

Water consumption was slightly lower than in the previous year despite the notable increase in Group sales. The decrease was mainly due to significantly more efficient water use at the Fastening Systems business unit’s production sites. Particularly in Germany water consumption was significantly reduced at the new production facility in Werdohl.

As part of their sustainability strategy, management within Vossloh companies has set a goal of using natural resources responsibly and sparingly. Material consumption and disposal quantities are recorded and monitored in the individual units. Vossloh units use safe disposal methods that are separated according to waste types. The selected waste management companies are then reviewed regularly. Where it is technically possible and practical, closed material life cycles and reprocessing plans reduce the consumption of valuable new raw materials to a minimum.

Waste management

Recycling can reduce the need for raw materials and the amount of waste produced. Economically viable recycling programs and processes ensure that the amount of waste ultimately sent to landfill sites at Vossloh is steadily on the decline. Steel scrap and plastic are recycled at all sites. At several sites, Vossloh Fastening Systems is using reusable transport containers. Vossloh Tie Technologies recycles process water on a large scale. Customized Modules further processes the packaging of the delivered raw materials in Fère-en-Tardenois. In 2022, the division continued a project that was launched in 2021 to further increase the percentage of recycled steel used in the casting of frogs.

Downcycling, i.e. the reprocessing of materials without preserving their original quality, is another way to extend the lifecycle of a material. At Vossloh Rail Services, for example, nonreprocessible residue from grinding stones is used as an additive in slag production.

Safe and sustainable mobility

The importance of rail as a mode of transport is growing enormously, especially against a backdrop of ambitious climate protection goals. Moving greater levels of traffic onto the rail network is a core part of sustainable, environmentally and climate-friendly mobility.

In the area of „Safe and Sustainable Mobility“, Vossloh’s materiality analysis identified the following five topics of relevance to Vossloh:

- Track availability
- Product safety and reliability
- Noise reduction on tracks
- Ecologically sustainable design of products and services
- Partnerships with customers and suppliers

These are described in more detail below. The Group-wide sustainability goals defined for this area relate to the individual topic „Ecologically sustainable design of products and services“; all related measures and progress are covered in that section.

Track availability

In light of the limited amount of funds available for investment and in view of lengthy planning and approval times for the construction of new rail lines, more efficient use of existing rail lines is becoming increasingly important – through greater utilization, higher travel speeds or longer (and heavier) trains. However, the higher the load on the rail infrastructure, the greater the wear and the more important ongoing monitoring and maintenance becomes in order to avoid failures. Vossloh can make two contributions to increase the availability of rail tracks: On the one hand, Vossloh can develop and manufacture products that are more durable and require less maintenance. On the other hand Vossloh can also play a part in making rail network maintenance more efficient. When it comes to switch and rail maintenance, Vossloh covers the entire range of requirements for corrective milling and preventive grinding: In mainline and mass transit networks alike, the company’s high speed grinding (HSG), high performance milling (VTM performance), multipurpose milling (VTM compact) and Flexis system offer tailored solutions for every type of rail line that extend the service life and usability of rail infrastructure. Vossloh provides welding services and logistics expertise ranging from rail and switch replacement to the complete overhaul of rail lines.

In doing so, the Group combines the use of its innovative grinding and milling technologies with a diagnosis of the condition of the infrastructure. It is precisely in this area that digitalization opens up considerable potential, especially for condition-based and, in the future, predictive maintenance. Rail and switch condition data from track-based systems are supplemented by the diagnostic data provided by the grinding machines equipped with measuring technology. Applications such as mapl-e and MR.Pro will merge the collected data into Vossloh’s cloud-based platform, provide a quick overview of the need for action for the line (sections) and suggest appropriate measures for damage prevention or repair. The benefit is self-evident: Smart maintenance is based on the actual need for action instead of servicing at fixed intervals as in the past. At the same time, Vossloh’s grinding machines are designed to be incorporated into scheduled traffic. This means that rail lines no longer have to be closed for maintenance.

Vossloh's products and services are subject to detailed technical specifications and standards that must be met. All the main production plants have quality management in accordance with ISO 9001 or a comparable national standard like the AAR's M1003 standard in the USA. As of the reporting date, December 31, 2022, 96 percent (previous year: 97 percent) of the Vossloh workforce was employed at a unit bearing this certification. 94 percent of operating companies have been certified in this way.

Product safety and reliability

The products and services generally undergo thorough testing that often lasts for years before they are applied to the tracks. This is performed on the company's own test benches and in its own testing laboratories, with test usage by the customers and as part of the complex approval process of certified testing organizations. All of Vossloh's business units have their own Research and Development departments, which are staffed by highly specialized professionals (see the "Research & Development" section on page 59 et seq.).

Through the use of tailored instructions, briefings, consulting, training and seminars both before and after delivery, Vossloh ensures that its customers' employees can handle the company's products appropriately. Sales and Technology specialists are available to handle customer questions.

To minimize possible issues jeopardizing the safety of its products and services, Vossloh is very careful in its choice of suppliers. These are chosen by the individual operating units with their specific expertise. These subject potential suppliers to a comprehensive assessment before they are commissioned for the first time, based on a self-assessment by the supplier. A key aspect is a supplier's unfailing ability to meet the quality standards stipulated by Vossloh. Product quality, service and delivery reliability are crucially important factors in this context. All of Vossloh's partners are repeatedly assessed on the basis of fixed aspects, in particular concerning quality. Contracts are only awarded to companies on the list of approved suppliers. Vossloh suppliers must generally be able to guarantee at all times that their goods and services meet the applicable regulatory and statutory requirements.

Reducing the noise caused by rail traffic and improving track acoustics have been a focus of Vossloh's research and development work for years (see also "Research and development" on page 59 et seq.). Because tackling noise at its source is a particularly effective approach, Vossloh is taking steps to optimize the contact between wheel and rail. The company offers suitable products and services in all divisions that can reduce rail noise on a sustainable basis. Examples are the cellentic components and rail fastening systems with a high plastic content that dampen structure-borne noise, the so-called whisper switches and rail machining technologies (grinding, milling) for restoring a smooth and, therefore, quiet surface. The rail and switch maintenance machinery can achieve noise reduction of up to 10 dB(A) by precisely removing material. The machines themselves also operate extremely quietly. For example, the milling machine VTM compact, generates noise measuring less than 78 dB(A) during operation, so that residents are not disturbed even during a night shift. For comparison, on a quiet residential street, the noise level is roughly 40 dB(A); a car going 50 km/h reaches a volume of 70 dB(A).

Noise reduction on tracks

Ecologically sustainable design of products and services

For economic reasons alone, all entities of Vossloh aim to use resources as sparingly as possible. Sustainability criteria have been incorporated into the development and design process for new products and services for years. In 2021, all innovation processes were harmonized across business units with the help of the Group-wide innovation guideline (Innovation Playbook). In 2022, the approaches and criteria our business units use to design sustainable products and services were compiled so that they could be standardized. The company also made additions to the corresponding Innovation Playbook and prepared detailed recommendations for action with a focus on the sustainability aspects of low energy consumption (and low carbon emissions) and avoiding the use of problematic raw materials. The entire life cycle of a product is taken into account from the outset, including its recycling and/or disposal. Vossloh also analyzes the long-term impact of its services on the basis of life cycle assessments in accordance with international standards such as ISO 14040 or 14044.

The current Group-wide sustainability initiative aims to reduce the environmental footprint of products and services along the entire value chain. A life cycle assessment (LCA) was carried out on the basis of one or more products from all three divisions using the „cradle to grave“ approach. The results are being integrated into the innovation and development process for products and services as EcoDesign principles in order to minimize their impact on the environment. The views of customers and suppliers and their needs regarding sustainability are also incorporated into the development process at an early stage in order to achieve a good product-market fit.

Suitable LCA software and a database system were selected in parallel to the life cycle assessments. At the end of the year, (at least) one product or service in each division had undergone an LCA with a focus on carbon emissions. The amount of effort required to analyze a product or service varies significantly between business units. In 2023, the results of the LCAs will be used to identify the changes which are most likely to result in the highest reduction in carbon emissions. The Fastening Systems business unit has so far documented the environmental impact of 19 products from their development to the time that they leave the factory. Vossloh Rail Services carried out its first life cycle assessment for a HSG-city railgrinder in the third quarter using the same approach.

Partnerships with customers and suppliers

Customers have always been considered partners of Vossloh, in part due to long-standing business relationships, especially in the development and market launch of new products, services or business models. For example, the Core Components and Customized Modules divisions frequently carry out test installations on selected customer tracks. In the recent past, for example, the novel composite tie Engineered Polymer Sleeper (EPS) has been tested in the USA, Sweden, Romania, Finland and Germany, among other countries. The new MIM-H digitally controllable point machine was subjected to similarly thorough field tests at track operators in several countries. Vossloh Fastening Systems has partnerships in place for the development of a new rail fastening system for slab tracks in cities and a customized fastening system for a rail-bound automated means of transport (people mover), among others. The grinding and milling machines belonging to the Lifecycle Solutions division also demonstrated their initial market readiness in test applications at customer sites. The multiyear framework agreement with Trafikverket for condition monitoring of a total of 1,000 switches in Sweden is another example of the kind of partnerships that Vossloh cultivates with customers. Here, the strategies for an efficient and targeted approach are developed jointly and decisions on concrete measures are made after close consultation.

The prerequisite for such close cooperation is satisfied customers, which is why the Vossloh units attach great importance to structured feedback – also in order to learn from any mistakes. The uniform Customer Relationship Management (CRM) software rolled out across the Group includes a tool for assessing customer satisfaction using specific questions linked to customer groups.

In 2022, several business units gathered customer feedback in different ways. In Germany, for instance, Vossloh Fastening Systems once again asked a small group of loyal customers for a review and conducted broader surveys in China and Poland. Vossloh Switch Systems performed surveys at several sites based on the „Net Promoter Score“ system. The results showed a high level of satisfaction with Vossloh’s products and services. Isolated points of criticism led to improvements being implemented promptly.

Vossloh also enters into partnerships with suppliers to ensure that their products exactly meet Vossloh’s requirements. One example is CogX: The heat-treated laminated steel for frogs and point blades was developed by Vossloh Switch Systems together with Arcelor Mittal. For the construction of the SF03 W-FFS rail milling train, which incorporates the highly complex technology for the complete reprofiling of rail lines in just one operation, Vossloh Rail Services is relying on its proven cooperation with Linsinger. All sensors for monitoring the switches in Sweden are supplied by a partner who, together with Vossloh, has adapted the products to the conditions prevailing there.

Occupational health and safety

Ensuring the health and safety of all employees and others on our premises lies at the heart of Vossloh’s duty of care. The company aims to have as many units as possible certified in accordance with the internationally recognized ISO 45001 standard (see also “Health and Safety Certifications” on page 91 et seq.). The standard provides the company with suitable tools and measures to integrate occupational safety and health protection into its processes. For the managers of the operating units, attainment of the defined occupational safety performance indicators is an integral part of their pay-related target agreements. Since 2021, an occupational health and safety training module has been available to all employees via the Vossloh Learning Platform (VLP).

Vossloh’s materiality analysis identified the following three issues of relevance in connection with occupational health and safety:

- Occupational safety
- Occupational health management
- Health and safety certifications

These are described in more detail below. The Group-wide sustainability goals defined for this area relate to the individual topic „Occupational safety“; all related measures and progress are covered in that section.

In the past year, the ongoing COVID-19 pandemic again presented Vossloh with the challenge of protecting the health of its employees and preventing the spread of the virus in the workplace. Coordinated via the COVID-19 crisis team, comprising the chief operating officer, the heads of the Corporate Sustainability, Corporate Human Resources and Corporate Controlling divisions, and the HSE managers of the business units, the comprehensive protective and precautionary measures were maintained and readjusted as necessary. The Group Works Council, local employee representatives and the Work Safety Committee were involved in the decisions. The company’s employees were informed about the impact of vaccination against the virus. In some cases, units even conducted on-site vaccinations.

Although the course of the disease was typically milder than at the beginning of the pandemic, production workers were still instructed to stay at home and get tested if they suspected they might have the virus. Working time models with a certain amount of remote work were developed for the employees in the administrative areas. These models will be maintained going forward to improve the work-life balance of our employees and foster an encouraging working environment.

Occupational safety

There has been a permanent Group-wide occupational safety body within Vossloh since 2012 in the form of the Work Safety Committee. This has initiated important steps to harmonize the occupational safety conditions across the various divisions in recent years. For example, a standard occupational safety policy has been developed, which is mandatory for all companies around the world. This policy defines the vision of the zero accident strategy. The Work Safety Committee also played a key role in the development of the Group’s own SAFE+ accident prevention app.

One of the aims of the current Group-wide sustainability initiative is to reduce the frequency of workplace accidents by 20 percent annually. Relevant key figures for goal achievement are the internationally used variables such as lost time accident frequency rate (LTAFR) and lost time accident severity rate (LTASR), as well as the number of potential accident risks reported and minimized via the SAFE+ app.

The Work Safety Committee, headed by the head of Corporate Sustainability, plays a key role in implementing this policy in close coordination with the Group Works Council. In the 2022 fiscal year, the Committee continued to focus on the various measures and programs used to improve occupational safety at Vossloh. The Work Safety Committee launched a new global training campaign to encourage employees to identify and report occupational safety risks entitled „See Something. Say Something.“ and put together a self-evaluation plan which all sites can use to assess their occupational safety measures. One of the key aims of the plan is to encourage everyone within the Group to learn together and from each other and continuously improve occupational safety at Vossloh.

In line with this, the full Executive Board meets with the heads of the business units on a quarterly basis to discuss the latest developments in terms of occupational safety, the frequency, severity and causes of workplace accidents, as well as the preventive and corrective measures implemented in response.

All of these measures had a very positive impact on occupational safety at Vossloh in the 2022 fiscal year. Workplace accidents have been documented at Vossloh on the basis of uniform criteria, over and above what is required by law. Accidents resulting in lost time due to an employee’s ill health are reported directly to the Executive Board.

Workplace accidents (Vossloh Group)	2022	2021
Lost time accidents (LTA) ¹	107	118
Lost time accidents frequency rate (LTAFR) ²	13.6	16.4
Lost time accidents severity rate (LTASR) ³	1.6	2.8

¹ Accidents resulting in injury-related absence of employees or temporary staff involving lost time of at least 1 hour.

² Frequency of accidents resulting in injury-related absence of employees or temporary staff involving lost time of at least 1 hour, measured in the number of workplace accidents in relation to the cumulative actual work time, based on 1 million hours worked.

³ Severity of accidents resulting in injury-related absence of employees or temporary staff involving lost time of at least 1 hour, measured in the duration of lost time in relation to the cumulative actual work time, based on 1,000 hours worked.

The accident frequency rate (LTAFR) was reduced by 17.1 percent last year compared to the previous year. Vossloh succeeded in reducing the severity of accidents (LTASR) by a significant 42.9 percent.

As in the previous year, there were no work-related fatalities in the Vossloh Group in 2022.

Both accidents with and without lost time and near accidents are analyzed at Vossloh in order to learn from them for the future and reduce the number of accidents at all the company’s sites. Prevention is a matter of importance to the company in order to stop workplace accidents from happening in the first place. This includes regular conduct-based safety inspections designed to raise safety awareness among the employees, regular safety instruction and training for all the staff, online training sessions on safety-relevant subjects, the provision of comprehensive protective equipment, safety markings at the various workstations and awareness campaigns. Impressive videos or safety flashes (anonymized summaries) of accidents are also frequently used. The “Four seconds for safety” campaign is regularly discussed at the start of a working day or a get-together within the wide, with brief reference being made to a specific safety aspect, and not just in the production area.

The SAFE+ app plays an important role in minimizing potential risks and consequently achieving the goal of reducing the frequency of workplace accidents by 20 percent annually across the Group. As of December 31, 2022, SAFE+ was available in English, French and German. A version with other languages used within the Group will be made available in 2023. Vossloh employees use the app to report safety risks which they spot at work in order to systematically reduce hazards at all sites and in all areas. During 2022, employees reported a total of 1,309 potential accident risks, 975 of which (74 percent) were minimized without delay.

If employees have to travel internationally for their work for Vossloh, they can make use of the Group's travel safety management system. They will then receive comprehensive support with regard to medical and safety aspects of their trip, as well as precautions for possible emergencies. The company's Travel Security Managers and worldwide Assistance Centers, in addition to a service provider's assistance app, are available for this purpose.

Vossloh's occupational health management aims to offer all employees preventive healthcare. This includes the occupational safety measures already mentioned, workplace ergonomics, driver safety training and company medical care, as well as making fruit available on a daily basis, nutritional counseling, company sports (including running groups and yoga courses), help quitting smoking, and preventive measures (including colorectal cancer screening, flu vaccinations, health screening and health tips).

Occupational health management

The „VFS stays healthy“ initiative was launched at Vossloh Fastening Systems in Werdohl in 2022 with a focus on musculoskeletal disorders, cardiovascular diseases, stress management and nutrition. Employees were given free trials at the local gym, trained for a company run, went on a city bike ride, took part in workshops dealing with mental stress and attended talks on nutrition. In the Customized Modules division, employees have been receiving psychological support as required, thanks to a 24/7 telephone hotline.

In 2022, together with experts from the service provider pme Familienservice GmbH, Vossloh continued to support its employees at its German sites faced with challenging situations in which family members required particularly close attention – from childcare to caring for relatives or personal crises. Vossloh made preparations to introduce a supplementary company health insurance policy as of January 1, 2023 during the period under review. The comprehensive range of benefits is available to employees at every subsidiary in Germany. This includes 300 euros per year covered by their employer which they can use for a variety of medical services.

Vossloh attaches great importance to workplace safety and protecting its employees' health. The introduction of a corresponding management system and certification integrates current requirements into the ongoing processes of a company. The mandatory audits by independent external auditors ensure that legal obligations and requirements are met. The ISO 45001 standard is internationally recognized in this field, replacing the formerly more common OHSAS 18001 (Occupational Health and Safety Assessment Series) standard. At the end of 2022, the units certified according to this standard employed around 89 percent (previous year: 88 percent) of Vossloh's workforce. 81 percent of operating companies have been certified in this way.

Health and safety certifications

In June 2022, the Vossloh Fastening Systems plant in Anyang, China, successfully completed the ISO 45001 audit on its first attempt. The Dutch company Vossloh ETS BV was included in Vossloh Rail Services' group certification in 2022. In the Customized Modules division, the Bydgoszcz site was ISO 45001 certified for the first time in 2022, while the plant in Malaysia was certified at the beginning of 2023. Vossloh is committed to ensuring that new units which join the Group are ISO 45001 certified as quickly as possible.

Human resources and leadership

A committed and inspired workforce is the bedrock of the company's long-term success. Vossloh, therefore, attaches great importance to fair labor conditions. Key topics in this regard are equal opportunity, continuing professional development opportunities in all areas, fair remuneration, additional company benefits (above and beyond the statutory and/or tariff-based arrangements), and a motivating working environment. Observance of local statutory regulations and standards forms part of the compliance obligation (see "Compliance" section on page 98 et seq.).

In terms of „Human resources and leadership“, Vossloh's materiality analysis identified the following five topics as relevant to Vossloh:

- Values and leadership
- Employee development and training
- Supportive and motivating working environment
- Equality and inclusion
- Diversity

These are described in more detail below. Two Group-wide sustainability goals have been defined for this focus topic. One goal relates to „Values and leadership“, while the other relates to „Diversity“. Information on measures and progress can be found in the relevant sections.

Values and leadership

The „One Vossloh“ guiding principle is gathering steam. Following a successful restructuring, a focus on rail track and the inclusion of sustainability in corporate values and the corporate strategy, Vossloh is working on a new conception of the Group for internal and external communication. Three leadership principles were established as part of the Group-wide sustainability initiative at the end of 2021: "we create value for Vossloh", "drive constant improvement" and "we are close to our people". These value-based guidelines apply in equal measure to management and all employees at Vossloh. Indicators were defined in 2021 to provide a transparent process for determining whether decisions are made in line with these leadership principles. Training sessions on this topic were held throughout the Group in 2022 accompanied by a communications campaign. By the end of 2022, over 80 percent of all managers at the company had completed training on the leadership principles. A two-day workshop on how to give customers the best possible impression of Vossloh was also offered to sales employees in all business units.

A uniform Group-wide talent and succession planning process was introduced in 2021 and rolled out globally over the course of 2022. Roundtables were held in all units, at which members of the top two management levels evaluated the workforce according to the new specifications.

The company intends to provide additional training on both the values and leadership principles and the talent and succession planning process in 2023. Managers and employees are supported with a blended learning approach consisting of e-learning, training courses and case studies to facilitate knowledge sharing. In the future, annual follow-ups involving the People Review Process (PRP) and roundtables will check that both topics are achieving the intended impact.

The general rules for working at Vossloh are summarized in a Code of Conduct that each and every employee is required to sign upon joining the company. The principles of conduct set out in the Code of Conduct form a binding yardstick and benchmark for the day-to-day activities of all employees (see the "Compliance" section on page 98 et seq.).

One of Vossloh's major advantages in terms of its attractiveness as an employer is the comprehensive array of development measures it offers its employees. The company specifically promotes talent by striving to offer attractive opportunities, including offering all junior staff the possibility of working in digital project-based international roles. In annual review meetings, various measures are agreed upon to provide employees with customized training while taking operational needs into account. Proper implementation of these measures is closely monitored and evaluated by the HR departments. In addition, managers and employees sit down for six-monthly reviews to discuss the level of attainment for the agreed goals and development operations.

During the period under review, for the first time the People Review Process for managers and above-tariff paid employees not only included individual goals and development measures, i.e. WHAT, but also HOW these measures and goals can be achieved in line with the company values and leadership guidelines. 90.5 percent of all managers and nontariff employees (previous year: 80.7 percent) went through this process during the year.

The large number of professional development measures for Vossloh employees covering all areas of expertise comprises external and internal training, workshops, project involvement (within or outside of a business unit) and coaching as well as increasingly digital learning opportunities. At the Vossloh Fastening Systems „Factory of the Future“ in Werdohl, the training program for employees who have not received training yet and for new employees was continued in the year under review. There was a strong focus on training in online and blended learning formats in 2022, as in the previous year. A total of 2,143 employees took part in 8,305 events – 8.5 percent more than the previous year.

Vossloh also supports employees gaining qualifications on their own initiative, such as by studying alongside working. For example, Vossloh Fastening Systems grants employees in China undergoing further training an additional day off before exams or other events, so they are better prepared. In addition, there is a cross-division LEAD! Program, which prepares high-potential employees for more advanced duties. The program was revised and aligned with the newly developed values and leadership principles in the previous year.

The Vossloh Learning Platform (VLP) is a digital environment for continuous learning (“Learn”), sharing (“Share”), and growth (“Grow”) in the company. The platform creates an inspiring and motivating culture of learning that every employee can contribute to and benefit from. The VLP is an example that learning takes place every day and in numerous ways. Learning options are divided into on-site, tailor-made and digital learning, so a suitable solution can be found quickly depending on the learning need. The VLP is available to all employees worldwide in German, English and French.

Supportive and
motivating working
environment

Aging societies in developed countries, a shortage of skilled workers in many parts of the world, increasingly digitalized workplaces, global competition for well-qualified engineers and the younger generation's expectations of employers – these are just some of the challenges faced by Vossloh in the area of human resources. The company, therefore, attaches great importance to providing its employees with a positive work environment. Being a green company in a crisis-proof industry is a vital component of our employer branding activities.

Modern IT facilities, fresh fruit, free mineral water, surprise gifts on special occasions, i.e. Christmas, Easter – and Thanksgiving (U.S. only), sports groups and team building are all clear incentives for employees at Vossloh.

Vossloh practices a life phase-oriented HR policy. The issue of work-life balance is discussed between employee representatives and management in a constructive manner. The German Vossloh companies have all successfully passed the „Work and Family“ audit.

In March 2022, a social pact was introduced to improve the work-life balance at all of the French companies in the Vossloh Group. The guidelines include a ban on sending emails or making phone calls outside regular working hours. Employees with care responsibilities have also been granted certain privileges. Special rules about working from home have been put in place at all locations in order to improve the work-life balance of our employees. Part-time working models and additional schemes have been set up for parents to help them balance their professional and personal obligations. All corresponding regulations are required to comply with the legal requirements of the respective countries.

Topics that further strengthen Vossloh's sustainability approach are also incorporated into the company's bonus system. The continuous improvement process (CIP) in place in some business units was transformed into the Group-wide Fit 4 Future ideas program in 2021 in close cooperation with employee representatives and the Executive Board. All employees can submit ideas via an app available in several languages and support their implementation across all business units. The express aim is to reduce the use of materials and energy as well as manpower and time in all areas of the company, thereby cutting costs. The best projects resulting from the submitted proposals are entered in an annual competition. Three projects selected by a jury each receive the Eduard Vossloh Award. The finalists present their ideas at the annual Leaders' Lounge meeting, with attendees deciding on the order of the winners. In 2022, projects from Luxembourg, Germany and Australia were selected as finalists.

During the year under review, employees or teams from all business units submitted almost 1000 ideas (previous year: over 650 ideas), of which just under 300 were implemented in 2022. Twelve proposals were nominated for the prize named after the company's founder – consisting of a cash sum as well as training and team building opportunities. A team from Vossloh Switch Systems in Rumelange, Luxembourg received the €15,000 first prize.

Vossloh Group companies assess employee satisfaction by means of regular surveys regarding various focal issues. Improvements and changes are identified on the basis of these surveys. In 2022, employee surveys were conducted at the Chinese sites (on working conditions in each case; a number of suggestions were implemented directly) and Polish sites (with a focus on online training, the quality of which was assessed as good) of the Vossloh Fastening Systems business unit along with a number of other sites. Vossloh was again awarded the „Training Company 2022“ seal of quality based on the positive assessments of its apprentices in Germany. In the Customized Modules division, Vossloh Nordic Switch Systems is a pioneer in terms of employee surveys and conducts regular surveys on motivation levels and other issues. The same procedure is due to be adopted by the other units of the division in 2023. Vossloh Rail Services goes one step further when it comes to employee satisfaction: satisfied employees who recruit skilled workers to join Vossloh receive a bonus.

As a matter of principle, Vossloh promotes equal opportunities for men and women. The Diversity, Equality and Inclusion Policy, which was revised in 2021, provides the Group-wide framework for various initiatives in this area, i.e. in raising awareness among managers, selecting employees for high-potential programs, filling vacant positions or as part of the life-phase-oriented HR policy. In the Customized Modules division, the “All on track” initiative launched in 2019 is having an impact despite some temporary constraints imposed by the COVID-19 pandemic. The initiative was given a boost by the fact that, in France, companies with more than 50 employees are obliged to publish annual figures relating to professional equality between men and women. In the corresponding Penicaud index, Vossloh Cogifer SA, the management company of the Customized Modules division, scored 87 out of a possible 100 points in 2022. Vossloh Cogifer is also a partner of the French organization Elles bougent, which encourages women to study STEM degrees and pursue a career in this field. In Germany, the Rail Services business unit is a corporate sponsor of proTechnicale e.V., an association that specifically promotes young women working in technology.

Equality and inclusion

As a globally acting Group, Vossloh actively promotes diversity within its workforce. The company went a step further in 2022 by appointing diversity officers for each business unit as part of the Group-wide sustainability initiative. In addition to acting as a point of contact, they are also responsible for initiating or implementing sustainability-related projects in their respective business units. The first round of ideas and examples of best practice were discussed at the diversity officer kick-off meeting.

Diversity

In 2022, Vossloh employed men and women from over 44 countries with a wide range of qualification levels, education levels, vocational training paths, career experience and service years within all of its hierarchical levels. The French Vossloh sites participate in the nationwide TREMPILIN initiative (translated: springboard; abbreviation for TRansport EMPLOi INnovation). It aims to reduce the shortage of skilled workers in the transport and logistics industry by encouraging and promoting applications from people with disabilities. Vossloh Rail Services offers internships and apprenticeships for socially disadvantaged young people as part of the NachwuchsCampus traineeship initiative. The trainees in this business unit also include several refugees.

The following table shows some key HR indicators, which should be viewed in the context of Vossloh’s status as a global industrial manufacturing Group:

Vossloh Group workforce structure ¹ (as of 12/31)	2022	2021
Proportion of women in total workforce as a %	15.2	14.9
Age structure of employees as a %		
< 31 years	16.1	16.5
31–50 years	54.0	53.3
> 50 years	29.9	30.2
Length of service of employees as a %		
0–10 years	60.8	59.2
11–20 years	21.0	22.2
> 20 years	18.2	18.6
Employees by region as a %		
Germany	20.7	22.1
France	19.6	21.1
Rest of Europe	32.5	30.9
Asia	13.2	14.0
America	7.7	6.6
Australia	6.3	5.3

¹ Number of employees based on actual headcount.

Good corporate citizenship

Vossloh prides itself on its status as a “good citizen”. As such, the company is involved in social and charitable initiatives in the communities where a site is established.

In terms of „Good Corporate Citizenship“, Vossloh’s materiality analysis identified the issue of corporate volunteering as relevant to Vossloh in connection with sustainability: The Group aimed to establish a Group-wide corporate volunteering program over the course of 2022.

Corporate volunteering

Social topics at Vossloh have so far been the responsibility of the various operational units; accordingly, there has been no Group-wide concept so far. In addition, the contributions made to the community by the individual corporate entities at the various sites were not systematically recorded. In a first step, the corporate volunteering program „Stronger Together – Responsible. Caring. Generous.“ was developed in 2022. The aim is to support Vossloh’s vision and values by encouraging employees to take responsibility for their communities and social environment. Staff are granted up to one (paid) day off per year to spend volunteering.

In order to draw up a set of uniform guidelines across the Group, the diverse activities of Vossloh’s units were compiled into an overview which was then analyzed by using models from other companies. The internationally renowned business school ESCP Berlin was brought on board as a professional partner to assist with drawing up and implementing the program. The program is due to be rolled out across the Group over the course of the year after a final review in spring 2023.

Individual Vossloh companies traditionally support civic society at their respective locations in a variety of ways. For example, associations, social and cultural institutions, and organizations that support disadvantaged people receive donations in cash and in kind. A number of Vossloh units release employees for voluntary work in the public interest, such as firefighting, sitting on local councils and charity work. The Lifecycle Solutions division uses funds that can be awarded to charitable organizations to promote increased participation in social, athletic, cultural or environmental areas by its employees. At the Australian subsidiary Austrak, employees have a paid absence day which they can use to work for a charity organization of their own choice.

Sustainable supply chains and operations

Sustainable business means looking beyond one's own factory gate. It concerns managing the environmental, social and economic impacts of products and services throughout their entire life cycle – from the procurement of raw materials, through processing and manufacturing processes, and the use of products and services, to their disposal or recycling.

Vossloh will pay even greater attention to these topics in the future. As part of its sustainability initiatives, the Group has voluntarily committed itself to responsible procurement. Vossloh AG's Executive Board is committed to meeting the highest possible environmental, social and governance standards in its procurement decisions and published the Responsible Sourcing Commitment (see „Investor Relations“ > „Sustainability“ > „Sustainable Supply Chains and Operations“) on the company's website www.vossloh.com in December 2022.

The 2021 materiality analysis identified "Sustainable supply chains and operations" as one of seven key focus areas. The goal was set to expand sustainability in the supply chain and to increase the share of sustainably purchased strategic procurement volume to 90 percent by 2025. From 2023, as part of a responsible sourcing management system, sustainability criteria will be defined and implemented in procurement, a criteria-based risk assessment of suppliers will be conducted and suppliers will be bound by a Group-wide Code of Conduct.

The Vossloh Group developed and established a management system in the 2022 fiscal year to manage its sustainable purchasing processes. Relevant sustainability risks in existing supply chains were identified and assessed to determine their relevance for Vossloh in a comprehensive process in partnership with an independent auditing firm.

Responsible
procurement

This responsible sourcing management system is designed to ensure that sustainability criteria are given significant consideration when selecting suppliers and managing our relationships with them. From 2023, Vossloh will require strategic suppliers to provide information on the measures and processes they have in place to ensure compliance with environmental, social and governance standards. Vossloh's purchasing departments will draw up sustainability profiles for suppliers on the basis of this self-disclosure and the corresponding evidence. Vossloh expects its suppliers to place a high priority on sustainability in their activities and to set up internal measures to ensure this. Suppliers are required to meet a minimum standard of sustainability in order to be selected by Vossloh.

Vossloh also works with suppliers to ensure the continuous improvement of environmental and social conditions, in particular labor standards and in relation to good governance. Existing and new strategic suppliers are required to accept the Vossloh Code of Conduct for Business Partners. The revised version of the Code of Conduct will be mandatory for strategic suppliers worldwide from 2023 onwards. It defines essential and binding rules related to sustainability for Vossloh business partners, which the company itself follows, namely ensuring compliance with applicable laws, observing globally applicable human and employee rights, prohibiting child and forced labor, enforcing health and safety standards, environmental protection, transparency in the supply chain, responsible procurement of minerals, the prohibition of corruption and bribery and compliance with competition laws.

One particular focus of the company's efforts in terms of sustainable procurement is a ban on the purchase of conflict minerals (3TG). The company published a statement to this effect on its website www.vossloh.com in 2022 (see „Investor Relations“ > „Sustainability“ > „Sustainable supply chains and operations“). Vossloh itself does not knowingly use any 3TG minerals (i.e. tin, tantalum, tungsten or gold) from conflict-affected and high-risk areas (CAHRAs) in the manufacture of its products or the provision of its services, the acquisition of which may directly or indirectly finance or otherwise facilitate armed conflicts. Ensuring that such raw materials are not sourced is part of Vossloh's supplier selection process and included in the Code of Conduct for Business Partners.

From 2023 onwards, compliance with the accepted obligations will be assessed as part of regular audits based on the identified risk profile in consideration of the country-specific risks for the supplying production site. If a business partner fails to meet expectations, Vossloh will generally work with them to improve the situation. Vossloh may terminate its business relationship with a supplier if it materially breaches its obligations under the Vossloh Code of Conduct for Business Partners or is repeatedly unwilling to take appropriate remedial action.

Employees, business partners and third parties can turn to the responsible internal departments at Vossloh or the compliance ombudspersons if they believe that the Code of Conduct for Business Partners may have been violated.

Business ethics and human rights

The nonfinancial aspects of corporate governance, compliance, particularly combating corruption and bribery, antitrust law and respect for human rights are outlined below. All of the above points have responsibility and risk minimization in common.

As a global enterprise with a 140-year history, Vossloh has a social responsibility toward its customers, employees, partners, investors and the public. From this responsibility, Vossloh derives the requirement that the company and its employees adhere to the laws as applicable, respect basic ethical values and act in an exemplary fashion at all times and in all scenarios. This requirement is set out in writing in the Vossloh Code of Conduct. The Code of Conduct, which all employees sign when they join the company, is designed to help them live up to this responsibility.

Good corporate governance

As a German stock corporation, Vossloh AG has a dual management and monitoring structure as reflected in the two bodies the Executive Board and the Supervisory Board. Both bodies have an obligation toward the company's well-being and the interests of the shareholders. The Annual General Meeting, as the third body, is responsible for the company's key fundamental decisions (see Corporate Governance Report on page 28 et seq.).

Compliance with legal and regulatory requirements

Preventing violations of the law of any kind, in particular corruption and anticompetitive behavior, is a key concern of the Vossloh Executive Board for the entire Group. The Executive Board has also unequivocally summed this up in its Compliance Commitment, which states: "Compliance with the law has absolute priority over closing a deal or achieving internal goals. We would rather forgo a business opportunity than violate the law.

We do not tolerate any violation of the law or of our internal guidelines and policies and will sanction any such behavior (zero tolerance policy)." (see www.vossloh.com > "Investor Relations" > "Corporate Governance" > "Compliance"). The area of Compliance is overseen within the Executive Board by the Chief Executive Officer (CEO).

The Executive Board of the Vossloh Group has established a Compliance Management System. The Vossloh Group's Rules of Procedure of the Compliance Organization govern the Compliance Organization, the assignment of responsibilities among officeholders and the reporting duties of all the different company levels. The Compliance Organization comprises the Chief Compliance Officer (supported by a Compliance Office), the Group Compliance Committee at Vossloh AG, compliance officers and compliance committees within the business units and local compliance officers within the operating companies.

The Compliance Management System is designed to identify compliance violation risks and to minimize them in order to prevent Vossloh and its employees from incurring damage and liability risks. Bribery in business transactions and breaches of competition law were identified as key compliance risks in a risk inventory conducted with external support in 2016 and last updated in 2021. This relates in particular to sales and all the sales-promoting activities, including intermediaries. The Compliance Management System addresses these risks and minimizes them with the help of suitable processes and measures.

Since 2007, Vossloh's Compliance Management System has been based on the Vossloh Code of Conduct. The Code stipulates and precisely defines the values of integrity and upstanding business conduct, and interprets them as clear and straightforward rules and principles. It is currently available in 15 languages and is mandatory for all company employees. It was most recently completely revised and further developed in 2016. There are also guidelines on the prevention of corruption, antitrust law-compliant conduct and the introduction of intermediaries as well as data protection, export control and insider guidelines (for more information on Compliance at Vossloh, see: www.vossloh.com > "Investor Relations" > "Corporate Governance" > "Compliance").

Compliance as part of business activities constitutes part of regular classroom training held at all Vossloh companies. The teaching requirements and the participants are identified and selected by the Compliance Officers within the business units and the Local Compliance Officers on the basis of the Vossloh Compliance Training Concept. The Compliance Office headed by the Chief Compliance Officer keeps a record of the classroom training sessions held. In 2022, Vossloh conducted compliance training around the world for a total of 1,283 participants (2021: 723).

Compliance training is also given in the form of e-Learning, which was revised from the ground up in 2021. The "Code of Conduct – Compliance Basics" module is aimed at all employees who work at a computer workstation. In addition, there are two modules for all managerial staff and employees with external contact that focus on competition law and anticorruption measures. These are also the target audience of the "refresher" module on anticorruption, competition law and foreign trade law. All new employees are gradually taken through the e-Learning program. The Local Compliance Officers systematically record the employees' attendance and send them reminders to attend, if need be. As of December 31, 2022, the training rate stood at 96.3 percent (2021: 95.0 percent)

Compliance audits are performed – usually with the assistance of external audit firms – in order to verify that the Compliance Management System rules are being adhered to within the individual operating units. These audits are carried out on both an ad hoc and scheduled basis. In 2022, three ad hoc compliance audits were carried out, of which one audit started in 2022 was only completed in 2023. Further, compliance issues were also audited as part of the internal audit process. Additionally, the company regularly has its Compliance Management System reviewed by external experts and has them make recommendations regarding its further development and improvement.

The most recent extensive review took place in 2017; the audit report has been published on www.vossloh.com under "Corporate Governance" > "Compliance" in the "Investor Relations" section. Insofar as findings and recommendations were stated regarding compliance work, these have been and will be implemented in the course of the ongoing development and improvement of the Compliance Management System. Vossloh also performed a stocktaking and survey of managers and employees of the Group in 2018 which confirmed the effectiveness of the established Compliance Management System in particular. In the fiscal year 2021, another Group-wide compliance risk assessment was carried out with the support of an auditing firm. The purpose of this risk assessment was to determine the Vossloh Group's compliance risks in the areas of antitrust law, anti-corruption, and export control, taking into account existing compliance rules and measures (see „Legal risks and opportunities“ on page 70). The appropriateness of the existing Compliance Management System was further validated overall. The Compliance Office and Corporate Controlling conduct annual risk dialogues with selected companies of the Vossloh Group in order to monitor the effectiveness of the Compliance Management System and document material risks; two risk dialogues were held in 2022.

Vossloh has set up a whistle-blower hotline together with an international law firm. In addition to the option of contacting the Compliance Office directly, this allows company employees and external whistle-blowers to report possible misconduct to an independent external contact (ombudsperson) in their native language. The whistleblower hotline has so far been set up for 24 countries. As such, the main regions and the languages spoken within the Vossloh Group are essentially covered. The ombudspersons were contacted on two occasions in 2022 (2021: three occasions). All resulting investigations into possible compliance violations were concluded.

Vossloh has also taken special precautions to ensure compliance with foreign trade regulations, notably export control and embargo legislation. Beyond the obvious need to comply with applicable legal provisions, Vossloh shares the security objectives pursued by foreign trade legislation, especially the strengthening of international peace efforts and the non-proliferation of weapons of mass destruction. An export control policy for the entire Group and which is based on applicable law creates a binding framework for the entire Vossloh Group and all its employees to ensure compliance with the respective legal requirements. The framework requirements of this policy are supplemented by more extensive regulations in the form of work and organizational instructions, process descriptions, etc. The policy states that each operational unit must appoint an Export Officer and a Trade Compliance Officer (TCO). In cooperation with the respective HR departments, they develop training concepts and ensure that all employees working in areas relevant to foreign trade receive the appropriate training. Vossloh's central compliance e-learning tool also includes the module "Foreign trade law."

The Vossloh Group also expects its suppliers and service providers to act in accordance with the rules and demonstrate lawful conduct. This is verified and controlled in specific cases as well as on an ad hoc basis. Group-wide "Guidelines on the Involvement of Intermediaries" apply to business dealings with commercial agents, agencies, distributors and consultants in the sales area. Their purpose is to prevent the risk of unfair practices on the part of contracted third parties and to minimize the risks for the company and its employees.

Vossloh has maintained a Group-wide register of associations as part of its Compliance Management System, in which all company and private memberships in industry associations are recorded. Vossloh AG's primary association memberships are as follows:

- The Railway Industry in Germany (VDB)
- Association of the European Rail Industry (UNIFE)
- Deutsches Verkehrsforum (DVF)
- Institut für Bahntechnik GmbH (IfB)
- Pro-Rail Alliance
- Association of German Transport Companies (VDV)

Vossloh does not make donations to political parties or similar institutions.

Respect for human and labor rights

Vossloh respects internationally recognized human rights in its business activities, and these are codified as binding rules for all the employees in Section 10 of the Vossloh Code of Conduct ("Protection of human and labor rights"). The Code of Conduct can be found under www.vossloh.com > „Investor Relations“ > „Corporate Governance“ > „Compliance“. Risks that may result from the violation of human rights are recorded under "Nonfinancial risks and opportunities" on page 70.

To minimize the risk of child labor, Vossloh, as a rule, does not employ anyone under the age of 14 or 15 (depending on the legal provisions in the different countries). In addition, the majority of Vossloh's production facilities are located in Europe. Employees under the age of 18 are usually apprentices. The instructors responsible for them are duty-bound to observe all the relevant labor law and occupational safety rules and provisions. A whistle-blower hotline is available in order for possible misconduct to be reported. No human rights violations were reported in the 2022 fiscal year (2021: also no reports).

More recent major partnership contracts such as joint venture agreements generally already include the Vossloh Code of Conduct and, therefore, also its human rights aspects as mandatory conduct rules. The same applies to contracts with intermediaries (e.g. commercial agents and distributors).

The various Vossloh companies subject their suppliers and intermediaries to intensive preliminary checks before concluding a contract with them. Here the company has so far not had cause to check compliance with human rights.

Adherence to local laws and standards (for example, minimum wage or fundamental labor law conditions) is an integral part of Vossloh's compliance obligations. The European Works Council, the Group Works Council, the Executive Board and Corporate Human Resources regularly communicate at Vossloh in order to guarantee the flow of information, discuss scope for improvements, address new issues together and tackle these in projects.

The protection of personal data is a matter of importance to Vossloh. The company revised its data protection management system to comply with the European General Data Protection Regulation (GDPR) and adjusted the organization in accordance with the new legal requirements. It is binding for all Vossloh companies and all staff worldwide, even outside the European Union. Compliance with the Vossloh Data Protection Policy is monitored by appointed data protection officers and data protection coordinators, as well as a data protection committee at the Vossloh AG level that meets regularly.

Data protection and
privacy

UN Global Compact and implementing its ten principles

Vossloh is an active participant of the United Nations (UN) Global Compact. By supporting the principles of the UN Global Compact, the company is highlighting its contribution to achieving the global Sustainable Development Goals (SDGs) by 2030. The Group focuses its commitment on the six of the total 17 SDGs:

- SDG 5: Achieve gender equality and empower all women and girls
- SDG 6: Ensure availability and sustainable management of water and sanitation for all
- SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- SDG 12: Ensure sustainable consumption and production patterns
- SDG 13: Take urgent action to combat climate change and its impacts

The following table provides an overview of voluntary commitments, mission statements and management systems that help the company integrate the principles of the UN Global Compact into its business processes:

Principle	Vossloh's statements, guidelines and management systems	Section of the nonfinancial Group statement
Human rights		
1. Companies should ensure that international human rights are supported and protected.	- Vossloh Code of Conduct - Group-wide occupational safety policy - Group-wide travel safety management - Occupational health management at Vossloh companies	- Values and leadership - Occupational health and safety - Respect for human and labor rights
2. Companies should ensure that they are not complicit in human rights abuses.	- Group-wide privacy policy as per GDPR	- Compliance with legal and regulatory requirements
Labor standards		
3. Companies should respect the freedom of association and the effective recognition of the right to collective bargaining.	- Vossloh Code of Conduct	- Values and leadership
4. Companies should work to eliminate all forms of forced labor.	- Corporate Compliance Commitment - Group-wide compliance management system	- Compliance with legal and regulatory requirements - Respect for human and labor rights
5. Companies should advocate the abolition of child labor.	- Group-wide diversity, equality and inclusion policy - "All on Track" initiative in the Customized Modules division	- Equality and inclusion - Diversity
6. Companies should advocate the elimination of discrimination in employment and at work.		
Environmental protection		
7. Companies should follow the precautionary principle when dealing with environmental problems.	- Vossloh Code of Conduct - Group-wide environmental management system	- Environmental and climate action
8. Companies should take initiatives to promote greater environmental awareness.	- Waste and hazardous materials management at Vossloh companies	- Ecological design of products and services
9. Companies should accelerate the development and dissemination of environmental	- Quality management at Vossloh companies	- Responsible procurement
Preventing corruption		
10. Companies should work to avoid all forms of corruption, including extortion and bribery.	- Vossloh Code of Conduct - Corporate Compliance Commitment - Group-wide compliance management system - Group-wide embargo and export control policy - Group-wide policy on the use of intermediaries	- Values and leadership - Compliance with legal and regulatory requirements

EU taxonomy and its implementation at Vossloh

As part of the European Green Deal climate action initiative, the EU Commission aims to achieve the transition to a modern, resource-efficient and competitive economy and climate neutrality by 2050. A central component of this is the EU Taxonomy Regulation, a classification system for defining environmentally sustainable economic activities. The regulation, which went into effect July 12, 2020, defines six environmental objectives:

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

So far, detailed criteria have only been defined for the first two environmental objectives. The remaining criteria for environmental objectives three to six are still being developed and are therefore likely to become relevant for reporting purposes in the coming years.

According to EU taxonomy guidelines, economic activities are “environmentally sustainable” if they

- make a substantial contribution to the achievement of one or more of the six environmental objectives referred to (substantial contribution),
- do no significant harm (DNSH) to the achievement of the five other EU environmental objectives, and
- comply with minimum regulations for occupational health and safety and human rights (minimum safeguards).

Technical screening criteria are used to determine whether an economic activity meets the first two points. These are currently only available for the first two EU environmental objectives. As a result, these two objectives alone need to be disclosed for the 2022 fiscal year.

The regulations differentiate between “taxonomy-eligible” and “taxonomy-aligned” activities. If activities can be assigned to the taxonomy criteria, they are taxonomy-eligible, regardless of whether the technical screening criteria are met. Activities are taxonomy-aligned if the taxonomy-eligible activities also meet the criteria.

In accordance with the EU Taxonomy Regulation, Vossloh reported on the share of sales revenues, capital expenditures (CapEx) and operating expenses (OpEx) of taxonomy-eligible and non-taxonomy-eligible economic activities, respectively.

The report for the 2022 fiscal year was prepared in accordance with the Taxonomy Regulation as amended on June 18, 2020 and the technical screening criteria of the Delegated Act to the Taxonomy Regulation of June 4, 2021. The wording used therein is still open to interpretation. Vossloh’s interpretation is laid out below.

In 2021, Vossloh’s business activities were initially assigned to the relevant taxonomy criteria in predefined sorting. Interviews and workshops were then held with relevant contacts and experts from the business units and key Group companies. The aim of these talks was to analyze business activities and to check whether the corresponding taxonomy criteria for the business activities have actually been met (alignment test).

The analysis of all activities of the Core Components, Customized Modules, and Lifecycle Solutions divisions revealed that all of Vossloh's business activities can be assigned to the category "rail infrastructure" (Section 6.14. of the Delegated Act on the Taxonomy Regulation of June 4, 2021). According to the regulation, this category includes, among others, the construction, modernization, operation and maintenance of railroad lines. The lion's share of Vossloh's business involves the manufacture and supply of major rail infrastructure components and systems. In addition, Vossloh offers comprehensive rail-related services, a major part of which involves the maintenance of rails and switches. Vossloh is either directly involved in the construction, modernization or maintenance of railway infrastructure or supplies its products to customers who require them for the construction or maintenance of railway lines.

For economic activities to be classified as environmentally sustainable, they must meet the technical screening criteria for taxonomy-alignment. The taxonomy-aligned activities were analyzed and the taxonomy-aligned shares of sales revenues, CapEx and OpEx were determined to be as follows:

- Substantial contribution: the activities of each business unit were reviewed to assess compliance with the technical screening criteria
- Do no significant harm (DNSH): The DNSH criteria mainly relate to compliance with legal requirements or, in the case of the "Transition to a circular economy" objective, to key aspects of business activity. In this regard, an assessment of DNSH compliance at business unit level was appropriate, and performed regularly.
- Minimum safeguards: A Group-wide approach was adopted to ensure compliance with the minimum safeguards requirements, which enables these criteria to be tracked precisely and consistently.

Vossloh's business activities contribute to an accessible and efficient rail network which is a basic prerequisite for the environmentally desirable modal shift to rail (see the comments on page 86 of this annual report). No other mode of transport is more climate-friendly than rail. For the purposes of the Taxonomy Regulation, Vossloh's business activities as a whole are to be regarded as an "enabling activity for climate-friendly mobility". Vossloh's business activities can generally be assumed to make a substantial contribution to climate change mitigation if they meet the technical screening criteria set out in the rail infrastructure category. According to the Taxonomy Regulation, Vossloh's activities are presumed to make a significant contribution to climate change mitigation only if they are performed on electrified rail lines or on lines for which an electrification plan exists. This does not cover rail lines intended only for the transportation of fossil fuels.

The electrification of rail infrastructure is not Vossloh's responsibility, and, in some cases, the locations where the products are used are not known. In analyzing whether the criteria for electrification are actually met, Vossloh followed a three-stage process. Initially, the company assumed that all activities that took place on high-speed lines and in rail-bound urban traffic would make a significant contribution to climate change mitigation, as these lines are generally fully electrified. Secondly, Vossloh analyzed the key individual projects in terms of the electrification of the rail lines. Thirdly, the electrification rate of the relevant country was used for analyzing the remaining projects. The data come from publicly available research and information from official statistical authorities, rail companies and associations. In addition, all activities of the Core Components, Customized Modules and Lifecycle Solutions divisions globally were examined with regard to existing rail lines designed for the transport of fossil fuels. These activities do not meet the criteria to be considered taxonomy-aligned. It emerged that no Vossloh activities could be associated with rail lines of this kind.

In analyzing its activities, Vossloh has focused mainly on how its operations contribute to the “climate change mitigation” environmental objective. Activities with a significant contribution to the “climate change adaptation” environmental objective were not identified.

Next, activities classified as mitigating climate change were to be assessed to determine whether they led to a significant degradation of one or more of the above environmental objectives (DNSH criteria). With regard to the DNSH criteria for the EU environmental objective „climate change adaptation“, there is no evidence that the physical consequences of climate change significantly affect Vossloh’s economic activities.

The criteria for the EU sustainable use and protection of water and marine resources environmental objective primarily refer to statutory and regulatory requirements with which Vossloh is obliged to comply. Many of Vossloh’s business activities do not require the use of water as a resource at all, such as the milling and grinding of rails and switches, welding services, logistics or assembly work. Otherwise, the resource is mainly used in Vossloh factories for the surface treatment of products, as a coolant in manufacturing processes and for the production of concrete ties. Contaminated wastewater is treated in the company’s own wastewater treatment plants in such a way that it meets the discharge standards of the public water supply at a minimum (see also the comments on page 85).

With regard to the “transition to a circular economy” environmental goal, Vossloh products meet long durability and longevity requirements, as most components are designed for a particularly long service life and can be recycled and reused at the end of their useful life. In addition, the Lifecycle Solution division’s service portfolio extends the service life of rails and switches.

Vossloh also complies with the EU environmental goal of “preventing and reducing environmental pollution.” A large number of Vossloh products and services contribute to the reduction of track noise and vibrations (see also the “Track-related noise and vibrations” section on page 87).

Regarding the EU “Protect and restore biodiversity and ecosystems” environmental objective, environmental impact assessments (EIA) and comparable reviews are conducted by Vossloh where such a requirement exists. Vossloh is generally not subject to the EIA obligation when manufacturing products. Finally, by boosting track availability and enabling greater traffic through this land use, Vossloh is helping to minimize the land required for the construction of rail infrastructure, thereby contributing to the preservation of biodiversity.

Information on compliance with the minimum requirements regarding occupational safety and human rights can be found on pages 89 et seq. and 98 et seq. in this report.

Based on this approach and the above assumptions and estimates, the Vossloh Group's taxonomy-eligible and taxonomy-aligned sales revenues, CapEx, and OpEx are as follows:

	2022			2021		
	Absolute (in € mill.)	Taxonomy- eligible (in € million / as a %)	Taxonomy-aligned (in € million / as a %)	Absolute (in € mill.)	Taxonomy- eligible (in € million / as a %)	Taxonomy-aligned (in € million / as a %)
Sales revenues	1,046.1	1,046.1 / 100	672.3 / 64	942.8	942.8 / 100	584.5 / 62
CapEx	58.2	45.6 / 78	31.2 / 54	66.2	57.6 / 87	39.6 / 60
OpEx	50.1	48.1 / 96	32.8 / 65	45.2	43.4 / 96	29.1 / 64

The sales revenues allocated to taxonomy-aligned business activities exceeded the value of the previous year by 15.0 percent. This increase can primarily be attributed to the Core Components division. The other two divisions, Customized Modules and Lifecycle Solutions, were also able to significantly increase their sales revenues. The share of taxonomy-aligned sales revenues saw a slight increase of 2 percentage points. This was mainly due to a higher share of sales revenues related to electrified railway lines.

Capital expenditure (CapEx) related to taxonomy-aligned activities was 21.2 percent below the previous year's figure. The share of taxonomy-aligned sales revenues decreased accordingly by 6 percentage points. The percentage decrease was mainly driven by higher capital expenditure for a Group-wide uniform ERP system, which by definition is not taxonomy-eligible. As a result, in accordance with the criteria of the regulation, environmentally sustainable capital expenditure now makes up a lower overall share of total capital expenditure.

Operating expenditure (OpEx) related to taxonomy-aligned activities increased by 12.7 percent year on year. The share of taxonomy-aligned operating expenditure increased by one percentage point. The upturn is largely due to higher maintenance and repair expenses.

**Further information
on sales revenues,
CapEx and OpEx**

Sales revenues are defined as net sales revenues in accordance with IFRS as reported in the income statement and therefore relate only to fully consolidated subsidiaries. The share of environmentally sustainable sales revenues is calculated by dividing the taxonomy-aligned net sales revenues by the total Group sales revenues. Further information on sales revenues can be found on page 131 et seq. of the annual report.

Breakdown of the sales revenues numerator

€ mill.	2022	2021
Sales revenues from contracts with customers	672.3	584.5
Total	672.3	584.5

CapEx comprises capital expenditure in non-current intangible or tangible assets, including those acquired through asset or share deals, as shown in the consolidated balance sheet. Capital expenditure (CapEx) is calculated on a gross basis, i.e. without taking into account revaluations, depreciation, amortization or impairments. For further information on CapEx, please refer to page 141 et seq. of the annual report.

The numerator used to determine the taxonomy-aligned CapEx is calculated as follows:

Breakdown of the CapEx numerator

€ mill.	2022	2021
Additions to property, plant and equipment	1.6	1.4
Additions to intangible assets	24.4	22.6
Additions to investment properties	0.0	1.4
Additions to rights of use	5.2	3.7
Additions to assets acquired in business combinations	0.0	10.5
Total	31.2	39.6

Operating expenses (OpEx) take into account non-capitalizable expenses recognized in the income statement such as research and development, building renovation measures, short-term leasing, maintenance and repair and all other direct expenses from the maintenance of property, plant and equipment to ensure that the taxonomy-eligible assets are ready for operation.

The numerator used to determine the taxonomy-aligned OpEx is calculated as follows:

Breakdown of the OpEx numerator

€ mill.	2022	2021
Research and development	6.1	6.1
Maintenance and repair expenses	23.9	20.7
Lease expenses	2.0	1.7
Training expenses	0.8	0.6
Total	32.8	29.1

EU taxonomy indicators according to Annex II to the Commission Delegated Regulation

Sales revenues

Economic activities	Code(s)	Absolute sales revenues in € mill.	Proportion of sales revenues %	Substantial contribution to climate protection %	DNSH criteria („do no significant harm“)				
					Climate change adaptation Y/N	Water and marine resources Y/N	Circular economy Y/N	Pollution Y/N	Biodiversity and ecosystems Y/N
A. Taxonomy-eligible activities									
A.1. Environmentally sustainable activities (taxonomy-aligned)									
6.14. Infrastructure for rail transport	6.14	672.3	64	64	J	J	J	J	J
Sales revenues of environmentally sustainable activities (taxonomy-aligned) (A.1)		672.3	64	64					
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)									
6.14. Infrastructure for rail transport	6.14	373.8	36						
Sales revenues of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		373.8	36						
Total (A.1 + A.2)		1.046.1	100						
B. Taxonomy-non-eligible activities									
Sales revenues of taxonomy-non-eligible activities (B)		0.0	0						
Total (A + B)		1.046.1	100						

	Minimum safeguards	Taxonomy-aligned proportion of sales revenues 2022	Taxonomy-aligned proportion of sales revenues 2021	Category (enabling activity)	Category (transitional activity)
	Y/N	%	%	E	T
	J	64	62	E	/
		64	62		
		64	62		

CapEx

Economic activities	Code(s)	Absolute CapEx in € mill.	Proportion of CapEx %	Substantial contribution to climate protection %	DNSH criteria („do no significant harm“)				
					Climate change adaptation Y/N	Water and marine resources Y/N	Circular economy Y/N	Pollution Y/N	Biodiversity and ecosystems Y/N
A. Taxonomy-eligible activities									
A.1. Environmentally sustainable activities (taxonomy-aligned)									
6.14. Infrastructure for rail transport	6.14	31.2	54	54	J	J	J	J	J
CapEx of environmentally sustainable activities (taxonomy-aligned) (A.1)		31.2	54	54					
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)									
6.14. Infrastructure for rail transport	6.14	14.4	24						
CapEx of Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		14.4	24						
Total (A.1 + A.2)		45.6	78						
B. Taxonomy-non-eligible activities									
CapEx of taxonomy-non-eligible activities (B)		12.6	22						
Total (A + B)		58.2	100						

	Minimum safeguards	Taxonomy-aligned proportion of CapEx 2022	Taxonomy-aligned proportion of CapEx 2021	Category (enabling activity)	Category (transitional activity)
	Y/N	%	%	E	T
J		54	60	E	/
		54	60		
		54	60		

OpEx

Economic activities	Code(s)	Absoluter OpEx in € mill.	Anteil OpEx %	Substantial contribution to climate protection %	DNSH criteria („do no significant harm“)				
					Climate change adaptation Y/N	Water and marine resources Y/N	Circular economy Y/N	Pollution Y/N	Biodiversity and ecosystems Y/N
A. Taxonomy-eligible activities									
A.1. Environmentally sustainable activities (taxonomy-aligned)									
6.14. Infrastructure for rail transport	6.14	32.8	65	65	J	J	J	J	J
OpEx of environmentally sustainable activities (taxonomy-aligned) (A.1)		32.8	65	65					
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)									
6.14. Infrastructure for rail transport	6.14	15.3	31						
OpEx of Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		15.3	31						
Total (A.1 + A.2)		48.1	96						
B. Taxonomy-non-eligible activities									
OpEx of taxonomy-non-eligible activities (B)		2.0	4						
Gesamt (A + B)		50.1	100						

	Minimum safeguards	Taxonomy-aligned proportion of OpEx 2022	Taxonomy-aligned proportion of OpEx 2021	Category (enabling activity)	Category (transitional activity)
	Y/N	%	%	E	T
J		65	64	E	/
		65	64		
		65	64		

Limited Assurance Report of the Independent Practitioner Regarding the Nonfinancial Statement

To Vossloh AG, Werdohl/Germany

Our Engagement

We have performed a limited assurance engagement on the consolidated nonfinancial statement, which is included in the combined management report for the parent and the group, of Vossloh AG, Werdohl/Germany, (hereafter referred to as "the Company") for the financial year from 1 January to 31 December 2022 (hereafter referred to as "nonfinancial statement").

Our assurance engagement does not cover the external sources of documentation or expert opinions stated in the nonfinancial statement.

Responsibilities of the Executive Directors

The executive directors of Vossloh AG are responsible for the preparation of the nonfinancial statement in accordance with Section 315c in conjunction with Sections 289c to 289e German Commercial Code (HGB) and Article 8 of Regulation (EU) 2020/852 of the European Parliament and the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (hereafter referred to as "EU Taxonomy Regulation") and the delegated acts adopted thereon, as well as with the executive directors' interpretation of the wording and terminology contained in the EU Taxonomy Regulation and the delegated acts adopted thereon, as is presented in section "EU Taxonomy reporting for meeting the requirements of Regulation (EU) 2020/852" of the nonfinancial statement.

These responsibilities of the executive directors of the Company include the selection and application of appropriate methods regarding the nonfinancial statement and the use of assumptions and estimates for individual nonfinancial disclosures of the Group which are reasonable under the given circumstances. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of a nonfinancial statement that is free from material misstatement due to fraudulent behaviour (manipulation of the nonfinancial statement) or error.

Some of the wording and terminology contained in the EU Taxonomy Regulation and the delegated acts adopted thereon are still subject to considerable interpretation uncertainty and have not yet been officially clarified. Therefore, the executive directors have laid down their own interpretation of the EU Taxonomy Regulation and of the delegated acts adopted thereon in section "EU Taxonomy reporting for meeting the requirements of Regulation (EU) 2020/852" of the nonfinancial statement. They are responsible for the reasonableness of this interpretation. As there is the inherent risk that indefinite legal concepts may allow for various interpretations, the legal conformity of the interpretation is prone to uncertainty.

The preciseness and completeness of the environmental data in the nonfinancial statement is subject to inherent restrictions resulting from the manner in which the data was collected and calculated as well as from assumptions made.

Independence and Quality Assurance of the Audit Firm

We have complied with the German professional requirements on independence and other professional rules of conduct.

Our firm applies the national statutory rules and professional announcements – particularly of the “Professional Charter for German Public Auditors and German Sworn Auditors” (BS WP/vBP) and of the IDW Quality Assurance Standard “Quality Assurance Requirements in Audit Practices” (IDW QS 1) promulgated by the Institut der Wirtschaftsprüfer (IDW) and does therefore maintain a comprehensive quality assurance system comprising documented regulations and measures in respect of compliance with professional rules of conduct, professional standards, as well as relevant statutory and other legal requirements.

Responsibilities of the Practitioner

Our responsibility is to express a conclusion on the nonfinancial statement based on our work performed within our limited assurance engagement.

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) “Assurance Engagements Other than Audits or Reviews of Historical Financial Information”, adopted by the IAASB. This Standard requires that we plan and perform the assurance engagement so that we can conclude with limited assurance whether matters have come to our attention to cause us to believe that the nonfinancial statement of the Company, with the exception of the external sources of documentation or expert opinions stated therein, has not been prepared, in all material respects, in accordance with Section 315c in conjunction with Sections 289c to 289e HGB and the EU Taxonomy Regulation and the delegated acts adopted thereon, as well as with the executive directors’ interpretation presented in section “EU Taxonomy reporting for meeting the requirements of Regulation (EU) 2020/852” of the nonfinancial statement.

The procedures performed in a limited assurance engagement are less in extent than in a reasonable assurance engagement; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. The choice of assurance work is subject to the practitioner’s professional judgment.

Within the scope of our limited assurance engagement, which we performed between January and March 2023, we notably performed the following work and other activities:

- Obtaining an understanding of the structure of the Group’s sustainability organisation and of the stakeholder engagement
- Inquiries of the executive directors and relevant employees involved in the preparation of the consolidated nonfinancial statement about the process of preparation, about the system of internal control relating to this process, as well as about the disclosures contained in the nonfinancial statement
- Identification of probable risks of material misstatements in the nonfinancial statement
- Analytical evaluation of selected disclosures contained in the nonfinancial statement
- Cross validation of selected disclosures and the corresponding data in the consolidated and annual financial statements as well as in the combined management report
- Evaluation of the presentation of the nonfinancial statement
- Evaluation of the process to identify taxonomy-eligible and taxonomy-aligned economic activities and the corresponding disclosures in the nonfinancial statement

The determination of the disclosures pursuant to Article 8 of the EU Taxonomy Regulation requires the executive directors to make interpretations of indefinite legal concepts. As there is the inherent risk that indefinite legal concepts may allow for various interpretations, the legal conformity of the interpretation, and hence our related examination, is prone to uncertainty.

Practitioner's Conclusion

Based on the work performed and the evidence obtained, nothing has come to our attention that causes us to believe that the consolidated nonfinancial statement of Vossloh AG for the financial year from 1 January to 31 December 2022 has not been prepared, in all material respects, in accordance with Section 315c in conjunction with Sections 289c to 289e HGB and the EU Taxonomy Regulation and the delegated acts adopted thereon, as well as with the executive directors' interpretation presented in section "EU Taxonomy reporting for meeting the requirements of Regulation (EU) 2020/852" in the nonfinancial statement.

We do not express a conclusion on the external sources of documentation and expert opinions stated in the nonfinancial statement.

Restriction of Use

We issue this report as stipulated in the engagement letter agreed with the Company (including the "General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (German Public Auditors and Public Audit Firms)" as of 1 January 2017 promulgated by the Institut der Wirtschaftsprüfer (IDW)). We draw attention to the fact that the assurance engagement was performed for the purposes of the Company and the report is solely designed for informing the Company about the findings of the assurance engagement. Therefore, it may not be suitable for another than the aforementioned purpose. Hence, this report should not be used by third parties as a basis for any (asset) decision.

We are liable sole to the Company. However, we do not accept or assume liability to third parties. Our conclusion was not modified in this respect.

Düsseldorf/Germany, 7 March 2023

Deloitte GmbH

Wirtschaftsprüfungsgesellschaft

Signed:
Sebastian Dingel
Partner

Signed:
Eike Bernhard Hellmann
Senior Manager