

Combined management report

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Business and market environment

Segmentation and competitive position

Vossloh is active in rail technology markets worldwide. Vossloh's core business comprises products and services for rail infrastructure. The core 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 two other divisions encompass one business unit each: Vossloh Switch Systems belongs to Customized Modules, and Vossloh Rail Services belongs to Lifecycle Solutions. The company Austrak Pty Ltd., based in Brisbane, Australia, was acquired on November 30, 2018, and has been integrated into the Tie Technologies business unit. The rail milling business acquired from STRABAG Rail GmbH in Berlin, Germany, on December 21, 2018, has been integrated into the Rail Services business unit. In addition, Vossloh is involved in the locomotive business. Vossloh Locomotives is the last remaining business unit of the Transportation division, which is reported as discontinued operations. You can find detailed descriptions of the individual core business areas on page 47 et seq.

The Company holds the following competitive positions in its core business of rail infrastructure:

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

Organization

The Vossloh Group is active around the world. Local presence and customer proximity are integral elements of the business model. Vossloh's most important production sites for rail fastening systems are located in Germany, China, Poland, the USA and Russia. Vossloh's switch systems are manufactured primarily in France, the USA, Sweden, Australia, Luxembourg, Poland, Finland and the United Kingdom. Rail services are mainly carried out from Germany. The concrete ties of the Tie Technologies business unit are produced in the USA and Mexico and by Austrak Pty Ltd. in Australia, which has been part of the Group since December 2018. The production plant for the locomotive business, which does not belong to the core business and is reported as discontinued operations, is located in Germany.

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,
- Vossloh Rail Services GmbH, Hamburg, Germany, for the Lifecycle Solutions division.

Vossloh Locomotives GmbH, Kiel, Germany, has this function in the Transportation division, which is not part of the core business and is classified as discontinued operations.

Controlling system and targets

The most relevant financial performance indicators for the Vossloh Group are value added, sales and EBIT as well as EBIT margin. 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 is focused on value added. Value added is disclosed as a control-relevant earnings indicator for the divisions and business units as part of external reporting.

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, see term in glossary, page 165) and the cost of capital, which is calculated as the weighted average cost of equity and debt. Multiplying the premium by average capital employed produces the value added over a period in absolute terms. For internal controlling purposes, ROCE and value added are determined before taxes.

Cost of equity results from a risk-free interest rate plus a market risk premium. The interest rate factor is adjusted accordingly on the basis of the pre-tax consideration. Cost of debt is calculated on the basis of the Group's average financing terms. The ratio of equity to interest-bearing debt of two-thirds to one-third, which is used to determine WACC, is not derived from the balance sheet since it is not only based on a target for the funding structure but also because equity is based on target market values in this case and not the carrying amounts recognized in the balance sheet. A weighted average cost of capital before taxes (WACC) of 7.5 percent was used as the yield expected by investors and lenders for the purposes of intragroup controlling in the 2018 fiscal year and 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 additionally focuses on working capital, working capital intensity (see glossary, page 165) and free cash flow.

To the management of Vossloh AG, the monthly financial reporting represents 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 consolidated Group companies are consolidated and analyzed in the same way as the monthly annual forecast. Deviations are investigated in relation to their effects on the financial targets. The monthly and quarterly annual projections are supplemented by a risk report to identify potential reductions and increases in assets. The effectiveness of measures aimed at ensuring targets are reached is continuously analyzed. The figures of the operating units are intensively discussed by their respective management and the Executive Board with the involvement of the relevant central departments of Vossloh AG. The close, personal interaction between the Executive Board of Vossloh AG and the management of the operating units guarantees a rapid flow of information and allows for quick responses.

Economic report

Economic environment

From a global perspective, the rail technology market has shown a steadily growing trend for years. This is the result of rising demand around the world for environmentally friendly, safer and more economical mobility for people and goods. The driving forces for this development include, among other things, megatrends such as population growth, urbanization, the increase of international trade flows and increasing environmental awareness. In addition, the industry itself is undergoing a profound transformation due to digitalization, automation and artificial intelligence, but also due to the standardization and liberalization of rail transport. At the same time, competitive pressure has been rising, also as a result of new players on the market.

A number of studies regularly analyze developments in the global rail technology market. The most important of these publications are the World Rail Market Study, published by the Association of the European Rail Industry (UNIFE), and the Worldwide Market for Railway Industries, published by the consultancy firm SCI Verkehr. Both studies are updated in a two-year cycle; the most recent results were presented in September 2018 at the InnoTrans trade fair in Berlin.

According to UNIFE, the current global volume of the rail market is around €163 billion per year. SCI Verkehr estimates an annual volume of €183 billion. The Association of the European Rail Industry (UNIFE) considers about 63 percent of the total volume – some €103 billion – to be an accessible market share. Accessible means that this market is accessible in principle to European suppliers and market demand is not exclusively met through domestic manufacturers.

Vossloh's core business consists of products and services for rail infrastructure. The market segments of infrastructure and infrastructure services are therefore of particular importance for the Vossloh Group. In total, this market amounted to approximately €27 billion per year for the period from 2015 to 2017 according to UNIFE data.

In its core business, Vossloh is globally active in the markets for switches and rail fastening systems. The Lifecycle Solutions division is also becoming increasingly active on the international stage. The Tie Technologies business unit is active primarily in North America, as well as in Australia through the recent acquisition, Austrak Pty Ltd. The primary focus of the Group is on the defined focus markets of Western Europe, North America, China and Russia.

Viewing the relevant accessible market segments for Vossloh (infrastructure and infrastructure services) from a regional perspective, roughly 34 percent of market volume is currently accounted for by Western Europe and approximately 33 percent by NAFTA countries (USA, Canada, Mexico) according to UNIFE data. These are followed by the Asia Pacific region with roughly 13 percent, Eastern Europe with 8 percent and Africa/Middle East with 5 percent. Markets in Latin America and in the Commonwealth of Independent States (CIS), at approximately 4 percent and 3 percent respectively, account for smaller portions of the accessible market volume.

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 majority of the Group's clients are public-sector customers. In Southern Europe in particular, the severely impaired financial strength of public-sector budgets has had a negative impact on demand for products and services for rail infrastructure since 2009. As of the third quarter of 2018, the debt ratio (the ratio of public debt to GDP) of the euro countries (ER-19) according to the statistics office of the European Union (Eurostat) was at 86.1 percent – as of the editorial deadline of this publication, this was the most current figure available. This time last year, this figure was 88.2 percent. At the end of September 2018, the debt ratio of the entire EU (EU 28) was 80.8 percent, compared to 82.5 percent in the previous year.

Business acquisitions

After the contract for the purchase of all shares of Austrak Pty Ltd., Brisbane, Australia, was signed on August 3, 2018, the purchase was completed on November 30, 2018, once all of the necessary closing conditions had been fulfilled, including the merger control clearance by the Australian authorities. Austrak Pty Ltd. develops, produces and distributes concrete ties in Australia. The company is therefore a part of the Tie Technologies business unit. This acquisition expands the Company's product portfolio in the Australian market by concrete ties and increases Vossloh's vertical integration in the Australian rail infrastructure business.

On October 31, 2018, a contract was signed with STRABAG Rail GmbH for the transfer of the rail milling business, which was completed on December 21, 2018. The acquired business is being integrated into an existing company in the Rail Services business unit, and significantly expands the existing milling business in this business unit. The central element of the acquired operational unit is four milling machines and existing contractual relationships; 30 new employees have also joined the Vossloh Group.

Results of operations

The Locomotives business unit, the last remaining business unit of the Transportation division, is still reported under discontinued operations in the balance sheet as of December 31, 2018. All assets and liabilities from this division are each reported in a separate line item in the balance sheet. The division is expected to be sold in the near future. All expenses and income that originate from the companies to be sold or which are incurred in connection with the sale are reported in the income statement in the line item "Result from discontinued operations". In addition, the item "Result from discontinued operations" also includes the expenses and income from business operations in connection with the sale of the former Electrical Systems and Rail Vehicles business units. Further information can be found in the notes to the consolidated financial statements under "(7) Result from discontinued operations" on page 116 et seq. The following depiction thus encompasses the consolidated results of operations of the core business rail infrastructure.

In the 2018 fiscal year, both sales and EBIT fell below the previous year's level. This was, as expected, primarily attributable to a weaker business development in China for project-related reasons in the Core Components division. Sales for 2018, at €865.0 million, amounted to 5.8 percent less than the previous year's value of €918.3 million. A negative effect was also incurred from the translation of foreign currencies, which burdened sales with €18.7 million in comparison with the previous year. In the most recently communicated forecast, sales near the lower boundary of the originally forecast range of €875 million and €950 million had been expected.

Vossloh Group – Sales by region

	€ mill.	%	€ mill.	%
	2018		2017	
Germany	85.7	9.9	74.3	8.1
France	102.0	11.8	97.8	10.6
Rest of Western Europe	67.3	7.8	69.6	7.6
Northern Europe	111.6	12.9	114.5	12.5
Southern Europe	77.2	8.9	62.9	6.9
Eastern Europe	86.7	10.0	56.4	6.1
Total of Europe	530.5	61.3	475.5	51.8
Americas	159.5	18.5	158.7	17.3
Asia	132.2	15.3	215.6	23.5
Africa	19.3	2.2	46.3	5.0
Australia	23.5	2.7	22.2	2.4
Total	865.0	100.0	918.3	100.0

Significant increase in sales in Europe, particularly in Eastern and Southern Europe

In Europe, sales for the year under review were 11.6 percent higher than the previous year. This was primarily attributable to higher sales revenues in Eastern and Southern Europe. The 53.7 percent increase in sales in Eastern Europe was driven mainly by business in Poland. The Customized Modules division made a particularly significant contribution, with the Fastening Systems business unit contributing to a lesser extent. Vossloh Fastening Systems was also able to significantly increase sales, particularly in the focus market of Russia. The 22.7 percent increase in Southern Europe, particularly in Italy and Turkey, was also attributable to the Fastening Systems business unit and the Customized Modules division. Significant sales increases of 15.3 percent were also recorded in Germany, primarily by the Lifecycle Solutions division. Sales in France were also higher than the previous year (+4.4 percent), due to the Customized Modules division. Only in Northern Europe sales were unable to reach the previous year's level, due to the declining business of the Customized Modules division in Norway ((2.6) percent).

Sales in the Americas at the previous year's level

In the Americas, sales remained at roughly the same level as the previous year overall with slight growth of 0.5 percent. Substantial additional sales were achieved in Canada in the Tie Technologies business unit and Customized Modules division. As a result of the persistently challenging market environment as well as exchange rate effects, sales in the U.S. fell below the previous year in the Tie Technologies business unit and the Customized Modules division. Vossloh Group sales in South America were largely unchanged from the previous year.

Sales in Asia significantly lower than previous year as expected

As expected, sales in Asia fell significantly below the previous year's high figure ((38.7) percent). This was almost entirely due to the lower sales of the Fastening Systems business unit for project-related reasons in the focus market of China. The sales performance of the Fastening Systems business unit in Saudi Arabia also contributed to the downturn to a lesser extent. In contrast, additional sales were recorded in Thailand in particular, likewise in the Fastening Systems business unit.

Sales in Africa significantly lower than previous year

In Africa, the Vossloh Group's sales did not reach the previous year's level ((58.4) percent). Lower sales by the Customized Modules division in Morocco were a decisive factor in this development. In contrast, sales in Senegal and Egypt increased in the Customized Modules division as well as for Vossloh Fastening Systems.

In Australia, where the Customized Modules division has historically accounted for the most activity, sales were slightly increased in comparison with the previous year. The increase can be attributed to the first-time inclusion of the new Group company Austrak Pty Ltd. in December.

The Vossloh Group's cost of sales in the year under review was €678.7 million, thus falling below the previous year's figure of €713.2 million in line with the sales performance. The cost of sales accounted for 78.5 percent of revenue in the year under review (previous year: 77.7 percent). Selling and general administrative expenses totaled €144.4 million, slightly lower than the previous year's value of €148.1 million. Their share of sales revenue increased from 16.1 percent to 16.7 percent. The item "Other operating result" amounted to

€18.4 million and was therefore lower than the previous year's value of €21.5 million. In the year under review, this item included income from negative goodwill in connection with the acquisition of the rail milling business from STRABAG Rail GmbH, among other factors. The previous year's value had benefited particularly from a reversal of an impairment concerning the Chinese joint venture in the Customized Modules division.

Vossloh Group – sales and earnings

	€ mill.	%	€ mill.	%
	2018		2017	
Sales revenues	865.0	100.0	918.3	100.0
EBIT	54.2	6.3	70.3	7.7
EBT	40.8	4.7	57.8	6.3
Net income	22.7	2.6	0.3	0.0
Earnings per share (in €)	1.14		(0.50)	

As anticipated, the earnings before interest and taxes (EBIT) of the Vossloh Group were 22.9 percent lower than the previous year. This was primarily attributable to the Core Components division, particularly project-related lower sales in the Fastening Systems business unit in China. EBIT for the Customized Modules division was also lower than the previous year after the absence of the positive effect of €6.1 million from the reversal of an impairment related to the Chinese joint venture. In contrast, the Lifecycle Solutions division recorded a significant increase in EBIT due to a positive one-time effect amounting €5.5 million in 2018. The translation of foreign currency transactions had a negative overall impact on the Vossloh Group's EBIT in comparison with the previous year (€(1.4) million). The EBIT margin totaled 6.3 percent (previous year: 7.7 percent). As most recently communicated, EBIT was thus at the lower end of the originally forecast range of between 6.0 and 7.0 percent.

The net interest result in the 2018 fiscal year amounted to €(13.4) million, lower than the previous year's value of €(12.5) million. In the previous year, interest income benefited primarily from interest on the purchase price from the sale of the former Electrical Systems business unit. Interest expenses, on the other hand, decreased during the year under review despite higher currency translation losses in connection with financing activities as a result of substantially lower financing costs. Earnings before taxes (EBT) were overall lower than the previous year due to the lower EBIT and net interest result.

Income taxes for the Vossloh Group totaled €16.0 million in the year under review, a decrease from the previous year's value of €21.7 million. The tax rate of 39.2 percent slightly increased in comparison with the previous year (37.6 percent). The result from discontinued operations of €(2.1) million marked a clear improvement relative to the previous year's value of €(35.8) million. In the previous year, the result was impacted by an impairment in accordance with IFRS 5 of roughly €26 million for Vossloh Locomotives. In addition, the result from discontinued operations improved during the year under review due to partial releases of risk provisions in connection with the sale of the former Rail Vehicles and Electrical Systems business units. The result from discontinued operations was once again burdened by the negative annual result of the Transportation division in the year under review.

Result from discontinued operations significantly improved, earnings per share substantially higher than previous year

As a result of the markedly improved result from discontinued operations, net income was substantially higher than the previous year. The share of the net income attributable to the shareholders of Vossloh AG amounted to €18.2 million in the year under review (previous year: €(8.0) million). With the average number of shares outstanding unchanged at 15,967,437, the earnings per share for the 2018 fiscal year amounted to €1.14 (previous year: € (0.50)).

The Executive Board and Supervisory Board of Vossloh AG propose a dividend of €1.00 per share for the fiscal year 2018 to the shareholders at the Annual General Meeting scheduled for May 22, 2019. In the previous year, a dividend of €1.00 per share was also distributed.

Dividend proposal of €1.00 per share for 2018

Vossloh Group – value management

€ mill.	2018	2017
Average capital employed	799.7	788.3
ROCE	6.8	8.9
Value added	(5.8)	11.1

Value added slightly negative

The return on capital employed (ROCE) was lower than the previous year primarily as a result of the lower EBIT, and to a very limited extent due to the slightly higher average capital employed. The ROCE was lower than the weighted average cost of capital (WACC) of 7.5 percent, which remained unchanged from the previous year, resulting in a slightly negative value added.

Vossloh divisions – orders received and order backlog

€ mill.	Orders received		Order backlog	
	2018	2017	2018	2017
Core Components	391.3	285.0	237.3	151.2
Customized Modules	504.6	513.0	345.7	309.2
Lifecycle Solutions	90.8	79.6	12.9	17.9
Vossloh AG/consolidation	(7.5)	(10.4)	(0.9)	(3.9)
Group	979.2	867.2	595.0	474.4

Orders received significantly higher for the Vossloh Group than previous year

Orders received by the Vossloh Group saw an encouraging improvement in the year under review. They substantially exceeded the previous year's level by 12.9 percent. The increase can be attributed primarily to the positive order situation of the Core Components division. The book-to-bill ratio, the ratio of orders received to sales, amounted to 1.13. The order backlog of the Vossloh Group was thus substantially higher at the end of the 2018 fiscal year as well. This was 25.4 percent higher than the reporting date value of the previous year, particularly due to a strong increase in the Core Components division.

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. Derivative financial instruments (see term in glossary, page 165) are used, among other things, 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.

Net financial debt increased primarily due to acquisitions

The Vossloh Group's net financial debt increased substantially from €207.7 million at the end of 2017 to €307.3 million at the end of the 2018 fiscal year. The main drivers of this increase were the acquisitions of the Australian concrete tie manufacturer Austrak Pty Ltd. and the rail milling business of STRABAG Rail GmbH. The increase can also be attributed to dividend distributions, interest payments and negative free cash flow in 2018. Financial liabilities amounted to €356.5 million at the end of the 2018 fiscal year, and were thus higher than the corresponding figure for the previous year of €304.5 million. In the 2017 fiscal year, the Vossloh Group placed a Schuldschein loan of €250 million and concluded a new syndicated loan with a volume of €150 million. The ratio of net financial debt to EBITDA was agreed as a covenant. Compliance with the covenant must be proven every six months. More information about financing can be found in the "Liquidity risks" section on page 86 et seq. The total sum of cash, cash equivalents and short-term securities at the end of 2018 amounted to €49.2 million (previous year: €96.8 million).

Current financial liabilities totaled €88.6 million at the end of 2018, and were thus higher than the previous year's value of €55.7 million. The increase can primarily be attributed to the acquisitions of Austrak Pty Ltd. and the rail milling business of STRABAG Rail GmbH during the year under review, which were financed with the funds available from the syndicated loan. The scheduled repayment of the €50 million Schuldschein loan from 2013, which was also refinanced from utilizations of the syndicated loan, was carried out during the year under review as well.

For further information on the free credit lines of the Vossloh Group, see the notes to the consolidated financial statements, page 145.

Vossloh Group – development of cash flows

€ mill.	2018	2017
Cash flow from operating activities	37.6	24.5
Free cash flow	(19.0)	(22.3)

Despite the lower EBIT, cash flow from operating activities increased markedly during the reporting year in comparison with the previous year. In the previous year, cash flow from operating activities was burdened by a pronounced buildup of working capital. In the year under review the change of working capital in the Vossloh Group had no significant influence on the amount of this indicator, primarily due to a significant decline of the Vossloh Locomotives business unit reported as discontinued operations. In contrast, investing activities by the Vossloh Group increased substantially. The free cash flow – defined as cash flow from operating activities less investments in intangible assets and property, plant and equipment as well as investments in companies accounted for using the equity method and plus cash inflows from dividends or the disposal of companies accounted for using the equity method – was only slightly higher than the previous year's value due to increased investing activities during the reporting year. Free cash flow also includes the figures of the Transportation division, which is recognized under discontinued operations.

Free cash flow improved, but remains negative

Vossloh Group – Capital expenditure and depreciation/amortization

€ mill.	2018		2017	
	Capital expenditure	Depreciation/ amortization	Capital expenditure	Depreciation/ amortization
Core Components	17.2	16.3	12.7	17.6
Customized Modules	28.1	12.6	18.5	7.6
Lifecycle Solutions	14.9	6.1	8.6	6.7
Vossloh AG/consolidation	0.3	0.5	(0.3)	1.7
Group	60.5	35.5	39.5	33.6

The volume of capital expenditure within the Vossloh Group increased substantially during the year under review by 53.1 percent, which also placed it substantially higher than the level of depreciation/amortization. Elevated capital expenditure activities were recorded by all divisions of the Vossloh Group. Capital expenditure was markedly higher than the previous year in the Customized Modules division, primarily due to the modernization of the production plant in Outreau in northern France. The new foundry there, in which switch frogs are manufactured from manganese, began operations in November of the year under review. The higher capital expenditure in the Core Components division was mostly connected to a framework agreement won with the North American Class-I rail company CN, for which a new concrete tie factory is being constructed in Canada. In addition to other projects, investments in the Lifecycle Solutions division went towards the development of the compact Multi Purpose Milling (MPM) machine, which can be used for both urban transport and conventional rail routes.

Asset and capital structure

Vossloh Group – asset and capital structure

		12/31/2018	12/31/2017
Total assets	€ mill.	1,265.4	1,252.9
Equity ¹	€ mill.	523.3	532.4
Equity ratio	%	41.4	42.5
Closing working capital	€ mill.	216.0	190.0
Fixed assets	€ mill.	646.1	568.7
Closing capital employed	€ mill.	862.0	758.7

¹ Group equity, including noncontrolling interests

Equity ratio remains high

At the end of the 2018 fiscal year, the equity of the Vossloh Group saw a slight 1.7 percent decrease compared to the corresponding reporting date value of the previous year. This development can be attributed primarily to dividend payments to Vossloh AG shareholders, changeover effects from the first-time application of IFRS 9 and IFRS 15, and distributions to minority shareholders. In contrast, net income had a positive effect on equity. Total assets as of December 31, 2018, remained virtually unchanged in comparison with the previous year. This resulted in a slightly lower equity ratio at the end of the reporting year, although this still remained above 40 percent.

The working capital as of the December 31, 2018, reporting date was 13.7 percent higher than the corresponding comparative figure from the previous year. This can primarily be attributed to an increase in working capital in the Core Components division. The average working capital during the year under review was €218.1 million, slightly higher than the previous year's value of €211.6 million. The capital employed as of the end of 2018 was significantly higher than the previous year's value. This rise was caused primarily by the substantially increased fixed assets of the Vossloh Group. It increased primarily due to the acquisitions of Austrak Pty Ltd. and the rail milling business of STRABAG Rail GmbH carried out in the 2018 fiscal year, as well as capital expenditure that substantially exceeded amortizations by 13.6 percent.

General statement on the economic situation

Vossloh's 2018 fiscal year was marked primarily by the weakened business development in the high-margin focus market of China for project-related reasons. This development was also the main driver for a lower EBIT and a lower EBIT margin in comparison with the previous year. The persistently challenging situation in the U.S. market also continued to influence Vossloh's business development. Orders received, on the other hand, experienced encouraging development, growing 12.9 percent in comparison with the previous year. A large portion of this increase can be attributed to major orders won for rail fastening systems in China, which underscore the persistently strong market position of Vossloh Fastening Systems in the Chinese market. In addition, the conclusion of multiyear framework agreements in the Customized Modules and Core Components divisions with the Class-I rail company CN in the North America focus market can be highlighted as another positive development. The book-to-bill ratio of the Group was 1.13 at the end of 2018. Major milestones were reached in the 2018 fiscal year in regard to the implementation of Vossloh's growth strategy with the acquisition of the market-leading Australian concrete tie manufacturer Austrak Pty Ltd. and the rail milling business of STRABAG Rail GmbH. The financial base is also in good condition, with a consistently high equity ratio. Given the prevailing conditions, the Vossloh Group can be said to have performed satisfactorily overall during the year under review.

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. In addition to concrete rail ties, the business unit also manufactures switch ties, concrete low-vibration blocks for slab track and crossing panels. Following the acquisition of Austrak Pty Ltd., Vossloh Tie Technologies has also held a market-leading presence in the Australian concrete tie business since December 2018.

Orders received in the Core Components division during the reporting year totaled €391.3 million, a large increase of €106.3 million relative to the previous year's value of €285.0 million. These increases can be attributed primarily to the major orders for Vossloh Fastening Systems from China. The order backlog at the end of 2018 stood at €237.3 million, which is also significantly higher than the previous year (€151.2 million).

Orders received significantly higher than in previous year

Core Components			
		2018	2017
Sales revenues	€ mill.	292.6	351.4
EBIT	€ mill.	34.5	51.2
EBIT margin	%	11.8	14.6
Average working capital	€ mill.	72.7	67.7
Average working capital intensity	%	24.8	19.2
Average capital employed	€ mill.	226.2	225.0
ROCE	%	15.2	22.8
Value added	€ mill.	17.5	34.3

Sales revenues for the Core Components division fell significantly during the year under review. While the Tie Technologies business unit achieved sales at the previous year's level, sales for Vossloh Fastening Systems declined substantially due to temporarily weakened business in China. As a result of the encouraging development of orders received, the book-to-bill ratio of the Core Components division amounted to 1.34 for the fiscal year (previous year: 0.81).

Book-to-bill ratio at 1.34

As anticipated, the strong EBIT achieved by the Core Components division in the previous year could not be repeated, and stood €16.7 million below the value for 2017. The EBIT margin also declined accordingly, which was largely due to the weaker business in China in the Fastening Systems business unit. Despite a persistently challenging market environment in the U.S., the profitability of Vossloh Tie Technologies remained at a satisfactory level. Material prices were increased during the year under review by the U.S. import tariffs on steel, among other factors.

Profitability once again in double digits, but markedly lower than the previous year as expected

In line with EBIT, the ROCE for the Core Components division in 2018 remained lower than the previous year's above-average value. Despite the increase in average working capital, the average capital employed in the 2018 fiscal year remained at the previous year's level.

Value added for the 2018 fiscal year fell substantially below the previous year's level. The sole decisive factor here was the lower EBIT during the reporting period. The average working capital intensity increased by 5.6 percent in comparison with the previous year, primarily as a result of reduced sales revenues.

Substantial decrease in value added

Vossloh Fastening Systems

Orders received up
48.8 percent on
the previous year

At €305.7 million, orders received at Vossloh Fastening Systems in 2018 were substantially higher than the previous year's figure of €205.5 million, an increase of 48.8 percent. This primarily reflects the three major orders won during the year in the high-speed segment in China with a cumulative volume of roughly €85 million. Significantly increased new orders were also recorded in Malaysia, Russia and Turkey. The order backlog at the end of 2018 stood at €191.1 million, €76.2 million higher than the previous year's final figure.

Sales revenues for Vossloh Fastening Systems in 2018 amounted to €216.9 million (previous year: €273.4 million). The decline can primarily be attributed to China; among other things, higher sales in Russia after the successful start of production and sales activities at our joint venture there and the inclusion of a Russian sales company were only able to compensate for this to a limited extent.

The book-to-bill ratio of Vossloh Fastening Systems stood at 1.41 (previous year: 0.75).

High positive value
added once again

Although the value added of Vossloh Fastening Systems decreased from €37.7 million in 2017 to €21.4 million, it remained at a high level.

Vossloh Tie Technologies

The Tie Technologies business unit recorded orders received of €92.4 million in 2018, which represents an increase of €11.7 million over the previous year's value of €80.7 million. This increase can be attributed to orders received from the new framework agreement with CN in North America on the one hand, and the first-time inclusion of the Australian company Austrak Pty Ltd. on the other. High orders received were also recorded in Mexico, while the U.S. did not reach the previous year's level. The order backlog amounted to €50.6 million at the end of 2018 (previous year: €36.3 million).

Increased sales
from framework
agreement with
Class-I operator CN

Sales revenues in the Tie Technologies business unit amounted to €78.1 million, slightly below the previous year's value of €79.2 million. A substantially lower sales volume in the U.S. transit business had a negative effect. Nevertheless, this decline in sales was almost completely compensated for by the new business with the Class-I operator CN and the resumption of a project in Florida.

The book-to-bill ratio was 1.18 (previous year: 1.02).

Value added still
negative as expected

The value added of Vossloh Tie Technologies, at €(3.8) million, was once again in the negative range as expected (previous year: €(3.3) 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 Switch Systems business unit, one of the largest providers of switch systems worldwide, belongs to the division. The product portfolio covers a very wide range of applications, extending from light-rail to high-speed lines.

Orders received in the Customized Modules division totaled €504.6 million in 2018 and were therefore only 1.6 percent lower than the previous year's high figure of €513.0 million. The previous year's figure still included two companies in India and Portugal that were no longer fully consolidated as of December 2017. Adjusting for the orders received from these companies, the orders received for Customized Modules were higher than the previous year's value. The order backlog reached €345.7 million as of the reporting date (previous year: €309.2 million).

Orders received once again above €500 million

Customized Modules

		2018	2017
Sales revenues	€ mill.	482.6	483.3
EBIT	€ mill.	26.1	30.5
EBIT margin	%	5.4	6.3
Average working capital	€ mill.	136.2	137.6
Average working capital intensity	%	28.2	28.5
Average capital employed	€ mill.	432.4	424.9
ROCE	%	6.0	7.2
Value added	€ mill.	(6.4)	(1.3)

Despite the aforementioned changes to the scope of consolidation, the sales revenues of the Customized Modules division remained at the previous year's level in the 2018 fiscal year. Operationally, the high sales contribution of Morocco from the previous year could not be achieved. However, this was compensated primarily by higher sales in Poland and Italy. This resulted in a book-to-bill ratio of 1.05 (previous year: 1.06).

Sales for 2018 at the previous year's level

The EBIT for the division was 14.6 percent below the value of the past reporting year, decreasing the EBIT margin by 0.9 percent. However, the previous year contained a positive effect from the reversal of an impairment on an investment in a Chinese company. Adjusting for this effect, the profitability of Customized Modules in 2018 would have been slightly higher than the previous year's value. The French management company saw a downturn in business compared to the previous year, primarily due to switch projects in Morocco that ended in the previous year. In contrast, the companies in Luxembourg, Finland, Poland, the UK, among others, and elsewhere experienced a positive development. The U.S. business also performed slightly better than the previous year operationally.

Result and profitability lower than previous year

As a result of the lower EBIT and the slight increase in average capital employed due to the high level of investment activity, the ROCE remained 1.2 percentage points lower than the previous year's value. Value added was negative once again. The average working capital was marginally reduced. As a result, the average working capital intensity improved slightly by 0.3 percent.

ROCE down on the previous year in particular due to lower EBIT

Business performance of Lifecycle Solutions

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

On December 21, 2018, the Lifecycle Solutions division completed the acquisition of the milling business of STRABAG Rail GmbH.

Increase in orders received primarily in Germany

In the 2018 fiscal year, the Lifecycle Solutions division recorded orders received of €90.8 million. In the previous year, this amounted to €79.6 million. Orders received in the stationary welding segment were higher than the previous year, particularly in Germany and to a lesser extent in Denmark. In Sweden, orders received went up in the switch grinding segment among others. The order backlog amounted to €12.9 million at the end of 2018 (previous year: €17.9 million).

Lifecycle Solutions			
		2018	2017
Sales revenues	€ mill.	100.0	91.0
EBIT	€ mill.	12.9	6.6
EBIT margin	%	12.9	7.3
Average working capital	€ mill.	13.0	11.4
Average working capital intensity	%	13.0	12.6
Average capital employed	€ mill.	142.6	134.5
ROCE	%	9.0	4.9
Value added	€ mill.	2.2	(3.5)

Substantial increase in sales revenues once again

Sales revenues in the Lifecycle Solutions division increased substantially once again in the 2018 fiscal year by 9.9 percent, and reached the €100 million mark for the first time. This was driven firstly by the improved utilization of welding plants in Germany in comparison with the previous year, and secondly by increased demand for rail grinding in Sweden. Sales revenues in the high-speed grinding segment were also higher than the previous year.

Strong sales performance in Germany caused the Lifecycle Solutions division's degree of internationalization, measured on the basis of sales revenues earned outside of Germany, to fall from 43.7 percent in the 2017 fiscal year to 40.0 percent. Sales revenues achieved outside of Germany remained almost unchanged in comparison with the previous year.

EBIT significantly higher than previous year, also thanks to a one-time effect

In comparison with 2017, EBIT for the Lifecycle Solutions division nearly doubled, and the EBIT margin increased by 5.6 percentage points. This positive development was primarily the result of a one-time effect, the realization of negative goodwill arising from the acquisition of the rail milling business of STRABAG Rail GmbH. Adjusting for this effect, EBIT and the EBIT margin were only slightly higher than the previous year's value. A contribution to the increase in earnings came from the stationary welding segment.

Value added also improved relative to previous year by one-time effect

The one-time effect also had a positive effect on ROCE and value added in the year under review. Adjusting for the one-time effect, these indicators stood at approximately the same level as in the previous year. Capital employed increased primarily as a result of the inclusion of the STRABAG milling machines and high capital expenditure. The increase in average working capital also contributed slightly to the increase in capital employed. The average working capital intensity was 0.4 percent higher than the previous year.

Vossloh AG

As an operational management and financial holding company, Vossloh AG is 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. Its role in controlling the business units' operational activities as an operational management holding company is reflected in the operational responsibilities of Vossloh AG's Executive Board members for the Group's divisions.

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 separate 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 in the fiscal year.

Analysis of the separate financial statements

For the 2018 fiscal year, Vossloh AG reported sales revenues of €4.8 million (previous year: €4.3 million) resulting primarily from intercompany allocations with Group companies that obtain a wide range of services via Vossloh AG (such as in the areas of IT and marketing). 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.

In the 2018 fiscal year, general administrative expenses were slightly higher at €19.7 million than in the previous year (€17.4 million). This increase was caused primarily by increased consulting costs and higher trade fair costs. The trade fair costs are higher in the years in which the InnoTrans trade fair takes place in Berlin. This industry trade fair takes place every two years. Personnel expenses decreased by €0.4 million in 2018 compared to the previous year and totaled €10.5 million.

The other operating expenses totaling €4.8 million (previous year: €10.6 million) resulted primarily from exchange rate losses. In the previous year, this amount was also marked by losses on disposals incurred in connection with the transfer of properties in Werdohl to Vossloh-Werke GmbH for the simplification of operational processes relevant to building management. The other operating income amounted to €12.2 million (previous year: €1.7 million). This also positively reflected the partial releases of risk provisions from the sale of the former Electrical Systems and Rail Vehicles business units of €11.0 million during the year under review.

The 2018 net financial result decreased by €30.3 million relative to the previous year to €7.1 million. The significant drivers of this were a writedown of an investment due to a permanent impairment of €23.3 million, as well as lower profit distributions from investments which totaled €15.0 million in 2018 (previous year: €26.9 million). While the income from profit transfer agreements of €25.4 million was substantially higher than the previous year's level (€19.7 million), expenses from the assumption of losses transfers totaled €17.6 million, only a slight increase in comparison with the previous year's level (€16.9 million). Interest expenses totaling €7.2 million (previous year: €8.1 million) for the year under review stood opposite interest income of €10.0 million (previous year: €14.3 million), primarily from passing on these funds in the form of short and long-term loans to Group companies. Income taxes amounted to a negative €(1.3) million in 2018 (previous year: €0.4 million). Vossloh AG's net loss in the reporting year was €3.5 million (net income in previous year: €11.6 million).

The balance sheet total increased relative to the previous year's value of €959.9 million to €968.6 million. The main reason for this was the increase in Group financing in the form of loans and short-term receivables from affiliated companies.

Financial investments increased on balance by €28.7 million to €547.2 million. This resulted from an increase in loans to associated companies (increase by €39.4 million to €150.0 million) as well as an increase in investments in associated companies resulting from an equity increase at an Australian subsidiary in connection with the acquisition of Austrak Pty Ltd. This increase was partially compensated for by the aforementioned impairment of an investment. Current assets fell by €20.2 million to €419.9 million, as the increase in current receivables from affiliated companies of €18.7 million to €414.6 million was substantially more than offset by the €38.6 million decline in cash and cash equivalents to €5.3 million. The amount of other assets remained virtually unchanged.

The liabilities side of the balance sheet exhibited slightly higher liabilities to affiliated companies of €20.3 million (previous year: €17.0 million) as of the reporting date. By contrast, liabilities to banks increased from €300.0 million to €331.2 million.

Equity was reduced from €603.1 million to €583.6 million due to the aforementioned net loss and the dividend. Accordingly, the equity ratio was below the previous year's level at 60.3 percent. Overall, the development of Vossloh AG's earnings, net assets and financial position in the 2018 fiscal year can be viewed as largely positive.

Based on the indirect factual Annual General Meeting majority of Mr. Heinz Hermann Thiele, which has existed since the Annual General Meeting of Vossloh AG in 2015, the Executive Board of Vossloh AG continues to assume the dependence of Vossloh AG in accordance with Section 17 of the German Stock Corporation Act (AktG). 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 Mr. Heinz Hermann Thiele or companies affiliated with him. 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.

Remuneration report

The remuneration report contains the principles regarding the remuneration of Vossloh AG's Executive Board members and specifies the amount and structure of the Executive Board members' income. In addition, the report describes the principles and amount of Supervisory Board remuneration.

Principles of remuneration for Executive Board members

Purpose. The aim of the Executive Board remuneration system is the fair remuneration of Vossloh AG's Executive Board members in accordance with their areas of activity and responsibility and in compliance with legal requirements.

Criteria for the appropriate remuneration of Executive Board members are based on each member's function and individual performance, Vossloh AG's economic situation, success and future prospects in addition to customary remuneration policies in view of the Company's comparative environment, remuneration structure and their development over time.

Executive Board remuneration system: Vossloh AG's remuneration system for Executive Board members consists of three components – the basic remuneration, the annual bonus and the multiyear bonus. It breaks down as follows.

Basic remuneration is a fixed annual sum, based on the responsibilities of each Executive Board member and is to be paid in twelve equal monthly installments. It amounts to around 35 percent of the total target remuneration for the CEO and 40 percent of the total target remuneration for the other members of the Executive Board. In addition, Executive Board members receive noncash fringe benefits as payments in kind, which primarily relate to the private use of a company car. No separate remuneration was provided for services performed on behalf of subsidiaries.

Variable remuneration, which amounts to around 65 percent of total target remuneration for the CEO and 60 percent for the other members of the Executive Board at 100 percent target achievement, consists of an annual and a multiyear remuneration component. The performance targets for variable remuneration are determined annually by the Supervisory Board and consist primarily of financial performance indicators. In addition, one third of the multiyear bonus is based on the personal goals and tasks of the individual Executive Board members. All performance targets are forward-looking and are set by the Supervisory Board with target values at the beginning of each assessment period by means of target agreements with the members of the Executive Board.

The **annual bonus** is determined via annual performance targets and accounts for 40 percent of the total variable remuneration. The performance targets for the annual bonus in the 2018 fiscal year related to EBIT, revenue and the average working capital intensity of the Vossloh Group.

At 60 percent, the **multiyear bonus** accounts for the majority of the variable target remuneration and is dependent on the achievement of multiyear performance targets. Two-thirds of the performance targets for the multiyear bonus are based on financial performance indicators. For the multiyear bonuses promised for the 2018 fiscal year, these were average revenue growth and average ROCE. The remaining one-third of the multiyear bonus is based on the achievement of individual performance targets and tasks set by the Supervisory Board for the Executive Board members in annual target agreements.

The achievement of targets for the annual bonus and the financial performance indicators for the multiyear bonus are determined annually by the Supervisory Board on the basis of the approved consolidated financial statements. The target bonus is granted if the target is fully realized. The bonus increases or decreases in relation to the target bonus depending on the achievement of the defined target values. The annual bonus and the portion of the multiyear bonus based on financial performance indicators are limited to a maximum of 170 percent of the respective target bonus. The portion of the multiyear bonus based on individual objectives and tasks is limited to a maximum of 100 percent of the basic amount. With regard to the individual goals and tasks of the members of the Executive Board, the Supervisory Board determines whether the targets have been achieved at its discretion.

However, the Supervisory Board may use its discretion to set an extra bonus allocation for extraordinary performance and development.

Review and approval of Executive Board remuneration

In the previous year, the Supervisory Board carried out a market standards and system analysis of the remuneration of the Executive Board members of Vossloh AG with the assistance of an independent external compensation consultant. The review confirmed that Vossloh AG's remuneration system meets the statutory requirements and that the total remuneration is appropriate and in line with market practice both in the horizontal (with comparable companies) and vertical comparison (differentiation between the members of the Executive Board from each other and from the downstream levels in the Company). Furthermore, the basis for calculating the variable remuneration and the payments in kind granted were also regarded as appropriate and customary within the market.

The applicable system for the remuneration of Executive Board members was approved by the Annual General Meeting on May 9, 2018, in accordance with Section 120 Para. 4 AktG.

Executive Board remuneration in the 2018 fiscal year

The following table depicts the remuneration for the Executive Board, assigned by name and in compliance with the recommendations of the German Corporate Governance Code. The benefits granted also include accrued amounts for variable remuneration components that will not be paid out until 2019 or 2020. Payments in kind cover private company car use in the amount recognized for tax purposes.

€		Fixed remuneration	Payments in kind	Total	Annual variable remuneration	Multiyear variable remuneration*			Total	Service costs	Total remuneration
Benefits granted						2016 & 2017	2017 & 2018	2018 & 2019			
Andreas Busemann	2017	412,500	15,259	427,759	436,570	–	359,378	–	795,948	–	1,223,707
CEO since 4/1/2017 ¹	2018	550,000	16,003	566,003	235,814	–	(68,475)	316,367	483,706	–	1,049,709
	2018 min.	550,000	16,003	566,003	0	–	0	0	0	–	566,003
	2018 max.	550,000	16,003	566,003	680,000	–	880,000	880,000	2,440,000	–	3,006,003
Dr. h.c. Hans M. Schabert	2017	125,000	3,684	128,684	56,250	–	68,750	–	125,000	–	253,684
CEO until 3/31/2017	2018	–	–	–	–	–	–	–	–	–	–
	2018 min.	–	–	–	–	–	–	–	–	–	–
	2018 max.	–	–	–	–	–	–	–	–	–	–
Oliver Schuster	2017	433,333	22,974	456,307	407,465	97,362	335,419	–	840,246	213,857	1,510,410
member of the Executive Board since 3/1/2014	2018	450,000	22,611	472,611	165,070	–	(89,787)	221,457	296,740	207,430	976,781
	2018 min.	450,000	22,611	472,611	0	–	0	0	0	207,430	680,041
	2018 max.	450,000	22,611	472,611	476,000	–	616,000	616,000	1,708,000	207,430	2,388,041
Volker Schenk	2017	416,667	11,485	428,152	407,465	97,362	335,419	–	840,246	208,743	1,477,141
member of the Executive Board since 5/1/2014	2018	450,000	12,086	462,086	165,070	–	(138,787)	221,457	247,740	203,200	913,026
	2018 min.	450,000	12,086	462,086	0	–	0	0	0	203,200	665,286
	2018 max.	450,000	12,086	462,086	476,000	–	616,000	616,000	1,708,000	203,200	2,373,286

¹ All values for Mr. Busemann in 2017 were calculated pro rata temporis.

*The granting of multiyear variable remuneration is dependent on the achievement of performance targets for the period in question. Target fulfillment is measured after the expiry of the multiyear period as defined in the contract. The benefits were calculated on the basis of the most likely value and recognized as a provision, provided the contract was still valid.

The table below shows the receipt of remuneration in the reporting year and the previous year in accordance with the recommendations of the German Corporate Governance Code. The paid amounts for the variable remuneration were allocated to the years in which they were received by the respective Executive Board member.

€		Fixed remuneration	Payments in kind	Total	Annual variable remuneration	Multiyear variable remuneration*		Total	Service costs	Total remuneration
Receipt						2015 & 2016	2016 & 2017**			
Andreas Busemann	2017	412,500	15,259	427,759	–	–	–	–	–	427,759
CEO since 4/1/2017	2018	550,000	16,003	566,003	436,570	–	0	436,570	–	1,002,573
Dr. h.c. Hans M. Schabert	2017	125,000	3,684	128,684	309,085	1,116,365	–	1,425,450	–	1,554,134
CEO until 3/31/2017	2018	–	–	–	–	–	–	–	–	–
Oliver Schuster	2017	433,333	22,974	456,307	176,985	568,629	–	745,614	213,857	1,415,778
member of the Executive Board since 3/1/2014	2018	450,000	22,611	472,611	407,465	–	262,063	669,528	207,430	1,349,569
Volker Schenk	2017	416,667	11,485	428,152	176,985	470,629	–	647,614	208,743	1,284,509
member of the Executive Board since 5/1/2014	2018	450,000	12,086	462,086	407,465	–	262,063	669,528	203,200	1,334,814

* Including the multiyear special bonuses received in each year.

** In the previous year, Dr. h.c. Schabert received annual variable remuneration comprising an amount of €56,250 for 2017 and multiyear variable remuneration for 2015 & 2016 comprising an amount of €304,037. These served to compensate claims from the years 2016 and 2017 at the time of his departure.

Entitlements in accordance with provisions from the German Commercial Code are as follows:

€		Amount deferred for the fiscal year	Present value of pension obligation
Entitlements to defined retirement benefits			
Andreas Busemann, CEO	2017	–	–
	2018	–	–
Oliver Schuster, member of the Executive Board	2017	249,679	516,042
	2018	240,329	756,371
Volker Schenk, member of the Executive Board	2017	241,120	490,862
	2018	232,943	723,805
Dr. h.c. Hans M. Schabert, CEO until 3/31/2017	2017	23,178	252,589
	2018	–	–

Retirement benefits. The Executive Board members Oliver Schuster and Volker Schenk have been granted entitlements to defined retirement benefits in the form of pension payments upon reaching the retirement age of 63. Depending on the years of service on the Executive Board, annual pension benefits after a minimum three-year Executive Board membership amount to 1 percent per full year of service, or in the case of first time contract renewals 2 percent per further full year of service, up to a maximum of 40 percent of the pensionable annual basic remuneration. The additional provision for Executive Board members in the 2018 fiscal year amounted to €473,272 (previous year: €513,977). Upon the death of an active or former member of the Executive Board, the pension entitlement or the most recent pension paid to the surviving spouse is reduced to 60 percent. The CEO, Andreas Busemann, receives an annual amount of €50,000 for the establishment of a private pension, which is to be part of the fixed remuneration.

**Commitments
in the event
of premature
termination
of duties**

Commitments in the event of premature termination of duties. In the event of an agreed premature termination of the employment contract, the Executive Board contracts contain commitments to pay out their expected remuneration, unless the termination is based on a unilateral resignation by the Executive Board member without good cause or on a revocation of the appointment for good cause. However, the commitments are in any case limited to a maximum of two years' remuneration (severance payment cap). No payment obligations are made in the event of an early termination of Executive Board duties due to a change of control.

Loans to Executive Board members. No advances or loans were granted to any Executive Board members of Vossloh AG in the 2018 fiscal year.

Remuneration to former Executive Board members of Vossloh AG and their surviving dependents. Remuneration in the form of pension payments to former members of the Executive Board and management as well as their surviving dependents totaled €1,172,861 (previous year: €1,133,332). These were pension payments. Current pension payments are subject to adjustment in relation to the collective pay trend in the metal and electrical industries of North Rhine-Westphalia. Pension obligations to former members of the Executive Board and management, as well as their surviving dependents, amounted to €21,256,507 (previous year: €19,310,583). Employer pension liability insurance policies totaling €10,459,305 (previous year: €10,624,485) are pledged in each beneficiary's favor. The remaining amount of these pension obligations is covered by provisions.

Supervisory Board remuneration in 2018. The remuneration of members of the Supervisory Board is to be determined by the Annual General Meeting and governed by the Company's Articles of Incorporation. The remuneration system complies with German law and takes into account the responsibilities and scope of duties of Supervisory Board members.

Remuneration
of the Supervisory
Board

In addition to reimbursement for their expenses, Supervisory Board members receive a fixed annual remuneration for duties performed of €40,000 (gross) to be paid after the conclusion of the fiscal year. The Supervisory Board Chairman receives three times and the vice-chairman one-and-a-half times the above fee. Membership in a committee is compensated by a premium of one quarter of the aforementioned remuneration amounts. The Audit Committee Chairman receives three times the additional Audit Committee membership fee. If the Supervisory Board Chairman is also a committee member, no additional fee is to be paid for their activities on the committee.

For the 2018 fiscal year, Supervisory Board members received a total remuneration of €435,833 (previous year: €420,000).

The table below depicts the amounts paid to each Supervisory Board member:

€	2018	2017
Heinz Hermann Thiele (Chairman until 5/24/2017)		50,000
Dr.-Ing. Volker Kefer (Chairman from 5/24/2017)	120,000	80,000
Ulrich M. Harnacke (Deputy Chairman)	110,000	100,000
Prof. Dr. Anne Christine d'Arcy (since 5/9/2018)	33,333	–
Dr. Bernhard Düttmann (since 5/9/2018)	26,667	–
Andreas Kretschmann (since 8/30/2017)	40,000	16,667
Silvia Maisch (until 1/31/2017)	–	3,333
Dr.-Ing. Wolfgang Schlosser (until 5/9/2018)	20,833	40,000
Helmut Schwind (from 2/1/2017 to 7/3/2017)	–	20,000
Michael Ulrich	60,000	60,000
Ursus Zinsli (until 5/9/2018)	25,000	50,000
Total	435,833	420,000

Consulting agreements. No consulting agreements with Supervisory Board members existed in the 2018 fiscal year.

Loans to Supervisory Board members. In the 2018 fiscal year, no advances or loans were granted to any Supervisory Board members.

Statutory takeover-related disclosures pursuant to Section 289a (1) and Section 315a (1) HGB

The provisions of Sections 289a (1) and 315a (1) HGB require that the following takeover-related disclosures be made as of December 31, 2018.

Composition of the subscribed capital

The subscribed capital (share capital) of the Company amounts to €45,325,167.47. It is distributed across 15,967,437 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 44.73 percent of the voting rights in Vossloh AG. These voting rights are to be attributed to the TIB Vermögens- und Beteiligungsholding GmbH, Grünwald, Germany, Stella Vermögensverwaltung GmbH, Grünwald, Germany, and Mr. Heinz Hermann Thiele, Munich, Germany, pursuant to Section 34 (1) WpHG.

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 (3) 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 Association 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 23, 2022, by up to a total of €22,662,582.32 through one or more issuances of new, no-par-value shares against contributions in cash and/or in kind (Authorized Capital 2017). 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 2017 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. The maximum limit reduced in accordance with the above deductions shall be increased again upon the coming into effect of a new authorization to exclude shareholder subscription rights pursuant to or in analogous application of Section 186 (3) sentence 4 AktG adopted by the Annual General Meeting following the reduction, to the extent specified in the new authorization, but no more than 10 percent of the share capital in accordance with the requirements of sentence 1 of this paragraph;
- (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 20 percent of the share capital, either at the time this authorization becomes effective or at the time this authorization is exercised. The abovementioned 20 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, 2018, the Company did not hold any treasury shares.

Agreements upon a change of control

There are nine 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 directly or indirectly obtain more than 50 percent of the shares or voting rights in the Company, whereby no change of control is justified with regard to Mr. Heinz Hermann Thiele:

- Four Schuldschein loans arranged by Landesbank Hessen-Thüringen Girozentrale and BNP Paribas: In the event of a change of control, the loan agreements contain 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 S. A.'s German branch, Commerzbank AG, Deutsche Bank AG's German Branch, HSBC Trinkaus & Burkhardt AG, Landesbank Baden-Württemberg, Landesbank Hessen-Thüringen Girozentrale and SEB AB 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 HSBC Trinkaus & Burkhardt AG: If there is a change of control, the bank has the right to cancel the loan without notice within 30 days after becoming aware of the change. In the event of a cancellation, the bank will allow adequate time for processing;
- A general agreement on short-term loans without individual guarantees with Bayerische Landesbank: If there is a change of control, the bank has the right to cancel the agreement within three months if it cannot reasonably expect the continuation of the agreement in consideration of the interests of both parties. In the event of a cancellation, outstanding balances, including accrued interest, are immediately due and payable.

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 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.

In one other agreement, a change of control means that a company or person directly or indirectly obtains more than 50 percent of the capital shares, or more specifically, the voting shares of the Company:

- A guarantee facility agreement with SEB AG 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.

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, 2018, 3,937 employees within the Vossloh Group contributed to achieving the Group's goals. This represents an increase of 252 employees from the previous year (3,685 employees) and equates to growth of 6.8 percent. A significant portion of the increase can be attributed to the acquisitions of the Australian company Austrak Pty Ltd. and the rail milling business of STRABAG Rail GmbH.

Workforce-related performance indicators

€ thousand	2018	2017
Personnel expenses per employee	57.0	54.6
Revenue per employee	229.2	233.4

The average number of employees was 3,773 in the reporting year compared to 3,934 in the 2017 fiscal year. The previous year's figures included the employees of two companies in the Customized Modules division that have not been fully consolidated since December 2017. In contrast, the acquisitions mentioned above were only concluded at the end of 2018, with the result that the newly-joined employees were not included in the calculation of the average for the full year.

Out of the overall average number of employees, 74.1 percent (previous year: 70.0 percent) were employed at locations in Europe. Of the remaining 25.9 percent, 52.5 percent (previous year: 43.1 percent) were primarily active in the North American region and 29.3 percent (previous year: 41.5 percent) in Asia.

Personnel expenses

€ mill.	2018	2017
Wages and salaries	167.5	169.6
Social security expenses and charges	41.8	39.8
Pensions expenses	5.6	5.4
Total	214.9	214.8

In the reporting year, personnel expenses increased slightly by €0.1 million compared with the previous year.

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 of employees		Personnel expenses per employee in € thousand		Revenue per employee in € thousand	
	2018	2017	2018	2017	2018	2017
Core Components	797	853	55.0	53.1	367.1	412.1
Customized Modules	2,404	2,546	54.6	51.4	200.7	189.8
Lifecycle Solutions	509	473	58.6	58.3	196.4	192.5

In addition, an average of 63 employees (previous year: 62) were employed by Vossloh AG.

We are proud of our employees.

Vossloh's competence is made up of the expertise, experience, commitment and diversity of our employees.

The expertise of today will be old news tomorrow; for this reason, Vossloh places great value on systematically supporting every employee in their professional and personal development. In annual performance review meetings, the managers and employees of all companies of the Group make agreements on what action to take to productively support both the employee's development and the strategic growth of the company.

We want to share experience with one another – and the Vossloh Learning Platform is the perfect medium for this. LEARN.SHARE.GROW. is a call to hold discussions within the Group, learn from each other and grow with the help of various (digital and analog) opportunities.

The commitment of high-performance and high-potential employees in particular is promoted at Vossloh: Employees are prepared for management duties with schemes such as LEAD!, which each year trains a group of high-potential employees to become "One Vossloh" multipliers. The systematic, Group-wide succession planning also ensures that talented junior personnel are recognized as successors and have the opportunity to advance to positions of responsibility throughout the Group.

Commitment matters, even as early as training. Attractive and intensive initial training, as well as the offer of dual study programs in Germany, offer qualified new talent the best opportunities for development within the Group.

Diversity at all levels is another aspect of competitiveness. The experience of long-standing employees, the contribution of "digital natives" and the influence of different nationalities are just as important as the great potential of the female workforce. The sum total of our diversity is a benefit for our clients and therefore a clear driver of our success!

Recruiting, developing and retaining the right employees: The key to success is our dedication to being a trustworthy and attractive employer, which is expressed in fair and safe working conditions, a realistic balance between career and family, and respectful and feedback-oriented employee management.

We create a safe working environment and promote the health of our employees.

We continued to enhance our consistent efforts in the area of occupational health and safety in 2018. Vossloh's focus was on behavior-oriented occupational health and safety, including the development of a culture of safety in which employees consider and protect their health in everything they do. The Group-Wide Work Safety Committee prepares appropriate standardized measures on this subject that help the Company to come closer to its "zero accidents" vision step by step, year to year.

Many thanks to our employees and employee representatives

We would like to express our gratitude to our employees, trainees and managers for the considerable effort and commitment that they provide each day on behalf of Vossloh to ensure our customers' enthusiasm and thus also the success of our company.

Our thanks go to all of the Group's employee representatives for a highly constructive and trust-based partnership over the past fiscal year.

Research and development

Vossloh ranks among the technological leaders in its fields of activity in rail infrastructure. To satisfy the specific expectations of customers in individual market regions over the long term and reinforce its own competitive position, the Company intensively invests in the enhancement and optimization of its products and services. Innovations are a decisive factor in maintaining the Company's technological competitiveness. Within the framework of a structured innovation management process, Vossloh continuously drives new developments forward.

A significant portion of Vossloh's research and development efforts relate to specific orders. 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 a market-ready product are capitalized if they satisfy the criteria defined in IAS 38 for the capitalization of development costs. Development costs that cannot be capitalized are recognized as research and development costs if they are not reported under cost of sales.

In 2018, expenses for research and development – before capitalized internally generated assets – came to a total of €14.1 million (previous year: €12.7 million). This represents a share of approximately 1.6 percent of Group sales (previous year: 1.4 percent). €4.3 million (previous year: €4.1 million) of R&D expenses were attributable to the Core Components division or exclusively to the Fastening Systems business unit. As in the previous year, no R&D expenses were incurred in the Tie Technologies business unit during the year under review. R&D expenses in the Customized Modules division came to €3.9 million (previous year: €4.0 million). €5.9 million (previous year: €4.6 million) were attributable to the Lifecycle Solutions division.

Of the €3.2 million in newly capitalized assets that were generated internally or as a result of third-party deliveries or service performance in the 2018 fiscal year (previous year: €2.4 million), €3.0 million (previous year: €2.1 million) concerned the Lifecycle Solutions division. €0.2 million (previous year: €0.3 million) of capitalized development costs were attributable to the Core Components division.

Vossloh Group – research and development costs

€ mill.	2018	2017
Research and development costs	14.1	12.7
of which capitalized	3.2	2.4
Research and development costs (income statement)	10.9	10.3
Amortization (of capitalized development costs)	0.9	0.8

The research and development work at Vossloh concentrates on multiple pressing subjects in the rail industry: increasing track availability, extending the lifespan of infrastructure (components) with simultaneous reduction of lifecycle costs and reduction of noise emissions in rail traffic. In addition, Vossloh's R&D experts throughout the Group are also addressing the consequences of the increasing loads placed upon rails and the wear and tear upon rail components that this entails. As a system provider, Vossloh possesses comprehensive expertise regarding rail as a complex mode of transportation.

For several years now, Vossloh has bundled its research and development expertise into multiple technology and competence centers. In fall 2017, a Group-wide structured innovation management process was introduced that follows a systematic approach spanning the core divisions and is based around open-minded thinking. Significant drivers of new developments include the wishes and needs of customers and the requirements of the market. Vossloh now draws new and adjacent technological areas into its development work, since interdisciplinary problem-solving approaches are becoming increasingly crucial to the implementation of new business models due to increasing digitalization in the rail industry. It is precisely this use of new digital technologies that provides enormous opportunities for the Vossloh Group.

On one hand, this is relevant in reference to future products and services. Data collected from the tracks can be used to draw conclusions about the condition of rail tracks. One Vossloh solution for this is called IoT Sensor. The tiny, high-performance computer, which can be installed at various points on the track (ties, point machines etc.), does more than constantly collect information. At the same time, its internal microprocessor provides for the pre-qualification and aggregation of data that are fed into an adaptive system to be evaluated. Vossloh's integrated V-MON monitoring platform combines the data collected by measurement instruments in various infrastructure components into an overall picture, which makes it possible to prepare efficient forecasts for the predictive maintenance of the rail network. This allows transportation operators to plan maintenance more effectively, with the result that the availability of rail routes is increased and lifecycle costs are reduced.

On the other hand, however, digitalization also offers opportunities directly for the R&D activities of Vossloh: In all divisions, research and development work is increasingly based on data-processing technologies. This makes it possible for multidimensional simulations, such as the finite element or multi-body simulation methods frequently employed at Vossloh, to be implemented more quickly and more economically than with conventional methods. The innovative DYNADeV platform developed by Vossloh is a real-time simulation for predicting the mechanical behavior of a switch, such as in regard to the effects of a virtual train crossing on the infrastructure. In this way, for the first time the effect of actually moving rail vehicles are visible in a detailed switching simulation. The simulation tool replaces expensive measurements on the track and laborious laboratory tests; with the virtual process, switches can be certified much more quickly than previously.

Vossloh is entering a completely new world with "Digital Twin." The "digital twin" provides a virtual depiction of a physical object or system, which includes comprehensive product and function data as well as a real-time visual overlay. The fusion of augmented reality and virtual reality in one application provides support in customer service, in the field and during training.

In Vossloh's new innovation process, the route from the idea to the market-ready offering is clearly defined on the basis of requirements, criteria and guiding questions – even in regard to timing. One objective is to substantially shorten the development phases for new products and services by holding "innovation forums" to facilitate transparent and networked information exchange between specialists from all divisions. The opportunities this method creates for the Company are underscored by our vision, "The Smart Rail Track by Vossloh." In September 2018 in Berlin, Vossloh presented the industry with its already highly detailed vision of an intelligent railway that enables disruption-free operation and extends the lifespan of the infrastructure at InnoTrans, the leading trade fair for the rail industry. For example, in addition to the previously mentioned developments of IoT Sensor and V-MON, multiple technologies for "made by Vossloh" digital switch management were displayed – switch disruptions are a major cause of deficient track availability. In urban regional transportation, for example, the compact electro-hydraulic Easydrive point machine can be equipped with smart sensor technology for remote monitoring. With the Easyswitch MIM-H for mainline routes, Vossloh has developed a new generation of this point machine with a proven track record that distinguishes itself as a modular plug-and-play solution with a high degree of reliability. In addition, an innovative rail tie made from Vossloh's innovative composite material *amalentic* was also presented, which not only has a longer lifespan than conventional ties, but is now recyclable as well. Depending on the design, it can be implemented conventionally in the form of a wooden tie, or in an innovative, weight-optimized form in combination with various fastening systems.

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 throughout the world under the framework of longstanding partnerships. Cooperations with technology companies and start-ups are particularly desired in the area of digitalization and big data analysis. An important new joint venture established with Rhombert Sersa represents a crucial partnership that offers a wide range of monitoring and maintenance services for switches and rails.

In 2018, the R&D experts in the Core Components division worked on bringing new solutions for increased noise and vibration protection closer to market-readiness. In this context, the 336V rail fastening system with *cellentic* intermediate layers for reducing vibrations, developed for local transport in China, was tested on the rails along with the optimized 300NG tie solution for solid tracks. In the 300 fastening system, rail clamp SKL 15 HF is also used, with its completely new design for increased service life and safety. Rail fasteners with steel components were also installed for test purposes, where the new, particularly environmentally friendly premium zinc coating Vossloh *protect* served to ensure long-lasting corrosion protection even under extreme conditions.

In 2018, R&D engineers in the Customized Modules division tested the new, extra-hard rolled steel CogX, primarily for frogs and switch points for tram switches. The results were positive with regard to profile stability and creep resistance. The next step is the testing of heat-treated laminated steel in switch systems for heavy-duty traffic. The material was jointly developed with ArcelorMittal Industeel. Thanks to its extreme hardness, it features higher resistance to wear and impact in comparison with existing solutions. COGSLIDE, a coating developed in-house by the division, was also subjected to extensive practical tests. This makes it possible for coated switch rail chairs to be moved without lubrication. Together with COGILINK, a new generation of self-lubricating rings, corrosion-proof pins and a lubricant-free ball joint for all arm types, the entire switch system becomes maintenance-free and will operate even longer and more reliably. A purely hydraulic point machine, which contributes to energy conservation, was also brought to a point where it was ready for testing.

In the Lifecycle Solutions division in 2018, the development of the compact MPM (Multi Purpose Milling) rail milling machine was concluded, which Vossloh also presented to the industry at the InnoTrans trade fair. Tailored to the needs of regional transportation and operable in tunnels, it is also suitable for flexible hot-spot processing for main line rail routes. In order to ensure that conditions are assessed on a regular basis, Vossloh plans to equip all of its rail profiling machines with cutting-edge sensors. As a first step, the HSG railgrinder was equipped with measurement technology for determining the longitudinal ripple and cross-section. The new in-house mapl-e software evaluates the data from various rail and track condition tests and makes it possible to provide expedient recommendations, optimizing the maintenance cycle and maintenance budget. The participation of subsidiary Vossloh High Speed Grinding GmbH in a project performing an in-depth investigation into "rail screeching" is another example of the Vossloh Group's research and development activities.

Environmental protection¹

Vossloh places great value on sustainability in general and the protection of the environment in particular. The nonfinancial statement² with extensive information on the significant sustainability and environmental protection subjects for Vossloh, including the quantification of energy consumption and CO₂ emissions, can be found starting from page 68.

The fundamental goals of the Vossloh Group's environmental management include handling resources more efficiently and minimizing environmental contamination. To achieve these objectives, processes and structures within the Company are continuously adapted to current circumstances. A structured approach is taken toward advancing innovation for (more) sustainable solutions. The individual Group companies regularly undergo environmental audits conducted by external independent auditors. All major locations of the core divisions of Vossloh – including the new Australian acquisition Austrak Pty Ltd. – are certified under the ISO 14001 environmental management standard and/or comparable guidelines.

Vossloh records and monitors material consumption and disposal quantities by means of a comprehensive hazardous substance and waste management system. The Company uses disposal methods that are separated according to waste types as well as economically viable recycling procedures. The selected waste management companies are then audited regularly. Vossloh deals with natural resources in a responsible and consciously sparing manner along the entire process and value creation chain. Energy use and environmental concerns are consistently analyzed, while production processes, transportation and logistics are optimized on an ongoing basis. Wherever possible, renewable energies are used, sometimes directly from the Company's own solar generation facilities, but also indirectly with the procurement of certified green power. All divisions have been implementing gradual measures for increasing their energy efficiency for years, and waste heat is being reused by an increasing number of production locations.

Continued minimization of resource consumption and environmental contamination were specifications again in the Core Components division in 2018. These included training courses in which employees were instructed in the correct handling of relevant types of waste, held at a regular basis at various locations of the Fastening Systems business unit. In the production process, the cascade guidance of mordants and the neutralization of mordant wastewater were optimized. At the Company headquarters in Werdohl, the reporting year was marked by construction work for the "factory of the future": The world's most modern factory for rail fastening systems will be completed here by 2021, and will meet the highest standards in terms of environmental protection, particularly energy efficiency. CO₂ emissions stand to be decreased by 30 percent in comparison with 2017.

The Customized Modules division also implemented a series of measures in 2018 in order to use (energy) resources more efficiently and design production to be more environmentally friendly. Another major construction project was in focus in this area during the reporting year which will have a positive impact on the environmental footprint: Roughly two years since the start of construction, the first project phase was completed and the new foundry in Outreau, France, began operations. Among other things, the previous furnace from 1950 has been replaced with a cutting-edge electric smelting furnace. The plant in Outreau is Vossloh's competence center for foundry technology; in particular, this is where frogs for switch crossings are produced. At present, two additional halls for milling and welding are under construction in the second project phase. The new factory should be complete by 2020. Current targets include buildings that use solar energy with the help of photovoltaics, LED lighting and energy-optimized modern machines and facilities. These will significantly lower the energy use per unit produced. A closed water circuit, the reduction in emissions and the minimization of sand and dust in production will ensure sustainable and clean production.

¹Part of the nonfinancial statement audit for providing limited assurance – see page 82.

²Not part of the financial statement audit, but part of an audit to obtain limited assurance – see page 82.

In the factories in Reichshoffen and Fère-en-Tardenois, the systematic exchange of conventional lighting with LED lighting began in 2018. The first step already resulted in energy savings of around 5 percent in Reichshoffen; in Fère-en-Tardenois, a reduction of energy use by about half is expected following completion of the process. At both production sites, the handling of waste paper and cartons was newly regulated so as to achieve higher recycling quotas.

On the basis of data collected in the past years, the Customized Modules division will continue to analyze various environmental aspects in 2019 such as energy, water and material use, delivery routes and employee driving routes, thus finding approaches that further improve our "environmental footprint." Efforts were begun in 2018 to evaluate which environmental effects the essential components of switching systems have in different life cycle phases. This work will be continued in 2019 and the term "recycling economy" will take on importance.

The Lifecycle Division is also constantly improving through numerous measures on subjects such as energy conservation, emissions reduction, waste prevention and sorting, and reduction of water consumption. For example, a large portion of the division's locations now exclusively use green power, and further conversions of lighting to LED technology were carried out in 2018. The division generates waste at its locations in addition to outside at construction sites and during the use of rail profiling machines. In 2018, waste separation was introduced for the HSG railgrinder. In the area of grinding tool manufacturing, Vossloh introduced a reusable system for packaging to replace the oiled paper that was used previously.

Nonfinancial Group statement*

Vossloh’s nonfinancial Group statement for 2018 corresponds to the applicable commercial law requirements. To prepare this declaration, Vossloh used the German Sustainability Code (DNK) as its framework and applied the standards of the Global Reporting Initiative (GRI) within the DNK in order to select the nonfinancial performance indicators (“Core” option). Its reporting covers the Group’s global activities; the companies considered equate to the scope of consolidation of the consolidated financial statements (see page 108 et seq., “Consolidation”).

The reporting is based on the results of a materiality analysis of the nonfinancial aspects on the basis of which the Company lives up to its environmental, economic and social responsibilities which was carried out for the first-time preparation of the nonfinancial Group statement in 2017. A multistage process was used to identify and prioritize the topics relating to these areas that are relevant to Vossloh both within the Company itself and in the upstream and downstream areas. The subject of the multistage process was a global survey of experts and managers in various areas within the Company. This resulted in 13 nonfinancial aspects of particular relevance; the following materiality matrix depicts the significance of these aspects:



In its meeting on December 11, 2018, the Executive Board of Vossloh AG expressly addressed the significant aspects and issues identified in 2017. Since no fundamental changes to the underlying conditions of the business environment had occurred since then, the Executive Board confirmed these subjects unchanged for the 2018 Nonfinancial Statement.

* Not part of the financial statement audit, but part of an audit to obtain limited assurance – see page 82.

The Vossloh annual report/management report contains supplementary and/or more detailed information regarding many of the nonfinancial aspects and issues considered below, and these are cross-referenced accordingly. All of the material risks related to Vossloh's business activities are part of the Company's risk reporting. It also covers Vossloh's significant nonfinancial risks (see "Nonfinancial risks and opportunities" on page 88).

Significance of sustainability issues to the Vossloh business model

Vossloh is active in rail technology markets worldwide. Within this context, the Company is focused on rail infrastructure. The Group's core activities are organized into the three divisions of Core Components, Customized Modules and Lifecycle Solutions. In addition, Vossloh is active in the locomotive business, which is still reported as discontinued operations in this annual report. The business model of Vossloh is described in detail in the chapter "Business and market environment" on page 38 et seq.

Vossloh makes an important contribution to people's mobility and the transport of goods with its products and services for rail infrastructure. For both local and long-distance traffic, rail is one of the most sustainable, most economical and also safest means of transport. The subject of sustainability generally holds a position of high importance in the rail technology industry. Resources should be used sparingly and emissions – in rail technology, first and foremost carbon and noise emissions – should be kept as low as possible or further reduced with the help of new technologies. As a system provider, Vossloh thoroughly understands the physics of railways and uses its comprehensive expertise to further improve the environmental and sustainability balance of rail as a means of transport. The Group supplies long-lasting components for rail infrastructure and constantly develops these components further by using innovative materials and designs. In particular, Vossloh researches and develops solutions for reducing vibration and noise in rail traffic. The Company's products and maintenance services also aim to facilitate maximum track availability.

In its economic activities, Vossloh also fulfills its social responsibility as a company. Sustainable economic success amid global competition is only possible through responsible corporate conduct. This includes both the Company and its employees adhering to the applicable laws, respecting basic ethical values and acting in an exemplary fashion at all times and in all scenarios.

Accordingly, Vossloh reports on aspects and matters in the following areas in its 2018 nonfinancial Group statement:

- Environmental issues, in particular climate-related emissions and noise emissions
- Employee issues, in particular occupational health and safety, vocational and further training and development, labor conditions and being an attractive employer
- Corporate governance, compliance, combating corruption and bribery, compliance with antitrust law and respect for human rights, all grouped under the term corporate responsibility
- Customer and product issues, in particular product safety and customer satisfaction

Social aspects are also addressed in accordance with the statutory requirements.

Sustainable actions have been an integral part of the Vossloh corporate culture for some time. The Company combines long-term economic value added with environmental and social responsibility. Sustainable solutions and innovative processes are promoted in a structured manner at Vossloh. At the heart of everything is a holistic view. In its core divisions of Core Components, Customized Modules and Lifecycle Solutions, the Company is gradually bringing the existing environment, energy, quality and occupational health and safety management systems together to create an integrated management system that will be subject to regular audits by independent external auditors. The new Group company Austrak Pty Ltd. will also be included in this in the future.

The Executive Board of Vossloh has acknowledged the guiding principle of sustainable development in a statement on the Group's sustainable orientation. The statement has been published on the website www.vossloh.com under "Sustainability" > "Sustainability Management at Vossloh" in the "Investor Relations" section. Within the operational management of the Group, the topic of sustainability falls under the responsibility of the Chief Technology Officer (CTO), who is involved in the development of all concepts related to the topic of sustainability. The CTO also oversees the sustainability working group comprising those within the Group who are responsible for Compliance, Environment/Health/Safety (EHS), Human Resources (HR), Investor Relations/Controlling and Accounting. This body regularly discusses sustainability issues; in 2018, three meetings took place. The working group is responsible for further developing the approaches to sustainability already existing within the Company and for further clarifying the Group's sustainability strategy. This includes developing quantifiable goals that Vossloh will seek to achieve from now on in the area of sustainability (including scope and time frame). The first decision-making processes concerning this were initiated by the working group in 2018.

Vossloh has been listed in a number of sustainability indices since 2008, including the Global Challenges Index and via oekom research's investment universe. In recent years, more and more of the Company's entities have been awarded certification in at least one of the international quality, environmental, energy efficiency and social standards such as ISO 9001, ISO 14001, ISO 50001, OHSAS 18001 or its successor standard ISO 45001, or a comparable national standard and have corresponding management systems in place. This development was also continued in 2018. For example, Vossloh Nordic Switch Systems in Ystad, Sweden now has ISO-45001 certification (replacing OHSAS 18001). The company Austrak Pty Ltd., which has belonged to the Group since December, is already certified under ISO 14001 and the Australian safety standard AS4801. At the reporting date December 31, 2018, more than 99 percent of the Vossloh workforce was employed at an entity certified in accordance with the aforementioned standards.

For all Vossloh Group locations worldwide, energy consumption and data on employee matters such as workplace safety and developments in the area of Human Resources are centrally collected and validated using IBM Cognos Controller consolidation software. There are no standardized Group-wide quantitative data available for further nonfinancial matters. The sustainability working group will prepare recommendations on the definition and incorporation of additional issues into a standardized Group-wide quantitative reporting system in consideration of cost and utility perspectives. Selected indicators for the area of compliance are also available for the entire Group. Insofar as other quantitative data regarding nonfinancial performance indicators in this declaration relates to individual entities only, this is stated as being the case accordingly.

Environmental matters

Compliance with all the applicable environmental protection requirements and the avoidance of environmental risks are top priorities within Vossloh's environmental management. Both in terms of production and the provision of services, Vossloh acts in accordance with international standards and guidelines, in particular ISO 14001 and ISO 50001. Applying these standards helps to minimize potential risks for the environment. Environmental officers have been appointed at the various levels of the Group and a corresponding report system has been put in place. In its materiality analysis, Vossloh identified climate-related carbon emissions and noise emissions as the most significant nonfinancial performance indicators. Vossloh has been pursuing the general objective of continuously reducing its emissions for years. Defining concrete targets for specific time frames is one of the responsibilities of the sustainability working group. In its 2018 meetings, it prepared initial considerations on this subject which will be worked out further in 2019.

With regard to the impact on climate change, carbon emissions and carbon equivalents are relevant to Vossloh, these being generated by the energy consumption of Vossloh itself or in the upstream or downstream areas. All the Vossloh divisions have been making targeted investments to reduce energy consumption and boost energy efficiency for years. Vossloh has photovoltaic and solar thermal systems and uses waste heat from production at a number of its production plants. The key activities in this area in 2018 are outlined on page 66 et seq. ("Environmental protection" chapter).

Climate-related
emissions

The following tables present the consumption of significant energy sources within the Vossloh Group for the 2018 fiscal year and the comparative figures from 2017:

MWh (Vossloh Group)*	2018	2017
Gas consumption	109,592.9	101,154.6
Electricity consumption	65,157.0	69,715.5
District heating consumption	4,937.7	4,750.6

* The following consumption figures for 2018 were calculated for the Transportation division reported as discontinued operations:
Gas consumption: 2,155.0 MWh (2017: 1,779.4 MWh), electricity consumption: 3,515.3 MWh (2017: 6,696.6 MWh), district heating consumption: 3,153.2 MWh (2017: 15,218.0 MWh).

Liters (Vossloh Group)*	2018	2017
Heating oil consumption	295,528.0	340,217.0
Fuel consumption ¹	1,028,613.3	1,106,042.7

* The following consumption figures for 2018 were calculated for the Transportation division reported as discontinued operations:
Fuel oil consumption: 12,179.2 liters (2017: approx. 10,000 liters), fuel consumption: 59,971.6 liters (2017: 55,774.0 liters).

¹This includes the fuel consumption of Vossloh's vehicle fleet.

While gas consumption within the Vossloh Group was 8.3 percent higher than the previous year, primarily due to the Customized Modules division, consumption of electricity, heating oil and fuel decreased at the Group level, in some cases falling substantially below the previous year's level. Among other factors, this was caused by changes to the scope of consolidation in the Customized Modules division, where two companies were no longer fully consolidated that had used the respective energy sources. The substantially decreased consumption of district heating in Vossloh Locomotives can be attributed to its relocation to the new, more energy-efficient plant in Suchsdorf.

The amount of Vossloh's carbon and greenhouse gas (GHG) emissions was determined, as in 2017, on the basis of the Greenhouse Gas Protocol in the categories of scope 1 (direct emissions from the combustion of fossil fuel sources for heating and mobility) and scope 2 (indirect emissions from the generation of purchased electricity). The results were as follows:

t CO ₂ equivalents, scope 1 (Vossloh Group)	2018	2017
Gas consumption	20,162.7	18,221.4
Fuel oil consumption	749.6	861.4
Fuel consumption	2,623.6	2,829.8
Scope 1*	23,535.8	21,912.6

* 584.4 metric tons of scope 1 carbon equivalents were calculated for the Transportation division in 2018, which is reported as discontinued operations (2017: 490.5 tons).

t CO ₂ equivalents, scope 2 (Vossloh Group)	2018	2017
Electricity consumption	31,036.7	35,356.1
District heating consumption	1,920.0	1,837.6
Scope 2*	32,956.7	37,193.7

* 2,898.6 metric tons of scope 2 carbon equivalents were calculated for the Transportation division in 2018, which is reported as discontinued operations (2017: 7,861.5 t).

The development of carbon equivalents at the Group level essentially follows the respective developments in energy consumption. The disproportionately high reduction of CO₂ equivalents from electricity consumption (CO₂ equivalents (12.2) percent relative to previous year, electricity consumption (6.5) percent) can be attributed to the use of an improved electricity mix in consideration of emissions aspects within the Group, such as at the location in Werdohl.

Vossloh does not have Group-wide data with which to ascertain the greenhouse gas emissions relating to the upstream and downstream areas (scope 3).

Vossloh consistently makes use of the available options for further reducing its carbon emissions. Significant energy savings are linked primarily with the two current major construction projects: "Factory of the Future" at Vossloh Fastening Systems in Werdohl (savings target: 30 percent in comparison with the 2017 level) and "OT 2020" at Vossloh Cogifer in Outreau; more information on this subject can be found in the "Environmental protection" chapter on page 66 et seq.

Numerous smaller changes are also contributing to the improvement of the greenhouse gas balance sheet. For example, only vehicles with a diesel, hybrid or electric engine and with emissions of less than 150 g CO₂/km according to the manufacturers' information are permissible as company cars at Vossloh AG. An incentive system is also in place which "rewards" employees for choosing company cars with lower emissions. Vossloh Fastening Systems and Vossloh AG are participating in the Clean Advantage™ program, which offsets emissions of carbon dioxide and other greenhouse gases caused by company vehicles with investments in reforestation, alternative energy and biomass projects, among other things. Through the use of optimized truck logistics, Vossloh Fastening Systems prevented more than 40 metric tons of CO₂ emissions at the Werdohl location during the reporting year. An employee survey of Vossloh Fastening Systems GmbH and Vossloh AG on the subject of carbon emissions is planned for 2019 with the objectives of further increasing awareness of sustainability and reducing emissions.

The Customized Modules division has used a conference call and video conference system for a number of meetings since 2017, thus substantially reducing the number of employee trips. The greenhouse gas emissions of the division are now roughly 15 percent lower per year than before the conversion. Two additional measures were carried out in 2018 to improve the carbon balance sheet: Adjustments in outgoing delivery management have permanently reduced the number of express and airfreight shipments, and a complete reorganization of incoming deliveries for the production plants in Reichshoffen and Fère-en-Tardenois has ensured that the number of trucks and the mileage driven have been reduced by roughly a third.

The Lifecycle Solutions division is gradually converting its locations to green electricity. The company Alpha Rail Team was added in 2018. The complete conversion of the company Vossloh Mobile Rail Services to green electricity is planned for 2019. At the end of 2018, the division covered 38 percent of its electricity needs with power from renewable sources. According to the green electricity and climate protection certificates available from suppliers, Lifecycle Solutions prevented in 2018 roughly 425 metric tons of attributable carbon emissions with the conversion to green electricity.

Noise development is not an issue of relevance to Vossloh itself regarding sustainability; the Company meets all the statutory emission regulations. The products and services of Vossloh, however, serve the purposes of creating and maintaining rail infrastructure. For rail routes of all types, noise protection is a key subject of public perception, and currently counts among the most pressing challenges of rail transport. Noise hampers the urgently needed expansion of routes, causes sickness among people living near rail routes and results in high costs for the transport operators and consumers. An essential factor in effective noise reduction is combating it at the source, by optimizing the wheel-rail contact on the track. Reducing the noise caused by rail traffic and improving track acoustics have been a focus of Vossloh's research and development work for years. The Company offers suitable products and services in all core business areas.

Noise emissions

At InnoTrans, the leading international trade fair for transport technology, in September 2018 in Berlin, Vossloh presented numerous examples of how rail noise can be reduced in a sustainable manner in the subject area of "Silent & Clean Environment". Special materials such as *cellentic* intermediate layers and plates for Vossloh's highly elastic rail fastening systems dampen vibrations due to rail and wheel irregularities and minimize structure-borne noise caused by rail vibrations during train crossings. *cellentic* components can be installed for virtually every track type. Roughly 29 million units have been installed to date. The new DFF 336 Crossover rail fastening system, which contains a high proportion of plastic, was designed with vibration dampening in mind from the very beginning and was developed particularly for the renovation of existing routes. When trains pass through switches, the wheels cause noise in the switch frog when they first come into contact with switch tongue or wing rails. Vossloh's special switch designs reduce this noise by optimizing the movement of the wheel over the rail in the transitional area. Vossloh's crossings with movable frog points are made from a cast manganese steel developed in-house. The more ripples, slip waves and skid spots rails have, the louder the rolling noise is when a train crosses. Vossloh offers different processing technologies (grinding, milling) that vary according to the severity of the rail defects and that can be used to restore the rail surface to a smooth and thus "quiet" condition. The rail and switch processing machinery can achieve noise reduction of up to 10 dB(A) by precisely removing material. The machines themselves also operate quietly. The new Multi Purpose Milling (MPM) compact milling machine, for example, 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).

Employee matters

The key nonfinancial issues identified by Vossloh in its materiality analysis in relation to employee matters were occupational safety and health, vocational and further training, and being an attractive employer. The concepts developed and implemented in these areas by the HR departments at the various levels within the Group and the objectives pursued with these concepts are explained below. There are currently no significant risks in regard to employee matters (see also: "Nonfinancial risks and opportunities" in the chapter "Risk and Opportunity Management" on page 88).

Occupational health and safety

Workplace safety and maintaining the employees' health are at the heart of Vossloh's care obligations as an employer. Nearly all major production plants worldwide are certified under the internationally-recognized standard OHSAS 18001 (Occupational Health and Safety Assessment Series) or the successor standard ISO 45001, and undergo the prescribed audits by independent external auditors. As of the end of 2018, just under 70 percent of Vossloh employees were employed at entities certified in accordance with OHSAS 18001 or ISO 45001. The switch and system servicing segment within Vossloh Rail Services has even had SCC (Safety Certificate for Contractors) certification since 2017, which goes above and beyond the requirements of OHSAS 18001. For the managers of the operating units, achievement of the defined occupational safety performance indicators is an integral part of their pay-related target agreements.

There has been a permanent Group-wide occupational safety body 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. In this policy, the zero-accident strategy vision is defined.

Since 2014, workplace accidents throughout the Group have been documented at Vossloh every month on the basis of uniform criteria. The key performance indicators here are the globally used metrics of lost time accident frequency rate (LTAFR) and lost time accident severity rate (LTASR). Accidents resulting in lost time due to an employee's ill health are reported directly to the Executive Board in a timely manner. The Work Safety Committee and the Group Works Council cooperate closely in order to further reduce workplace accidents and further develop the culture of safety.

Workplace accidents (Vossloh Group)*	2018	2017
Lost time accidents ¹	98	80
Lost time accident frequency rate ²	13.8	12.3
Lost time accident severity rate ³	2.1	1.7

*The following values can be stated for 2018 for the Transportation division reported as discontinued operations: LTA = 10 (2017: 14), LTAFR = 12.4 (2017: 16.8) and LTASR = 0.9 (2017: 0.9).

¹ Accidents involving injury-related lost time of at least 1 hour

² Frequency of accidents involving injury-related lost time of at least 1 hour in relation to the cumulative actual work time, based on 1 million hours worked

³ Severity of accidents involving injury-related lost time of at least 1 hour in relation to the cumulative actual work time, based on 1 million hours worked

18 more workplace accidents with injury-related lost time of at least one hour occurred in 2018 than in 2017. The number of hours worked also increased, but the increase in workplace accidents and absence after workplace accidents was disproportionately high, which cumulatively led to higher values for the LTAFR and LTASR indicators.

Both accidents with and without lost time and near accidents are systematically analyzed at Vossloh in order to learn from them for the future at all the Company's sites. The definition of concrete targets for specific time frames in the area of occupational safety is likewise one of the responsibilities of the sustainability working group. It addressed this subject at every meeting in 2018 and prepared initial proposals to be coordinated with the Work Safety Committee.

Prevention is a matter of importance to Vossloh 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 and awareness campaigns. Memorable videos are frequently employed as well. The hand safety campaign launched in the previous year, which focused on risks for hand injuries, was notably continued in 2018. This aims to raise employee awareness of conduct-based occupational health and safety, and allow employees to proverbially experience the importance of keeping your hands safe.

The "4 Seconds for Safety" campaign is now well-established throughout the Group: Every day, every new activity, every shift talk and every get-together at Vossloh begins with a brief discussion of specific safety aspects, and not just in the production area. The technical and commercial trainees of Vossloh Fastening Systems in Werdohl showed a particular commitment in regard to occupational health and safety in 2018: Together with their training manager, they developed a poster campaign entitled "Safety first" that points out hazards in day-to-day work, for which they received the "Smart Fox" award from the Wood and Metal Trade Association for exemplary occupational health and safety measures.

Since February 1, 2018, a standardized time-based travel security management system has been available for all employees who travel internationally as part of their activities for Vossloh. It encompasses both medical and security-related aspects of business travel, and also offers precautions about potential emergencies. Information from the global travel security guidelines are available to employees through the intranet. Group employees are assisted when preparing for travel both through the automated dispatch of travel-related emails by a competent external service provider, as well as by the Group's Assistance Centers and Travel Security Manager. This cooperation gives travelers access to 11,000 international medical, security and logistics experts at over 1,000 locations in 90 countries, around the clock 365 days a year. The help provided by the service provider, which itself acts in accordance with GRI guidelines, is completed by an assistance app as well as information about the Assistance Centers in check card format.

Vossloh's occupational health management pursues the goal of offering all its employees preventive health care and promotion. This includes the occupational safety measures already mentioned, workplace ergonomics and driver safety training as well as daily fruit, nutritional advice, company sport (including jogging groups and yoga courses), support with quitting smoking and preventive measures (like flu vaccinations, health screenings and health care tips).

Aging societies in developed countries, a shortage of skilled workers in many parts of the world, global competition for well-qualified engineers and the younger generation's changing expectations of employers – these are just some of the challenges faced by Vossloh in the area of human resources.

Training, further training and development

One of the Company's major advantages in terms of its attractiveness as an employer is the comprehensive array of development measures it offers its employees, with these measures being agreed upon by an employee and the manager in the annual performance review meeting as a means of individually training the employee while taking the operational needs into account. Implementation of these measures is closely monitored and evaluated by the HR departments. As a key management tool, the yearly performance reviews entail not only such development measures, but also mutual feedback from the manager and the employee regarding working together. The implementation rate for the yearly reviews is firmly established as a key indicator at many companies of the Vossloh Group, and remained at 95 percent in 2018.

The range of professional development measures covering all areas of expertise comprises external and internal training, workshops, project involvement (within or outside of a business unit) and coaching. Vossloh also promotes employees gaining qualifications on their own initiative, such as by studying alongside working. In addition, as part of its talent management, Vossloh promotes and challenges future managers and carefully selected specialists with its annual LEAD! program. This executive development program encompassing all the business units develops high-potential employees into "One Vossloh" multipliers, preparing them for further responsibilities as part of the Company's systematic succession planning.

The new Vossloh Learning Platform (VLP) is an environment for continuous learning ("LEARN"), sharing ("SHARE"), and growth ("GROW"). It is our mission to create an inspiring and motivating culture of learning at Vossloh that every employee can contribute to and benefit from. The VLP is an example that learning takes place every day and in numerous ways. The offering encompasses all learning options such as "on-site," "tailor-made," or "digital learning" – and is growing continuously. All business units carried out training programs to develop the management skills of their managers.

In the area of initial vocational training for young people, there is great demand at Vossloh in Germany for existing dual training opportunities, in other words the combination of company-based training and studies, in both the industrial/technical and commercial fields.

Labor conditions Committed employees are the basis of the Company's long-term success. Vossloh therefore attaches great importance to fair labor conditions. Key issues in this regard are fair remuneration, additional company benefits (above and beyond the statutory and/or tariff-based arrangements) and a safe work environment. 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 and the Group Works Council regularly invite the Executive Board and Corporate Human Resources to their meetings in order to guarantee the flow of information, discuss scope for improvements and address new issues together.

One of these subjects is the family-oriented HR policy. This began with the Group works agreement adopted in 2018. A working group composed of managers, works council members and HR employees developed objectives and measures for ensuring a balance between career and family; with this result, Vossloh will submit itself to the "Career and Family" external audit in early 2019. Existing family-friendly instruments range from flexible working hours, flextime and part-time and parental leave models to mobile working, personal sabbaticals and childcare services. At French companies, provisions were also adopted to ensure that employees are unavailable during free time.

Vossloh's incentive system also includes aspects that further strengthen the Company's sustainability focus. For example, employees throughout the Group take part in the INSPIRO idea management program as well as a continuous improvement process (CIP) that also involves them financially in the revenue that results from their ideas for improving product, process and service quality. A significant portion of the proposals concerned the subject areas of environmental protection (emphasis: energy conservation) as well as occupational health and safety. For example, two employee ideas are currently under development which will result in oils used in the production of rail fastening systems needing to be replaced less frequently and enabling them to be reused through the use of suitable recycling measures.

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 Code of Conduct stipulates and precisely defines the values of integrity and upstanding business conduct. The principles of conduct that this code prescribes are a binding yardstick and benchmark for the day-to-day activities of all the employees (see also the detailed coverage of the topic of compliance on page 78 et seq.).

Vossloh expects all of its business partners, be they companies or individuals, "to apply similar standards to the ones we have established for ourselves," as the Company's Code of Conduct stipulates. Suppliers, service providers and subcontractors who are new to working with Vossloh are required to provide comprehensive information on themselves by means of checklists. Increasingly, the issues of safety, health and the environment are likewise being considered in these evaluations as Vossloh itself is required to present its own customers with evidence in these areas (see the "Customer and product aspects" chapter on page 81 et seq.).

Attractive employer Vossloh's corporate culture is founded on the four basic values of "passion," "striving for excellence," "trust and respect" and "entrepreneurship." That these values are practiced on a daily basis is an important argument for Vossloh in terms of both competing for qualified professionals and retaining skilled employees in the long term. At the same time, Vossloh is working on opening the traditional industrial and hierarchical environment up to a project-based and digital culture, with the objective of creating attractive workplaces for young talent and maintaining the Company's competitiveness.

Vossloh continuously boosts its appeal as an employer with an array of measures such as:

- Systematic promotion of talented individuals and junior employees (including the LEAD! Development program)
- Harmonized HR processes and tools
- Development of a Vossloh management culture
- Group-wide succession planning to facilitate international careers within the Group
- Occupational health management (see "Occupational health and safety" on page 74 et seq.)
- Employees as ambassadors for the Company (through the "Employees Recruiting Employees" program and other initiatives)
- Joint development by employee representatives and the management of topics relevant to success (e.g. collaboration between Work Safety Committee, the Group Works Council and the European Works Council in the areas of occupational safety, "Career and family")
- In Germany: Erstausbildung@Vossloh (various initial training opportunities in industrial/technical and commercial areas and dual training options)

Vossloh Group companies assess employee satisfaction by means of regular surveys regarding various focal issues. The surveys are conducted and evaluated using scientific methods, and the results serve as the basis for improvement measures and changes. For example, 2018 saw Vossloh Fastening Systems continue an employee survey on management quality that started in the previous year; the results fed into the continuous optimization of the cooperation between employees and managers. At Vossloh Rail Services, the employees of the company Vossloh High Speed Grinding GmbH were surveyed for the first time at the end of 2018.

A Group-wide IT employee survey was carried out for the first time at the end of 2018 with the goal of identifying potential for further development in the area of IT as well as identifying "customer perceptions" regarding IT, and received a high level of participation. The survey addressed a wide variety of subject areas. The concrete results are currently still under evaluation, and the identified solutions for further development should be implemented this year.

Vossloh's flat hierarchies generally promote open dialogue within the workforce and between employees and managers. Annual performance review meetings are held Group-wide to provide an opportunity to give feedback. Since the introduction of the "One Vossloh" principle to the integrated Group, the Executive Board has also been actively pushing for stronger cross-divisional communication. The objectives are primarily a fundamental reorientation of innovation management and establishing a globally standardized image for our customers.

Social matters

In accordance with the current decentralized Group structure, social aspects fall under the scope of responsibility of the operating unit; as such, there is no Group-wide concept in place. In addition, the contributions made to the community by the individual corporate entities at the various sites are not systematically recorded. For this reason, it is not currently possible to make statements for the business units or divisions in this regard. The risks arising from these endeavors are, however, part of the Group's risk reporting (see "Nonfinancial risks and opportunities", page 88).

Individual companies traditionally support civic society at their respective locations in a variety of ways. For example, the Lifecycle Solutions division uses funds that can be donated to charitable organizations to promote increased participation in social, athletic, cultural or environmental areas by its employees. At the new Group company Austrak Pty Ltd., employees have a paid absence day which they can use to work for a charity organization of their choice. Vossloh Fastening Systems and Vossloh AG have made, for example, contributions to a children's and youth hospice. A large number of Vossloh employees also volunteered in their local communities in their free time.

Additionally, Vossloh's research and development departments in particular collaborated with a number of universities and research institutes at varying levels and in various constellations, including in Germany, France, Sweden, China and the US. Among other things, Vossloh also awards prizes for particularly outstanding academic performance – such as the top graduate of the Financial Management course at the University of Applied Sciences Europe in Iserlohn.

Corporate responsibility

The nonfinancial aspects of corporate governance, compliance, combating corruption and bribery, compliance with antitrust law and the 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 more than 130-year history, Vossloh has a social responsibility toward its customers, employees, partners, investors and the public. This corporate responsibility includes the Company and its employees adhering to the laws applicable, respecting basic ethical values and acting in an exemplary fashion at all times and in all scenarios.

Corporate Governance

As a German stock corporation, Vossloh AG has a dual management and monitoring structure as reflected in the Executive Board and the Supervisory Board. Both bodies have an obligation toward the Company's well-being and the interests of the shareholders. As a third body, the Annual General Meeting is responsible for important fundamental decisions made by the Company.

Compliance/ combating corruption and bribery/ compliance with antitrust law

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 targets. 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 Financial Officer (CFO).

The Executive Board of the Vossloh Group has established a Compliance Management System (CMS). The Vossloh Group's Rules of Procedure of the Compliance Organization govern the Compliance Organization, the assignment of responsibilities to 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 these risks in order to prevent Vossloh and its employees from incurring damage and liability risks. In a risk stocktaking update conducted in 2016 with external assistance, bribery in business dealings and violations of competition law were identified as the central compliance risks. This relates in particular to sales and all the sales-promoting activities, involving intermediaries. The Compliance Management System addresses these risks and minimizes them with the help of suitable processes and measures. In 2018, the existing risk assessment was confirmed in the course of a survey of 215 managers and other employees within the Vossloh Group carried out with external assistance.

Since 2007, Vossloh's Compliance Management System has been based on the Vossloh Code of Conduct. The Code of Conduct 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, conduct compliant with antitrust law and the bringing in of intermediaries as well as insider guidelines.

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 2018, Vossloh conducted compliance training around the world for a total of 1,324 participants.

Compliance training is also given in the form of e-Learning. 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. 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, 2018, the training rate stood at 91.1 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 are performed both ad hoc and without there being any specific suspicions. In 2018, 4 Group-wide compliance audits (2017: 5) were carried out. Additionally, Vossloh regularly has its Compliance Management System reviewed by external experts and has them make recommendations regarding its further development and improvement. The most recent 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, they 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 215 managers and other employees of the Vossloh Group in 2018 which confirmed the effectiveness of the established Compliance Management System as well as high levels of awareness and acceptance of compliance within the Vossloh Group.

Vossloh has set up a whistleblower hotline together with an international law firm. This allows Company employees and external whistleblowers to report possible misconduct to an independent external contact (ombudsperson) in their native language. The whistleblower hotline has so far been set up for 21 countries. As such, the main regions and the languages spoken within the Vossloh Group are essentially covered. The ombudspersons were contacted on six occasions in 2018 (2017: one occasion). Vossloh systematically looks into every report of conduct that is potentially illegal or against the rules.

Vossloh 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. Binding 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 Vossloh and its employees.

Since early 2017, 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 (VBD) (Vossloh Executive Board member Volker Schenk has been a member of the VDB Presiding Board since 2011 and President of the VDB since January 2016)
- Association of the European Rail Industry (UNIFE)
- Deutsches Verkehrsforum (DVF)
- Institut für Bahntechnik GmbH (IfB)
- Pro-Rail Alliance
- Association of German Transport Companies (VDV)

Details of material nonfinancial risks regarding ongoing legal proceedings and legal disputes can be found in the section entitled "Nonfinancial risks and opportunities" on page 88.

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

The protection of personal data is a matter of importance to Vossloh. Vossloh revised its data protection management system in 2018 to comply with the European General Data Protection Regulation (GDPR) and adjusted the organization in accordance with the new legal requirements. The new data protection policy came into effect in May 2018. 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.

Respect for human rights

Vossloh respects the 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 "Corporate Governance" > "Compliance" in the "Investor Relations" section of the corporate website www.vossloh.com. Risks that may result from the violation of human rights are recorded under "Nonfinancial risks and opportunities" on page 88.

As a globally acting Group, Vossloh actively promotes diversity within its workforce and intercultural learning for its employees. In 2018, the Company employed men and women from over 40 countries and with a wide range of qualification levels, education levels, vocational training paths, career experience and service years within all of its hierarchical levels. An "Inclusion & Diversity" policy is currently being prepared in order to promote employee diversity in all relevant areas. Vossloh is fundamentally committed to promoting equal opportunities in the workplace, such as in the selection of employees for high-potential programs or recruitment for open positions. In 2018, Customized Modules initiated a project that promotes the subject within its international organization in a targeted manner.

To minimize the risk of child labor, the Company, 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 2018 fiscal year (2017: 0 reports).

There are no Company-wide specifications in place at Vossloh regarding the aspect of human rights when drawing up contracts and there is therefore no monitoring of this. 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).

To date, neither Vossloh's own sites nor its suppliers have been subject to checks of their compliance with the human rights clauses, and corresponding monitoring and assessment processes have not been established. The Company management has received no indications suggesting that individual sites are violating human rights. The various Vossloh companies subject their suppliers and intermediaries to intensive preliminary checks before concluding a contract with them. Here, too, the Company has so far not had cause to check compliance with human rights.

Customer and product aspects

The rail technology markets in which Vossloh operates have some particularities resulting among other things from the historical development of rail as a means of transport. In the majority of these markets, the rail infrastructure and numerous rail transport operators are still state-owned. Vossloh's potential customers are therefore companies the investment scope of which can also be influenced by political specifications. Building and maintaining rail routes and purchasing and maintaining the rolling stock are costly as rail transport operators are required to comply with extensive technical, logistical and legal provisions. The number of potential Vossloh customers is therefore limited. Furthermore, safety is elementary when it comes to the (mass) transportation of people and goods. Rail performs well in this respect in comparison to other means of transport. The safety of its products and services and customer satisfaction are therefore key nonfinancial performance indicators for Vossloh. The material nonfinancial risks that the Company faces because of the underlying industry conditions or the markets it develops are covered in the section entitled "Nonfinancial risks and opportunities" on page 88.

Vossloh makes considerable contributions to the safety of rail services, meeting the most stringent of standards itself in the process. 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. At the reporting date December 31, 2018, around 98 percent of the Vossloh workforce was employed at an entity with such a certification. 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 installations/test usage by the customers and as part of the complex approval process of certified testing organizations. In this manner, 2018 saw the Core Components division test multiple enhanced rail fastening systems, the new corrosion protection for tension clamps and the innovative EPS composite tie in regular operation on selected routes in North America. The Customized Modules division tested various products made from its newly developed, extremely hard rolled steel CogX in a tram network. The Lifecycle Solutions division launched the HavenZuG project in cooperation with well-known partners to research how constant monitoring and analysis of rail conditions in harbor railways can be embedded into day-to-day shunting operations. The stringent requirements result in lengthy development times. All of Vossloh's business units have their own Research and Development departments, which are staffed by highly specialized professionals.

Product safety

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

To minimize the possibility of 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. The extensive evaluations and audits of both potential and existing suppliers are based on numerous criteria. A key aspect is a supplier's unflinching ability to meet the quality standards stipulated by Vossloh. The keywords here include product quality, service and delivery reliability. All of Vossloh's partners are regularly 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 be generally able to guarantee at all times that their goods and services meet the applicable regulatory and statutory requirements.

Customer satisfaction

Customer communication has historically been the responsibility of Vossloh's operating units, in keeping with the Company's formerly decentralized structure. The divisions have steadily expanded their customer communication in recent years in order to better understand their customers' wishes and needs and to meet these more accurately. In line with the "One Vossloh" principle, the establishment of a cross-divisional customer relations management was initiated at the end of 2017 following a Group-wide dialogue on the topics of sales and customer communication. The objective is for all information about all Vossloh customers to be collected centrally in a secure environment and made equally available to all operating units in order to leverage synergies for the purposes of sales. In addition, the system should result in there being less work involved in preparing documents for calls for tender and meeting the ever greater reporting duties in relation to customers, such as in regard to certification. The solution based on customer relationship management (CRM) software went live in February 2018 once all of the more than 300 employees affected had been given the appropriate training. It encompasses more than 10,000 Vossloh customers in 115 countries and all rail infrastructure projects worldwide that the Group supplies. At the InnoTrans industry trade fair in Berlin in September 2018, the CRM system successfully passed its first practical test. In 2019, additional interfaces with other IT applications such as email programs and marketing modules will be established and the working environment will be configured to be more user-friendly.

As in the past, the logging of customer satisfaction remained the responsibility of the operating units in 2018. Corresponding surveys are carried out in various ways at individually selected intervals, as well as on a project-oriented basis or as part of customer visits in some cases. For example, Vossloh Fastening Systems GmbH (Germany location) carried out an international online survey in March 2018 with the help of an external market research institution. The quality of VFS products was ranked very highly by customers. Indicators for improvements were collected and processed in various projects. Centralized surveys are scheduled for 2019 in the Lifecycle Solutions division.

Audit

Vossloh Aktiengesellschaft, Werdohl, contracted the independent audit firm Warth & Klein Grant Thornton AG Wirtschaftsprüfungsgesellschaft to audit its nonfinancial Group statement and the sections of the annual report that qualify as components by reference for the period January 1, 2018, to December 31, 2018. This audit was performed on the basis of the International Standard on Assurance Engagements (ISAE) 3000 (Revised) with the aim of obtaining limited assurance. The independent auditor concluded that, based on the audit procedures performed and the audit evidence obtained, they were not aware of any matters that led them to believe the nonfinancial Group statement was not prepared, in all material aspects, in accordance with Sections 315b and 315c in conjunction with 289c to 289e HGB. The independent auditor's report issued regarding this audit with limited assurance is not intended to be used by third parties as a basis for making (investment and/or asset management) decisions. The audit firm contracted to conduct the audit assumes no liability in regard to third parties.

Risk and opportunity management

Organization

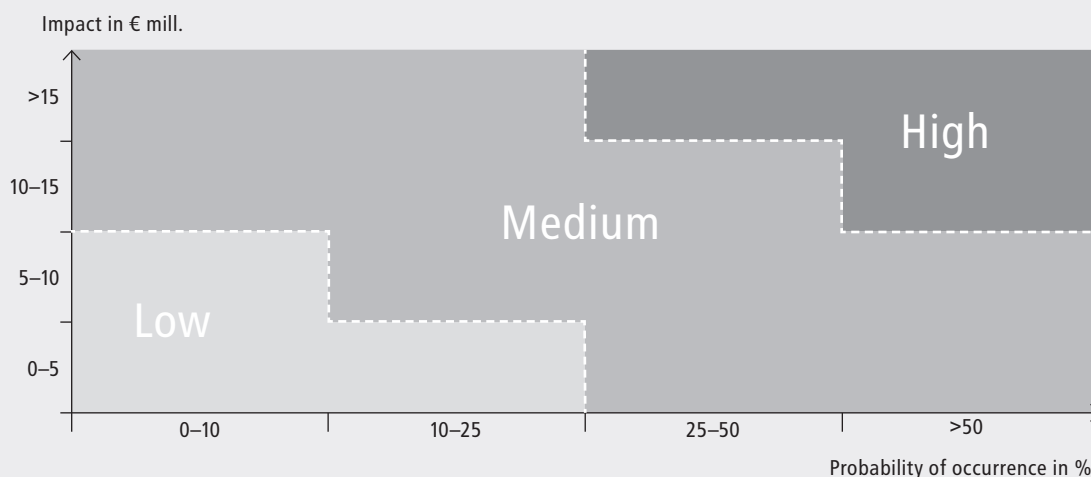
Risks and opportunities for the Company's net assets, financial position and results of operations are regularly and systematically identified, analyzed, evaluated, communicated, monitored and managed at all levels within the Vossloh Group. Vossloh has established a Group-wide risk and opportunity management 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. The majority of the risks and opportunities which apply to the business of the Group also apply to the business development of Vossloh AG. Acquired companies are promptly integrated into the system. This also applies to the newly-acquired Australian company Austrak Pty Ltd., which is already included in reporting as of December 31, 2018.

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 that was last updated in January 2018. The structure of the 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 Company. A permanent inventory identifies risks and opportunities on an ongoing basis and ensures that relevant risks are recorded effectively, promptly and systematically.

Vossloh evaluates risks and opportunities in regard to their potential impact. 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. Nonfinancial risks and opportunities, which are evaluated in regard to their impact on nonfinancial aspects such as environmental or employment concerns, are also incorporated into risk reporting.

Vossloh documents and communicates 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 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 intended to be read by the Executive Board of Vossloh AG as well as the management of the Group companies and business units. They are responsible for managing and monitoring risks and opportunities. The management of the business units, Corporate Controlling and the Vossloh 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. 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 significance that individual risk categories hold for the Vossloh Group is evaluated, where possible, on the basis of the potential negative impact on the forecast financial targets and on the probability of occurrence of the given risk category. On the basis of these two factors, risk categories are classified as high, medium or low as shown in the following image:



The following statements illustrate the risks and opportunities that were relevant at the time the consolidated financial statements were prepared and are significant to the development of the Vossloh Group.

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 develop based on the competitive situation as well as global megatrends such as urbanization, climate change and digitalization.

Vossloh's clients are frequently from the public sector. For this reason, the general performance of the economy only has a limited impact on the Group's business performance. Regulatory activities, the state of rail deregulation in the respective country and the government debt situation have a greater effect, with the latter affecting the financing capabilities of public-sector clients. Reduced (or increased) availability of public funding can have a negative (or positive) impact on the future business performance of Vossloh. In the infrastructure maintenance market, which is 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 light of the persistent growth in rail traffic, these effects should only be temporary in nature.

In the 2018 fiscal year, Vossloh operated worldwide in the markets for rail infrastructure (core business) and rail vehicles (locomotives), and is among the leading providers in selected markets. Vossloh has defined Western Europe, North America, China and Russia as key regional markets for its core divisions, Core Components, Customized Modules and Lifecycle Solutions. The Transportation division, which since the end of 2014 no longer belongs to Vossloh's core business, is mainly operational in Germany, France and Italy.

In Western Europe, the markets for rail infrastructure are defined by the general stability of their political and economic factors. A particular feature of the North American market is the significantly greater volatility of demand, as most of the rail and network operators there are not public clients. The result for North America in 2018 was also burdened with weak demand from the Class-I railroad operators relevant to Vossloh. Activities in other markets – in particular in Asia, South America, Eastern Europe, Australia and Africa – present opportunities for Vossloh as well as additional risks. In Russia, a production site for fastening systems was opened in 2017 which performed slightly better than expected in 2018. In the other named markets, risks may arise in particular as a result of political and social instability, as a result of 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 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. In this context, digitalization and the new business models resulting from it are playing an increasingly important role.

Vossloh classifies the risk situation in its focus market of North America as "medium". The general economic risk and industry-specific risk for the forecast financial targets are otherwise deemed to be low.

Operating risks and opportunities

Operating risks and opportunities can originate from various operational activities, particularly in procurement, production and order processing. In the procurement process, Vossloh seeks to limit price risks by means of long-term contractual agreements or price escalator clauses. However, price escalator clauses are frequently impossible to enforce. 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 does not expect any significant changes in material usage prices in 2019. During the reporting year, the result was negatively burdened, particularly in the Tie Technologies business unit, as a result of an unexpectedly severe increase in steel prices in the USA due to import tariffs. If price increases for materials used should deviate from expectations during the 2019 fiscal year, this could have an impact on the income forecast, particularly in the Core Components division.

Risks can also emerge in the course of the procurement process as a result of the failure of suppliers, quality problems or delays in the supply process. Vossloh attempts to minimize these risks by cooperating with trusted partners of many years. Even though suppliers are carefully selected and 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, quality problems and health, safety and environmental risks. These risks may be intensified if significant investments impact the production processes at a given location and are not sufficiently managed. Vossloh avoids or reduces these risks by means of extensive policies and directives on product and quality management, on product safety, on occupational health and safety and on environmental protection. As of the reporting date of December 31, 2018, over 99 percent of employees were employed in a unit that was certified under at least one international quality, environmental and social standard such as ISO 9001, ISO 14001, ISO 50001, OHSAS 18001 or ISO 45001. If newly acquired units do not hold equivalent certifications, they are brought into compliance with these standards as quickly as possible.

In the context of order processing, risks for Vossloh may arise from the complexity of projects. This applies in cases of 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. Particularly in the Transportation division, which is no longer part of the core business and is reported as discontinued operations, increased risks can occur during the start-up phase of new projects with correspondingly high development costs or in cases of first-time cooperations with new partners or subcontractors, leading to additional expenditure or contractual penalties. These risks can be limited, but not fully eliminated, by formulating contracts appropriately and ensuring that project and quality management are thorough. On the other hand, there may be isolated opportunities if the recognized risk provisions do not need to be fully utilized.

Risks may also arise after acquisitions where it becomes necessary to impair goodwill if the medium-term operational performance of the units in question is significantly weaker than expected or if the general interest level increases substantially. 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. The Company also carries out impairment testing during the year if exceptional events occur. This testing involves a comparison of the relevant carrying amount of a cash-generating unit (CGU) in relation to the goodwill of acquired companies against the value in use. Divestment projects may also result in risks or opportunities if the existing carrying amounts are not fully covered by a buyer's attainable purchase price or expected attainable purchase price, or if the purchase price exceeds the existing carrying amounts.

Vossloh has recognized risk provisions for existing operational risks, in accordance with IFRS requirements. Despite the risk provisions for known risks with a very high probability of occurrence, the risk of net profit reductions arising from product development and the completion of projects 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 deems the risk arising from the completion of projects to be of a medium nature. The other operating risks are all deemed to be low. In the Transportation division, which is planned for disposal, there is also the medium to high risk that the existing carrying amounts are not fully covered by a buyer's expected attainable purchase price.

Financial risks and opportunities

Group Treasury monitors and manages financial risks and continuously optimizes the Group's finances. 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 also reported as hedge relationships in the balance sheet and only make use of previously approved, market-standard financial instruments. The trade, performance and controlling functions are organizationally separated. Detailed information on existing derivative financial instruments is provided in the notes from page 140 onwards. 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. Revenue sharing measures within the Group with the help of cash pooling systems (see glossary, page 165) 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 July 2017, Schuldschein loans were granted amounting to €135 million (maturity: July 2021) and €115 million (maturity: July 2024). A syndicated loan concluded with eight banks for €150 million with a term until November 2023 has been in effect since November 2017. The term can optionally be extended by an additional year. The volume of the loan can be increased if needed by an additional €150 million. The funds are available to the Company in the form of a revolving line of credit that can be flexibly accessed. Interest is applied to drawdowns based on the amount of the agreed covenant (net financial debt relative to EBITDA) as well as the extent of the drawdowns on the line of credit. If the agreed maximum value of this covenant is exceeded, this will allow the lending banks to terminate the agreement ahead of time. Compli-

ance with the covenant has to be proven every six months and was affirmed as of the half year and as of the reporting date. Detailed information on the available lines of credit is provided in the notes on page 145.

There are presently no financing or liquidity shortages. Vossloh deems 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. 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. The probability of the interest rate changing at short notice and the impact of this on cash flows is deemed to be low. The risk is therefore also deemed to be low.

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 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 2018, of the financial investments and derivative financial instruments with positive market values, 30 percent were with contract partners with a rating of AA+ to AA–, 56 percent were with contract partners with a rating of A+ to A–, 10 percent were with contract partners with a rating of BBB+ to BBB–, while 4 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.

Vossloh's customers are often public sector clients. In these cases, the credit risk is usually deemed to be very low. However, outstanding amounts owed are continuously monitored. Some are 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, transactions are usually concluded with letters of credit to limit the credit risk.

Due to the high share of business with public clients and the restriction to contract partners with good or excellent credit ratings, the credit risk is deemed to be low.

Overall, there were no major effects on net profit/loss in 2018 resulting from financial risks.

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 and income statement through provisions. However, it is impossible to eliminate the possibility that losses may arise that are not (adequately) insured or exceed the established provisions. On the other hand, there may be isolated opportunities if risk provisions are not utilized entirely. During the reporting year, for example, a recognized risk provision for a major project in the UAE was able to be dissolved in sections.

Group companies of Deutsche Bahn AG have asserted compensation claims against the Group company 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 is still the risk of joint and several liability for as yet unsettled damages. For any outstanding entitlements, Vossloh Rail Center GmbH, Hamburg, 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 affirmation of individual customer claims is deemed to be very likely and a reliable estimate of potential compensation amounts seems possible.

Since the end of 2014, the Transportation division no longer belongs to the core business of the Vossloh Group. The Rail Vehicles business unit was sold in 2015. At the start of 2017, the sale of the Electrical Systems business unit was completed. The purchasers of the two business units were granted certain guarantee rights and rights of recourse in the purchase agreements. Risk provisions have been recognized for any claims asserted on the basis of these rights, where utilization of the guarantees and rights of recourse is deemed to be very likely. Opportunities may arise if the recognized risk provisions do not need to be fully utilized. In the 2018 fiscal year, recognized risk provisions from the sale of the former Electrical Systems and Rail Vehicles business units were partially dissolved.

For the legal risks that still apply, 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 deemed to be of a medium nature.

Nonfinancial risks and opportunities¹

According to the nonfinancial Group statement², 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 risks that satisfy the criteria described. Vossloh therefore deems the risk situation in connection with nonfinancial risks to be low.

¹ Part of the nonfinancial statement audit for providing limited assurance – see page 82.

² Not part of the financial statement audit, but part of an audit to obtain limited assurance – see page 82.

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. Training activities serve to provide employees with additional qualifications, 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. Through the use of technical and organization precautions, Vossloh minimizes risks related to the reliability, availability and confidentiality of the data stored in its information systems. They also ensure that data is processed efficiently. In this context, a data protection policy was adopted in May, 2018, for all Vossloh companies.

Vossloh has been listed in the SDAX index of Deutsche Boerse since March 2013. The main criteria for inclusion in the index are the available market capitalization and the volumes traded on the Frankfurt Stock Exchange. Inclusion in the SDAX index is presently jeopardized by the declining trading prices and the lower trading volumes compared to other SDAX companies. During the period of the preparation of the management report until the end of February 2019, Vossloh was listed in the SDAX. The next periodic adjustment of the index will be announced by Deutsche Boerse at the beginning of March 2019. The potential exclusion from the index may result in the share becoming less attractive and may possibly cause trading volumes to fall further. The financing opportunities for larger acquisitions – for example by means of capital increases – would possibly be worse if excluded from the SDAX.

Other risks had no significant impact on the net income in 2018. Significant potential negative effects on the forecast financial targets are improbable from a current perspective. For this reason, the risk is classified as low.

Summary of the risk and opportunities situation

All of the described risks and opportunities that the Vossloh Group is 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. For risks that are currently known, risk provisions have been recognized in accordance with IFRS. Other current risks and opportunities are – if adequately specified – accounted for in the current annual outlooks. 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 opportunities report relates to the situation of the Group as of the time the combined management report was prepared.

Description of the essential features of the internal control and risk management systems in relation to the financial reporting process/consolidated financial reporting process (Section 289 (4) and Section 315 (4) HGB)

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). It serves to quickly identify, manage and monitor risks that jeopardize the Group as a going concern as well as other risks beyond the original, legally stipulated scope. The Group auditor assesses the functional capacity of the early-warning risk control system in accordance with Section 317 (4) HGB. 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.

The Internal Audit is largely responsible for the internal control system at Group level, as are the Controlling, Accounting, Treasury and Legal departments. 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 division also ensures that monitoring is integrated into processes.

The Supervisory Board, in particular the Audit Committee, Vossloh AG's Internal Audit division and the locally appointed employees at the level of the management companies of the business units are tasked with performing process-independent audits. The (Group) auditor also performs process-independent auditing activities. The audit of the consolidated financial statements and subject-specific audits in connection with the pre-audit of financial statements are considered particularly essential process-independent monitoring activities in relation to the (Group) accounting process.

Information technology

Accounting transactions are recorded locally in the local accounting systems of the Group companies. For the preparation of 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: 10.2.1) is used to both consolidate and provide additional management information.

With a small number of exceptions, the accounting of Group companies is carried out with a standardized system from the manufacturer 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 the Core Components, Customized Modules and Lifecycle Solutions divisions. It has also been introduced for the North American companies in the Tie Technologies business unit.

(Group) accounting risks

The preparation of the financial statements requires a range of assumptions and estimates. Such estimates affect the values recognized for reported assets and liabilities, as well as for contingent liabilities as of the balance sheet date. They also affect how income and expenses in the reporting period are reported. The misuse of necessary discretionary scope can lead to (Group) accounting risks.

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 on the basis of the accounting rules laid out in the International Financial Reporting Standards as adopted by the European Union. These contain not only general accounting principles and methods but also provisions on specific balance sheet items, the income statement and the statement of comprehensive income, as well as information to be published in the notes in accordance with legislation applicable in the EU. The manual also governs specific formal

requirements imposed upon the consolidated financial statements. It establishes not only how the group of consolidated companies is defined but also lays out the components of the reporting packages to be prepared by the Group companies in detail. The formal requirements include the binding application of a standardized and complete set of forms.

The "Group Accounting Manual" undergoes regular revision and updates; the most recent update was made in December 2018. New or revised editions are made available as quickly as possible via the Group intranet to all those involved in the Group accounting process.

In addition to the localized registration of accounting transactions within the Group companies, the monthly and annual financial statements are also reviewed by the managing company of the relevant business unit. Checks are triggered by random selection or in particular by major or unusual transactions. Group-wide policies are in place, for instance for investments, submissions of offers, compliance and risk management. The companies and business units of the Vossloh Group are also required to govern local key divisions by means of policies.

Thereafter, Vossloh AG conducts general plausibility checks on the reporting packages provided by the individual companies. These include not only the financial statements of the individual Group companies as adapted to the unified Group accounting standards but also more extensive necessary information for the notes to the consolidated financial statements. The plausibility checks are performed both by Controlling and by Accounting. The financial statements are then consolidated. The correct offsetting of internal Group receivables/liabilities, income/expenses, ownership interrelationships and interim profits from deliveries or services within the Group are regularly checked in accordance with the peer review rule as well as with the application of suitable validation rules in appropriate control files.

Further data is also prepared and aggregated at Group level to provide the information contained 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 contributes to the comprehensive registration, processing and validation of Company transactions and their correct representation 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 with the Group-wide application of the utilized systems, this cannot 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.

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

The Declaration on Corporate Governance is reproduced starting on page 32 of this annual report and is a constituent component of the combined management report. The annual report is available at all times from the website of Vossloh AG (www.vossloh.com).

Outlook

This combined management report contains forward-looking statements that are based on forecasts of the Vossloh management in relation to the future development of the Group. This outlook is based on assessments made by the management on the basis of all information available at the time the report was prepared. Assumptions regarding the future development of the international rail technology market and the specific business expectations of the core divisions of the Vossloh Group have been taken into particular 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 management (starting on page 83). If the assumptions underlying the outlook prove to be inaccurate or the described risks or opportunities occur, the actual results and developments may differ from these forecasts. The Vossloh Group accepts no liability for updating the statements made in this combined management report beyond statutory publication requirements.

Macroeconomic developments and outlook for the rail technology market in relation to the European rail industry association

The short- and medium-term fluctuations of the global economy are generally of secondary importance to Vossloh. Investments in rail infrastructure are generally made around the world on the basis of long-term decision-making processes. The current economic trends are therefore only reflected in rail markets to a limited degree. Changes in the debt ratios of individual countries are more relevant to Vossloh, especially those of the Company's home market of Europe.

The Organisation for Economic Co-operation and Development (OECD) anticipates that the European trend towards reduced government debt apparent since 2015 will continue. It expects the debt ratios of the 19 eurozone countries and all of the European Union's member states (EU-28) to fall further in 2019.

With its World Rail Market Study, the Association of the European Rail Industry UNIFE publishes an extensive biannual analysis of developments in the global rail technology market, and makes justified predictions for the coming years on this basis. The most recent study was presented in September 2018 at InnoTrans, the trade fair for transport technology, in Berlin. It predicted that annual global volumes for the overall rail technology market would grow from an average of €163 billion between 2015 and 2017 to an average of around €192 billion between 2021 and 2023 – an average increase of 2.7 percent per year. The market accessible to European providers such as Vossloh in the future is estimated by UNIFE to be worth approximately €120 billion per year. Accessible markets refers to the markets that are available to European suppliers and in which demand is not exclusively met by domestic capacity. For markets that can only be addressed by European suppliers via joint venture structures, half of the market volume is classified as accessible. For comparison, a market volume of around €103 billion per year is currently deemed to be accessible. The expected increase to €120 billion represents growth of 2.6 percent per year.

A study by the consulting firm SCI Verkehr, also published at Innotrans 2018, arrived at a similar result to that of the rail industry association's experts. It estimates that the total volume of the global rail technology market will grow from the current €183 billion by an annual average of 2.8 percent until 2022.

However, if broken down according to region, the forecast market growth varies greatly. UNIFE anticipates that the accessible markets in Latin America (5.3 percent), Africa/Middle East (3.8 percent) and the NAFTA region (3.1 percent) will see above-average growth in the coming years. The largest rail engineering market accessible to Vossloh has been and continues to be Western Europe, with an annual volume of just over €37 billion in the 2015–2017 period. Market growth of 2.3 percent per year to around €43 billion is anticipated between 2021 and 2023. This is followed by the NAFTA region with a current annual market volume of €26 billion and future annual market volume of €32 billion and the Asia-Pacific region with a volume of just under €17 billion, expected to rise to €20 billion. At present, these three regions host more than three quarters of the total accessible rail technology market.

The Association of the European Rail Industry breaks the rail technology market down into the segments of infrastructure, rolling stock, rail control, services and turnkey projects. With its core divisions of Core Components, Customized Modules and Lifecycle Solutions, Vossloh operates in the infrastructure segment and the infrastructure services subsegment of the services segment. The volume of the globally accessible infrastructure market has been quantified by UNIFE at roughly €21 billion per year in the period between 2015 and 2017. The forecast growth up to the 2021–2023 period is 2.8 percent annually, resulting in an annual future market volume of around €25 billion. The growth forecast for the infrastructural services subsegment until the 2021–2023 period is also 2.8 percent, meaning that an increase in the accessible market volume is expected from the current €6.1 billion per year to €7.1 billion. In total, the accessible market that is relevant to Vossloh between 2015 and 2017 came to around €27 billion per year.

Outlook for 2019 and assessment for 2020

The forecast for the Vossloh Group is based on the expected development of the three core divisions of Core Components, Customized Modules and Lifecycle Solutions, as well as that of Vossloh AG. In addition to general industry-specific conditions, Vossloh's sales revenue planning also incorporates division-specific assumptions in particular. 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 context of longer-term funding sources. Vossloh supports its customers as a partner over the long term. The Company works with them to plan and develop solutions to satisfy individual product and service needs. This usually involves delivery and project lead times of several months, and sometimes even several years.

Based on current knowledge, Vossloh assumes that it will be able to generate sales between €900 million and €1 billion in 2019. In the Core Components division, Vossloh anticipates substantially higher sales revenue than in 2018. In the Tie Technologies business unit, this can primarily be attributed to the acquisition of the Australian company Austrak Pty Ltd. Higher overall sales are also forecast for the Fastening Systems business unit. Due to the fact that a significant proportion of the high level of orders received in China in 2018 will only lead to sales in the 2020 fiscal year, Vossloh expects sales revenues in China in 2019 to remain at about the same level as the previous year. The expansion of the rail network in China is expected to continue at the same robust pace. The country wants to expand its high-speed network from its current size of roughly 25,000 kilometers to approximately 38,000 kilometers by 2025. Vossloh has maintained a consistently stable market position in this segment as a supplier of rail fastening systems. The Vossloh Group also expects sales revenue to be higher in 2019 compared to 2018 for the Customized Modules and Lifecycle Solutions divisions. The increase in sales revenue in Lifecycle Solutions is primarily a result of the acquisition of the rail milling business of STRABAG Rail GmbH.

Due to the significantly better visibility for China business beyond 2019, the Executive Board has determined to make an exception and provide an outlook for the following fiscal year, 2020. From today's perspective, Vossloh expects sales revenue of between €950 million and €1.05 billion for the financial year 2020. The forecast increase in sales revenue is based for one thing on the high level of orders received in China in the 2018 fiscal year. Beyond that, higher sales contributions are expected in the USA from the Tie Technologies business unit and the Customized Modules division. In the Lifecycle Solutions division further increases in sales in the milling business are expected.

The Vossloh Group anticipates an EBIT of between €50 million and €60 million in 2019, approximately the same level as the previous year. The forecast increase in sales revenue in the Tie Technologies business unit and the Lifecycle Solutions division can in large part be attributed to the company acquisitions carried out in 2018. Effects of the purchase price allocation and integration expenses will initially exceed the positive earnings contributions from these acquisitions in 2019. In addition, the 2018 fiscal year benefited from one-time effects, such as from the negative goodwill from the acquisition of the rail milling business of STRABAG Rail GmbH. From today's perspective, Vossloh forecasts EBIT of between €65 million and €80 million for the financial year 2020. The main drivers of this development are the activities in China and the USA.

In 2019, the relevant indicator for internal management – the weighted average cost of capital before taxes (WACC) – will remain unchanged at 7.5 percent. As a consequence of the application of IFRS 16 for the first time and the full-year inclusion of the acquisitions carried out at the end of 2018, a pronounced increase in capital employed is anticipated for the 2019 fiscal year. As a result, value added in 2019 is expected to be noticeably lower than in the previous year. Vossloh anticipates an increase in the average number of employees in the middle of the single-digit percentage range in 2019. This will also largely be due to the acquisitions carried out in 2018.

EBIT for the Core Components division is currently expected to remain at approximately the same level as 2018. A noticeable improvement of EBIT in the Customized Modules division is anticipated. Vossloh expects a lower EBIT for the Lifecycle Solutions division due to the absence of the aforementioned positive one-time effect. Adjusting for this one-time effect, an increase of the EBIT is anticipated.

Risks to Vossloh's business performance are most notably derived from the persistently challenging situation in the U.S. market. Additional net profit reductions resulting from legal risks and the completion of projects may also have a negative impact on the earnings position. Besides, further accounting losses from the closing of the sale of Vossloh Locomotives cannot be ruled out. Please refer to the statements made in the risk report (starting on page 83) regarding other risks that may affect the stated planning.

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 income of Vossloh AG as an operational management holding company is largely dictated by administration costs and the net financial result. The administrative expenses of Vossloh AG in the 2019 fiscal year are expected to remain at approximately the same level as the previous year. The net financial result is dependent not only on interest expense but also heavily on the income from dividends and profit sharing agreements, as well as expenses from the assumption of losses and impairment losses recognized on financial investments. Vossloh is expecting a tangible improvement in this area compared to 2018. The net financial result in 2018 was impacted by the write-down of an investment and the expenses from the assumption of losses for the Transportation division. On the whole, result after tax is expected to improve significantly in 2019.

Over the coming years, Vossloh's objectives will focus on achieving organic growth while improving profitability, in addition to seeking out potential cooperations and acquisitions in order to strategically evolve the core business and sustainably increase the Company's value. The planning presented for the 2019 fiscal year only reflects the targeted organic growth.