

# 2019 ANNUAL REPORT FREUDENBERG GROUP



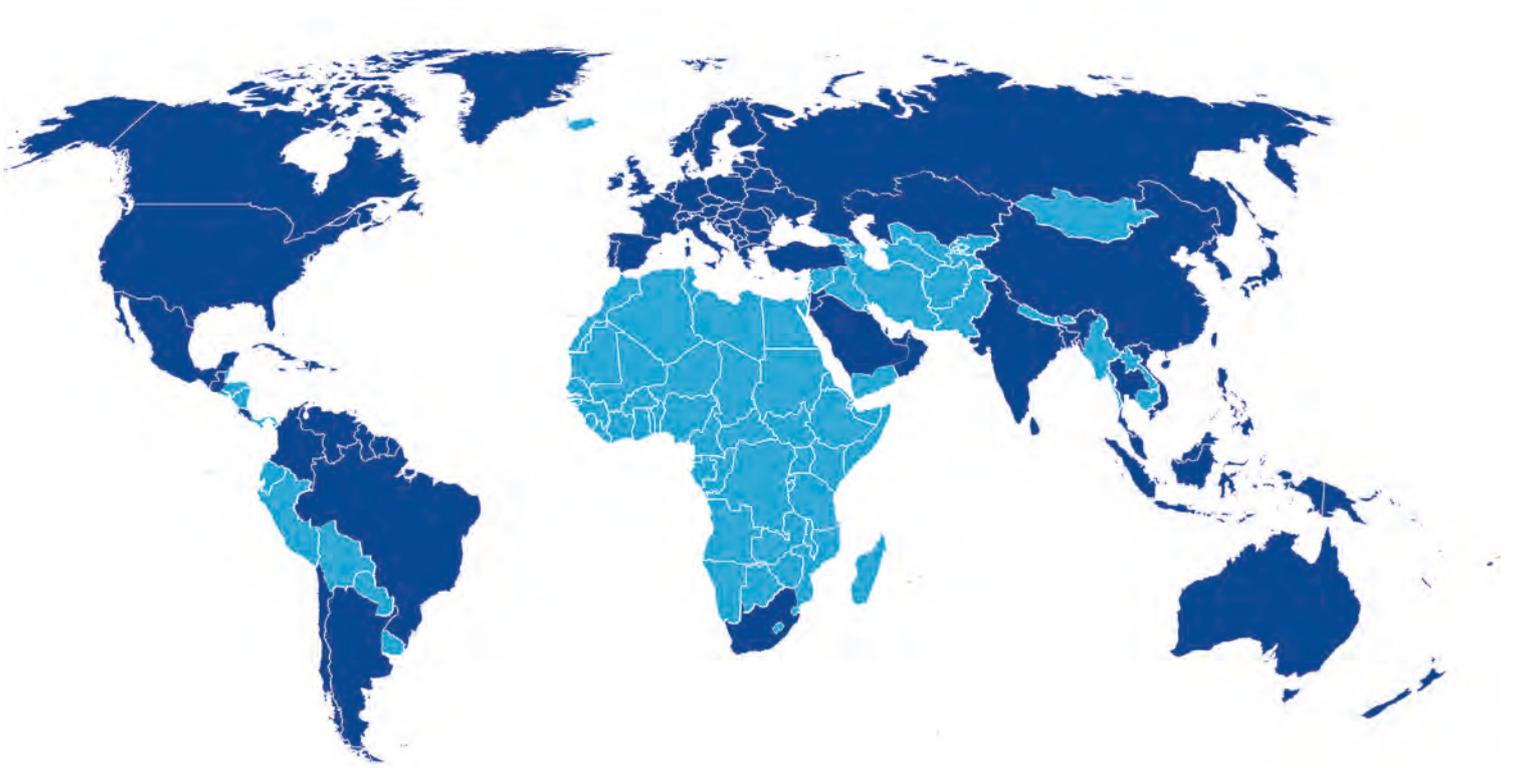
The Freudenberg Group stands for technology and innovation. Together with customers and research partners, Freudenberg employees develop leading-edge technologies, products, solutions and services. The innovative strength of Freudenberg has many facets. Having pioneered innovation throughout its history – from chrome tanning and the development of the Simmerring to sophisticated and high-tech medical devices – the company is an innovation

champion. For Freudenberg, striving together for solutions that support global sustainability is both motivation as well as the concept for success. It enables the Group to provide its customers with solutions and answers to tomorrow's questions, today. The company slogan "Innovating Together" embodies the Group's identity. This Annual Report brings you many examples of what makes Freudenberg so unique and different.

# HIGHLIGHTS

[€ million]	2015	2016	2017	2018	2019
<b>Sales</b>					
Germany	1,116	1,269	1,557	1,641	1,477
EU (excluding Germany)	1,700	2,094	2,434	2,448	2,445
Other European countries	308	314	441	429	412
North America	1,668	2,093	2,502	2,434	2,526
South/Central America	274	281	326	285	284
Asia	1,204	1,700	1,907	2,016	2,115
Africa/Australia	141	149	179	202	209
<b>Total sales</b>	<b>6,411</b>	<b>7,900</b>	<b>9,346</b>	<b>9,455</b>	<b>9,468</b>
Consolidated profit	521	1,087	700	602	611
Cash flow from operating activities	763	945	929	828	957
Cash flow from investing activities	-429	-1,510	-612	-581	-601
Balance sheet total	7,238	10,224	10,194	10,239	11,355
Equity	3,700	4,603	4,835	5,312	5,820
Equity ratio	51 %	45 %	47 %	52 %	51 %
Workforce (as at Dec. 31)	34,007	46,266	47,653	49,137	48,851
Workforce (annual average)	34,312	40,951	47,657	48,894	49,108

# LOCATIONS WORLDWIDE



The Freudenberg Group is active in some 60 countries with some 49,000 employees.

# 2019 FREUDENBERG ANNUAL REPORT

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# COMPANY BOARDS

## SUPERVISORY BOARD



1. From left: Wentzler, Kurz, Freudenberg, Freudenberg-Beetz, Haas-Wittmüß, Kairisto  
2. From left: Pott, Purvis, Schildhauer, Schücking, Thielen, Towfigh

**Martin Wentzler,  
Großhesselohe**  
Chairman of the Supervisory  
Board at Freudenberg SE  
Attorney

**Professor Dr. Dieter Kurz,  
Lindau**  
Deputy Chairman of the  
Supervisory Board Freudenberg SE  
Chairman of the Shareholder  
Council of the Carl Zeiss  
Foundation

**Martin Freudenberg,  
Heidelberg**  
Managing Director of Jumag  
Dampferzeuger GmbH

**Dr. Maria Freudenberg-Beetz,  
Weinheim**  
Biologist

**Martin Haas-Wittmüß,  
Dreieich**  
Vice President of  
KION GROUP AG

**Essimari Kairisto,  
Korschenbroich**  
Member of the Supervisory Board  
of Applus+ Services S.A., Fortum  
Oyj, TenneT Holding B.V.

**Dr. Richard Pott,  
Leverkusen**  
Chairman of the Supervisory Board  
of Covestro AG

**David M. Purvis,  
Kansas City, Missouri, USA**  
Former Executive Vice President  
and CTO at Solectron Corp.

**Walter Schildhauer,  
Stuttgart**  
Managing Partner of speedwave  
GmbH

**Dr. Christoph Schücking,  
Frankfurt am Main**  
Attorney and Notary Public

**Mathias Thielen,  
Zürich, Switzerland**  
Managing Director of  
Credit Suisse AG

**Professor Dr. Emanuel V. Towfigh,  
Bad Soden**  
Professor and Dean of Law School,  
EBS Universität für Wirtschaft und  
Recht

## BOARD OF MANAGEMENT



From left: Krauch, Sohi and Krieger

**Dr. Mohsen Sohi**  
**Frankfurt am Main**  
Chief Executive Officer

**Dr. Tilman Krauch**  
**Heidelberg**  
Member of the Board of Management, CTO

**Dr. Ralf Krieger**  
**St. Leon-Rot**  
Member of the Board of Management, CFO

## EXECUTIVE COUNCIL

Members	Business Groups
Claus Möhlenkamp (CEO)	Freudenberg Sealing Technologies
Frank Müller (CEO)	Vibracoustic
Dr. Frank Heislitz (CEO)	Freudenberg Performance Materials
Karin Overbeck (CEO)	Freudenberg Home and Cleaning Solutions
Hanno D. Wentzler (CEO)	Freudenberg Chemical Specialities
and the Board of Management	
Membership of the above-mentioned five CEOs in the Executive Council takes stronger account of the perspectives of the Business Groups with regard to overarching issues.	

## MANAGEMENT OF THE BUSINESS GROUPS

Management	Business Group
Claus Möhlenkamp (CEO and Member of the Executive Council), Dr. Theodore Duclos (CTO), Ludger Neuwinger-Heimes (CFO)	Freudenberg Sealing Technologies
Richard Schmidt (CEO), Craig Barnhart (CFO)	Freudenberg Oil & Gas Technologies
Dr. Andreas Raps (CEO), Dr. Sebastian Weiss (CFO), Dr. Kai Ziegler (CTO)	EagleBurgmann
Frank Müller (CEO and Member of the Executive Council), Dr. Jörg Böcking (CTO), Volker Christ (CFO)	Vibracoustic
Dr. Frank Heislitz (CEO and Member of the Executive Council), Thomas Herr (CFO), John McNabb (CTO)	Freudenberg Performance Materials
Dr. Andreas Kreuter (CEO), Frank Reuther (CFO), Dr. Jörg Sievert (COO)	Freudenberg Filtration Technologies
Satoshi Kawamura (CEO), Yasuhiro Esaki (COO), Yukiyasu Izuta (CFO), Atsushi Shimoda (CTO)	Japan Vilene Company
Karin Overbeck (CEO and Member of the Executive Council), Dr. Arman Barimani (CTO), Kerstin Borrs (CFO)	Freudenberg Home and Cleaning Solutions
Hanno D. Wentzler (CEO and Member of the Executive Council), Dr. Jörg Matthias Großmann (CFO)	Freudenberg Chemical Specialities
Dr. Max Gisbert Kley (CEO), Kurt Ziminski (CFO)	Freudenberg Medical

# SUPERVISORY BOARD REPORT



Martin Wentzler (Chairman)

**In 2019, the Board of Management and the Supervisory Board held regular and detailed discussions examining the Freudenberg Group's progress and important business transactions based on verbal and written reports from the Board of Management. Both company boards jointly consulted on fundamental issues regarding business policy which was updated where necessary. In addition, the Supervisory Board advised the Board of Management in managing the company while also supervising and monitoring the conduct of business. The Chairman of the Supervisory Board held regular discussions with the members of the Board of Management on current business developments. Regular exchanges between the Chairman of the Supervisory Board, the Chairman of the Audit Committee and the Board of Management member responsible for Finance were also held.**

The year under review was characterized by an uncertain market environment. In seven meetings, the Supervisory Board therefore analyzed and discussed in detail the markets, sales and earnings developments, the financial situation and the Group's risk management. The Supervisory Board also closely examined the good results from the most recent image survey and the findings about how the Freudenberg Group can become even more customer oriented. Another focus was on the continued development of Freudenberg's sustainability strategy and the implementation of a uniform, Group-wide HR system in 2020.

Furthermore, the body dealt intensively with potential new business areas based on the current strategy, while also examining acquisitions and their integration in the Freudenberg Group. Some examples include: Freudenberg Sealing Technologies acquired a majority shareholding in XALT Energy, LLC, Midland, Michigan, USA, a producer of heavy duty lithium ion battery cells, modules and systems. Freudenberg Medical increased its holding in the medical technology specialist Cambus Teoranta of Spiddal, Ireland by 40 percent to 90 percent. Freudenberg Filtration Technologies acquired a 75 percent of the shares in Apollo Air-Cleaner Co., Ltd., of Foshan, China – a leading provider of air and water filtration solutions. Freudenberg Performance Materials acquired the Filc-Group, Škofja Loka, Slovenia. Filc manufactures needle-punched nonwovens and laminated materials.

Freudenberg Performance Materials also submitted an offer to acquire 100 percent of the shares in Low & Bonar PLC, London, United Kingdom, a global manufacturer of technical textiles. The proposed transaction is still pending approval from antitrust authorities. The Supervisory Board was also involved in the sale of the Freudenberg IT Business Group to the Syntax Group.

The Audit Committee met four times in the year under review. In Q1 2019, it advised closely on the annual financial statements as at December 31, 2018 and on the audit reports on these financial statements. In the second meeting, the focus was on the auditor's report on recommendations for the internal control system. This report was discussed extensively with auditor representatives. Other issues addressed by the Audit Committee included the Group's risk management, the work of the Ethics Office, the Freudenberg Group tax compliance system, the applicable principles of the German Corporate Governance Codex, the impact of changes to the financial reporting standard IFRS 16 on the Freudenberg Group and a preview of the 2019 annual financial statements. The Audit Committee was also regularly consulted about the ongoing reports from Corporate Audit and issued a report to the plenary meeting of the Supervisory Board for each of its meetings covering the topics discussed in the Audit Committee and the outcomes of its consultations. The Audit Committee also supported the invitation to tender for the audit.

The Innovation and Technology Committee held three meetings. Topics covered included digital solutions and technology developments in various Business Groups as well as current innovations in the Freudenberg Group, such as the “Atomistic Simulations” project that received the Freudenberg Innovation Award.

The HR Committee met four times in the year under review. Focal points included the personal development of management, the Talent Management process and succession planning in important bodies of the Freudenberg Group.

The annual financial statements, the consolidated financial statements compiled pursuant to IFRS, the consolidated management report for Freudenberg SE and the Freudenberg Group as well as the dependent company report 2019 for Freudenberg SE were audited by Ernst & Young GmbH, Wirtschaftsprüfungsgesellschaft, Mannheim, and were approved without reservation. The members of the Supervisory Board were provided with the documentation for the annual financial statements and the audit reports in due time. The Supervisory Board approved the consolidated financial statements and the combined management report of Freudenberg SE and, following examination, concurred with the auditor’s findings. The annual financial statements of Freudenberg SE as at December 31, 2019 are therefore adopted. The report drafted by the Freudenberg SE Board of Management in compliance with Section 312 AktG (German Stock Corporation Act) regarding relations with affiliated companies (dependent company report) was audited by the auditors, who issued the following opinion:

“We render this report in accordance with the provisions of Section 313 AktG and conclude that the report of the Board of Management of Freudenberg SE, Weinheim, Germany, on relations with affiliated companies for the financial year from January 1 to December 31, 2019 attached as Appendix 1, complies with the provisions of Section 312 AktG. The Board of Management provided us with all the explanations and supporting documents requested. The dependent company report complies with the principles of a true and fair view. In accordance with Section 312 (3) 3rd sentence AktG, the concluding statement of the dependent company report has therefore been included in the management report (Section 289, Germany Commercial Code (HGB)). Based on the

results of our audit, the dependent company report does not give rise to any reservations. We have therefore issued the following audit opinion:

Based on our audit and assessment, which were carried out in accordance with professional standards, we confirm that:

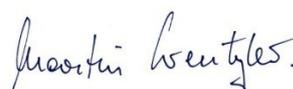
1. The factual statements made in the report are correct,
2. The payments made by the company in connection with legal transactions detailed in the report were not unreasonably high,
3. There are no circumstances in favor of a significantly different assessment than that made by the Board of Management in regard to the measures listed in the report.”

The Supervisory Board examined and approved the report on relations with affiliated companies (dependent company report) and took note of the auditor’s report. The examination of the dependent company report by the Supervisory Board did not result in any objections to the concluding statement by the Board of Management in the dependent company report.

In the year under review, Dr. Mohsen Sohi was appointed to another five-year period in office as the CEO of Freudenberg SE, effective from July 2020. In addition, Martin Freudenberg, Walter Schildhauer, Mathias Thielen and Essimari Kairisto were elected members of the Supervisory Board of Freudenberg SE for a term of four years. Martin Haas-Wittmüß is new to the body.

The Supervisory Board thanks all its employees, Business Group managing bodies and the Board of Management for their great personal commitment in a demanding year with many uncertainties. They have all made an important contribution to the success of the Freudenberg Group.

Weinheim, March 20, 2020  
For the Supervisory Board,



Martin Wentzler (Chairman)

# BOARD OF MANAGEMENT FOREWORD

The Freudenberg Group performed well in the year under review despite challenging economic and geopolitical conditions. In 2019, sales remained at the same level as in the previous year. Exchange rates had a slight positive impact. However, operating result was lower than in the previous year mostly due to the downturn in the automotive industry and weaker growth in China. The Freudenberg Group's return on sales was nevertheless good at 8.7 percent.

In addition, once again we invested heavily in the future of the Group, in machines, equipment, acquisitions and especially in the three key topics of the 2018 to 2020 strategic period: **Mobility, Digitalization and Sustainability**. As an innovative technology group, we have also considerably intensified our already very high levels of research and development activity.



Dr. Mohsen Sohi (CEO)

## Business performance figures:

Overall, **sales** of €9,467.8 million were almost at the same level of €9,455.4 million for the previous year. This figure includes positive exchange rate effects totaling €150.6 million. This was primarily due to developments in the US dollar's exchange rate. Acquisitions contributed some €139.1 million in sales in the year under review. This was offset by divestment effects of almost the same amount, mostly due to the sale of the Freudenberg IT Business Group.

In addition to sales, **operating result** is a key indicator of our financial performance. Our business generated a profit of €820.0 million. This is below the previous year's high level of €910.3 million and is equivalent to a return on sales of 8.7 percent.

Reasons for the decline included the downturn in the automotive industry, lower growth in China and the start-up costs in the battery and fuel cell business.

In 2019, we continued to invest heavily to secure the future of our Group. Noteworthy here are the ever greater **investments** in the changing demands of **mobility**.

**Investments in research and development** were the highest ever: €480.9 million (previous year: €444.3 million). This represents 5.1 percent of sales (previous year: 4.7 percent). The focus here was on the topics of the 2018 to 2020 strategic period: **Mobility, Digitalization and Sustainability**.

Freudenberg measures the effectiveness of research and development activities in the share of new products (those younger than four years) as a percentage of total sales. This increased again to 34.7 percent (previous year: 33.6 percent).

**Consolidated profit** rose from €602.4 million in the previous year to €610.6 million in 2019.

Our **equity ratio** as of the reporting date was 51.3 percent (previous year: 51.9 percent). **Liquid funds** at year end totaled €1,117.3 million (previous year: €984.7 million).

The **ratings agency** Moody's Deutschland GmbH, Frankfurt am Main, gave Freudenberg SE an "A3" rating with a stable outlook, as in the previous year. This is equivalent to an excellent single-A rating.

9,467.8

Sales € million

820.0

Operating profit € million

48,851

Freudenberg employees

## Portfolio development

In a volatile environment, broad diversification helps. We reduced our risk exposure by strengthening various business areas with acquisitions in the year under review. Some examples include:

In April 2019, Freudenberg Medical increased its holdings in the medical technology specialist Cambus Teoranta of Spiddal, Ireland by 40 percent to 90 percent.

Also in April 2019, Freudenberg Filtration Technologies acquired a 75 percent share in Apollo Air-Cleaner Co., Ltd. of Foshan, China – a leading provider of air and water filtration solutions. The cornerstone was laid for the new Shunde site in August. Investments totaling €50 million will be used to build new production facilities, labs and offices with some 55,000 square meters of floorspace.

In December 2019, Freudenberg Performance Materials acquired the Filc-Group, Škofja Loka, Slovenia. Filc manufactures needle-punched nonwovens and laminated materials, and complements our technology portfolio.

Furthermore, in September 2019, Freudenberg Performance Materials submitted an offer to acquire 100 percent of the shares in Low & Bonar PLC, London, United Kingdom, a global manufacturer of technical textiles. Approval from antitrust authorities is still pending for the proposed transaction.

In late February 2019, the Freudenberg IT (FIT) Business Group was sold to the Canadian Syntax Group. Three IT companies – Syntax, FIT and EmeraldCube – were brought together under the Syntax company to create a strengthened global IT full-service provider with a clear IT growth plan.

## Strategic period 2018 to 2020: three topics in focus

The pace of technological and digital change continues to accelerate, especially the fundamental transformation of the automotive industry, driven by electromobility. As a reliable partner for our customers, we are working hard on forward-looking innovations for all drive types including electric engines, hybrids, fuel cells and internal combustion engines.

So, we have expanded our electric and fuel-cell drive expertise for our largest market segment, “**Mobility**”. As part of this process, an essential step was the integration of parts of fuel cell manufacturer Elcore GmbH and Elcomax GmbH, both headquartered in Munich and acquired in January 2018. Freudenberg Sealing Technologies also purchased a majority shareholding in battery manufacturer XALT Energy LLC of Midland, Michigan, USA in the year under review. In addition, a new organizational unit, “Battery and Fuel Cell” was created within the Freudenberg Sealing Technologies Business Group. The unit’s goal is the market launch of electric and fuel-cell drive systems for heavy-duty vehicles, buses, trains and ships.

Freudenberg Performance Materials and Japan Vilene Company have also further expanded their battery separator business. Freudenberg Performance Materials and Freudenberg Filtration Technologies expanded their product range for the fuel cell business, for example with high-tech gas diffusion layers, humidifiers and special filter systems.

In **digitalization**, we are focusing on solutions that give our customers added value as well as those that significantly increase our efficiency. We achieve this with numerous applications; specific examples of new solutions are:

A Freudenberg Home and Cleaning Solutions app that provides added value to our customers by helping better manage cleaning processes. It combines functions such as time records, personnel data, task

management, quality management and real-time reports, making it possible to lower administrative costs by up to 15 percent.

Another example is the web-based solution Chem-Trend developed to continuously monitor release agent dilution rates in real time. The customer no longer needs to manually monitor the process using random sampling and time-consuming evaluations. You can find more examples on page 48.

**Sustainability** at Freudenberg focuses on energy and material efficiency. The issue has two dimensions at the Group: One dimension is the design of processes and use of equipment to conserve resources (Footprint). The second dimension is the numerous Freudenberg products and solutions that make our customers' production more efficient and sustainable or allow products to be manufactured with greater resource efficiency (Handprint). Group-wide key performance indicators have been established for material efficiency, energy efficiency and the reduction of CO<sub>2</sub> emissions. Examples of successful sustainability projects can be found on pages 20 to 23 in the "Responsibility for Society" chapter. In the UN Global Compact Progress Report starting on page 14, we show the measures that Freudenberg has taken to implement the Global Compact principles in the past year to help achieve the UN Sustainable Development Goals.

### **Attractive innovations for our customers**

Innovations are vital to Freudenberg's current and future success. Our company is continually developing innovative solutions – both with and for our customers. Customers increasingly see attractive added value in integrating and combining several technologies and associated services to create an overall system. So, the Global Innovation Forum – a regular forum for Freudenberg's innovation community – focused on "Systems and Services" in the year under review. The participants discussed the shape of future Freudenberg innovations in the systems and services sector. Freudenberg, primarily a component and product manufacturer, already offers system solutions.

Examples of our innovation strength include the 21 projects submitted for our in-house Freudenberg Innovation Award. The winning project, Atomistic Simulations, had developers from four Freudenberg

companies work to create an innovative process that generated a fundamental new understanding of how friction functions in materials, lubricants and seals.

### **Efficiency and excellence expanded**

In the year under review, we continued to work on our "Operational Excellence", making our processes, services and products better, more efficient and safer across all areas. One example is PEOPLE+: We are using this Group-wide project to create a uniform HR process for greater efficiency and improved transparency with a shared IT system. For the first time, we will have a single common system that covers everything from HR master data and processes to talent management and compensation for the entire Group.

When compared to other manufacturers, Freudenberg has top class **occupational safety**. The LDIFR value (accidents with at least one day of work lost per one million hours worked) was 1.4 in the year under review (previous year: 1.5).

### **Survey confirms very good image**

A good image on the market is vital to a company's success. So, Freudenberg carries out regular image surveys. The findings of the 2018/2019 image survey show that Freudenberg is very strong on the market. 83 percent of the surveyed customers, potential customers and multipliers evaluated Freudenberg's image as good to very good. 16 of 18 image categories were rated excellent. With a recommendation rate (Net Promoter Score) of 57, Freudenberg belongs to the "best in class" category. Other findings include: Our customers want even more information, particularly about innovations.

### **Giving back to society**

Success for Freudenberg means both financial success, while also fulfilling our responsibility for society. Freudenberg's commitment to **Corporate Citizenship** extends beyond the value chain. With the launch of the "e<sup>2</sup>" (education and environment) initiative, Corporate Citizenship has expanded worldwide since 2015. The goal is to provide people with access to education and employment, and support environmental protection.

Freudenberg has already donated a total of €14 million to “e<sup>2</sup>”. By the end of the year, “e<sup>2</sup>” was supporting some 110 projects. In the year under review, Freudenberg celebrated the company’s 170-year-anniversary by planting trees near the Group’s sites to symbolize its commitment. Thousands of employees planted some 20,000 trees. The campaign reforested parts of devastated woodlands, made city parks greener and neighborhoods close to our sites more attractive.

### **Outlook:**

We expect the macro-economic environment in the 2020 financial year to remain challenging. Geopolitical and economic uncertainties are unlikely to ease. Against this backdrop, we are cautious in our planning for the coming year and anticipate subdued business performance in those markets relevant to the Group. Nevertheless, we will continue to invest in long-term projects. The changes in mobility, digitalization and sustainability solutions will remain important strategic topics. We are also working to strengthen our portfolio through acquisitions. Our efforts here are influenced by the findings from a strategic project that examined what the world might look like in 2050 and what business opportunities could result from the changes. Our goal is also to create a balanced portfolio combining cyclical and anti-cyclical businesses – with equal sales contributions from the Americas, Europe and Asia.

### **Thanks to customers and employees**

The image survey proves that our customers trust us and appreciate our products and services. We thank all our customers and partners for this and especially for the excellent cooperation.

Now more than ever, our goal is to recognize the demands of tomorrow’s customer today, understand their needs, work closely with them – and most important – actively reach out to them. This is the key to success, because the customer always comes first for us, in everything we do – particularly in these uncertain economic times with their challenging market conditions.

Despite all the uncertainties, we accomplished a lot in 2019. This is primarily thanks to our nearly 49,000 employees. I thank you all on behalf of the Board of Management.

We are confident about the future as we are well prepared for change. Let us work closely together with our customers, use our opportunities and keep a vigilant eye on our markets.

Weinheim, March 20, 2020  
For the Board of Management



Dr. Mohsen Sohi  
CEO

# LEADING TECHNOLOGY GROUP

**As a leading technology group, excellence at Freudenberg means setting standards in technology, innovation and quality.**

Freudenberg is a global technology group that strengthens its customers and society long-term through forward-looking innovations. Working with customers and the world of science, Freudenberg employees develop leading-edge technologies, products, solutions and services.

They are experts in their fields and use their expertise to develop excellent solutions for some 40 market segments and thousands of applications – seals, vibration control technology components, technical textiles, filters, cleaning technologies and products, specialty chemicals and medical technology products.

Innovation forms a common thread through Freudenberg's history – covering chrome tanning, Simmerrings along with sophisticated and high-technology medical products. All around the world, Freudenberg Group products and services make a valuable contribution to customer success – often invisible, but always essential, fully in keeping with the company's positioning "Freudenberg is a values-based technology group that best serves its customers and society".

The collaborative search for environmentally and socially sustainable solutions is both Freudenberg's motivation and the basis for the company's success. "Innovating Together" is put into practice across Business Groups and regional sites around the world.



Freudenberg employees act and think like entrepreneurs, show initiative and are ready to take on responsibility. They work in diverse teams on international projects to develop solutions that are both innovative and forward-looking.

Innovation, strong customer orientation and close cooperation, as well as diversity and team spirit are the cornerstones of the Group. The company holds strong to core values it has been putting into practice for 170 years: a commitment to excellence, reliability and pro-active, responsible action.

# RESPONSIBILITY FOR SOCIETY

## (UN GLOBAL COMPACT PROGRESS REPORT)

As a family-owned, values-based technology group, success for Freudenberg is financial success as well as fulfilling the company's responsibility for society. The two goals have been inextricably linked since the company's founding.

- Freudenberg Values & Principles
- Areas relevant to "Responsibility"
- Processes and initiatives along the value chain (based on the UN Global Compact)
- Initiatives that extend beyond the value chain



At Freudenberg, “Responsibility for Society” encompasses the following five areas: Sustainability, Health, Safety and Environmental Protection, Corporate Citizenship, Compliance and Human Rights & Labor. All five areas are firmly anchored in Freudenberg’s Values and Principles and closely interlinked.

Values have always been important at Freudenberg when dealing with customers, business partners, neighbors and the environment. Freudenberg employees pledge to uphold an internal Code of Conduct, take part in Freudenberg’s “We all take care” initiative to improve environmental protection,

health and occupational safety and have developed innovative, sustainable solutions to improve quality of life around the globe.

In 2014, the company signed the United Nations Global Compact to communicate its actions to customers, neighbors, potential employees and institutions. The principles that underlie the Global Compact are inscribed in the Freudenberg Group’s Guiding Principles with different wording. The principles focus on 4 areas: human rights, labor standards, environmental protection and anti-corruption.



The Global Compact goes hand in hand with the Sustainable Development Goals. Launched by the United Nations in 2016, they have become a widely accepted framework to which ever more companies and individuals are committed and use to publicly position themselves. In the year under review, Freudenberg analyzed which of the 17 goals and their 169 sub-goals, the company had made a significant contribution to.

After extensive quantitative and qualitative analyses the company identified and prioritized eight goals (see graphic above).

On the following pages you can read more about the measures the company used to implement the Global Compact Principles over the past year to contribute to achieving the Sustainable Development Goals.

## “We all take care” Group-wide initiative

Since launching in 2002, the internal “We all take care” initiative has encouraged employees around the world to make their work and workplace safer, healthier and more environmentally friendly; to get involved in social projects and help improve safety at the company.

*We <sup>all</sup> take care!*

The initiative stands for putting corporate values into practice – across country borders, hierarchies and Business Groups. Each employee is encouraged to bring forth ideas and suggestions. Via the Group-wide intranet, the “Freudenberg Portal”, employees can find details about successful projects and speed up the improvement process. As part of the Corporate Health, Safety, Security, Environment meetings, upper management was integrated in the process and the heads from each of the Business Groups helped move things forward. Up to now, more than 3,600 projects have been submitted.

Every year, Freudenberg honors employees who have successfully taken part in the “We all take care” award.

In the year under review two teams came in first: Freudenberg Sealing Technologies in Findlay, Ohio, USA, uses shrink films that reduce packaging costs and waste by 90 percent. First place also went to Freudenberg Performance Materials in Kaiserslautern, Germany with its environmentally friendly tuftbacking for carpeting made from recycled materials. What unites both projects: They both focus – in completely different ways – on waste reduction, one of Freudenberg’s top priorities.

Second place went to Freudenberg Performance Materials in Weinheim for their new tool to classify and approve new chemical substances in daily production. The form, easy-to-complete even for non-chemists, is already being rolled-out to other Freudenberg companies.

Third place went to the “One Team, One Globe” project by SurTec, a Freudenberg Chemical Specialities company. The project team inspires colleagues around the globe to do more exercise: After 50 days, employees had taken enough steps to walk once round the globe.

The final award ceremony presented 11 projects from throughout the Freudenberg World. A total of 163 projects were submitted.



Good atmosphere at the “We all take care” Awards

## Important figures for “Responsibility for Society”

On this page, you can see a selection of the important figures quantifying “Responsibility for Society”. A detailed explanation for the figures can be found in the chapters for the 5 areas of responsibility.

**48,851**  
Freudenberg employees

**92.2**  
(in tons/ million euros in sales)  
**CO<sub>2</sub> emissions**

**163**  
“We all take care” projects

**0.24**  
(in kWh/euro sales)  
**Energy Efficiency**

**1.4**

**LDIFR (Lost Day Incident Frequency Rate):**  
All workplace incidents with at least one day  
of work lost per one million hours worked

**13.6**  
(in tons/million euro sales)  
**Waste**

**22.5**  
(million euros)  
**Investments in environmental protection  
and workplace safety**



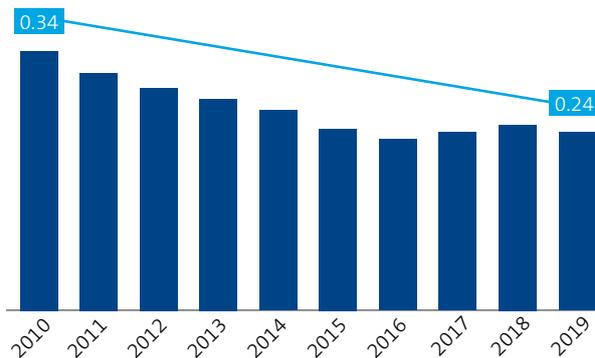
## SUSTAINABILITY

Product and process sustainability have always been part of responsibility as practiced at Freudenberg. In 2016, the Group's Sustainability Strategy was developed and handed over to all the Business Groups as a framework in 2017. Sustainability was also made a systematic component of the strategy process.

Sustainability is a part of Freudenberg’s “Responsibility for Society” and has two dimensions: One dimension is how the company designs processes and uses equipment to conserve resources (**Footprint**). The second dimension is the numerous Freudenberg products and solutions that make our customer’s production more efficient and sustainable or allow products to be manufactured with greater resource efficiency (**Handprint**). Freudenberg helps improve sustainability around the world by minimizing our Footprint and maximizing our Handprint. The five core topics: materials, waste, energy, emissions and water are the most important ones for the Group. The five core topics were used to derive 3 essential Group-wide TOP themes for Freudenberg: Material efficiency, energy efficiency and emissions. There are key performance indicators (KPIs) for these areas. The KPIs help create more transparency by making improvements comparable across the Group.

Freudenberg started recording **energy consumption** throughout the Group in 2009 (see graphic, energy efficiency) in an effort to generate transparency. Energy intensive production areas also represent huge potential savings. This includes the nonwoven production at Freudenberg Performance Materials, where an energy-efficiency project was launched in the reporting year. The Weinheim and Durham, North Carolina, sites worked with Freudenberg Service KG experts to identify several measures that will help save a total of 3.5 million kilowatt hours a year in Weinheim

ENERGY EFFICIENCY AT FREUDENBERG  
(Kilowatt hours per euros in sales)



alone. The project findings have now created a basis to further advance energy efficiency and contribute to climate protection at other Freudenberg Group sites.

Since 2017, **CO<sub>2</sub> emissions** across the Group have been tracked in accordance with the Greenhouse Gas protocol. Adjusting for direct and indirect energy consumption, Freudenberg reports emissions in accordance with Scopes 1 and 2. Site-based calculations indicate a value of **92.2** (previous year: 94.1) **tons of CO<sub>2</sub>** per million euros in sales.

Since 2018, a Group-wide **waste KPI** based on the Global Reporting Initiative (GRI) has been recorded. In the reporting year it was **13.6** (previous year: 14.6) **tons** per million euros in sales.



- 
**Materials**  
 Material efficiency  
 Recycled, renewable and replacement materials  
 End-of-Life-(EOL) handling of products
- 
**Emissions**  
 Air pollution/  
 Emissions
- 
**Waste**  
 Waste handling
- 
**Water**  
 Water pollution  
 Water consumption
- 
**Energy**  
 Energy efficiency  
 Renewable energy

## EXAMPLES OF SUCCESSFUL SUSTAINABILITY PROJECTS

The Freudenberg Group's constant quest for greater sustainability strengthens innovation. Likewise, innovations make more sustainable processes and products possible. Innovation and sustainability are closely linked and drive each other. Innovations can contribute to sustainability by having a positive impact on the Footprint and Handprint.

Selected **Footprint examples** are listed on this two-page spread; selected **Handprint examples** can be found on the following two-page spread.

### Footprint

The search for sustainable production processes is an important part of Freudenberg's DNA and is firmly anchored in the principles of the values-based technology group. Topics such as energy and material efficiency, the sustainable use of resources and waste reduction are important in minimizing the company's Footprint. Continuous improvement in these areas helps Freudenberg take responsibility for society.

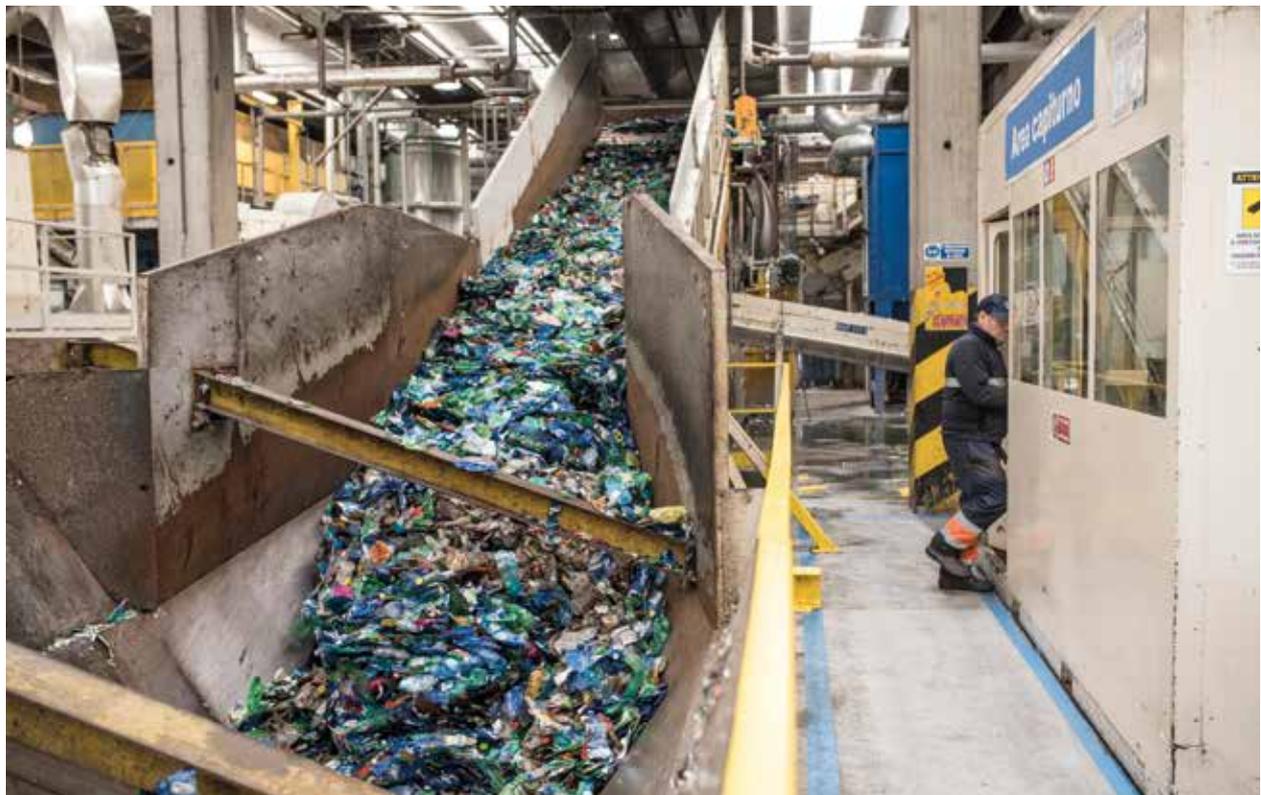
## WASTE/ENERGY



### Resource conserving production: from PET bottles to nonwovens

Freudenberg is one of the largest recyclers of PET bottles in the world. They are shredded into flakes and processed to nonwovens, given a new life as headliners and are made into roof membranes or sound and thermal insulation in buildings. In Europe, the

Freudenberg Performance Materials sites in Novedrate and Pisticci, Italy and Colmar, France process some 2.5 billion bottles a year. In Japan, the Japan Vilene Company Business Group also recycles PET bottles at its Oyama site. Every year over 57,000 tons of reyclate are made from bottles. This saves resources and reduces CO<sub>2</sub> emissions.



At the Freudenberg site in Novedrate, Italy, some three million PET bottles are daily processed into polyester nonwovens.



**Materials**

Material efficiency  
Recycled, renewable and replacement materials  
End-of-Life-(EOL) handling of products



**Waste**

Waste handling



**Emissions**

Air pollution/ Emissions



**Energy**

Energy efficiency  
Renewable energy



**Water**

Water pollution  
Water consumption

**MATERIALS/WASTE**



**Sensor reduces scrap and improves quality**

Innovative sensor technology from Freudenberg Medical reduces scrap and improves quality. The Business Group manufactures tubing for medical applications. If the tubes deviate minimally from the desired specifications, they need to be scrapped. The silicone used cannot be melted down and recycled. Now a sensor monitors the extrusion of the tubing and precisely measures the interior diameter and wall thickness. If the system reports deviations, the production process can be halted immediately, significantly reducing scrap.

**WATER**



**From rainwater to potable water**

In arid regions like the one surrounding the Freudenberg-NOK Sealing Technologies site in Cuautla, Mexico, every drop of water is useful. Since 2016, the site has used rainwater instead of drinking water for certain applications, such as flushing toilets or cooling systems. To make the water usable, the site converted the several thousand square meters of roofs on the site to act as rainwater collectors. In the year under review, over 2,400,000 liters of water were collected.

**EMISSIONS/ENERGY/WASTE**



**Lean and sustainability go hand in hand**

Saving packaging material and transport emissions pays off twice – for the environment and customer loyalty. As part of a Lean project at the Freudenberg Oil & Gas Technologies' site in Stavanger, Norway, the delivery logistics were optimized and made more sustainable at the same time. The sealing rings are no longer individually shrink-wrapped but packed directly in cardboard boxes containing a fixed number of units. This reduces plastic waste and simplifies storage. Even though the order volume increased, the number of individual deliveries was drastically reduced – lowering transport emissions, time and costs.

**MATERIALS/EMISSIONS/WASTE/ENERGY**



**Bonding agent preserves environment and health**

Elastomers reduce vibrations, and steel, aluminum or plastic components are bonded and assembled to make vibration control components such as motor or drive mounts. The Vibracoustic Business Group is increasingly using water-based bonding agents to do this. When compared to solvent-based bonding agents, they are better for the environment and the health of production workers. When they are applied, no gases are released that need to be removed from the room air-saving energy. The water-based bonding agent can be applied in lower doses while creating the same adhesive forces, reducing both consumption and waste.

## EXAMPLES OF SUCCESSFUL SUSTAINABILITY PROJECTS:

Selected **Handprint examples** are listed on this two-page spread, selected **Footprint examples** can be found on the previous two-page spread.

### Handprint

Responsibility for society means that Freudenberg also helps customers become more sustainable. Innovative products and services can thus help contribute to greater energy efficiency for our customers. Expanding our Handprint also has a positive impact on our customers' quality of life while making an improved contribution to sustainability in various areas outside of Freudenberg.

## MATERIALS/WASTE/EMISSIONS



### Optimal combination of sustainability and functionality

For manufacturers of outdoor clothing, Freudenberg Performance Materials (FPM) has an innovative and sustainable alternative to down: Comfortemp Fiberball is a padding made from connected fiber balls,

making it a suitable warm padding material in sportswear and functional textiles. The material can also be vacuum-packed for delivery, reducing transport emissions and saving costs. When unpacked, it quickly regains its full volume.



Comfortemp Fiberball is a padding made from linked fiber balls, making it suitable as thermal padding in sportswear and functional textiles.



**Materials**

Material efficiency  
Recycled, renewable and replacement materials  
End-of-Life-(EOL) handling of products



**Waste**

Waste handling



**Emissions**

Air pollution/ Emissions



**Energy**

Energy efficiency  
Renewable energy



**Water**

Water pollution  
Water consumption

**MATERIALS/WASTE**



**A clean deal: biodegradable sponge wipes**

Freudenberg Home and Cleaning Solutions sells 200 million sponge wipes under the Vileda and Wettex brands. The packaging notes they are “100% biodegradable”. Once the sponge wipes have reached the end of their lives, they can be placed in a compost bin or thrown on a compost pile. As they are made from cellulose, they completely break down without a trace within eight weeks. A clean deal – for the home and environment.

**MATERIALS/WASTE**



**Material efficiency thanks to material competency**

The Freudenberg Chemical Specialities Business Group focuses on material efficiency to avoid waste and reduce the use of raw materials for its customers. Examples include many SurTec products such as industrial cleaners which use a special modular composition to help conserve resources. In combination with suitable treatment measures such as oil separation, filtration, osmosis or ion exchange, very long immersion times can be achieved with reduced wastewater volumes in customer operations.

**EMISSIONS/ENERGY**



**Components and systems for mobility of the future**

Freudenberg’s investments in future technologies such as batteries and fuel cells are helping make clean and sustainable high-performance drive systems economically feasible. Freudenberg Sealing Technologies is expanding its product portfolio in the automotive industry to include components for both of these drive systems. The Business Group offers complete fuel cell and battery systems for heavy-duty mobility applications such as buses, utility vehicles, ships and trains – including all components, modules and sub-systems needed for operations.

**WATER**



**Drinking water for a growing population**

Clean drinking water is a valuable resource in many world regions. The Freudenberg Filtration Technologies Business Group produces a broad range of filter media for drinking water filtration, which make a targeted contribution to improving water quality by filtering out hazardous suspended particles. Physiologically harmless raw material together with state-of-the-art production technology guarantee filter media that meet the tough hygiene, efficiency and economic feasibility standards needed for water treatment. Freudenberg is therefore helping supply a growing world population with drinking water.



## OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION

Freudenberg's HSE (Health, Safety and Environment) Guideline includes the HSE principles and defines the Freudenberg Group's values for HSE. The overarching goals are avoiding accidents, preventative health protection and continuously reducing the negative impact of its business on the environment.

Freudenberg is committed to employees' wellbeing and their personal development. Occupational safety and health are supported and put into practice at all levels within Freudenberg. Health protection, occupational safety and process safety are all part of the daily routine at Freudenberg.

The approach has allowed the Freudenberg Group to reduce the number of accidents to a low level relative to industry benchmarks. Existing measures are strengthened and enhanced with new approaches for continuous improvement. Success in occupational safety serves as a benchmark for other areas where Freudenberg also hopes to continuously improve. In addition to the reduction of environmental impacts this also includes health protection. This is how preventative health management projects are increasingly pursued in the company.

The safety of our employees at work is given top priority. In addition, the annual HSE week is held in which all Freudenberg Group sites are called on to carry out HSE campaigns that look at daily routines. In the year under review, employees were informed about traffic safety in terms of reaction times and visibility as well as skin protection.

Internal and external audits as well as the HSE assessments at all Freudenberg Group sites are used to assess improvements in environmental protection, occupational safety and health protection or fire safety. The audit findings are systematically evaluated, and remediation measures implemented within the relevant Business Groups and Group-wide.

### Management systems

The expansion of occupational health and safety management systems (OHSAS 18001 and conversion to ISO 45001) and environmental protection systems (ISO 14001) continued in 2019.

Numerous sites are implementing DIN EN ISO 50001-compliant management systems to reduce energy consumption and thus limit the environmental impact of industrial activity. The Freudenberg Performance Materials, Freudenberg Filtration Technologies, EagleBurgmann, Vibracoustic and Freudenberg Home and Cleaning Solutions Business Groups have established the corresponding management systems at

their German production sites. Other production sites at EagleBurgmann in Austria, Freudenberg Home and Cleaning Solutions in Sweden and Freudenberg Performance Materials in France have also followed this example. The Group is also checking which European sites require energy audits in accordance with DIN EN 16247-1.

### Investments

The share of direct investments in environmental protection, occupational health and safety as part of overall investment in tangible assets, intangible assets and investment properties was 6.2 percent (previous year: 7.6 percent).

### Environmental Protection

Freudenberg feels obligated to protect the environment and takes responsibility to make sure its actions are as environmentally friendly as possible.

The goal is to continuously reduce the company's negative impact along the entire value chain, by using natural resources more efficiently, reducing emissions, saving energy, water and other materials while improving transportation.

First prize for the Freudenberg-wide "We all take care" initiative went to two environmental projects in the year under review. Both projects focused on waste reduction. Freudenberg Sealing Technologies in Findlay, Ohio, USA, uses shrink films that reduce packaging costs and waste by 90 percent. Freudenberg Performance Materials in Kaiserslautern, Germany, uses recycled PET to manufacture backing material for carpeting, reducing CO<sub>2</sub> emissions in the value chain and also satisfying customer demand for a greater share of recycled materials in products. Both projects contributed to sustainability. Other examples of successful sustainability projects can be found on pages 20 to 23.

Freudenberg uses many raw materials and processes in production. The materials and processes vary in their impact on occupational safety and the environment. The goal is to continuously reduce the physical hazards at a site as well as their impact on the environment.

We actively search for alternatives to hazardous materials or those with a pending REACH (European Regulation on Registration, Evaluation and Restriction of Chemicals) classification prior to the passage of any regulations. Assessments are carried out to prevent any negative impact on production from restrictions placed on a material. In addition, many products are developed in phased processes to make sure that the use of hazardous chemicals and the environmental impact of a new product is less than its predecessor.

### Incidents

In 2019, the Freudenberg Group had 25 environmental and crisis management events (previous year: 24 events).

At the Freudenberg Performance Materials site in Durham, North Carolina, USA, a severe fire caused over a million euros in damage. The truck from a third-party company caught fire, probably due to a defective electric heater used to keep the diesel tank warm. The adjacent trailer with stored rolls burnt down completely. Further damage was done to the storage dock. The smoke also damaged and contaminated the stored goods.

Another series of small fires occurred, including the Freudenberg Sealing Technologies' sites in Schwalmstadt, Germany, the Vibraoustic site in Carmi, Illinois, USA and Cascante, Spain as well as Freudenberg Medical in Baldwin Park, California, USA.

At the Industrial Park in Weinheim, at the Freudenberg Home and Cleaning Solutions site in Arnhem, Netherlands and Chem-Trend in Howell, USA small amounts of operating materials leaked out causing minor environmental damage. None of the three incidents caused any long-term damage.

Due to the long-lasting public protests and political unrest in India, Venezuela, Chile and Hong Kong, the sites faced occasional operational shutdowns and travel bans.

### Resource consumption

In 2019, Freudenberg used 2.3 million megawatt hours of energy (previous year: 2.4 million megawatt hours). The energy usage was primarily distributed among the following sources:

- Third-party supplies (electricity, steam and district heating, which were produced external to the Freudenberg site; 1.56 million megawatt hours)
- Gas (0.70 million megawatt hours)
- Heating oil (0.04 million megawatt hours)
- Renewable energy produced in-house (61 megawatt hours)

The 2.3 million megawatt hours generated costs totaling roughly 166 million euros. Energy costs made up 1.8 percent of overall revenue (previous year: 1.7 percent).

### Contaminated sites

Provisions for contaminated sites fell by 0.3 percent relative to the previous year.

Remediation work began at the former Freudenberg Sealing Technologies site in Pinerolo, Italy. After finalizing the renovation plans, the most efficient implementation of the required measures was put in place for the water treatment plant in Weinheim. A groundwater monitoring program was continued at the Klüber Lubrication site in São Paulo, Brazil.

Due to planned conversion measures at the Weinheim site, new provisions have been set aside for exploration and potential remediation measures. Due to new limits for perfluorinated and polyfluorinated chemicals, analytical and monitoring costs for future projects will rise.

### Preventative healthcare

Employees at the Freudenberg company, SurTec got some exercise for a good cause in the year under review. Under the motto, “One Team, One Globe in 50 Days” they walked in groups with pedometers for a total of 46,927 kilometers – more than once around the globe. The 117 million steps that they took helped not only improve their own health but also benefited selected social projects. The winning teams donated their award money to charitable causes such as those for children suffering from cancer.

The Weinheim site offered its employees numerous health programs in the year under review. Skin and sun protection were one focus. In summer, employees were provided with more important information to prepare for their vacation.

Around the globe, Freudenberg supports employees in emergency situations abroad with a further service.

### Occupational Safety

Freudenberg’s internal reporting uses the LDIFR (Lost Day Incident Frequency Rate) benchmark. The figure serves as a non-financial key performance indicator for the Freudenberg Group. All workplace incidents with at least one day of work lost per one million hours worked are measured.

The total number of incidents resulting in more than one day’s absence in the year under review was 149 (previous year: 156). There were seven severe accidents in 2019 (previous year: six), including a fatal accident. At the Vibraoustic site in Wuxi, China, a technician was fatally injured during maintenance work in a vulcanization press, when a part fell on him.

In occupational safety, the focus was on measures aimed at both raising employee awareness of safe conduct as well as the design of safe working systems. An example: Freudenberg Performance Materials (FPM) in Weinheim developed a form to classify risk for new chemical substances used in daily production that is both easy to fill out and effective.

The internal Safety Boost initiative was carried out in 2019 as well. It was used to intensify and focus occupational safety activities once again. Unsafe situations, potential high-risk workplace accidents, environmental events and fires were examined and reported across Freudenberg. Safety culture formed another focal point. A pilot training program based on a self-organized learning process, especially designed for line management was carried out in Kaiserslautern and Bristol, New Hampshire, USA. The initiative will be continued in 2020.



Occupational health and safety have top priority at Freudenberg.



## CORPORATE CITIZENSHIP

Corporate Citizenship has always been integral to Freudenberg and practiced both inside and outside the company. The Group strives to be a good corporate citizen and good neighbor in all the countries, states and communities we call home. Corporate Citizenship at Freudenberg goes beyond the value chain – as seen in the hundreds of projects near our sites.

In 2019, many Group companies, sites and employees around the world again volunteered in small initiatives and complex projects. All campaigns are tailored to local requirements and in general Freudenberg employees volunteer locally.

### Global program for education and environmental protection

Freudenberg has worked for society since its founding. With the launch of the “e<sup>2</sup>” (education and environment) initiative, Corporate Citizenship has expanded worldwide since 2015. The goal is to provide people with access to education and employment, and support environmental protection. The initiative complements existing individual initiatives that meet an established list of criteria. Freudenberg has already donated a total of 14 million euros to “e<sup>2</sup>”.

By the end of the year, “e<sup>2</sup>” had supported 110 aid projects, covering everything from small-scale campaigns to large-scale educational programs, all in the direct neighborhood of Freudenberg sites. Examples of supported projects include: The Pebbles Project in South Africa’s Himmel-en-Aarde Valley supports disadvantaged children’s education, health and nutrition. The “Adream China” organization opened a new teaching center in an elementary school in Wuxi, China, that uses innovative and creative teaching methods to make learning easier for the children. The Win-WIT project in Barcelona, Spain supports women in industrial professions.

Freudenberg also used its 170-year anniversary to give something back to the communities it calls home. As a visible sign of dedication, thousands of employees planted some 20,000 trees around the sites. The campaigns reforested parts of devastated woodlands, making city parks greener and neighborhoods close to Freudenberg industrial sites more attractive.

### Company-wide initiative for refugees

The Freudenberg Group is donating 2.6 million euros as part of a company-wide initiative to help integrate refugees. By late 2016, the company had helped over 70 different initiatives in Germany and in crisis-plagued regions supporting children and young people, and teaching language skills.

Now, as a next step, refugees need long-term prospects and traineeships. As donations are used to secure the financing, refugee traineeships can be created in addition to regular traineeships.

In 2017, the first refugees started their traineeships at Freudenberg. In the year under review, a further three refugees started their traineeships. The Group also offered ten refugees an internship – with the goal of hiring as many as possible later as apprentices.



Thumbs up: Freudenberg employees in India also took part in the global tree-planting campaign celebrating the 170-year-anniversary of the company.



On “Service Day” in North America, Freudenberg employees dedicated their time for society – particularly for children and young people.

The following examples illustrate the long-term orientation of local aid projects at the Freudenberg Group:

### **Training center in India**

Since 2009, Freudenberg has offered young people in a non-profit training center in Nagapattinam, India in the province of Tamil Nadu south of Chennai the opportunity to qualify as electricians, welders, plumbers, motor mechanics and machinists in dual training programs. So far, more than 700 young people have had a successful start to their careers. Most have found a job in the large, well-known organizations in and around Chennai. The Nagapattinam region is poor, populated mainly by farmers and fishers, and suffered immensely from the 2004 Tsunami.

### **School project in China**

In May 2008, an earthquake devastated the village of Haijin in Szechuan Province, China. Freudenberg helped rebuild an elementary school that reopened in 2009. The building has enough space to teach 300 students. Every year, Freudenberg employees visit the elementary school and organize various activities such as the summer school project, tutoring and a Christmas party.

### **“Service Day” in North America**

In North America, Freudenberg organized the sixth Service Day. Employees from over 60 sites in Canada, the US and Mexico volunteered to help at educational institutions, municipalities and agricultural facilities.

### Exchange program for children of employees

In celebration of the company's 150th birthday in 1999, the youth exchange program TANNER was launched for children of employees. The goal is to expose young people to other cultures, expand their horizons and learn life lessons. Over the years, more than 1,300 young people have traveled the globe with TANNER. The young participants, their parents and the hosts all have a stronger feeling that they are part of the global Freudenberg community.

### Volunteer exchange

In 2019, some 140 participants from 40 charitable initiatives and clubs from the Rhine-Neckar region met at the Freudenberg Group in Weinheim for their 8th annual networking meeting. The goal is to provide new inspiration for non-profits and discuss other topics, meet like-minded individuals while also developing ideas for new projects. The Freudenberg Group created the meeting to expand the network among the many non-profit organizations in the area.

### Germany-wide initiative: "Die Wissensfabrik" (The Knowledge Factory)

Since 2016, Freudenberg has also been a member of the Germany-wide initiative, "The Knowledge Factory" which works together with companies to support educational projects in preschools and schools. Up to now, Freudenberg employees in partnership with educational establishments have supported two "Knowledge Factory" projects: The goal of "KiTec - Children Discover Technology" is to get preschool and elementary school children interested in technological interactions. The "IT2School" project provides the targeted fundamentals of information technology (IT) to students in their first few years at secondary school.

### Freudenberg Foundation

Since 1984, the Freudenberg Foundation has been helping bring about real, long-term change by promoting inclusion, education and democracy. As a non-profit company, the Foundation is a Partner in the Freudenberg & Co. Kommanditgesellschaft. The primary focus of activities are children and young people and their social, linguistic, educational and professional integration.



In 2019, some 140 participants from 40 charitable initiatives and clubs from the Rhine-Neckar region met at the Freudenberg Group in Weinheim for their 8th annual networking meeting.



## COMPLIANCE

As early as 1887, when his sons joined the company, founder Carl Johann Freudenberg drafted his first business policy principles. The document forms the basis for the Freudenberg Group's ten Business Principles with which partners and employees identify. One principle stipulates that success must come from performance, another states that Freudenberg shall not engage in illegal or unethical business practices.

### Business Principles and Guiding Principles

Supplemental Guiding Principles were derived from the Freudenberg Group's Business Principles and define the values used in conduct towards employees, business partners, stakeholders and third parties.

### Compliance Structure

Freudenberg is a company where the Business Groups have general autonomy when making operational decisions. Along with the Group Holding company, the Business Groups are also generally responsible for compliance with laws and regulations.

At the Holding level, and thus the duty of the Freudenberg Compliance Management Council, the focus is on the most important compliance issues relevant across the Business Groups and thus those with international implications, and which could specifically pose a threat to Freudenberg's reputation.

To determine the suitability for the Compliance Management System in the individual Business Groups, the Freudenberg Compliance Management Council

worked with Ernst & Young in 2018 to carry out a survey across all Business Groups. The self-evaluation provided information about the risk profile for each of the Business Groups. Across the Business Groups, potential risks from anti-corruption and cartel legislation were identified, which have been classified as dangerous due to the company's global presence as well as the product and market diversity of the Freudenberg Group.

Freudenberg has the goal of permanently strengthening the compliance organization, the documentation and the processes. Another step in this direction is the launch of the Global Compliance Representatives Meeting, where compliance officers from the Business Groups share their views on implementing the Freudenberg Compliance Standards, best practices and further development of the compliance programs.

2019 also included compliance training sessions. The e-learning program covering numerous individual topics represent an expanded opportunity to train employees from various departments and areas of responsibility in specific topic areas. Employees and executives are also trained in classroom sessions and workshops using case studies.



The Business Principles and Guiding Principles in the Group are discussed with all new employees.



Freudenberg provides regular employee compliance training in the form of personal meetings and e-learning sessions.

### **Code of Conduct**

The Code of Conduct is derived from the Business Principles and Guiding Principles, with a close focus on Responsibility. The Code of Conduct is the same everywhere around the world and designed to ensure that respect for the law and proper conduct remain a cornerstone of how Freudenberg conducts business.

The Code of Conduct is available to all employees around the world in 26 languages, as a printed brochure and a digital document. It is communicated and explained to all employees. The Business Groups have made use of a wide-range of media available for communication, including presentation templates, FAQs and e-learning tools. The consistent and continuous communication clearly indicates that the Code of

Conduct is binding even for new employees (as an annex to their employment agreement for example) and the need for compliance with the Code is emphasized. The global standard e-learning tool for the Freudenberg Code of Conduct is a suitable medium for all employees to learn more about it. The tool also allows for the monitoring of participant attendance and performance and invites employees to give feedback.

Further measures were taken by the Freudenberg Compliance Management Council to maintain and further develop the Code of Conduct as a central element of corporate culture and to extend the range of assistance and support offered to employees and their superiors. This includes regular discussions with compliance officers in the Business Groups, who actively work with the Ethics Offices and their employees.

### Ethics Offices

The Ethics Offices are an important part of Freudenberg's Compliance Management System. The offices are a contact for any employees who – for whatever reason – feel they cannot turn to their superiors, HR team or their employee representatives. The opportunity to confidentially and proactively report compliance violations or impending violations in a confidential environment helps create a culture of trust and protects Freudenberg's internal Values and Principles.

In 2019, the Corporate Ethics Office reported to the Freudenberg Compliance Management Council

about its work in the past year and focused on the trends in the cases processed and the procedures when working through cases.

### Risk Management and Corporate Audit

Fraud prevention and anti-corruption measures and evaluation of their effectiveness also remained a component of risk management and the work of the Corporate Audit team. The goal of the department was to uncover corrupt practices, evaluate the effectiveness of counter measures and, if necessary, take appropriate action to improve them.



As a guaranteed confidential contact point for employees, the Ethics Offices are an important part of Freudenberg's Compliance Management System. Some employees can be seen in the photograph.



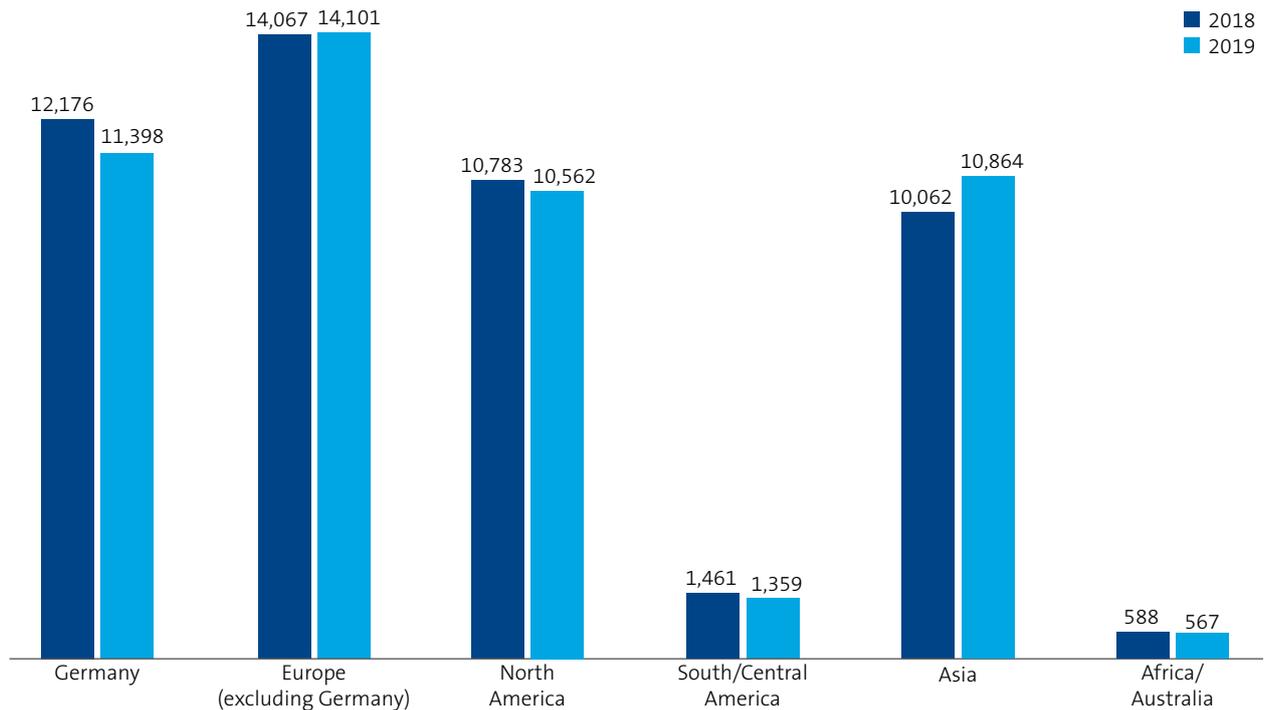
## HUMAN RIGHTS & LABOR

Diverse teams drive innovation at Freudenberg. The best solutions and innovations come when employees contribute their varied experience, knowledge and skills to a collaboration. Employees provide new ideas, generate imaginative solutions and create innovative products. Freudenberg employees all have a common foundation: entrepreneurship in their mindset and actions. This stance can be found in around 60 countries.

## Employees

As of December 31, 2019, Freudenberg employed 48,851 employees (previous year: 49,137 employees).

FREUDENBERG GROUP EMPLOYEES BY REGION



In Germany, the employee headcount was 11,398 (previous year: 12,176), in Europe (ex-Germany) the number was 14,101 (previous year: 14,067), in North America 10,562 (previous year: 10,783), in Asia 10,864 (previous year: 10,062) and in Africa/Australia 567 (previous year: 588), in South America / Central America 1,359 (previous year: 1,461). You can find information about training at Freudenberg on page 41.

## Corporate Principles

The Freudenberg Group Guiding Principles are Value for Customers, Leadership, Responsibility, Innovation, People and Long-Term Orientation. The principles form the basis and benchmark for everything the Group does. Regular audits assess whether or not these benchmarks are applied in the workplace. The most recent employee survey was made in 2017. A new survey is planned for 2020.

In Human Rights & Labor, the focus is on the Guiding Principles governing People and Responsibility as they express the Freudenberg Group's fundamental interpretation of these topics. The Leadership Principles are part of the Group's Business Principles (see also page 32, Compliance).

### Guiding Principle "People"

As a family company, we are devoted to our employees' well-being and personal development. We reject all forms of discrimination and harassment and show understanding and respect in our dealings with each other.

We promote a multi-cultural environment where employees work together in worldwide teams to enrich our culture and capability. We believe in the value of enduring relationships with customers, suppliers and industrial partners

### Guiding Principle "Responsibility"

Our company and its family shareholders together are committed to protecting the environment. Our goal is to be a good corporate citizen and good neighbor in all the countries, states and communities we call home. We take all possible care to ensure the safety of the workplace and of our products.

As a family company, we strive for the highest standards of personal behavior. Fairness and integrity guide our conduct amongst ourselves, towards our business partners and the general public.

### Management Principles

The Freudenberg Group has social responsibilities to all its staff, both in Germany and abroad. No one single standard can be applied here: what is needed is a flexible response attuned to the laws, customs, needs and possibilities in each individual country. Discrimination and exploitation of vulnerable people have no place in our company.

The Group's business policy requires adherence to behavioral principles with which both the partners and the employees feel able to identify:

We, too, have to hold our own against fierce competition. Success has to come from performance; we shall not agree to any business where illegal or unethical means are utilized.



Freudenberg employees in discussion: Our picture shows a Freudenberg meeting room in Kaiserslautern, Germany.

We will not manufacture any products designed to harm people (e.g. weapons).

A responsible attitude to the environment and the safety of our staff are important corporate objectives, and must not be restricted to letter-of-the-law compliance with the relevant statutory requirements.

Compliance with applicable laws and other regulations, as well as with the applicable Business and Guiding Principles of the Freudenberg Group and the observance of non-contradictory, supplementary in-house (e.g. Code of Conduct employee handbooks) and external local practices (together “Corporate Principles”) is an indispensable condition for solid cooperation among all Group employees and is the foundation for relationships with third parties, specifically suppliers, customers and authorities. They thus form the basis for the economic success of the Group.

The Business Principles are compulsory for all employees and must be actively put into practice and carried out at all levels, starting with the Board of Management at Freudenberg SE, the Board of Partners, management at the Business Groups and all other leaders.

Infringements are not acceptable and may result in disciplinary action from the Board level down and include Business Group management and other superiors. This is especially true in cases of active and passive corruption, breaches of anti-trust rules, violation of relevant legal environmental and technical safety and labor law rules (such as breaches of equal opportunity principles) and violations of employees’ personal rights (such as personal degradation or sexual harassment).

## Attractive Employer

### Strengthening the employer brand

In the year under review, the employer promise from 2017 was communicated further. The goal was to speak to individual target groups and make sure that Freudenberg would appeal to the right talented individuals in sufficient numbers in the future. Thanks to an employer branding campaign in German and US social media, the Freudenberg Group's recognition improved markedly. Both the follower numbers in the social networks – primarily LinkedIn and Facebook – and the visitor numbers to the redesigned career website increased.

### Sample awards

In 2019, the Freudenberg Group once again won various awards for successful human resource work. Examples include: For the eighth time in a row, the Freudenberg company, Chem-Trend of Michigan, US was named one of the 150 Top Employers in the Region. The Detroit Free Press rating also included awards for Freudenberg NOK Sealing Technologies in Detroit, Michigan, USA. In the year under review, the Freudenberg Group in Germany also received the Fair Company Seal of Approval which it has had since 2009. Fair Company is a voluntary pact where companies work to ensure fair working conditions for those starting their careers.

### Attractiveness

Freudenberg offers numerous benefits that are continuously expanded to attract new employees and retain current employees. Offers tend to vary from region to region and site to site, but on the whole are generally far better in most cases than the minimum legal requirements in the respective countries.

As part of the Talent Management program (see Talent Management on this page) Freudenberg supports numerous continuing education programs at all hierarchical levels (see Employee Development, page 41) to continually advance their employees. Freudenberg also sees maintaining a good work-life balance as im-

portant in helping to ensure and improve employee health and well-being. The Group provides the best possible medical support as part of an occupational health management program and sponsors numerous sport and fitness programs.

## Talent Management

The goal of the talent management process is holistic and professional employee development as well as the successful identification and training of future executives. In the process, employees receive balanced and calibrated feedback from their superiors. They also discuss their next development steps with them. As part of talent management, succession candidates are systematically identified for expert and leadership functions, to ensure the long-term stability of the leadership team.

## Diversity and Inclusion

Diversity is anchored in the Group's Values and Principles and also clearly positioned in the brand. Freudenberg is convinced that teams with people of various ages and genders and with diverse cultural backgrounds are more successful.

The balanced gender distribution is particularly noteworthy with a focus on the hiring process, early identification of female talent as well as the targeted career promotion of women in top executive positions. Positive development was found in this area: The share of female experts and executives remained stable at 33 percent, the share of females in middle management was over 25 percent. The share of jobs filled by women increased from 32 percent in 2018 to 37 percent in 2019. A focus was technical jobs.

To improve an integrative working environment, various training courses were offered in the areas of "Subconscious Bias" as well as "Inclusive Leadership". The goal is to create a working environment where every person feels appreciated, respected and heard.

### Employee development

In 2019, the Group-wide leadership development program was offered in all the regions. Some 800 executives took part around the world.

Freudenberg has three executive development programs: The Strategic Leadership Program, Business Leadership Program – both carried out with the renowned business school INSEAD – and the Operations Leadership Program. In 2019, a total of 110 executives participated in them. In sum, roughly 440 top executives have been trained since the launch in 2014.

The Freudenberg Academy as a virtual combination of all the continuing education activities means the benefits of the learning management system can be advanced and modern learning formats (such as e-learning) can be offered globally.

### Launch of a new global employee information system.

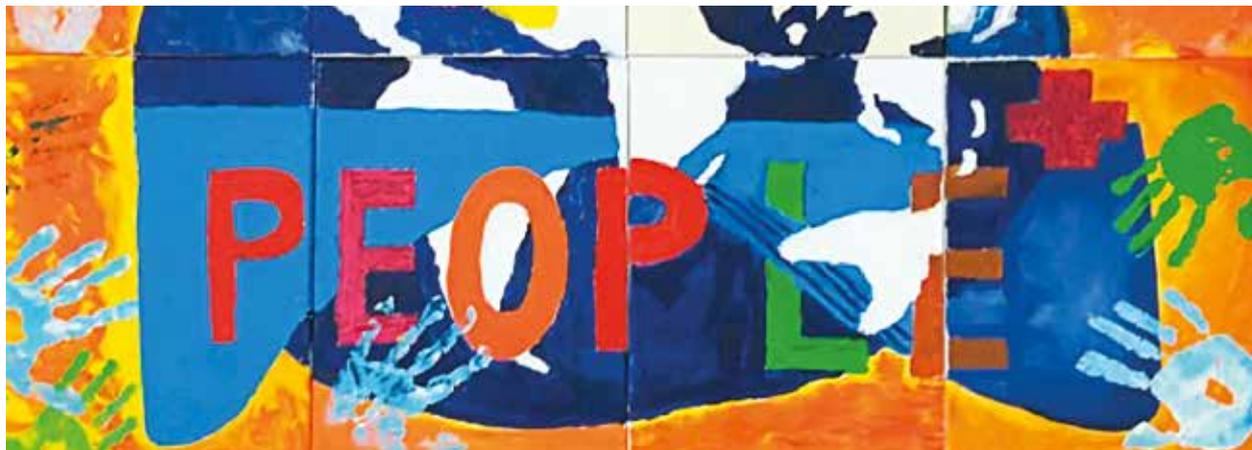
To place employees even more at the center of all HR processes and to make sure that workflows are efficient, Workday, a cloud-based software for HR IT processes was launched in January 2019. The project,

known as “PEOPLE+”, involves the implementation of global processes for employee master data, talent management and compensation. In the year under review, experts from all Business Groups defined the global processes, standards and the security concept. The system go-live is planned for late May 2020.

### Vocational training at Freudenberg

In 2019, 121 young people (previous year: 134) started vocational training at Freudenberg companies in Germany.

In total, 390 persons were in traineeships at Freudenberg as of December 31, 2019. The spectrum ranges from 2-year commercial or technical traineeships to dual studies at a university of cooperative education. Neighboring companies send their young employees to Freudenberg for training, highlighting the company’s reputation for the high standard of its vocational training. The Training Center helps ensure this quality. It offers innovative and modern learning concepts in a light-filled, two-story building. An example includes the Learning Factory 4.0, where trainees learn about company processes through production workflows, helping them gain a quicker grasp of interactions and better control of the processes using high-tech machines.



To kick-off the project, members of the HR Executive Team and the PEOPLE + Core Team designed a logo together.

## UN-Global-Compact-Index

The UN Global Compact (UNGC) is the world's largest and most important initiative for responsible corporate leadership. Since signing in 2014, Freudenberg has voluntarily agreed to make sure its business is values-based and sustainable.

The following Global Compact Index provides an overview of the 10 principles in the Global Compact and illustrates the pages of the Annual Report where readers can find information about the progress we have made in implementing these principles.

UNGC-PRINCIPLE	Content	Reference
<b>Human Rights</b>		<b>15, 29, 33*, 38–39, 41</b>
Principle 1	Protection and compliance with international human rights	29, 33*, 38–39, 41
Principle 2	No violations of human rights	29, 33*, 38–39, 41
<b>Labor standards</b>		<b>15, 25–27, 29, 33*, 34, 38-39, 40, 41</b>
Principle 3	Uphold the freedom of association and the right to collective bargaining	33*
Principle 4	Elimination of all forms of forced labor	33*
Principle 5	Abolition of child labor	33*
Principle 6	Elimination of discrimination	33*, 38, 40, 41
<b>Environmental Protection</b>		<b>12, 15, 16, 19–23, 25–26, 29, 33*</b>
Principle 7	Environmental protection through care principle	19–23, 25–26, 29, 33*
Principle 8	Support for environmental awareness	16, 19–23, 25, 29, 33*
Principle 9	Development of environmentally friendly technologies	12, 16, 19–23, 26
<b>Anti-corruption</b>		<b>33*–35, 39</b>
Principle 10	Anti-corruption measures	33*–35, 39

\* The parts of the Freudenberg Code of Conduct covering the relevant principles.

# COMBINED MANAGEMENT REPORT

## FUNDAMENTAL INFORMATION

### BUSINESS MODEL

#### Organizational structure

The Freudenberg Group (Freudenberg) is a global technology group whose goal is to strengthen its customers and society long-term through forward-looking innovations.

At year-end 2019, the number of companies in Freudenberg totaled 463 located in 56 countries. 427 of these companies were included in the consolidation. 403 companies, including 160 sales companies and 159 production companies, were fully consolidated. The remaining companies were holding or management companies.

Together with partners, customers and the world of science, the ten Business Groups aspire to develop cutting-edge products, excellent solutions and services for some 40 market segments and for thousands of applications: Seals, vibration control components, technical textiles, filters, cleaning technologies and products, specialty chemicals, and medical products.

STRATEGIC MANAGEMENT PARENT COMPANY FREUDENBERG & CO. KOMMANDITGESELLSCHAFT			
BUSINESS OPERATIONS PARENT COMPANY FREUDENBERG SE			
Seals and Vibration Control Technology Business Area	Technical Textiles and Filtration Business Area	Cleaning Technologies and Products Business Area	Specialties Business Area
<b>Business Groups</b>	<b>Business Groups</b>	<b>Business Group</b>	<b>Business Groups</b>
Freudenberg Sealing Technologies	Freudenberg Performance Materials	Freudenberg Home and Cleaning Solutions	Freudenberg Chemical Specialities
Freudenberg Oil & Gas Technologies	Freudenberg Filtration Technologies		Freudenberg Medical
EagleBurgmann	Japan Vilene Company		
Vibracoustic			

As at December 31, 2019. For further details on Freudenberg companies, please refer to the chapter entitled "Review of Operations by Business Area".

Freudenberg builds on lasting and reliable relationships with customers and partners. The partnership with NOK Corporation, Tokyo, Japan, for example, already spans almost 60 years. Numerous activities in the Americas, Asia and Europe have been jointly established during the decades-long partnership.

Freudenberg and NOK Corporation jointly hold shares in several companies. Particularly worthy of mention are Freudenberg-NOK General Partnership, Plymouth, USA, which is fully consolidated in the consolidated financial statements, as well as NOK-Freudenberg Singapore Pte. Ltd., Singapore, which is disclosed at-equity as a 50:50 joint venture in the consolidated financial statements.

Further details can be found under “Investments in joint ventures” and “Investments in associated companies” in the Notes to the Consolidated Financial Statements.

Across the globe, the Freudenberg Group’s products and services make a valuable contribution to the success of its customers – rarely visible, but always indispensable in the spirit of the positioning that reads **“Freudenberg is a values-based technology group that best serves its customers and society“**.

It is Freudenberg’s goal to offer **customers** in the passenger car and commercial vehicle industry, mechanical and plant engineering, textile and apparel, construction, mining and heavy industry, energy, chemical, oil and gas industry, medical technology, civil aviation and rail vehicles sectors excellent technological and innovative products as well as services.

Innovation strength, strong customer orientation and close collaboration as well as diversity and team spirit are the cornerstones of the Group. Commitment to excellence, reliability and pro-active, responsible action have belonged to the company’s core values ever since it was founded in 1849.

Freudenberg introduced the “Strategic Guide” **leadership concept** in 2013. Under this concept, the Board of Management concentrates on developing the Freudenberg Group strategy, approves major investments, draws up strategic guidelines, and defines strategic planning. Operational business is in the hands of independent companies whose management conducts business under their own responsibility. These individual companies in turn belong to Business Groups.

Freudenberg has two **parent companies**: Freudenberg & Co. Kommanditgesellschaft (Freudenberg & Co. KG), Weinheim, Germany, is the strategic parent company, Freudenberg SE, Weinheim, Germany, is the parent company with responsibility for managing business operations. The corporate bodies of Freudenberg & Co. KG are the Management Board, the Board of Partners and the General Meeting. The corporate bodies of Freudenberg SE are the Board of Management, the Supervisory Board and the Shareholders Meeting. The composition of the Management Board of Freudenberg & Co. KG and the Board of Management of Freudenberg SE is identical. This also applies to the Board of Partners of Freudenberg & Co. KG and the Supervisory Board of Freudenberg SE.

Freudenberg is a **family company** and is currently owned by some 350 heirs to the founding father Carl Johann Freudenberg.

## Organizational changes

### Acquisitions and disinvestments and discontinued operations

**Freudenberg Sealing Technologies** acquired the majority interest in the US battery manufacturer XALT Energy, LLC, Midland, Michigan, USA, in January 2019.

**Freudenberg Medical** increased its share in the medical technology specialist Cambus Teoranta, Spiddal, Ireland, from 40 to 90 percent in April 2019.

Also in April 2019, **Freudenberg Filtration Technologies** acquired a 75 percent share in Apollo Air-Cleaner Co., Ltd., Foshan, China, a leading provider of air and water filtration solutions.

**Freudenberg Performance Materials** acquired the Filc group, Škofja Loka, Slovenia, in December 2019. Filc is a manufacturer of needle punch nonwoven textiles and laminated materials.

Furthermore, **Freudenberg Performance Materials** made an offer to acquire 100 percent of the shares of Low & Bonar PLC, London, United Kingdom, a globally active manufacturer of technical textiles, in September 2019. The proposed transaction is subject to approval by the antitrust authorities.

Freudenberg sold the **Freudenberg IT Business Group (FIT)** to the Canadian Syntax Group at the end of February 2019. Three IT companies - Syntax, FIT and EmeraldCube - were brought together under the Syntax umbrella to create a strengthened global IT full-service provider with a clear IT growth plan.

## Business processes

In the year under review, Freudenberg conducted operational excellence activities in all areas with a view to making processes, services and products better, more efficient and safer. One example of these activities is “PEOPLE+”: With this Group-wide project, Freudenberg is increasing efficiency through standardized HR processes and enhancing transparency through a common IT system. For the first time, processes and HR master data, along with data on talent management and compensation will be available in one single system.

Digitalization continues to advance at a fast pace and has already changed almost every business. There are innumerable possibilities for initiating digital change. The Freudenberg Group is concentrating on solutions that offer their customers added value or improve their efficiency. During the year under review, Freudenberg addressed future topics such as the Internet of Things and artificial intelligence, developed new competencies and identified business opportunities. Today, the company already offers customers substantial added value through software-based solutions and software apps as well as technology-driven applications.

Moreover, all Business Groups continued to work on responding to customer needs even more effectively and on optimizing business processes. Further details and information can be found in the chapter entitled “Review of Operations by Business Area”.

## RESEARCH AND DEVELOPMENT

As a technology group, responding to the challenges of our time with innovations is part of Freudenberg's DNA. The company slogan "Innovating Together" reflects the great importance of innovation for Freudenberg. Continually working together on sustainable advancements in our portfolio of products and services is a pillar of the Group's success and is also anchored in the Group's values and principles as well as the brand positioning with the benefit statement that reads "Freudenberg is a values-based technology group that best serves its customers and society".

In the 2019 financial year, Freudenberg conducted research and development activities in the amount of €480.9 million (previous year: €444.3 million). This represents 5.1 percent of sales (previous year: 4.7 percent). Research and development activities also include development expenses for customer-specific development projects disclosed under cost of sales in the consolidated statement of profit or loss.

The Business Groups account for the largest share of funds for research and development activities. They cooperate closely with their customers on technology, product and service developments in their market segments. As a leading technology group and innovative partner, Freudenberg constantly strives to meet the most demanding requirements in terms of process, product and service quality.

The objective of all innovation activities is to constantly expand and renew the portfolio of products and services. Freudenberg measures the effectiveness of research and development activities as the share of new products (products less than four years old) in total sales. This share is 34.7 percent (previous year: 33.6 percent).

### Successful innovation management

The constant further development of products and services along with new solutions is fundamental to the success of a company. Freudenberg therefore attaches the utmost importance to holistic innovation management throughout the Group. All activities are defined and strategically pursued at Business Group level.

The Freudenberg Technology Innovation corporate function supports the Business Groups in their medium- and long-term innovation activities, for example by making available expertise, materials, processes and surface technology methods as well as providing opportunities for exchange on cross-sectional technologies such as tribology and

electrochemistry. Furthermore, the corporate function identifies new technologies and trends, and drives the protection of intellectual property in collaboration with the Business Groups.

### Adding value through service and system innovation

The consistent alignment of activities to the value chain and the supply chain, and therefore to customer benefit, is further confirmation of Freudenberg's innovation strength. Consequently, the main theme at the "Global Innovation Forum", a regular networking event for Freudenberg's innovation community, in the year under review was "Systems and Services". Added value that is attractive for customers thus also increasingly comprises the integration and combination of several technologies plus the associated services to form a complete system. This allows Freudenberg to broaden the scope of its business that has to date predominantly centered on manufacturing components and products. Such a transition is primarily driven by a stronger focus on the digital transformation and the related availability of data and information, along with great materials expertise. This presents new business opportunities for Freudenberg, especially in e-mobility.

### Mobility

New drive technologies in the automotive industry such as fuel cells or electric motors, also call for new developments in materials and testing methods. Freudenberg has comprehensive electrochemical and surface technology expertise. This know-how is harnessed to create solutions for fuel cells and batteries or to improve friction properties for a longer product service life – an essential step if e-mobility is to catch on permanently.

In the year under review, **Freudenberg Sealing Technologies** invested in researching and developing new mobility technologies through the acquisition of the majority interest in the U.S. company XALT Energy,

LLC. The outcome: A new high-energy-density battery package that simplifies the installation of new powertrain technologies for manufacturers of heavy-duty vehicles.

**Vibracoustic's** new high-efficiency motor mounts for electric motors are tuned to dampen noise and vibrations typical of electric vehicles without compromising the overall functioning of the mount.

Other Freudenberg solutions for the mobility market include products that not only reduce fuel consumption but can also be easily processed. One example is an innovative technical fabric cargo cover for SUVs from **Freudenberg Performance Materials**. It not only weighs less, but also meets customers' demands to reduce the noise level and upscale the visual appeal. Furthermore, unlike traditional plastic cargo covers, the nonwoven covers do not release any volatile organic compounds.



Freudenberg employees carrying out a test in an inert atmosphere glovebox.

## Digital transformation

Digitalization and data analysis are the key to optimizing products and processes. In the year under review, Freudenberg worked on forward-looking themes such as the Internet of Things and artificial intelligence, developed new competences and identified business opportunities. The company already offers its customers significant added value through software-based solutions and apps as well as technology-driven applications.

In the year under review, **Freudenberg Filtration Technologies** launched its “e.FFECT” software tool that analyzes efficiency, pressure drop and energy consumption for multi-stage filters in various market segments for industrial filtration customers.

**Freudenberg Oil & Gas Technologies** has been offering its customers a new, value-added prototype service since 2019. This service enables targeted project management combining Freudenberg Oil & Gas Technologies’ leading capabilities in design, construction and testing. The Business Group first collaborates with its customers to develop sealing solutions based on Freudenberg Oil & Gas Technologies’ design and materials expertise, and subsequently uses its materials development and product testing laboratory to provide verified, certified solutions tailored to the requirements of the industry. This accelerates customers’ product development activities.

“DilutionIQ” developed by Chem-Trend (**a company belonging to the Freudenberg Chemical Specialities Business Group**) is a web-based solution for constant, real-time monitoring of release mixing system dilution ratios. Customers no longer need to collect samples by hand for time-consuming analysis. Chem-Trend also stores historical data collected by the “DilutionIQ” system, thus reducing the number of routine activities for the customer still further.

**EagleBurgmann** improved its software for engineering and sales by adding a simplified **user interface**. Complex simulations of sealing solutions can now be used and evaluated more efficiently.

**Freudenberg Home and Cleaning Solutions** launched “iQonnect”, an app for professional cleaning companies that enables them to manage cleaning processes more efficiently. The app combines functions such as time registration, HR data, task planning, quality management and real-time reporting and can reduce administrative costs by up to 15 percent.

Freudenberg Medical has developed a new measurement system called “Helix iMC” that can continuously measure the inner diameter of silicone tubes during production. This innovative technology is unique and increases product quality for high precision applications, such as pacemaker lead insulation.

## Materials competence

Product performance and sustainability depend to a large extent on the materials used. Thanks to strategic programs for materials development, new high-performance thermoplastics and specialty chemicals found their way into new, improved Freudenberg products in 2019. Furthermore, experts in the fields of tribology and digital modeling at Freudenberg are able to alter specific material properties using digital models, thus creating numerous benefits for customers.

**Freudenberg Oil & Gas Technologies** developed an innovative elastomer seal suitable for applications in the extreme conditions of steam environments. It functions at temperatures in excess of 300 degrees Celsius and has excellent resistance to rapid gas decompression that can occur during operation at high temperatures and pressures and can result in serious damage to elastomer seals.

**SurTec (a company belonging to the Freudenberg Chemical Specialities Business Group)** successfully launched an innovative environmentally-friendly coating with high corrosion resistance that is a substitute for the nickel-zinc coatings previously used.

The substances are harmless to human health and can be used in numerous surface treatment applications.

Together with Fraunhofer Institute for Mechanics of Materials, experts from **EagleBurgmann** developed a high-end DLC coating for gas seals in the year under review.

Manufacturers of medical devices need innovative technologies to expand their product portfolios and reduce research and manufacturing times. **Freudenberg Medical** supports customers with commercialization ready modular “plug & play” platforms and product configurations for catheter systems.

**Japan Vilene Company** offers its customers an innovative double-layer backing material for the manufacture of wound dressings. The product with an extremely low active ingredient adsorption capability comprises a thermally bonded thin PET film and a low-density PET nonwoven.

### **Freudenberg Awards**

Freudenberg recognizes outstanding achievements in innovation by regularly presenting **two external science prizes** – the Carl Freudenberg Prize and the Karl Freudenberg Prize – and an **internal innovation prize**, the Freudenberg Innovation Award.

The 2019 external Karl Freudenberg Prize was awarded to Dr. Yi Lu for his research on superconductors. Four scientists won the 2019 Carl Freudenberg Prize for their research work in the field of e-mobility: Dr. Philipp Braun, Dr. Akanksha Bhutani, Dr. Bartosz Gladysz and Matthias Luh worked on issues relating among other things to battery safety, the early detection of errors and risks when developing products, and efficient battery charging using semi-conductor materials.

Four Freudenberg companies shared the internal Freudenberg Innovation Award in the year under review. With their “Atomistic Simulation” project, developers and technicians from EagleBurgmann, Freudenberg Sealing Technologies, Klüber Lubrication and Freudenberg Technology Innovation established an innovative process that is a fundamentally new way to understand friction in materials, lubricants, and seals.

# REPORT ON ECONOMIC CONDITIONS

## MACROECONOMIC ENVIRONMENT

In 2019, the global economy lost much of its dynamism compared with the previous year. The manufacturing sector was hit inter alia by the effects of the international trade disputes. In many regions, continued high employment levels and the related strong private consumption were the main factors that prevented the economy from slipping into recession. Given the lower prospects for economic growth, many central banks, such as the FED and the ECB, decided on expansive measures.

In the USA, the positive effects of the financial policy stimuli initiated by the US administration gradually lost momentum. In Japan, economic dynamism remained moderate despite all the efforts on the part of the government and the central bank. The high dependence on export business made German industry particularly susceptible to the problems in

world trade. Within the eurozone, only Italy recorded even lower growth than Germany.

Economic development in major emerging economies was also unusually weak. China reported the lowest momentum for almost 30 years. This was not only attributable to the structure-driven slowdown in growth, but also the result of the customs dispute with the USA. India, with its traditionally less export-oriented economy, again had to contend with massive structural problems, and economic growth was far below the level needed to catch up with industrialized nations. Economic momentum in Brazil and Russia remained subdued.

EUROPE		
Region	GDP growth 2018	GDP growth 2019
Eurozone	1.9 %	1.2 %
Germany	1.5 %	0.6 %
France	1.7 %	1.3 %
Italy	0.8 %	0.2 %
Spain	2.4 %	2.0 %
Portugal	2.4 %	1.9 %
Ireland	8.2 %	5.4 %
Greece	1.9 %	2.0 %
United Kingdom	1.4 %	1.3 %

Sources: Consensus Inc., national statistical offices  
GDP growth 2019 as at February 2020

WORLD REGIONS		
Region	GDP growth 2018	GDP growth 2019
USA	2.9 %	2.3 %
Mexico	2.1 %	0.0 %
Brazil	1.3 %	1.1 %
Argentina	-2.5 %	-2.5 %
Japan	0.3 %	1.0 %
Russia	2.3 %	1.2 %
China	6.6 %	6.1 %
Taiwan	2.7 %	2.5 %
India	6.8 %	5.0 %

Sources: Consensus Inc., national statistical offices  
GDP growth 2019 as at February 2020

**Sector-specific environment**

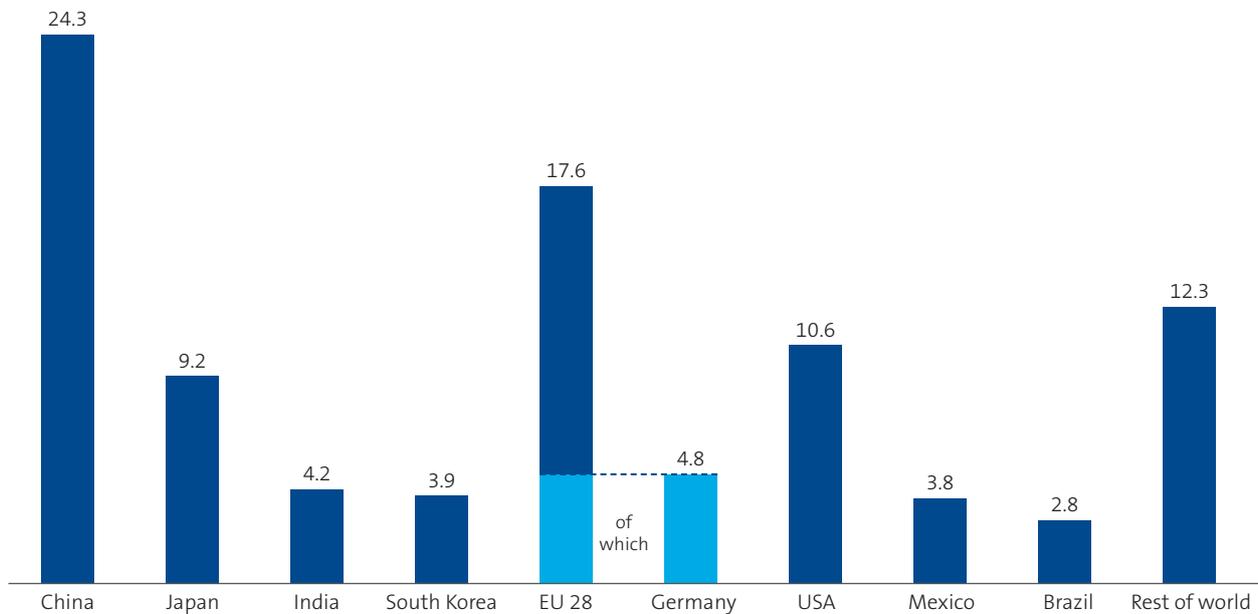
Developments in the Freudenberg Group’s main sales markets were very mixed.

Following the slight dip in the previous year, global production in the **automotive industry** declined significantly in 2019, dropping 6 percent to a total of 89 million passenger cars and light vehicles. Production in the EU fell by just under 5 percent, with significantly sharper decreases in Germany (minus 8 percent), the UK and Italy (minus 14 percent each) than, for example, in Spain (0 percent). There was also a sharp downturn in production in China (minus 8 percent) and India (minus 11 percent). The drop was relatively moderate

in North America (minus 4 percent). There were minor changes in Russia (minus 1 percent) and Brazil (plus 1 percent). The share of all-electric and hybrid vehicles in global production in 2019 rose to just short of 7 percent (Source: IHS Markit).

Based on a worldwide average, production in the **mechanical engineering** sector stagnated in 2019 (0 percent). However, here, too, key producing countries reported negative growth rates compared with the previous year: In both Germany and Italy, production was 3 percent lower, the drop in the UK was 7 percent, and the decline in the USA 1 percent. China reported a rise of 4 percent, one of the weakest increases of recent years (Source: VDMA).

LIGHT VEHICLE DOMESTIC PRODUCTION  
2019 production in million units (88.8 million units worldwide)



Source: IHS Markit, February 2020

In the **textile and apparel industry**, momentum in the traditional manufacturing countries continued to tail off. China, the global market leader, only reported growth of 1.3 percent in 2019. Production fell by 2.7 percent in the USA, by 2.6 percent in Japan and by 3.6 percent in the EU (Source: National statistical offices).

The picture in the **construction industry** in 2019 was mixed. In many regions, momentum picked up further compared with the previous year. Production grew 3.1 percent in Germany, 2.2 percent in Italy, 2.0 percent in the UK, and 0.7 percent in France. In the USA, the increase was 0.7 percent, in China it was as high as 9.9 percent. Some countries, however, saw a decline – in Japan, for example, production dipped by 0.8 percent. (Source: National statistical offices).

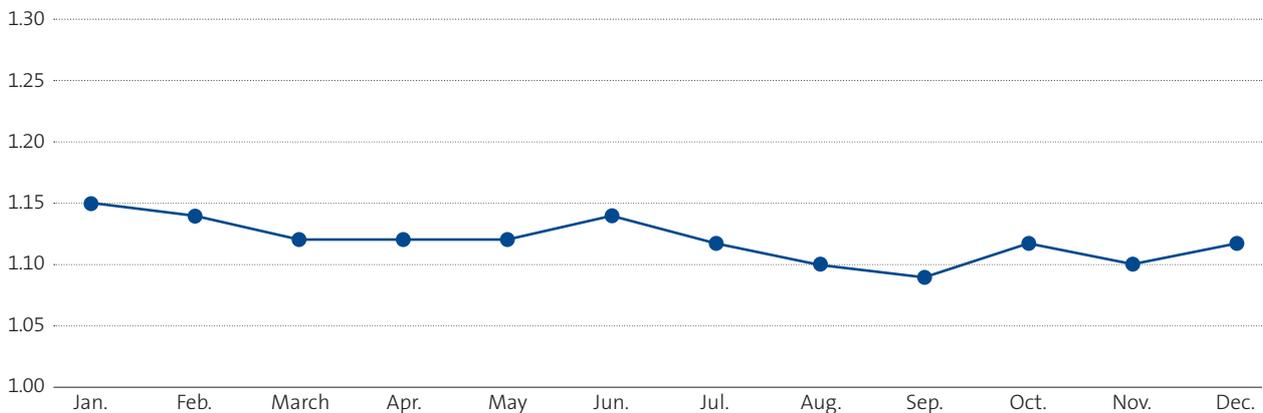
There was further growth in the **medical technology sector**, traditionally relatively independent of economic cycles, in 2019. Production in Germany rose by 4.8 percent, in Japan by 3.6 percent and in the USA by 4.0 percent. In China, growth slowed to 6.6 percent (Sources: National statistical offices, BMI Research).

The continuing high employment level brought further important growth momentum to **private consumption**. Inflation remained in the planned target corridors. In Germany, the annual average rate of inflation was 1.4 percent (Source: Federal Statistical Office).

The **oil price** was quite volatile over the course of 2019, fluctuating within a corridor of just under US\$50 to up to US\$66 per barrel (WTI). The average annual price was US\$57.05, 12 percent lower than the previous year (Source: New York Mercantile Exchange (NYMEX)).

The **euro exchange rate** trended downward from January to the end of September 2019, before recovering slightly in the final quarter of the year. The annual average exchange rate was US\$1.12 per euro, 5.2 percent lower than the level of the previous year (Source: Deutsche Bundesbank / European Central Bank).

EURO EXCHANGE RATE DEVELOPMENT IN 2019  
US dollar per euro



Source: European Central Bank; month-end rates

## BUSINESS DEVELOPMENT AND POSITION

For Freudenberg, **sales, operating result** and **return on sales** are the key financial performance indicators. The key performance indicator operating result describes profit before income tax without special effects (for example, significant restructuring expenses), the profit or loss on disposals of assets, impairment of goodwill, or results of major associated companies. The return on sales is calculated from the two key performance indicators sales and operating result.

In its internal reporting, Freudenberg uses the **LDIFR (Lost Day Incident Frequency Rate)** as a non-financial key performance indicator. It measures all accidents at work involving at least one day's absence per million working hours. Starting with the 2015 financial year, the indicator also includes data for temporary employees and agency staff.

The forecasts made at the beginning of the year with respect to the key financial and non-financial performance indicators are regularly reviewed and updated in the course of the year. The financial and non-financial key performance indicators presented are made available to the Board of Management on a monthly basis. This allows trends and changes to be identified in good time so that measures can be taken to counteract any detrimental developments.

The key financial performance indicators are used for assessing business success, the position and development of the Group, and focus on sustainable growth and a continuous increase in enterprise value as indicators for steering future, values-driven success.

Our performance indicators developed as follows:

FORECAST/ACTUAL COMPARISON, FREUDENBERG				
	ACTUAL 2018	Forecast for 2019	Change	ACTUAL 2019
Sales [€ million]	9,455.4	at prior year level	+0.1 %	9,467.8
Operating result [€ million]	910.3	slight decrease	-9.9 %	820.0
Return on sales [percent]	9.6	slight decrease	-0.9 % points	8.7
LDIFR [LDI per million working hours]	1.5	slight reduction	-0.1	1.4

The Freudenberg Group developed well in the year under review in spite of the difficult economic and geopolitical market environment. At €9,467.8 million, Freudenberg sales were at the level of the previous year and the forecast development was therefore achieved.

At €820.0 million, operating result was below the high level recorded in the previous year and slightly lower than the forecast development. This corresponds to a return on sales of 8.7 percent. Among other reasons, the decline is attributable to the downturn in the automotive industry, weaker momentum in China, and startup costs for expanding the battery and fuel cell business.

One focus at all levels on the company in the 2019 financial year lay on occupational safety. Measures in this area concentrate on safety-conscious behavior on the part of all employees as well as creating safe systems of work. The internal Safety Boost initiative continued in 2019. Under this initiative, occupational safety activities are further intensified and focused. Unsafe situations, accidents at work, environmental incidents and fires with potentially high risks are analyzed and reported throughout the Freudenberg Group. The LDIFR in the 2019 financial year was 1.4 (previous year: 1.5), in line with the forecast.

## Sales

Freudenberg aims for profitable growth achieved both through its own efforts (organic) and through acquisitions (external). Key success factors are in particular the innovative product range, customer-oriented, flexible solutions to problems in the different sectors of industry, and structured expansion into attractive markets and strategic business areas.

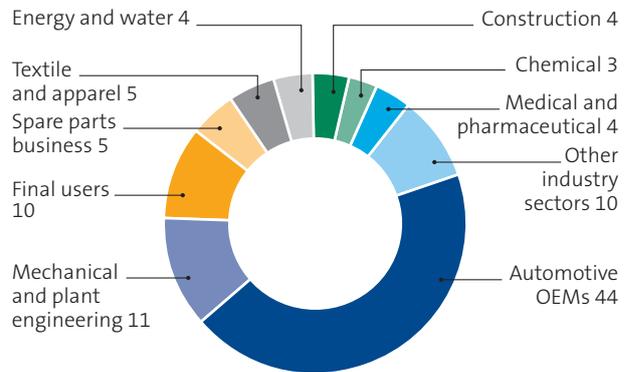
In the 2019 financial year, Freudenberg reported sales of €9,467.8 million (previous year: €9,455.4 million). Exchange rate effects totaling €150.6 million had a positive effect on sales. These effects were primarily attributable to developments in the US dollar exchange rate. Acquisitions fully offset the disinvestment effects of the sale of the Freudenberg IT Business Group.

### Sectors and regions

The distribution of sales by sectors and regions remained very stable compared with the previous year.

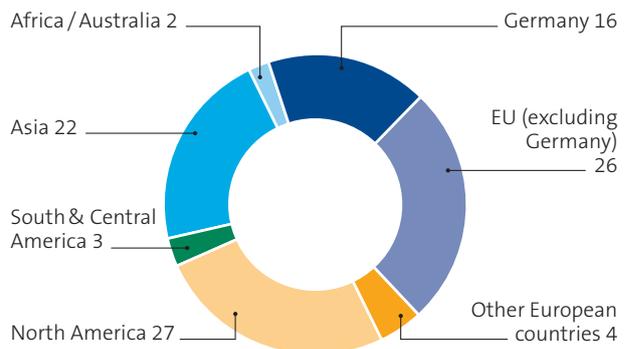
In the 2019 financial year, the share of automotive OEM business in total sales amounted to 44 percent (previous year: 44 percent). The share of the second most important customer grouping, mechanical and plant engineering, remained approximately at the previous year's level, with a total of 11 percent (previous year: 12 percent). The share for other industry sectors increased slightly from 9 percent to 10 percent. There was no change in the share in total sales compared with the previous year for the remaining sectors.

SALES BY SECTOR [in %]



North America accounted for 27 percent of total sales (previous year: 26 percent). Freudenberg generated a share of 26 percent (previous year: 26 percent) of total sales in the European Union (excluding Germany). Asia accounted for 22 percent (previous year: 21 percent) of total sales.

SALES BY REGION [in %]



## Earnings position

[€ million]	2018	2019
Sales	9,455.4	9,467.8
Cost of sales	-6,395.6	-6,480.5
<b>Gross profit</b>	<b>3,059.8</b>	<b>2,987.3</b>
Selling expenses	-1,297.2	-1,298.3
Administrative expenses	-633.5	-638.6
Research and development expenses	-374.3	-414.6
Other income and expenses	51.8	194.6
Income from participation in joint ventures	22.0	14.3
<b>Profit from operations</b>	<b>828.6</b>	<b>844.7</b>
Financial result	6.7	-16.2
Profit before income taxes	835.3	828.5
Income taxes	-232.9	-217.9
<b>Consolidated profit</b>	<b>602.4</b>	<b>610.6</b>

At €9,467.8 million, sales in 2019 were at the level of the previous year. The cost of sales ratio rose by 0.8 percentage points and gross profit therefore also fell by 0.8 percentage points. The selling expenses ratio and the administrative expenses ratio remained at the prior-year levels of 13.7 percent and 6.7 percent respectively.

Compared with the previous year, research and development expenses rose by €40.3 million, reflecting growing activities in battery and fuel cell business.

The balance of other income and expenses rose by €142.8 million. The increase was largely due to income from the sale of the Freudenberg IT Business Group and changes in the status of participations previously consolidated at-equity. This effect was partially offset by the higher impairment losses on goodwill in the year under review.

The financial result fell by €22.9 million. This decrease was mainly due to the fall in the pro-rata share in the results of associated companies. The fall was partly offset by higher income from investments and affiliated companies and income from the remeasurement of

financial assets measured at fair value through profit or loss.

The consolidated profit was €8.2 million higher than the figure for the previous year.

## Financial position

### Financing management

Freudenberg SE and the central financing company Externa Handels- und Beteiligungsgesellschaft mit beschränkter Haftung, Weinheim, Germany, steer all the financing activities of Freudenberg, thus ensuring that Freudenberg has sufficient liquid funds. As a general principle, companies obtain the financing they require via cash pool agreements or internal loans – for legal, fiscal and other reasons, financing in some countries also takes the form of bank loans guaranteed by Freudenberg SE.

Freudenberg does not expose itself to financial risks through speculation with derivative financial instruments but uses such instruments only for hedging, and therefore reducing, risks in connection with underlying transactions and items. Future transactions are only hedged if there is a high probability of occurrence. In order to ensure the identification and management of all financing risks, the Freudenberg Group pursues a holistic approach to financial risk management. The existing financial risks are identified and limited in an institutionalized control loop.

Exchange rate risks on currency markets remain high. In addition, there is volatility on the credit and capital markets. This also impacts the financing conditions for industrial companies. In the opinion of the Board of Management, Freudenberg is in a good position to tackle these challenges thanks to its conservative finance policy. Liquidity measures include high reserves of liquid funds and committed credit lines with core banks. Liquid funds are always invested on the basis of internal directives. These call for the risk-based, limit-oriented diversification of financial investments

between issuers with an investment grade rating and for investment only for short terms.

A key element in external borrowing is a long-term shareholder loan where the interest payable is oriented towards market interest rates for the same terms plus a premium.

As at December 31, 2019, Freudenberg had undrawn committed credit lines amounting to some €950 million. The interest payable on the certificates of indebtedness (“Schuldscheindarlehen”) included in the liabilities to banks is based on variable and fixed

components. Further details on interest rate structure can be found in the section on interest rate risks in the Notes to the Consolidated Financial Statements.

As in the previous year, the rating agency Moody’s Deutschland GmbH, Frankfurt am Main, Germany, rated Freudenberg SE, Weinheim, at “A3”, with a stable outlook. The Group therefore continues to hold a single-A rating.

This gives Freudenberg very good creditworthiness at investment grade level.

STATEMENT OF FINANCIAL POSITION STRUCTURE				
	Dec. 31, 2018	Dec. 31, 2019	Change	
	[€ million]	[€ million]	[Percent]	[€ million]
<b>Assets structure</b>				
Non-current assets	6,203.9	7,060.7	13.8	856.8
Current assets	3,926.9	4,282.8	9.1	355.9
<b>Non-current assets held for sale and disposal groups</b>	<b>108.3</b>	<b>11.0</b>	<b>-89.8</b>	<b>-97.3</b>
<b>Assets</b>	<b>10,239.1</b>	<b>11,354.5</b>	<b>10.9</b>	<b>1,115.4</b>
Capital structure				
Equity	5,312.1	5,819.5	9.6	507.4
Non-current liabilities	2,195.8	2,604.5	18.6	408.7
<b>Current liabilities</b>	<b>2,663.9</b>	<b>2,929.9</b>	<b>10.0</b>	<b>266.0</b>
Liabilities in connection with non-current assets held for sale and disposal groups	67.3	0.6	-99.1	-66.7
Equity and liabilities	10,239.1	11,354.5	10.9	1,115.4

### Capital structure

The **equity ratio** decreased from 51.9 percent to 51.3 percent. Adjusted for the effects of the application of IFRS 16, the equity ratio would have risen to 52.8 percent. In absolute terms, equity rose by €507.4 million. This was chiefly attributable to the positive result and to positive exchange rate developments. This increase was offset by actuarial losses on the remeasurement of defined benefit obligations as a result of lower discount rates, and dividend payments to Freudenberg & Co. KG as well as to holders of non-controlling interests.

**Non-current liabilities** amounted to €2,604.5 million (previous year: €2,195.8 million). This change was mainly due to the increase in long-term financial debt, which rose significantly in connection with the first-time application of IFRS 16. As at the statement of financial position date, non-current lease liabilities amounted to €254.3 million. In addition, provisions for pensions and similar obligations rose from €718.1 million in the previous year to a total of €842.3 million, chiefly as a result of lower discount rates.

The €266.0 million increase in **current liabilities** to €2,929.9 million was chiefly the result of the rise in short-term financial debt. This development also reflects the first-time application of IFRS 16. As at the statement of financial position date, current lease liabilities amounted to €87.8 million. In addition, short-term liabilities to banks rose to €243.5 million (previous year: €133.5 million).

Adjusted for exchange rate effects and changes in the consolidated group, non-current liabilities rose by 14.7 percent while current liabilities fell by 8.7 percent. As regards the currency structure, reference is made to the currency risk section of the Notes to the Consolidated Financial Statements.

## Investments

Adjusted for acquisitions, investments in intangible assets, tangible assets and investment properties amounted to €362.1 million (previous year: €378.6 million).

The Freudenberg Group invested worldwide. For example, the Freudenberg Performance Materials Business Group continued work on the construction of a new spunlaid plant in Taiwan, which started last year, and also initiated the relocation of production in Nantong, China, at the request of the local government. Vibracoustic continued work on the construction of a third plant in Chongqing, China. For the newly acquired company Freudenberg Apollo Filtration Technologies Co. Ltd. in Shunde, China, Freudenberg Filtration Technologies invested in a new production and office complex with an area of 55,000 square meters. Investments in Germany totaled €110.5 million (previous year: €125.2 million). Vibracoustic initiated further expansion of its air spring production facility in Hamburg.

Investments planned for 2020 are likely to be financed from cash flow from operating activities and to have no major effect on net assets.

## Liquidity

**Cash flow from operating activities** in the 2019 financial year amounted to €956.9 million, corresponding to a year-on-year increase of €128.5 million. This rise is chiefly due to the first-time application of IFRS 16, under which only the interest portion of lease payments is recognized in cash flow from operating activities. In addition, the lower operating result was more than offset by the positive development in working capital.

As a result of higher acquisitions than in the previous year, the negative **cash flow from investing activities** increased to €-600.9 million.

**Cash flow from financing activities** in the 2019 financial year was €-230.9 million (previous year: €-249.0 million). The main factors in this development were payments to the shareholder and non-controlling interests as well as the repayment of financial debts, which also included lease liabilities for the first time in 2019 in accordance with IFRS 16.

On the basis of the assessment of the Board of Management, the Group can meet all of its payment obligations without any restrictions.

## Assets

The total assets of Freudenberg rose by €1,115.4 million to €11,354.5 million (previous year: €10,239.1 million).

**Non-current assets** rose from €6,203.9 million to €7,060.7 million. Adjusted for exchange rate effects and changes in the consolidated group, there was an increase of €252.2 million in non-current assets. This is chiefly due to the first-time application of IFRS 16. As at the statement of financial position date, the right-of-use assets for leased underlying assets amounted to €336.9 million. This increase was partly offset by amortization of intangible assets. In particular, the systematic amortization of intangible assets of the Vibracoustic Group acquired in 2016 should be mentioned. Furthermore, an impairment loss was recognized with respect to the goodwill of Freudenberg Medical.

**Current assets** rose by €355.9 million to €4,282.8 million. Adjusted for exchange rate effects and the change in the consolidated group, there was a total increase of €214.7 million. The rise in current assets was chiefly due to the increase of €90.5 million in inventories and €110.5 million in other current assets. This includes the payment in connection with the acquisition of Low & Bonar PLC, which was made to an escrow account. Securities and cash at bank and in hand grew by a total of €132.6 million, chiefly as a result of the development in business operations and the resulting increase in cash flow from operating activities. These effects were offset by developments in acquisitions and disinvestments.

## Overall assessment

The 2019 financial year was characterized by a difficult economic and geopolitical environment. Sales of the Freudenberg Group were at the level of the previous year, while the operating result was lower. The main reasons for the decrease included the downturn in the automotive industry, less dynamic growth in China and start-up expenses in the battery and fuel cell business.

In the 2019 financial year, we once again invested strongly in the future viability of our Group. Key strategic topics were the transformation in mobility, digitalization and sustainable solutions. Freudenberg aims for profitable growth which may come both from its own resources and from acquisitions. In a volatile environment, it is beneficial to be a broadly diversified company. This is why we aim for a balanced portfolio of cyclic and anticyclic business with equal contributions from North and South America, Europe and Asia. Against this backdrop, we further strengthened various Business Groups through acquisitions in the year under review.

Furthermore, one of the main focuses of the Group in the 2019 financial year was once again occupational safety. In the year under review, the non-financial performance indicator LDIFR was 1.4 (previous year: 1.5). It was therefore possible to reverse the slight negative trend from the previous year and further positive development is forecast.

Against the backdrop of our solid net assets and financial position and our high-earnings business, our overall assessment of the economic position of the Group is positive.

## REVIEW OF OPERATIONS BY BUSINESS AREA

The Freudenberg Group's ten Business Groups are divided into four Business Areas: "Sealing and Vibration Control Technology", "Technical Textiles and Filtration", "Cleaning Technologies and Products", and "Specialties". They focus on long-term, sustainable and profitable growth.

Together with its partners, customers and the world of science, Freudenberg aspires to develop cutting-edge products, excellent solutions and services for some 40 market segments and thousands of applications in the spirit of the positioning that reads "Freudenberg is a values-based technology group that best serves its customers and society".

### SEALS AND VIBRATION CONTROL TECHNOLOGY BUSINESS AREA

**In the year under review, the Seals and Vibration Control Technology Business Area comprised the following Business Groups:**

- Freudenberg Sealing Technologies
- Freudenberg Oil & Gas Technologies
- EagleBurgmann
- Vibracoustic

Sales in this Business Area amounted to €5,325.8 million (previous year: €5,506.4 million). The headcount at the close of the financial year was 30,569 (previous year: 32,451).

There was a change in the Seals and Vibration Control Technology Business Area in 2019: Freudenberg Medical became part of the Specialties Business Area in the year under review. The Freudenberg Medical portfolio has evolved in recent years, leading to this reallocation. When it was set up in 2011, the Business Group was assigned to the Seals and Vibration Control Technology Business Area based on its materials and manufacturing process expertise.

FREUDENBERG SEALING TECHNOLOGIES		
	2018	2019
Sales [€ million]	2,258.9	2,218.8
Workforce	14,795	14,073

## FREUDENBERG SEALING TECHNOLOGIES



### Business development

For Freudenberg Sealing Technologies, the financial year was defined by a marked fall-off in demand – above all in the automotive industry and especially in the second half of the year. This was attributable among other things to the discussion about diesel bans in Germany, uncertainty about the technology transformation in mobility, the trade dispute between the USA and China, Brexit and the debt crisis in Italy.

These economic risks had a noticeably negative impact on sales during the course of the year. Almost all regions and market segments in automotive and industrial business were affected, with the fall-off in sales in some cases quite severe.

Sales price increases, positive effects from acquisitions and favorable exchange rate effects could not offset the decline in sales volumes.

### Key events

At the beginning of 2019, Freudenberg Sealing Technologies increased its ownership stake in XALT Energy, LLC to more than 50 percent. The company based in Midland, Michigan, USA, develops and produces lithium-ion technology solutions for heavy-duty mobility applications. The additional multi-million dollar investment is intended to revitalize production capabilities at the Midland production plant and to intensify research and development efforts into new mobility technologies. Additionally, there is a standing agreement to acquire all remaining shares in XALT Energy, LLC over the next few years.

Furthermore, the Business Group is developing fuel cell stacks for mobile applications with a power spectrum of 30 to 100 kilowatts at its new Fuel Cell Innovation Center in Munich. Work is being carried out on both a hydrogen system and a methanol system. The first complete system should be available for customer

demonstration purposes in early 2021. Series production has been slated for 2024, with the focus on products for customers from the commercial vehicle industry and for off-highway applications such as buses, trains, trucks and ships. For that reason, the fuel cells are being designed for a much higher power capability than is the case for fuel cells used in passenger cars.

In order to shorten the time-to-market for this technology, the Business Group entered into a technology partnership in the maritime sector at the end of 2019. The project consortium includes Meyer Werft in Papenburg, Germany, the largest shipyard for the construction of cruise ships. The first practical tests for the fuel cell solution on board the cruise ship AIDAnova are already planned for 2021.

In the commercial vehicle sector, Freudenberg Sealing Technologies is collaborating with FlixBus, Europe's largest operator of long-distance bus travel. Up to 30 long-distance buses are to be fitted with fuel cell technology under a joint project.

Another focus of current business activities is e-mobility, and in particular powertrain electrification. As both the energy density and the power density of batteries and electric motors continue to rise, and charge current and speed increase, attention centers on the safety and thermal management of these systems during the operation of electric vehicles. Disruptive electromagnetic fields form where electric current flows. Electronic components must therefore be protected from such disruptions caused by electromagnetic waves. Experts from Freudenberg Performance Materials and Freudenberg Sealing Technologies are working together on ways to provide shielding with plastic housings. In the future, they could partially replace the aluminum versions that have dominated the market until now. Both Business Groups have teamed up to develop processes that can equip plastics with conductive coatings or nonwovens. Early lab tests show excellent values for electromagnetic shielding of up to 99.9 percent.

High rotational speeds cause the shaft seals used in electric powertrains to reach high circumferential velocities. A new generation of test stands at Freudenberg Sealing Technologies now ensures that friction can be precisely determined at rotational speeds of up to 36,000 rpm. Seals that are used between the electric motor and the downstream transmission have to satisfy much more stringent requirements for speed-endurance strength than seals in conventional powertrains. While the internal combustion engines in cars today reach a maximum rotational speed of between 4,000 and 7,000 rpm, electric motors for series production vehicles currently reach a maximum rotational speed of more than 20,000 rpm. In future, as further technical advances are made these requirements will increase further, because at rotational speeds of up to 36,000 rpm, substantial electrical potential can be generated between the housing and the shaft of an electric motor. The discharge can take place across the shaft bearing and lead to surface damage from electrical erosion. Freudenberg Sealing Technologies already offers seals that enable the voltage to be drained off across an electrically conductive nonwoven. The new test stands are an important tool for designing and validating such seals.

The auto industry is not just betting on electric powertrains as a way to reduce CO<sub>2</sub> emissions from road vehicles. Even conventional internal combustion engines are expected to become more climate-friendly thanks to e-fuels. These are liquid or gaseous vehicle fuels that are not refined from fossil petroleum – they are created from carbon and hydrogen with the help of solar and wind energy. New findings in material research show the impact that OME (oximethylene ether), a substitute for diesel fuel, has on the long-term stability of seals. The research has found that seals made from an already widespread material, fluoro rubber (FKM), are basically suited for renewable fuels.

In addition, further innovations also brought market success in the year under review: Particularly worthy of mention are new material and sealing innovations designed to help the aerospace industry address ever increasing safety and performance requirements.

These include a new high-temperature, fireproof material as well as new ethylene propylene diene monomer (EPDM) materials and a fluoroelastomer (FKM) material. Freudenberg's new proprietary fireproof sealing fabric is made to withstand extremes. Tested on standard aerospace seals and passing AC20-135 fireproof requirements, the fabric acts as a barrier, providing at least 15 minutes for necessary corrective action in the event of a fire.

### Location changes

The production location in Diadema, Brazil, will close by the end of 2020. The plant, which has been in operation since 1976, has some 350 employees. It produces seals for the aftermarket, the automotive and the general industry sectors. The reason for the closure is the persistently weak Brazilian market. Despite significant investment in new technologies, new materials and new product lines, there is no possibility for the profitable and sustainable further development of business in the foreseeable future. The automotive retail business under the Corteco brand will, however, continue. Moreover, a significant portion of existing Brazilian business will be preserved and key accounts in Brazil, particularly those in the automotive industry, will be served by other production locations in North America and Europe.

### Profile:

*Freudenberg Sealing Technologies is a long-standing technology expert and market leader for sophisticated and novel applications in sealing technology and e-mobility solutions worldwide. The Business Group is also establishing itself as a full-service provider for fuel cell systems for the commercial vehicle industry. With its unique materials and technology expertise, the company is a proven supplier for products and applications, as well as a development and service partner to customers in the automotive industry and the general industry sector. Starting from the invention of the Simmerring®, which was developed by Freudenberg in 1932, the Business Group today offers a broad customer-oriented product portfolio – from tailor-made individual solutions to complete sealing packages and components for electric vehicles. Its subsidiary Dichtomatik is the sales organization in the market for technical seals. The Corteco brand is the specialist for the independent automotive aftermarket.*

*With its XALT Energy brand, the Business Group produces large-scale lithium ion battery cells, modules and systems for use in heavy-duty commercial vehicles, city and transit buses, in the marine industry and in industrial applications. In addition, Freudenberg Sealing Technologies offers a broad product portfolio for the fuel cell business.*

FREUDENBERG OIL & GAS TECHNOLOGIES		
	2018	2019
Sales [€ million]	109.8	107.0
Workforce	500	491

## FREUDENBERG OIL & GAS TECHNOLOGIES



### Business development

Sales at Freudenberg Oil & Gas Technologies in 2019 were slightly down on the level for 2018.

Business development was heavily impacted by the following market factors: Drilling activities in the US market, an important market for Freudenberg Oil & Gas Technologies, declined year-on-year. In addition, the oil price is of major significance to the Business Group. The oil and gas industry only begins to invest once the price per barrel is significantly higher than US\$50 per barrel and there is no uncertainty as to whether the price could drop to below the US\$50 mark. Only then does demand for products increase. The oil price was quite volatile over the course of 2019, fluctuating within a range of just under US\$50 to up to US\$66 per barrel (WTI). The average annual price was US\$57.05, 12 percent lower than the previous year. At a meeting in Vienna in June 2019, the OPEC countries and their allies in the coalition dubbed “OPEC plus”

agreed to extend the production cut deal by a further nine months to March 31, 2020.

In addition to these market developments, there were also significant project delays in the connector business, with sales from these projects only being realized in 2020. Furthermore, the decline in Business Group sales is also attributable to lower volumes in the technical seals business. Moreover, exchange rate effects impacted sales in the “Connectors” and “Engineered Seals” business units.

Volume and price increases in component seals business in the “Pressure Control Products” business unit had a positive impact on sales by the Business Group.

## Key events

In April 2019, Freudenberg Oil & Gas Technologies introduced customers to its new, value-added prototype service. This service enables targeted project management combining Freudenberg Oil & Gas Technologies' leading capabilities in design, construction and testing. The Business Group first collaborates with its customers to develop sealing solutions based on Freudenberg Oil & Gas Technologies' design and materials expertise, and subsequently uses its materials development and product testing laboratory to provide verified, certified solutions tailored to the requirements of the industry. This accelerates customers' product development initiatives. With this service, Freudenberg Oil & Gas Technologies is strengthening its reputation as a leading provider of sealing solutions for the oil and gas industry.

The Business Group improved productivity in the year under review through intensive activities in operational excellence. In addition, Freudenberg Oil & Gas Technologies successfully invested in occupational health, safety and environmental measures (HSE). The Business Group achieved its best HSE performance ever in 2019.

In 2019, the Business Group continued to focus on solutions for applications in oil and gas exploration and production. Efforts centered on high-pressure and high-temperature sealing solutions. For example, an innovative elastomer seal developed by Freudenberg Oil & Gas Technologies is suitable for applications in the extreme conditions of steam environments. It functions at temperatures in excess of 300 degrees Celsius and has excellent resistance to rapid gas decompression that can occur during operation at high temperatures and pressures and can result in serious damage to elastomer seals.

Furthermore, Freudenberg Oil & Gas Technologies developed products that enhance the cost effectiveness and safety of installing and operating oil and gas sites.

## Location changes

In April 2019, Freudenberg Oil & Gas Technologies opened a new sales and stocking facility in Midland, Texas, USA. Initially, the facility concentrated on supporting new wells in the Permian Basin in western Texas and eastern New Mexico. During the course of the year, sales activities were expanded to cover products from the "Engineered Seals" and "Connectors" units.

### **Profile:**

*Freudenberg Oil & Gas Technologies provides innovative sealing solutions and products to the global oil and gas industry. The Business Group is focused on the exploration and production (upstream) segment of the oil and gas industry. The "Pressure Control" business unit offers products for drilling activities and the "Engineered Seal" and "Connectors" business units supply products for oil and gas production. The Business Group provides component seals and connectors for land-based and offshore platforms and subsea applications.*

*Freudenberg Oil & Gas Technologies serves a wide range of customers including oil and gas producing companies, original equipment manufacturers (OEMs), and engineering and service companies that provide technologies, equipment and services for the exploration and production of oil and gas from land-based platforms and subsea throughout the world. The Business Group has its own materials development and product testing lab in Houston, Texas, USA, where it develops and tests new materials and solutions.*

EAGLEBURGMANN		
	2018	2019
Sales [€ million]	821.7	858.5
Workforce	5,644	5,814

## EAGLEBURGMANN



### Business development

Sales at EagleBurgmann in the year under review were higher than the level for the previous year.

The Business Group's OEM business saw solid growth. The figures for "International Projects" were in line with expectations. Two major projects to deliver several hundred seals and supply systems to refineries in Thailand and Vietnam are particularly worthy of mention. In Russia, EagleBurgmann won its first major contract with a key customer for a liquefied natural gas (LNG) processing plant.

The service business also developed very well in 2019, partly through expansion of the service range to include services for pumps. Of the core service segments, expansion was strongest in the chemical industry, followed by services for power plants and the oil and gas industry. EagleBurgmann further expanded its market shares in the growth segments of

pharmaceuticals, the food processing industry, water and waste water. Business with retailers in the year under review was very good.

The regional perspective was also positive: Business in North America developed well, particularly in the power plant segment. The same applied for China, where there was a strong performance for gas-lubricated compressor seals. In the EMEA region (Europe, Middle East and Africa), organic sales were slightly up on the previous year. In Japan, the market environment for the semiconductor business proved difficult, but EagleBurgmann was nevertheless able to hold sales stable. Growth in the Asia-Pacific region exceeded expectations, and the very satisfactory development of service business in the oil and gas industry there merits special mention. EagleBurgmann's growth in India was driven in particular by orders in the refinery segment and from pump manufacturers.

## Key events

Digital business development was of central strategic importance for EagleBurgmann in the year under review. The focus lay on the concrete implementation of innovative technical solutions aimed at developing value-added services for customers.

Numerous digital tools were developed and rolled out for sales and sales-related units, and underpinned by training. One app, for example, allows customers to view real-time data on material availability, order status and services. In addition, the customer relationship management system was expanded further with new features such as an integrated pricing function. Furthermore, a web shop was launched as an additional sales channel.

Digital developments and openings also played an important role in product development and manufacture. Examples include the continuous expansion of a software-aided product configurator for customer-tailored sealing solutions, or the use of complex calculation methods such as the cross-Business Group atomistic simulation project.

EagleBurgmann's multi-year EB Complexity Management Program is tasked with reducing complexity and managing it intelligently. The aim is to fulfill customer expectations comprehensively and individually while at the same time reducing the scale of vendor variants by means of modular, multiple-use components. For EagleBurgmann, this will make the entire process chain faster and more effective. The first positive effects emerged just a few months after the program had been launched.

An international customer satisfaction survey conducted in the year under review reflected the external perception of EagleBurgmann: Apart from excellent results in product quality and the product portfolio, the study also mirrored those areas where the customer response is particularly sensitive. It is EagleBurgmann's aspiration to meet customer expectations to the very best of its ability and the

Business Group is constantly working on measures to improve customer orientation.

The Business Group initiated several activities in the year under review to advance the "ONE EagleBurgmann" corporate culture; these included revamping the corporate design and fostering the feedback culture. The "EB Bike" bike leasing program launched in summer 2019 is an environmentally-friendly incentive for employees.

## Location changes

In particular the changes in the market for large gas turbines and the associated impact on the fabric expansion joint business led to the decision to close production at the location in Vejen, Denmark, from June 30, 2019. Key areas of sales, engineering and administration were centralized in Ringkøbing, Denmark, and production relocated to the sites in Tuzla, Turkey, and Chennai, India.

The footprint of the 89 service centers worldwide was constantly adjusted to take account of customer proximity and market requirements.

## Profile:

*EagleBurgmann is one of the leading international manufacturers of industrial sealing technology. The Business Group develops, manufactures and markets a broad range of high-quality products for pumps, compressors, agitators and special equipment – customer-specific and series-manufactured.*

*These sealing solutions are used when safety and reliability are most important, for example, in the oil and gas industry, refineries, the (petro-)chemical industry, the pharmaceutical and food processing industries, power plant technology or water applications. A dense sales and service network ensures the best possible customer proximity.*

VIBRACOUSTIC		
	2018	2019
Sales [€ million]	2,146.9	2,141.5
Workforce	9,989	10,191

## VIBRACOUSTIC



### Business development

In 2019, the market environment for Vibracoustic was shaped by declining vehicle production, particularly in the growth region of China. Worldwide, production fell year-on-year by some 6 percent as the global economy increasingly lost momentum, trade disputes persisted, and car manufacturers' margins came under increasing pressure. The latter is attributable to high investments in e-mobility that led to growing price pressure for the supplier industry. Raw material prices remained at a high level.

Despite the difficult market environment, Vibracoustic was able to maintain sales at the prior-year level and extend its market leadership thanks to a solid order backlog.

Going forward, car manufacturers will be offering growing numbers of electric vehicles in order to comply

with stricter environmental requirements. In terms of vibration control technology this brings new opportunities and challenges for innovative approaches and solutions.

Serving market trends such as alternative drive systems and autonomous driving calls for intelligent solutions to support manufacturers in their efforts to meet increasingly stringent emission regulations.

While noise and vibrations are still generated by the internal combustion engine in hybrid electric vehicles, all-electric vehicles present a different challenge. Noise and vibrations generated at higher frequencies and by auxiliaries previously masked by the internal combustion engine become audible and noticeable.

Vibracoustic is collaborating closely with leading OEMs to develop innovative and efficient solutions to meet these challenges.

Furthermore, both established electric vehicle manufacturers and new players are increasingly turning to air spring systems, since they also bring additional benefits for all-electric vehicles. Air spring systems can, for example, contribute to reducing air resistance and improving passive cooling of the battery packs.

### Key events

Vibracoustic develops innovative approaches and solutions based on the challenges of new mobility concepts. One example of new developments during the year under review is mounts with integrated lobe-shaped damper structures (flaps) designed for noise phenomena specific to electric motors. They ensure that unwanted noise in a specific frequency range is efficiently reduced without impacting the general function of the mount. The additional flaps sit on either side of the main spring so they do not have any effect on the cost, weight or size of the component.

Demand for air spring systems is steadily increasing. Work on further expansion of air springs production at the Hamburg site commenced in the second half of 2019 with a view to responding to this trend and in order to manage orders from several premium car manufacturers.

In 2019, further investments were again made in kicking off customer projects.

### Profile:

*Vibracoustic is a leading global NVH expert (noise, vibration, harshness) for the automotive industry, providing customized solutions adding comfort and supporting efficiency, safety and durability. Its expertise along the entire product life cycle and on all vehicle systems as well as its broad product range enable Vibracoustic to solve current and future NVH challenges across all automotive segments.*

*With a global network of development and production locations, the Business Group supplies almost all passenger car and commercial vehicle manufacturers as well as their direct suppliers worldwide with components that significantly increase onboard comfort.*

## TECHNICAL TEXTILES AND FILTRATION BUSINESS AREA

In the year under review, the Technical Textiles and Filtration Business Area comprised the following Business Groups:

- Freudenberg Performance Materials
- Freudenberg Filtration Technologies
- Japan Vilene Company

In total, the Business Area generated sales of €1,969.9 million (previous year: €1,899.2 million) last year. At year-end 2019, the headcount was 9,447, compared with 8,521 at the close of the previous year.

## FREUDENBERG PERFORMANCE MATERIALS



FREUDENBERG PERFORMANCE MATERIALS		
	2018	2019
Sales [€ million]	919.5	887.0
Workforce	3,685	3,993

## Business development

2019 was a challenging year for Freudenberg Performance Materials. The business environment proved difficult, as demand in some key markets progressively slowed down from the second quarter onward. This was attributable to uncertainty associated with the economic slowdown, the trade disputes, and Brexit. As a consequence, there was a drop in sales by the Business Group compared with the previous year.

The automotive market, which had already begun to slacken in China and the USA in the second half of 2018, also weakened in Europe in 2019. This impacted the Business Group’s “Automotive Interiors” segment and business with filter media.

Momentum in the apparel market slowed in almost all regions, and margins came under increasing pressure. Developments in Germany were especially slack as mid-market retailers were hit by competition from global players. In China, capacities relocated to South East Asian countries as a result of the trade dispute with the USA.

In the “Construction” segment, the market cooled down significantly in the second half of the year – after relatively positive momentum during the first months of 2019 – and there was high volatility in both Western Europe and North America. The Russian market was more stable, although there was greater pressure on margins from Chinese competitors exporting to the region.

Despite the challenging economic conditions, some segments in the Business Group achieved encouraging sales development. The newly-established “Healthcare” Division reported growth in the promising advanced wound care segment in Europe. In the Energy business, sales in cable protection applications and battery separators rose. Furthermore, the industrialization of gas diffusion layer (GDL) production for fuel cells proved a success, with significant sales growth and an extended portfolio of globally active customers in Asia, Europe and the USA. In addition, business in shoe

components and special applications such as Evolon also grew.

## Key events

In September 2019, Freudenberg Performance Materials made an offer to acquire 100 percent of the shares of Low & Bonar PLC. Low & Bonar is a globally active manufacturer of technical textiles, is listed on the London Stock Exchange, and operated eleven production facilities in Asia, Europe and North America with a workforce of some 1,900 employees in 2018. Among other things, this step will allow Freudenberg Performance Materials to further expand its technical expertise in spunlaid nonwovens. Low & Bonar’s two-step process solution will give the Business Group even greater flexibility and allow it to tailor solutions even more individually to customers’ requirements. The proposed acquisition is subject to approval by the antitrust authorities.

Effective October 1, 2019, Freudenberg Performance Materials acquired the activities of the startup FRICTins GmbH, Wolnzach, Germany – including FRICTins’ innovative technology to increase the friction coefficient. This technology combines a unique hard-particle coating process with a special nonwoven from Freudenberg. The Business Group has acquired the startup’s pilot plant and will be setting up industrial-scale production. The FRICTins technology has already won two awards: The German Innovation Award from the German Design Council in 2018 as well as the Materialica Design and Technology Award in 2017.

In December 2019, Freudenberg Performance Materials acquired 100 percent of the shares of the Filc group. Filc is a manufacturer of needle punch nonwoven textiles and laminated materials headquartered in Slovenia. The company focuses on the automotive market and the construction industry and had some 360 employees at year-end 2018.

Also in December 2019, Freudenberg Performance Materials signed an agreement to sell its South American Hygiene nonwoven business to the Brazilian

nonwoven specialist Fitesa Não Tecidos S.A. Fitesa is one of the main suppliers of nonwovens to the global hygiene market. Under this umbrella, the former regional business of Freudenberg Performance Materials can develop better and grow long-term in the new structures. This concludes Freudenberg Performance Materials' exit from the Hygiene segment that is no longer part of the Business Group's core business. The sale was completed in February 2020.

The Business Group intensified its innovation activities in the year under review with the aim of developing new and advanced process technologies and fostering growth through special products with attractive market potential. One example is the integration of the activities of FRICTins GmbH with its innovative technology to increase the friction coefficient.

A further example is the installation of a new spunlaid line at Freudenberg Far Eastern Spunweb Comp. Ltd., Taoyuan, Taiwan. The line is scheduled for commissioning in the first quarter of 2020. Thanks to cutting-edge product and process technology, this investment is a fundamental milestone for further growth in the Automotive Interior, Carpet Tiles, Shoe Components, and Filtration segments.

A new production line was commissioned at Freudenberg & Vilene Nonwovens (Suzhou) Co. Ltd., Suzhou, China, to meet the growing demand for printed headliners that offers significant potential on the Asian automotive market.

A new production line for comfortemp fiberball padding was also installed at the same location; this is an innovative thermal insulation for sportswear and functional garments that has attracted considerable interest on the apparel market since its launch.

The Business Group was recognized with several awards from customers and associations in the year under review. Among them was the "Supplier Excellence Award 2019" from Interface Thailand presented to the Business Group for outstanding product quality, service and commitment to sustainability. Interface is a worldwide leader in the

design and manufacture of carpet tiles. Freudenberg has received this award since 2008. In Russia, the customers Soprema and Dörken recognized Freudenberg Performance Materials as a top supplier. These customers particularly appreciate the high product quality.

In the USA, Freudenberg Performance Materials was recognized with second place in the "Achievement Awards", roll goods category, from INDA, the Association of the Nonwoven Fabrics Industry, at the IDEA Show 2019. The new textiles made from super microfilaments (Evolon New Generation) are half the thickness and twice the density of those used in the original Evolon. They open up entirely new applications in fields such as encasings and technical packaging.

In India, the Business Group was presented with the prestigious "Most Innovative Product in Sustainability Award 2019" for Freudenberg's 100 percent recycled PET interlinings.

The Business Group was also recognized for its social engagement: In Brazil, the City Council of Jacareí presented the Freudenberg Performance Materials site with the "Corporate Citizen Seal Award 2019", the fifth time the site has received this award. The prize honors companies for their outstanding social engagement in the region. In Russia, the Freudenberg Performance Materials site in Zavolzhie came third in the "Social Responsibility" category of the "Entrepreneur of the Year" competition organized by the Government of the Nizhniy Novgorod Region.

### **Location changes**

Freudenberg Performance Materials continued with the restructuring of its logistics activities at the Weinheim site in 2019 following the successful conclusion of negotiations with employee representatives. The planned measures were implemented and will be continued in 2020.

In Nantong, China, the Business Group began relocating production. The first step involved the start of

construction work on a new factory in an industrial zone. The second step to clear the present location takes place in 2020. The relocation was requested by the local government as it is planned to use the former site for residential units in future. The relocation is supported by funds from the local authority and provides the opportunity to build a unique cutting-edge factory for shirt interlinings. Completion is scheduled for the end of 2020.

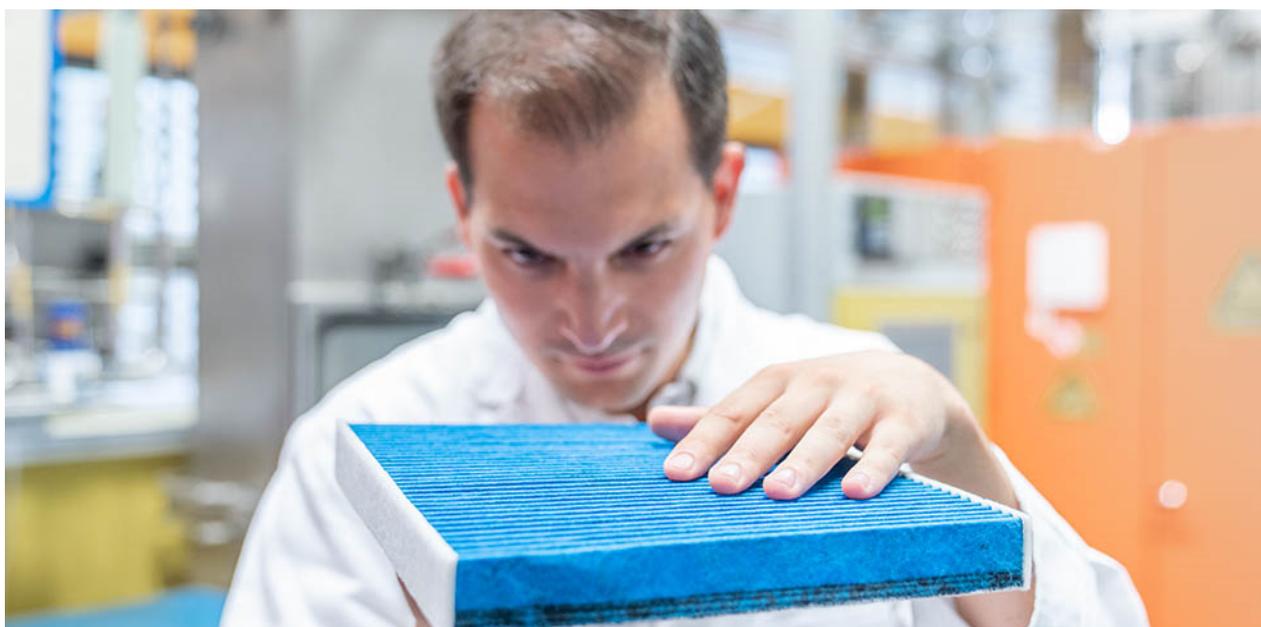
In the Energy Division, the ongoing structural changeover in battery separators, where demand is switching from NiMH rechargeable batteries to lithium-ion technology, and competitive pressure from Chinese manufacturers of sulfonated products led to the decision to discontinue production at the site in Swindon, United Kingdom. Once the last production orders have been completed, decommissioning activities will commence at the end of the first quarter of 2020.

**Profile:**

*Freudenberg Performance Materials is a leading global supplier of innovative technical textiles for a wide range of markets and applications, including automotive, construction, apparel, energy, filter media, healthcare, hygiene, building interiors, footwear and leather goods, as well as special applications. The Business Group is a pioneer in the field of nonwovens and operates 23 production locations in 13 countries worldwide.*

FREUDENBERG FILTRATION TECHNOLOGIES		
	2018	2019
Sales [€ million]	422.0	502.6
Workforce	2,134	2,777

## FREUDENBERG FILTRATION TECHNOLOGIES



### Business development

Sales by Freudenberg Filtration Technologies rose significantly compared with the previous year despite the challenging market environment. The increase is attributable to the acquisition of a leading provider of air and water filtration solutions in China. Overall, existing business was approximately at the level of the previous year. While sales in industrial filtration grew in the mid-single-digit percentage range in spite of volatile market demand, business in automotive filters dipped sharply in line with market demand.

The global downturn in the automotive industry had a particularly unfavorable effect in China and North America. The previous year's level was almost reached in Europe. Both OEM sales and aftermarket sales were affected in all regions. 2019 saw the first promising results from the further expansion of business in fuel cells and agricultural machinery.

In industrial filtration, the Business Group expanded its market position in the gas turbine segment in Taiwan, South America, the USA, and the Middle East. The Business Group reported growth in Australia in diesel exhaust filters for underground mining vehicles and air filters for the food and beverage industry. Several major orders for energy-efficient high-performance air filters were placed by energy companies in several regions.

### Key events

Freudenberg Filtration Technologies acquired a majority shareholding in Apollo Air-Cleaner Co., Ltd., in April 2019. The company is a leading provider of air and water filtration solutions in China and will continue as a joint venture between Freudenberg as the majority shareholder and the former sole proprietor Apollo ZhanMao Technologies (HK) Co. Limited, Wanchai, Hong Kong under the name Freudenberg Apollo Filtration Technologies Co., Ltd. Integration is

progressing as planned. Ground breaking for the new facility in Shunde was held in August. €50 million is being invested in a new 55,000 square meter production and office complex.

With this acquisition, the Business Group has begun setting up a third Division called “Consumer Filters” headquartered in Shunde to join the “Automotive Filters” and “Industrial Filtration” Divisions. This organization tailored to fit customers’ requirements on the end consumer market develops and manufactures filtration solutions such as filters for air purifiers, household applications and drinking water treatment. Freudenberg Filtration Technologies is therefore establishing a balanced mix between industrial, automotive and consumer applications.

The Business Group won its biggest single order to date in business with water treatment and wastewater filtration systems for industrial applications. The Freudenberg company Aquabio Ltd. is to plan and build one of the largest anaerobic membrane bioreactor systems in the UK for an international milk producer: The system has a high water recycling share and the biogas from the bioreactor will be used for energy generation.

In the year under review, the Business Group invested in expanding production capacity; these investments included an offline laminating system and a robot cell for fully-automated production of automotive filters in Europe, and a production line for filters for air purifiers in China. Freudenberg Filtration Technologies began rolling out what are known as cobots in Italy and Slovakia. These are robots intended to interact with humans in a shared space or to work safely in close proximity.

Digitalization has high priority in all areas at Freudenberg Filtration Technologies. Several digitalization projects aimed at selectively improving processes and increasing organizational efficiency were launched in Sales, Production and Administration in the year under review.

Honda Motors recognized the automotive filters team in North America with the “Supplier Performance Award” for the eighth year in succession. In addition, the market launch of the “micronAir Gas Shield” activated carbon modules for cabin air filters commenced: These filters protect against numerous harmful gases – from nitrogen dioxide and sulfur dioxide, ammonia and ozone through to aldehydes.

### Location changes

The partial relocation of filter cartridge and cassette filter production from Weinheim, Germany, to Potvorice, Slovakia begun in 2018 was concluded. The approximately 40,000 square meter site now has some 400 employees and is therefore one of the largest production locations in the Business Group. High order backlogs during the relocation and ramp up phase led to delivery delays in the first half of the year that were solved by progress in productivity.

Freudenberg Filtration Technologies Mexico and its approximately 90 employees moved within the city of León to a new production, logistics and sales location. All manufacturing and logistics processes at the new headquarters were optimized based on the LEAN approach.

### Profile:

*Freudenberg Filtration Technologies is one of the world’s leading specialists in the development and production of air and liquid filtration solutions and their applications. The Business Group’s solutions make industrial processes more economical, conserve resources, protect people and the environment and thus contribute to improving the quality of life.*

JAPAN VILENE COMPANY		
	2018	2019
Sales [€ million]	557.7	580.3
Workforce	2,702	2,677

## JAPAN VILENE COMPANY



### Business development

Sales by Japan Vilene Company expressed in euros were slightly higher than the previous year in a challenging market environment. Favorable exchange rate effects had a positive impact on sales.

Developments in the Industrial Materials division during the year under review were mixed, but overall there was a slight decrease in sales. While sales in electrical and industrial materials, for headliner facings, and for apparel and amenity materials were down on the previous year's level, there was a slight rise in sales in medical materials and air filter materials.

Sales in automotive floor mats declined in all regions – with the exception of Japan. This decline was particularly pronounced in Europe.

Japan Vilene Company's fiber business was down in all regions in the year under review.

From a regional perspective, Japan Vilene Company grew sales slightly in its important Japanese market during the year under review. In contrast, sales declined in the rest of Asia and in North America. The effect of the acquisition of Hanns Glass GmbH & Co. KG, Meuselwitz, Germany, in April 2018 impacted sales in Europe, which were slightly higher than the level for the previous year.

### Key events

Japan Vilene Company stepped up its operational excellence activities in the year under review. The aim is to improve productivity at all Business Group sites through systematic methods. To that end, the Business Group established new KPIs in the year under review and worked on several topics including processes for logistics and HR.

Japan Vilene Company organized a workshop on future ways of working in July and August 2019. Some 25 employees, all between 20 and 40 years of age, discussed various workplace models with an external expert. They focused in particular on working methods that are beneficial to both employees and the company. New work processes aimed at improving efficiency and based on the findings of the workshop were established.

Japan Vilene Company was recognized with numerous awards in the year under review. In the automotive sector, the floor mat division was recognized for the fourth year in a row with the “Best Performance Award” from Nissan Motor Co., Ltd. The award acknowledges among other things delivery performance, throughput time and quality. The Business Group was also recognized with the “Excellent Supplier Award” from MAZDA Motor Corporation.

In the filter business, Japan Vilene Company won the “Excellent Prize (Cost Competitiveness Award)” from Keihin Co., Ltd., one of Japan Vilene Company’s most important Tier 1 customers for automotive cabin air filters. The award acknowledges the Business Group’s efforts to reduce production costs for both Japan Vilene Company and Freudenberg & Vilene Filter (Thailand) Co. Ltd., a joint venture with Freudenberg Filtration Technologies. Furthermore, THAI NOK CO., LTD. recognized Freudenberg & Vilene Filter (Thailand) Co. Ltd. with the “Best Supplier Award FY2018”. The company chose Freudenberg & Vilene Filter (Thailand) Co. Ltd. as one of the “TOP 10” from 104 suppliers.

Demand for sustainable products continues to rise in the apparel market. Japan Vilene Company has been

offering interlinings and wadding made of recycled PET since 2019. The range is to be progressively extended.

Furthermore, Japan Vilene Company has developed a separator for the next generation of lithium-ion batteries together with Yamagata University and Osaka Soda Ltd. The base material is a heat-resistant nonwoven from Japan Vilene Company, combined with a special synthetic rubber from Osaka Soda. Yamagata University participates in pilot production and assessment. The aim is to commercialize battery separators for drones.

In 2018, Japan Vilene Company won the Air Cleaning and Contamination Control Research Convention Award for its research into the development and performance assessment of nanofiber air filter media. In April 2019, the Business Group reported to the Convention on progress with work on this topic, which includes research into cellulose nanofibers for filter media – an application that researchers in the industry consider to be extremely promising.

**Profile:**

*Since it was established in 1960, Japan Vilene Company has maintained its position as the leading domestic manufacturer of nonwoven materials under the motto of “Engineering Fabric Innovation”, utilizing its long-standing raw material expertise and considerable know-how in the fields of production processes and technologies as well as nonwoven converting. The Business Group’s “Automotive”, “Medical”, “Electrical” and “Industrial” divisions offer a broad portfolio of products for a wide range of applications.*

FREUDENBERG HOME AND CLEANING SOLUTIONS		
	2018	2019
Sales [€ million]	931.4	975.5
Workforce	3,273	3,218

### CLEANING TECHNOLOGIES AND PRODUCTS BUSINESS AREA

The Cleaning Technologies and Products Business Area comprises the Freudenberg Home and Cleaning Solutions Business Group whose Vileda, Vileda Professional, O-Cedar, Oates, Gimi, Gala,

Wettex and Marigold brands are active in the mechanical cleaning and laundry care segment for final users and professional cleaning companies.

## FREUDENBERG HOME AND CLEANING SOLUTIONS



### Business development

The consumer climate in 2019 was cautiously friendly. In this environment, sales by Freudenberg Home and Cleaning Solutions rose compared to the previous year.

The EMEA region (Europe, Middle East and Africa) drove business throughout 2019. With growth in the upper-single-digit percentage range, Freudenberg Home and

Cleaning Solutions exceeded its annual targets in the region and won market shares. Developments in business with the “Spin Mop” and “Turbo” floor cleaning systems was particularly pleasing. Flat mop sales secured further business against competitors for Freudenberg Home and Cleaning Solutions, particularly in the UK. Market shares were also won in Germany.

In North and South America, the Business Group reported slight losses in market shares in stationary trade in a constant market. In the USA, on the other hand, successful online sales of the “Spin Mops” stimulated business.

Market development in Asia was positive. Freudenberg Home and Cleaning Solutions won further market shares there and continued the steady growth of previous years. India remained the principal growth driver. There was market uncertainty in Hong Kong due to the unrest there. However, the Business Group adapted flexibly to the situation and consolidated its market leadership.

In the institutional cleaning business, Vileda Professional again grew faster than the market, especially in hospitals, care facilities and office cleaning. The cleanroom cleaning business even achieved double-digit growth in its main markets of North America, China and India. Market development in Europe was positive, particularly in Poland, Italy, the UK and the Netherlands. The “iQonnect” digital platform for managing the operations of cleaning workforces, was successfully rolled out in Spain and Canada in 2019. In Australia, the Business Group successfully introduced the first “Vileda Professional” systems.

In global terms, growth in e-commerce business remained consistently high with growth rates in excess of 20 percent. Freudenberg Home and Cleaning Solutions is seeking to generate further momentum in online trading with the successive modernization of the web infrastructure for all brands. To that end, the Business Group has launched websites and web shops in Portugal and Germany. Sweden, Finland and Denmark now have new web presences for the Vileda brand.

### Key events

Numerous prestigious awards in 2019 again testified to the high quality of products from the Business Group: The “Vileda VR 2010 PetPro” won the “Red Dot Design Award”. In the USA, “America’s Test Kitchen” magazine recognized the “PURActive” scourer as the best kitchen scourer. Furthermore, in Germany the “Superfeger”, “Ultrammat” and “Turbo” products scooped up the first three places in the “New Product of the Year 2019” category of the prestigious “HIT Award”.

In the year under review, the Business Group continued to make use of sustainability certificates to communicate the environmental compatibility of its products more effectively to consumers and retailers. These certifications include the “Plastica Seconda Vita” label and the “Forest Stewardship Council” (FSC) certification.

2019 also saw the implementation of further projects to reduce the complexity of the product range, as well as the successful realization of projects to improve efficiency across the value chain, for example in transport, logistics, trading and administration.

### Profile:

*Freudenberg Home and Cleaning Solutions is a leading international company for branded cleaning products and systems as well as laundry care products. The products are sold under the brand names Vileda, Vileda Professional, O-Cedar, Oates, Gimi, Gala, Wettex and Marigold.*

*Detailed market expertise, innovations, effective new products and a strong customer focus all help the company succeed. International market and customer research, innovation centers and production facilities in all regions of the world, as well as a dedicated sales network in more than 35 countries, also help the company thrive.*

## SPECIALTIES BUSINESS AREA

In the year under review, the Specialties Business Area chiefly comprised the following Business Groups:

- Freudenberg Chemical Specialties
- Freudenberg Medical

Overall, the companies in this Business Area generated sales totaling €1,435.2 million (previous year: €1,374.0 million) in the 2019 financial year. At year-end 2019, the headcount was 5,617, compared with 4,892 at year-end 2018.

There were two changes in the Specialties Business Area in 2019:

- Freudenberg Medical became part of this Business Area. This Business Group formerly belonged to the Seals and Vibration Control Technology Business Area. However, the Freudenberg Medical portfolio has evolved in recent years, leading to this reallocation.
- The Freudenberg IT Business Group, formerly part of the Specialties Business Area, was sold to the Syntax Group in the year under review.

## FREUDENBERG CHEMICAL SPECIALTIES



FREUDENBERG CHEMICAL SPECIALITIES		
	2018	2019
Sales [€ million]	1,104.1	1,123.5
Workforce	3,635	3,669

## Business development

For Freudenberg Chemical Specialities, 2019 was a year characterized by demand that fell short of expectations in important market segments and regions. The negative effects of the trade dispute became increasingly apparent and determined the weak market environment – particularly in China and parts of Europe. Despite the challenges, the Business Group achieved positive year-on-year organic growth.

The global automotive sector remained weak and impacted demand in the related market segments of automotive suppliers and the bearing industry. In contrast, specialized markets such as wind, food, or the oil and gas industry developed well, but could only partly offset the decline in the automotive segment.

The strategy of developing new fields of business to improve risk spreading again proved to be the right approach. Despite the subdued development in sales, the Freudenberg Chemical Specialities divisions generated growth better than the market average. This is to some extent attributable to customer projects that kicked off during the year under review after lead times that in some cases spanned several years. Furthermore, the Business Group's companies also benefited from their strong market position built up over decades and the high customer loyalty this has brought.

Klüber Lubrication recorded solid growth in many market segments in the year under review. Examples include the food market and segments such as wood, oil and gas, wind, and the marine industry.

Chem-Trend is more dependent on economic developments in the automotive industry than the other divisions, but held its own in a highly competitive environment. The broad portfolio covering many different market segments, the strong innovation capabilities and the growing share of environmentally-compatible solutions brought gains in market share.

SurTec defended its strong market position. Sustainable products were successfully introduced, but

still need time to penetrate the market. Sales deficits in Asia and Europe were in part offset by growth in other markets such as North and South America.

Capol grew throughout the year. The restructuring of the North American market organization following the acquisition of Colarôme Inc., Saint Hubert, Canada, in 2017 showed the first positive effects.

The retail business of OKS in the important German market did not meet the level of the previous year.

## Key events

SurTec responded to growing demand in South East Asia for specialty chemicals for surface technologies by opening a new manufacturing facility in Vietnam – the first for Freudenberg in this country.

Klüber Lubrication's new European logistics center in Maisach near Munich went into regular operation. In addition to logistics tasks primarily oriented to Klüber Lubrication, the center also houses a central European filling unit for smaller pack sizes and a technical center with laboratories, testing and application engineering for Chem-Trend.

In the year under review, the divisions established strategic market organizations for improved internal sustainability (footprint) and to develop sustainable value-added offerings for customers (handprint). These activities provide important input for innovation and project management. Klüber Lubrication, Chem-Trend, OKS and Capol have each published sustainability reports to enhance the transparency of these measures.

Chem-Trend successfully launched a new, digitally-controlled application technology for foundries in Europe. The technology significantly increases production efficiency for customers.

A unique atomistic simulation method for surface processes developed by Klüber Lubrication together with other Freudenberg companies won the Freudenberg Innovation Award in 2019.

SurTec developed a market-ready environmentally-friendly surface coating to protect metals against corrosion that has particularly promising market potential in the automotive sector and also meets the new requirements set by e-mobility. Various customers in China recognized SurTec Metal Surface Treatment Technology Co. Ltd., Hangzhou, China, with a total of three awards for best technical service, outstanding quality management and as supplier of the year.

In addition, the Business Group again won various excellent employer awards in the USA. Klüber Lubrication NA LP, Texas, USA, and Chem-Trend Limited Partnership, Howell, USA, were recognized.

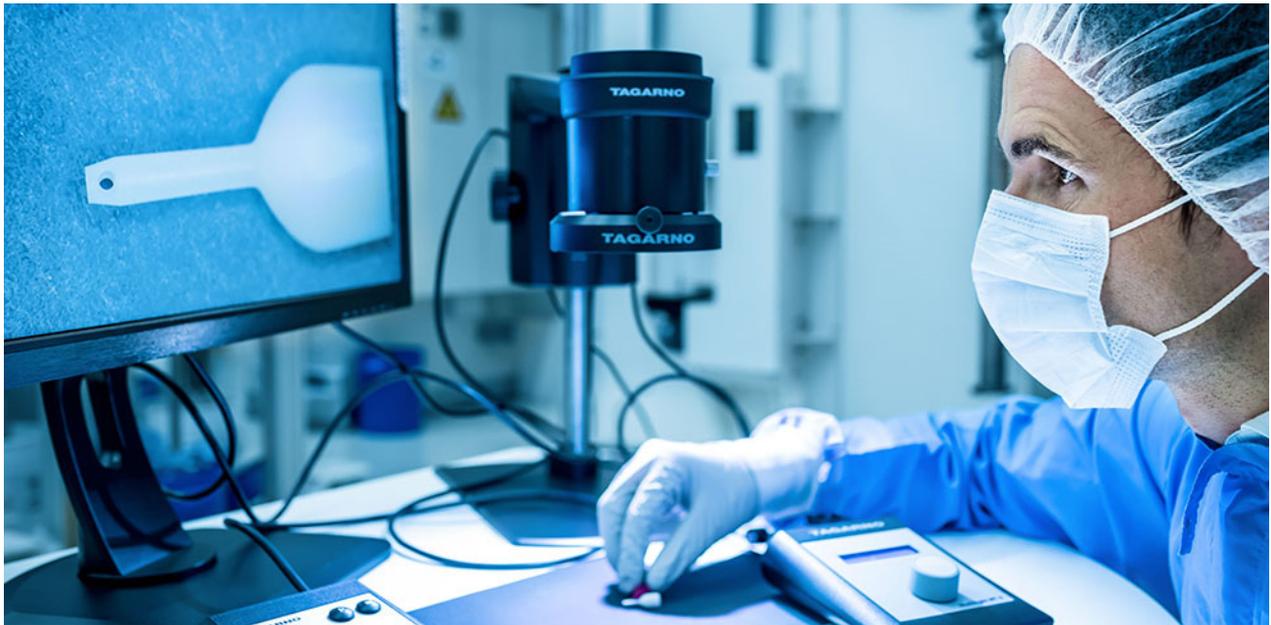
The Barcelona Chamber of Commerce honored Klüber Lubrication GmbH Ibérica S.en C., Parets del Vallès, Spain, for its long-term commitment to society. The President of the Barcelona Chamber of Commerce and the Catalan government's Minister for Economic Affairs presented the company with the award.

**Profile:**

*The Freudenberg Chemical Specialties Business Group comprises the operationally autonomous divisions of Klüber Lubrication, Chem-Trend, SurTec, OKS, and Capol. Klüber Lubrication is one of the world's leading manufacturers of specialty lubricants. Chem-Trend is a world market leader for release agents used to manufacture composite, rubber, plastic, metal and polyurethane molded parts. SurTec is a leading supplier of chemical specialties for surface treatment and electroplating. OKS specializes in performance lubricants and in repair and maintenance products. Capol is a world-leading provider of surface treatment products for the confectionery industry.*

FREUDENBERG MEDICAL		
	2018	2019
Sales [€ million]	169.1	171.5
Workforce	1,523	1,561

## FREUDENBERG MEDICAL



### Business development

In 2019, there was a slight rise in Freudenberg Medical sales expressed in euros on the back of a growing global market for medical products.

While business in the “Ear, Nose, Throat” and “Specialty Components” units showed strong organic growth, two negative external effects impacted sales in the “Minimal Invasive Solutions” business: The first was a meta study published at the end of 2018 raising concerns about the safety of Paclitaxel-coated stents and balloons. As a consequence, the US Federal Drug Authority (FDA) recommended restricting the use of Paclitaxel-coated devices for many patients, a decision that affected Freudenberg Medical sales in the year under review. Meantime, more precise data has been published that refutes these concerns. As a result, Freudenberg Medical sales in Paclitaxel-coated devices are in the process of recovering.

The second negative external effect was the closure of a large ethylene oxide sterilization facility in Willowbrook, Illinois, USA, by the US Environmental Protection Agency (EPA) in February 2019. EPA analyzed ambient air samples and concluded that residents and employees had been exposed to raised ethylene oxide concentrations in the air. Several Freudenberg Medical products were affected by the closure. In cooperation with customers, Freudenberg Medical revalidated the products in alternative sterilization facilities.

Freudenberg Medical again further extended its range of proprietary product and process platforms in 2019. Given the increasingly demanding requirements made of medical products, Freudenberg Medical offers technical solutions that enable medical device manufacturers to realize advanced product concepts, shorten development times and save development and manufacturing costs. The Business Group has a presence at eleven locations in the USA, Europe, Latin America and Asia and is therefore able to offer its services all over the world. This is particularly

appreciated by the Business Group's customers operating worldwide.

### **Key events**

In 2019, Freudenberg Medical acquired a further 40 percent share in Cambus Teoranta. The Business Group therefore now holds a 90 percent share. Cambus specializes in the design and manufacture of high-precision hypotubes and micro-component solutions for minimally invasive medical devices.

2019 was a year of numerous product and process launches for Freudenberg Medical. The "Ear, Nose, Throat" unit significantly strengthened its speech restoration product portfolio with devices such as the new laryngectomy tubes. Furthermore, the unit launched a new device for removing foreign bodies.

Freudenberg Medical continues to build up its portfolio of proprietary solutions for minimally invasive technology, and now offers customers a complete family of introducers with branded hemostasis valve technology, and the steerable Composer catheter handle, which has been expanded to cover various catheter sizes and adaptations for therapeutic markets such as electrophysiology.

Moreover, Freudenberg Medical launched several process innovations, including the ground-breaking "Helix iMC" measurement system to continuously measure the inner geometry of silicone tubes. The technology is unique to the medical device market and is specifically designed for medical silicone extrusion. It increases product quality for high-precision

applications, such as pacemaker lead insulation, and dramatically cuts down on material usage and process time.

Furthermore, Freudenberg Medical launched the "Helix Twist" technology in the year under review. This proprietary technology offers new design possibilities for applications such as pacemakers that require navigation through tortuous pathways within the human body.

### **Location changes**

Freudenberg Medical began construction work on its new Global Headquarters in Beverly, Massachusetts, USA, in 2019. Freudenberg Medical will also relocate the manufacturing facility for silicone components in Gloucester, Massachusetts, USA, to the new location, where the operation will undergo expansion. The new, approx. 3,500 square meter building has ISO Class 8 cleanrooms. The operation will be ISO 13485-certified and FDA-registered for the manufacture of medical products. It is planned to open the facility in the second half of 2020.

### **Profile:**

*Freudenberg Medical is the global partner for the design, development and manufacture of innovative medical products. The company's portfolio comprises catheter solutions for minimally-invasive procedures and components made from complex medical materials. The company is a leader in the field of high-precision silicone and thermoplastic components and tubing as well as coatings and metal hypotubes.*

## REPORT ON EVENTS AFTER THE DATE OF THE STATEMENT OF FINANCIAL POSITION

Major events after the date of the statement of financial position which are not included either in the statement of profit or loss or the statement of financial position are explained in the Notes to the Consolidated Financial Statements under the section “Major events after the date of the statement of financial position”.

## REPORT ON OPPORTUNITIES AND RISKS

Freudenberg is exposed to numerous opportunities and risks inseparably associated with business activities. Monitoring technological, political and social changes in particular is part of proactive entrepreneurship. This often generates opportunities to be harnessed in order to secure and specifically improve the company's competitiveness. Opportunities are addressed in the context of the annual planning process and pursued and reported throughout the year. Long-term opportunities for profitable growth are primarily identified as part of the strategy process. Freudenberg operates a Group-wide risk management system, in which newly-acquired business operations are also integrated, to identify risks in a timely fashion and respond to them appropriately. The following report is in line with the assessment of the Board of Management.

### Opportunities

#### Global presence

Due to its global presence, Freudenberg has for many years been able to offer products and services at uniform worldwide standards. As a result, Freudenberg can keep pace with the international strategies of its customers, for example in production or research and development. Traditionally, Freudenberg has leveraged this expertise for many customers from Europe or North America as they also gain a foothold in emerging countries. As the presence in these countries increases, some progress is being made to successfully support the international strategy of customers from emerging economies entering the market in Western Europe. If this trend were to intensify in the future, Freudenberg could achieve additional benefits from its global presence. With the Freudenberg global brand, the Group delivers a clear benefit statement, strengthens the image and raises visibility, for example as a solid supplier or an attractive employer.

#### Investments in strategic growth areas and regions

A central element of strategic planning is the continuous evolution of existing business through product and process innovations with a view to achieving profitable, significantly higher than market growth in existing business areas. This is also achieved by expanding the portfolio through selective, targeted acquisitions in order to close identified technology gaps and gain access to new markets. The successful growth strategy in the defined areas therefore continues. Examples in 2019 include the acquisition of shares in Apollo Air-Cleaner Co., Ltd., and the Filc group. Options to acquire new areas of business that complement Freudenberg's existing organization are also examined. In the medium term, Freudenberg's goal is a strategically balanced portfolio with sales distributed evenly among the regions of North and South America, Europe and Asia.

### **Trend- and regulation-oriented product development**

Social trends are constantly changing. Changes in consumer behavior and growing expectations of products and services, for example with regard to the sustainability of products and their manufacture, are key drivers in the search for innovative solutions and new raw materials. New regulations and standards reflect these changing trends. Freudenberg therefore closely aligns the further development of its products to regulatory requirements. Systematically focusing on regulatory changes with reference to trends and the Group's ensuing innovation activities offers significant market potential and opportunities for the future.

### **Pioneer for future technologies**

As a global technology group, Freudenberg works constantly on product and process innovations and develops technology-based solutions for the future together with its partners. In spite of all necessary adjustments, the ongoing trend toward digitalization in various forms (for example, Internet of Things or Industry 4.0) as well as the move toward sustainability and environmental awareness represent opportunities for profitable growth for Freudenberg.

The strategy-oriented innovation activities therefore focus on the continuous further development of the Group's entire portfolio. This applies above all to the sectors of mobility, digitalization, energy, environment, healthcare, comfort and lightweight construction. Consequently, the key issues for the Business Groups during the year under review were e-mobility, systems and services, and sustainability. There were also highly-innovative approaches in fuel cell developments leading, for example, to cooperation projects with an international long-distance travel bus operator and with the largest shipyard for the construction of cruise ships. Further groundbreaking advances in innovation activities and award achievements can be found in the chapter entitled "Research and Development".

### **Future mobility concepts**

As a partner of the automotive industry, the foreseeable changes in drive technology and alternative mobility concepts also impact Freudenberg. The term "new mobility" as used by Freudenberg not only covers e-mobility but also includes developments for the entire spectrum of drive technologies such as improvements in internal combustion engines, hybrid solutions, all-electric cars and vehicles powered by fuel cells. Freudenberg components are also used in autonomous driving technology.

Freudenberg regards itself as well prepared for these developments thanks to its materials know-how and more than ten years of experience researching components for high-performance batteries for electric motors as well as some 20 years of experience researching the development of fuel cells. Advances and new developments in battery components, motors, charging units, filters, thermal management, vibration control systems or specialty lubricants offset reductions in demand for seals. Going forward, Freudenberg will remain a competent provider of solutions for high-tech innovations – for all kinds of drivetrains.

### **Systems and services**

Further evolving the delivery of components and products to provide complete systems generates new opportunities. This represents a new dimension for Freudenberg involving greater complexity, responsibility and risk.

As forward integration progresses, there will be focused initiatives to develop and provide services. These services will be based on the interaction between products and systems made possible by digitalization and the resulting availability of data and information. These "smart services" can also cover several products and systems.

## **Harnessing synergies for strategic issues**

Throughout the world regions, Freudenberg's know-how and innovation strength are used in some 40 market segments and for thousands of applications. The company engages in numerous activities specifically targeted at pooling this knowledge, because the potential thus generated makes a key contribution to securing the future. Synergies are harnessed to drive key strategic issues such as digitalization, sustainability and materials efficiency across the Business Groups. Joint projects and programs are always implemented under expert guidance and have already produced the first results.

The "Future Technologies" corporate unit bundles strategic know-how and works on numerous technology-oriented initiatives. These include a project with a very long-term perspective to determine future business opportunities for the Freudenberg Group. Based on several development scenarios, employees and external experts analyze growth fields for business opportunities thus identified and target specific strategic product developments. The "Technology Foresight" unit is tasked with determining the technological perspectives of trends and new technologies, and with advising the Business Groups. The "Technology Platforms" group sponsors and monitors the development of the Freudenberg Group's technology platforms. These platforms bundle key cross-sectional topics with a view to developing new technologies. The "Scientific Networks" group provides a support function, among other things in the search for relevant universities and research institutions. "Technology Intelligence" offers assistance with locating research competence and support with locating database availability.

## **Talent management**

A talent management process covering the majority of employees worldwide has been in place at Freudenberg for several years. The process establishes a uniform procedure for talent management throughout the entire Group. It

includes harmonized assessment systems and is based on standardized skills profiles and definitions of potential. This enhances the comparability of assessments and facilitates personnel development. The process improves the basis on which Freudenberg can take personnel decisions.

## **Risk management system**

The Group's risk management system is a decentralized system oriented to the organizational structure. It covers all fully-consolidated Freudenberg companies, and includes all Group measures addressing the main risks. This process in particular ensures the structured identification, assessment, control and monitoring of main risks. The process also includes appropriate risk communication and the continuous improvement of the risk management system.

The primary objective of the risk management system is the early identification of risks that might jeopardize the continued existence of the company and the initiation of appropriate countermeasures. The intention is not to avoid all potential risks, but rather to create the leeway for taking a deliberate decision to enter into a risk backed by a comprehensive knowledge of essential information.

The risk management strategy is derived from the general strategy of the Group. The risk management system is continually developed, refined and audited.

Controlling, internal auditing, the compliance organization, the Code of Conduct, the internal control system, various quality assurance systems as well as several corporate functions make a significant contribution to the success of the Group's risk management.

## Risks

Risks are defined as all future developments, events or actions that could have a negative impact on the targets and strategies of the Group.

The following deals with risks classified as significant for Freudenberg ranked in descending order by their importance according to the potential level of damage. These quantifiable and non-quantifiable risks can have very differing impacts. They may occur individually and independent of one another or simultaneously. In all cases they have the potential to impact the net assets, financial position or results of operations of the Group directly or indirectly in the short or long term. Quantitative data are not disclosed because qualitative factors affecting operating activities such as failure to meet corporate targets or damage to the company's reputation are included in impact classification.

### Legal risks and compliance

Freudenberg is a globally active manufacturer of functionally relevant technical components and system parts for the automotive industry and many other sectors of industry. Freudenberg develops and produces specialty lubricants, release agents and a broad range of specialty chemicals for very diverse applications. Freudenberg also produces cleaning equipment and filter products for end users and is becoming increasingly active in the manufacture and sale of medical materials and components. Wide-ranging services in the various business segments round off the Freudenberg portfolio. Consequently, Freudenberg is exposed to several legal risks. These include in particular risks in the fields of data protection, competition and antitrust law, product liability risks, contractual warranty risks, tax and excise duty law, M&A transactions, asset misappropriation fraud, anti-corruption regulations, infringements of intellectual property rights (patents and brand law), export controls as well as risks in the fields of occupational health and safety and environmental protection. These risks can affect Freudenberg to

various degrees and can lead not only to fines or other penalties or compensation, for example, but can also impact the reputation and image of the Group as a whole. In extreme cases, legal risks could have a substantial effect on Freudenberg.

Freudenberg has many measures in place to respond to these legal risks. These include comprehensive quality assurance mechanisms tailored to the requirements of the respective business models and value chains, clearly-defined product specifications, instructions, regular training for employees, documentation, and preventive contractual solutions containing provisions limiting liability and taking account of the parties' spheres of influence. These measures are flanked by customary insurance cover which is thoroughly analyzed and where necessary adapted to changed conditions on an annual basis.

The Group conducts its global business in many different jurisdictions under different legal and regulatory frameworks that are undergoing change and becoming steadily more complex. The scale and scope of the laws and regulations that must be observed are subject to constant changes that are sometimes difficult to predict, and demand a high level of information processing, interdisciplinary and cross-border communication as well as a swift response and proactive approach.

By tradition, compliance with laws and regulations as well as internal guidelines and Freudenberg's own Guiding Principles and Business Principles has very high priority at Freudenberg. Employees are made aware of and trained in the relevant legal risks for their respective Business Group and the regions of relevance for Freudenberg; they are expected to observe and comply with these requirements.

Freudenberg uses classic methods (documents in all the main relevant languages and attendance seminars) to communicate compliance issues through training, dialog and discussions. Modern communication instruments such as web-based training, e-learning tools, interactive video conferences, etc., are also being increasingly used to reach as many employees as possible.

Despite all carefully applied control and prevention mechanisms in our compliance structure and compliance measures, there is a residual risk that is unavoidable given the size and complexity of our global organization. Furthermore, the possibility that Freudenberg or Freudenberg employees unconsciously infringe(s) third-party rights cannot be ruled out; this could trigger negative judicial consequences or damage the image or reputation of Freudenberg.

### **Macroeconomic and sectoral risks**

Freudenberg delivers solutions to many customer segments and sectors and is active in many regions and countries. The broad diversification of the Group reduces dependence on individual customers, customer groupings, suppliers, raw materials, technologies, regions and countries. Freudenberg is actively involved in the rapid development of alternative automotive drivetrain technologies through intensified research and development activities in various product groups, and tests the findings in several cooperation projects with industrial partners. Notwithstanding, Freudenberg is dependent on the general economic situation, particularly with regard to the general demand for its products and services. In spite of sustained efforts to diversify further, a slump in demand in a specific region or sector or a persistent international trade conflict can lead to a substantial decline in sales and earnings for Freudenberg, as is the case for most other companies, and thus pose a significant risk for Freudenberg.

Freudenberg has taken several measures to limit the negative consequences of demand-side risks. In particular, the company has appropriate capacity flexibility and practices active working capital management. Freudenberg regularly monitors several success indicators and can thus respond promptly to negative developments. In the context of a long-term response to demand-side risks, Freudenberg makes targeted investments in research and development, in individual regions and customer relations, as well as in selected strategic growth areas.

At the end of January 2020, the United Kingdom exited the EU with a transition period (Brexit). It is intended to conclude negotiations on key issues by the end of 2020, with negotiations on other topics, however, continuing after that date. Failure to reach agreement between the negotiating partners in some areas cannot be ruled out, resulting in a no-deal situation. WTO rules would apply in the event that no individual agreement on trade relations can be reached. Over the last few years, Freudenberg has made preparations for the impact of various UK exit scenarios with a raft of operational measures (including customs and administrative costs, logistic and customs clearance problems, supplier and customer bottlenecks, legal framework and specifications as well as exchange rate fluctuations). Nevertheless, unexpected direct or indirect effects with a short- or medium-term impact on some sections of the Group from 2021 cannot be ruled out. The long-term impact depends on the final withdrawal terms. There may be a limited operational and strategic impact on Freudenberg, which should be seen in the context of the Group's broad geographical and sectoral diversification. As long as Brexit does not lead to a global economic downturn, the overall effect on Freudenberg will be manageable.

### **Information security risk**

Modern business processes are based to a significant extent on information captured, processed, exchanged and stored by electronic means. Potential risks caused by faults in these processes could impact both internal business processes and communication with customers and suppliers, and could, for example, lead to the interruption of operations at Freudenberg or at a third party. Demands on the reliability and security of IT systems are intensifying as a result of technological progress and the trend towards greater process networking. As a provider of services that require a functioning IT infrastructure, Freudenberg offers its customers the usual guarantees regarding availability and performance.

The aim of the guideline on information security issued by the Board of Management is to preserve the

confidentiality, availability and integrity of information. Freudenberg deals with the relevant information security risks by operating information security management systems oriented to the ISO/IEC 27001:2013 international standard. The Business Groups and corporate functions conduct regular risk assessments and implement the appropriate measures. For example, measures such as geographically separate, redundant data centers are implemented to deal with technical risks. Various forms of internal training and communication measures encourage heightened awareness on the part of employees with regard to the correct handling of information and information processing systems. The effectiveness of the information management security system is regularly assessed and the system is upgraded where necessary. Currently, this is particularly relevant in light of the general trend towards increased cyber risks.

### **Interruption of operations and long-term disruptions**

The classic risk of unplanned interruptions of operations has several possible causes. The main ones are interruptions in production, raw material availability, delivery delays, restricted availability of IT infrastructure, damage from natural hazards, or any combination of these causes. The possible consequences are loss of sales revenue and earnings, contract infringements, contractual penalties and claims for damages as well as reputational damage.

Freudenberg has taken numerous precautions to maintain and safeguard IT systems (back-up solutions, emergency data centers) as well as to meet contractual delivery obligations (dual/multi-sourcing, lead centers with interchangeable infrastructures, cross-plant tools, crisis training at relevant production locations) and to ensure delivery reliability and contract compliance, and has also taken out insurance cover for insurable individual risks. Despite all the measures that have already been taken or will be taken in the event of an emergency, there is a residual risk of a temporary

interruption in operations with a possible impact on the sales and earnings of the Group.

### **Financial risks**

As an internationally active company with major shareholdings in other countries Freudenberg is exposed to financial risks which under certain circumstances could significantly impact the net assets, financial position or results of operations of the Group. Such risks include financial risks from the Group's M&A activities arising from the potential impairment of goodwill and investments or of unrecognized obligations. Freudenberg employs various measures to manage these risks. The Group has several specialist functions and expert groups specifically tasked with the identification, analysis and control of Freudenberg's financial risk profile. This also includes the regular review of financial risk management methodology and steering.

Various measures to safeguard liquidity are in place which allow Freudenberg to react swiftly to unexpected liquidity-related risks. Such risks are hedged by solid banking and Partners' financing and high liquid reserves. Freudenberg has a high equity ratio, a stable level of Partners' reserves, and comprehensive credit lines.

In addition, Freudenberg is exposed to exchange rate and interest rate risks. Managing these risks is implemented by internal guidelines and processes and monitored by a treasury management system. Because the exchange rate risks of the various companies have a partially offsetting effect, the effective foreign exchange risk is determined for the Group as a whole and steered by a central unit.

Interest rate risks arise from possible changes in the market rate and can lead to changes in the market value of fixed interest investments.

Funds for subsidiaries are made available in the form of loans or cash pool agreements. Freudenberg

companies channel surplus liquidity to the central finance department.

Binding internal guidelines for Freudenberg companies clearly specify that derivative financial instruments may not be used for speculative purposes, but only for hedging risks in connection with underlying transactions and associated financing operations.

The Group's conservative finance strategy was one of several factors that led the rating agency Moody's Deutschland GmbH, Frankfurt am Main, Germany, to confirm its Freudenberg SE "A3" rating with a long-term "stable" outlook in May 2019. This gives Freudenberg very good creditworthiness at investment grade level.

### **Risks from technological progress and third-party innovations**

As a highly diversified technology group, Freudenberg is active in numerous product and market segments, some of which differ considerably. Moreover, Freudenberg conducts its entrepreneurial activities on the basis of different business models. Consequently, Freudenberg operates in a constantly changing environment and is exposed to technological progress and a wide range of innovations. In specific terms, this means that Freudenberg comes up against new products, technologies or organizational structures.

Freudenberg addresses the implications of these customary risks in its regularly updated corporate strategy and limits these risks by various measures, in particular in-house research and development and innovation. The most important pillar and key driver of innovation at Freudenberg is to be found in the Business Groups, whose research and development activities are closely geared to their customers. In addition, the Freudenberg Group acquires companies or business units to add to the Group's technology and product portfolio and to enhance competitiveness through innovation.

With the Freudenberg Technology Innovation corporate function, Freudenberg has created an

organizational unit that pools the Group's technical knowledge – in particular on cross-sectional technologies. At 5.1 percent, Freudenberg invested a substantial share of sales in research and development in the 2019 financial year. This led the share of sales attributable to new products to increase to 34.7 percent.

### **Contractual risks**

Freudenberg enters into contracts with third parties on a daily basis and makes continuous adjustments to its portfolio through acquisitions and disinvestments of companies and business units. During the course of these activities, obligations are assumed or commitments undertaken that may change as time goes by, must be complied with over a longer period of time, or may prove impossible to meet as a consequence of unforeseen events. These activities could in retrospect prove disadvantageous and above all could negatively impact the earnings situation of the Group to a limited extent. Freudenberg has several measures in place to deal with these significant risks, such as comprehensive upfront analyses and checks with regard to acquisitions supported by external experts and consultants. This is complemented by interdisciplinary and supra-regional risk management resources established at both Business Group and holding company level, as well as the continuous improvement and further development of systematic contract management and contract monitoring in line with business demands.

### **Occupational safety, health protection and environmental risks**

Freudenberg has production sites in some 60 countries, some of which operate under very different conditions. There are operational risks with regard to production processes in particular in terms of workflows, production equipment and the processing of hazardous materials. Freudenberg trains employees to comply with safety regulations and in the use of

protective equipment, and fulfills all relevant safety requirements and guidelines.

Freudenberg locations are continually exposed to natural hazards as a result of the presence in various regions and climate zones. In spite of the usual preventive measures, natural hazards such as earthquakes, floods, forest fires, mudslides or heavy snowfall can occasionally negatively impact the business operations of the units concerned. Natural hazards are taken into consideration as part of the site selection process and during the acquisition process.

SARS, the avian influenza virus H5N1 or the zika virus highlighted concerns about the risk of a global pandemic. The coronavirus first identified in China in January 2020 is spreading across the world and has developed into a pandemic. Despite the hygiene measures in place at plants, Freudenberg employees could be exposed to the effects of the virus either at the workplace or in a private context. The impact on the Freudenberg Group, particularly in the event of long-term quarantine measures or through a pronounced global spread, could involve the international supply chain or significantly reduce demand for products, thereby resulting directly or indirectly in shortfalls in sales or earnings.

Group-wide standards in the fields of occupational safety, health, environment and fire protection define and implement the minimum requirements and guidelines for the Business Groups. Internal and external audit processes monitor the implementation of programs to constantly minimize risks in these fields at the Business Groups. The audit findings are systematically evaluated and measures implemented throughout the Group. Sites regularly conduct emergency and evacuation exercises. Despite all of these preventive measures, significant occupational safety, health protection and environmental risks cannot be entirely ruled out.

In the case of hazardous substances, efforts are, for example, made to identify substitutes for substances with proven, unacceptable risks before a statutory provision comes into effect with a view to minimizing potential and customary risks arising in connection with such hazardous substances. This also forestalls undesirable effects through a possible ban on a given substance. In addition, many product developments are subject to a stage gate process which among other things ensures that new products have a better environmental performance than their predecessors and that undesirable substances are not used in the development of new products.

Since it was launched in 2002, the worldwide “We all take care” initiative motivates Freudenberg employees to make their work and their workplaces safer, healthier and more environmentally friendly as well as taking responsibility for society. The initiative is supported by the Group's top management, employee representatives and senior executives in the Business Groups, and the best projects are honored each year.

### **Internal control and risk management system (referred to the Group financial reporting process)**

The Group internal control and risk management system for the financial reporting process at Freudenberg is tasked with ensuring the functionality, compliance and effectiveness of financial reporting in the Group. The internal control system includes measures designed to ensure the complete, accurate and timely transmission and presentation of information of relevance for the preparation of the consolidated financial statements and the consolidated management report of the Group.

The consolidated financial statements and the consolidated management report of the Group are prepared centrally. The minimum requirements regarding reporting content submitted by the companies are defined and controlled centrally, and the time frame and process requirements are monitored.

The regularly updated IFRS accounting guideline forms the basis for the IFRS reporting packages of the parent company and of all domestic and foreign subsidiaries included in the consolidation. There are binding instructions for Freudenberg's internal coordination and other preparatory work for the financial statements.

Freudenberg uses a standard software tool for the Group financial reporting process. This tool is used throughout the company worldwide and clearly defines user rights observing the principle of the separation of functions. The system covers both reporting by Freudenberg companies and the data for

the consolidated financial statements. Additional controls are implemented in the consolidation process.

The consolidation process is also supported by a software tool for the automatic reconciliation of balances throughout the Group. The individual companies have a local internal control system which is the responsibility of the respective Business Group and which must comply with uniform minimum requirements applicable throughout the Group.

The Corporate Controlling & Accounting organizes seminars for employees involved in this process in the event of important changes in financial reporting procedures and IT applications, thereby guaranteeing a consistently high standard of reporting. Actuarial reports and evaluations are compiled by specialist service providers.

There is a clear demarcation of tasks between the corporate function and the companies. The segregation of functions and the dual control principle are systematically applied. It is standard procedure for the auditor of the Freudenberg Group and the auditors of the consolidated companies to review the functionality and compliance of the relevant reporting process. Suggestions for improvements are regularly discussed and optimized. In addition, the functionality and compliance of processes of relevance to financial reporting are reviewed regularly under an internal auditing process. The complete package of processes, systems and controls adequately ensures that the Group's reporting process is in accordance with IFRS and other regulations and laws of relevance to financial reporting and is reliable.

## Overall assessment of the opportunities and risks

Freudenberg has an in-depth understanding of the short- and long-term opportunities necessary for the further development of existing business areas and the development of new activities to secure the future of the Group, and actively pursues these opportunities.

In our opinion, based on the probability of occurrence and potential impact of the risks described above, they do not individually or cumulatively present a risk to the continued existence of Freudenberg.

## REPORT ON EXPECTED DEVELOPMENTS

The assumptions made in the report on expected developments are based on the planning for the Freudenberg Group adopted by the Board of Management and the Supervisory Board. This planning is premised on our underlying expectations regarding macroeconomic conditions and developments in the markets of relevance to the Freudenberg Group. The assessments of future business development take their orientation from the targets set by our Business Groups as well as the opportunities and risks arising from expected market conditions and the competitive situation in the planning period. Set against this backdrop, we adjust our expectations for business development on a case-by-case basis in line with the latest forecasts. The statements contained in the following report are based on the knowledge available to us at the beginning of 2020.

We expect the generally challenging macroeconomic environment to continue in the 2020 financial year. Measured against markedly lower global economic growth in 2019, growth forecast for the global economy in 2020 is only expected to be slight.<sup>1</sup> Economic and geopolitical uncertainties are not expected to decrease. Attention will focus above all on further developments in the global trade disputes. Although there have recently been the first indications of possible de-escalation in the trade dispute between the USA and China, there still seems little likelihood of a comprehensive dismantling of existing trade barriers. The United Kingdom's exit from the EU (Brexit) was completed in January 2020, but it is still uncertain whether a comprehensive agreement on future relations between the United Kingdom and the EU can be reached by the end of the year or whether there will be no arrangements for key areas such as trade between the United Kingdom and EU countries from 2021 once the transition period has expired. The coronavirus outbreak could trigger macroeconomic risks that could have a negative financial impact on

global economic development and on the Freudenberg Group. These risks could have an adverse effect not only on sales, but also on production, the procurement market and the supply chain. Furthermore, attention is also focusing on increasingly vociferous demands from the public to improve climate protection, combined with calls for fundamental technological change in the field of drive engineering, along with the upcoming challenges from the megatrends of digitalization and demographic change. In light of this, we are engaged in careful planning for the coming year and expect modest business development in the markets relevant to the Group.

With regard to individual developments in our regional core markets, we expect the German economy to grow 0.5 percent in 2020, close to the previous year's level. At 0.8 percent, the growth forecast for the eurozone, which remains the Group's largest sales region, is lower than in previous years. The looming trade dispute between the USA and Europe is likely to have a dampening effect on the economies of EU countries. The fiscal policy alignment of the European Central Bank under its new leadership remains to be seen. We expect an expansive monetary policy to continue.

We anticipate slightly lower economic growth of 1.9 percent in the USA in 2020. This deceleration is mainly attributable to the uncertainty triggered by the trade disputes between the USA and China, the EU and other countries. Furthermore, budgetary policy in the USA is expected to be less expansive. The situation on the labor market, however, remains good and as a result, private consumption will provide an important stimulus. The US Federal Reserve eased its monetary policy by lowering interest rates in the second half of 2019 to prevent the incipient economic downturn from spilling over into the industrial sector. There was a further cut in interest rates in early 2020 as a measure

<sup>1</sup> Sources: In this chapter, all figures relating to economic developments are based on data from Consensus Economics, the European Commission, the International Monetary Fund, and the market research and consulting company Schlegel und Partner.

to counter the impending negative effects of coronavirus on the economy.

Growth in Japan is expected to lose further momentum. The economy is heading toward stagnation with growth at 0.2 percent. No boost is expected from domestic demand or from exports.

Economic developments in the emerging economies present a mixed picture. China remains one of the most important growth regions for Freudenberg. Growth in China will continue to weaken and, taking account of the economic impact of the coronavirus, will tend towards 5.0 percent, the lowest level for three decades. The negative effect on exports of the trade dispute with the USA is becoming increasingly obvious. Moreover, there is the danger of a debt crisis in the corporate sector. The government is resorting to expansive measures, but it is facing structural difficulties and growing risks in the financial system.

For India, we forecast economic growth of 5.5 percent. The government has taken measures to combat weak growth. Cutting corporate tax rates and easing foreign direct investment rules aim to strengthen production. However, consolidating public finances remains a challenge. The debt level is high for an emerging economy.

For Russia, we expect moderate economic growth of 1.2 percent. Industry presents a split picture. Foreign trade remains weak. On the domestic front, however, momentum is picking up, for example in the digital economy. At the same time, private consumption is recovering from the effects of the increase in VAT in 2019.

In light of the persistently weak global economic climate expected for 2020, developments in the sectors served by Freudenberg will be mixed. The automotive industry is a particularly important sector for Freudenberg. Measured against the marked downturn in the automotive industry in 2019, we expect global production in 2020 to dip slightly by 0.2 percent. Increases of 2.3 percent in North America will contrast

with decreases of 0.9 percent in Europe, 0.7 percent in China and 2.1 percent in Japan.

We expect to see global stagnation in the mechanical and plant engineering industry, Freudenberg's second most important sector. Demand will continue to feel the effects of the slowdown in the global economy and the weak automotive sector.

Private consumption, on the other hand, will show positive development. We expect growth of 1.7 percent in the industrial nations, with the emerging economies even showing noticeably higher growth rates, for example, 5.8 percent in China, and 7.1 percent in India.

Developments in the oil and gas industry are also of relevance to Freudenberg. The industry is expected to continue to grow, albeit at a slower pace.

In order to manage economic and geopolitical uncertainties, we will stay agile and continue to respond swiftly and flexibly to changing customer and market requirements. We will therefore continue to invest in long-term projects. Our key strategic themes will still be the mobility transformation, digitalization and sustainable solutions. In addition, we will work on strengthening our portfolio through acquisitions. Our efforts in this context will be influenced on the one hand by the findings of a future project tasked with developing scenarios for the world in 2050 and identifying the business opportunities for Freudenberg under these scenarios. On the other, our goal is a balanced portfolio combining cyclical and anticyclical businesses – with equal sales contributions from North and South America, Europe and Asia.

In 2020, we will continue to drive forward with our projects in the fields of sustainability, non-financial key performance indicators, and our responsibility for society. As a responsible, innovative technology group, Freudenberg will once again implement numerous measures in environmental protection, occupational health and safety. As in the previous year, special attention will again be devoted to occupational safety in 2020. We expect to see the LDIFR (Lost Day Incident

Frequency Rate) in the 2020 financial year on the level of the previous year.

The analysis of present risks concludes there is no threat to the continued existence of Freudenberg. There were no major changes in the overall risk situation compared with the previous year.

Anticipated sales developments in our Business Groups reflect the regional and sectoral developments and challenges described above. We expect Group sales in the 2020 financial year to be on the level of the previous year. Set against the backdrop of a persistently challenging macroeconomic environment, we are engaged in careful planning and anticipate a slightly lower operating result. On the basis of these forecasts, we expect a slight decline in the return on sales in 2020.

Weinheim, March 20, 2020

The Board of Management

## FREUDENBERG SE (HGB)

Freudenberg SE is a wholly-owned subsidiary of Freudenberg & Co. KG, Weinheim, and the parent company with responsibility for the operations of the Freudenberg Group.

The net assets, financial position and results of operations of Freudenberg SE are characterized by its holding function. The company holds interests in affiliated companies and it is the profit from these investments that dominates the earnings situation of Freudenberg SE.

The annual financial statements of Freudenberg SE are set up in accordance with the Handelsgesetzbuch (HGB – German Commercial Code) and the Aktiengesetz (AktG – German Stock Corporation Act).

### EARNINGS SITUATION

[€ million]	2018	2019
Sales	21.5	24.3
Investment result	612.1	561.7
Other operating income	7.0	46.4
Material expenses	-9.6	-12.3
Personnel expenses	-12.0	-11.9
Other operating expenses	-99.5	-98.3
Financial result	-29.9	-31.2
<b>Profit before taxes</b>	<b>489.6</b>	<b>478.7</b>
Income taxes	-23.5	-16.4
<b>Profit of the year</b>	<b>466.1</b>	<b>462.3</b>

The **sales** of Freudenberg SE largely result from the charging of services and from royalties for the Freudenberg global brand amounting to €11.3 million (previous year: €11.4 million).

The **investment result** decreased from €612.1 million to €561.7 million. Among other factors, the negative development in the results of individual affiliates had a corresponding impact on the overall result. This was partially offset by the rise in dividend payments from €30.7 million to €36.8 million.

**Other operating income** rose from €7.0 million to €46.4 million. The main factor was income from the sale of affiliates.

**Material expenses** rose from €9.6 million to €12.3 million and represent services purchased.

At €11.9 million, **personnel expenses** were at the same level as in 2018 (previous year: €12.0 million).

The **other operating expenses** fell from €99.5 million to €98.3 million. This fall was chiefly due to lower administrative expenses and lower losses on the disposal of financial assets.

The **financial result** decreased by €1.3 million (previous year: increase of €0.6 million). In particular, the result was negatively affected by an impairment loss on financial assets.

**Income taxes** fell by €7.1 million from €-23.5 million to €-16.4 million. This was chiefly due to the lower corporation tax for the current financial year.

At €462.3 million (previous year: €466.1 million), the profit for the year of Freudenberg SE was at about the same level as the previous year.

## ASSETS, LIABILITIES AND FINANCIAL POSITION

[€million]	Dec. 31, 2018	Dec. 31, 2019
Intangible assets	11.7	10.9
Tangible assets	1.4	1.4
Financial assets	2,447.0	2,522.8
Receivables and other assets	2,098.7	2,430.4
Cash at bank and in hand	28.4	13.1
<b>Total assets</b>	<b>4,587.2</b>	<b>4,978.6</b>
Equity	3,108.1	3,464.3
Provisions	151.0	157.0
Liabilities	1,328.1	1,357.3
<b>Total equity and liabilities</b>	<b>4,587.2</b>	<b>4,978.6</b>

The assets of Freudenberg SE as the holding company chiefly consist of shares and participations in companies and amounts receivable from these companies.

As at the statement of financial position date, **financial assets** had risen by €75.8 million to €2,522.8 million (previous year: €2,447.0 million) as a result of various capital increases.

**Receivables and other assets** mainly include amounts receivable from affiliates. As at the date of the statement of financial position, these had risen by €336.4 million to €2,396.2 million (previous year: €2,059.8 million). This is mainly the result of higher cash pool receivables from Externa Handels- und Beteiligungsgesellschaft mit beschränkter Haftung with headquarters in Weinheim.

**Equity** increased to €3,464.3 million (previous year: €3,108.1 million). The net retained profit from the previous year rose by €356.2 million from €2,362.9 million to €2,719.1 million. The profit for the year fell from €466.1 million to €462.3 million. The net retained profit for the year was reduced by dividends paid in the

amount of €106.1 million (previous year: €118.5 million).

**Provisions** increased by €6.0 million from €151.0 million to €157.0 million and chiefly include provisions for pensions.

**Liabilities** rose by €29.2 million from €1,328.1 million, to €1,357.3 million chiefly as a result of the drawdown of loans.

## SUMMARY STATEMENT

Against the backdrop of our sound situation with respect to net assets and financial position and the high earnings of our affiliates, we assess the general economic situation of Freudenberg SE as positive.

## REPORT ON EXPECTED DEVELOPMENTS

As the parent company of the Freudenberg Group responsible for business operations but without its own business operations, Freudenberg SE mainly receives income from its affiliates. As a general principle, expectations concerning business developments within the Freudenberg Group therefore also have an impact on the earnings of Freudenberg SE. For this reason, the assumptions and statements made in the report on expected developments for Freudenberg are equally relevant to Freudenberg SE.

## NET RETAINED PROFIT AND DIVIDEND

In December 2019, the Shareholders Meeting resolved, as proposed by the Supervisory Board and the Board of Management, to pay a dividend of €106.1 million (previous year: €118.5 million) to the sole shareholder Freudenberg & Co. KG in 2019 from the net retained profit as at December 31, 2018, which amounted to €2,362.9 million.

The Board of Management proposes that the profit for the 2019 financial year, amounting to €462.3 million (previous year: €466.1 million) should be carried forward to new account.

## **SUMMARY CONCLUDING STATEMENT OF DEPENDENT COMPANY REPORT OF FREUDENBERG SE**

“We hereby declare in accordance with Sec. 312, Para 3, AktG (German Stock Corporation Act) that, on the basis of the circumstances of which we were aware at the time when transactions with affiliated companies were implemented or acts or forbearances were taken, our company received consideration comparable with that obtainable from a non-affiliated company and did not suffer any disadvantage as a result of such acts or forbearances.”



# CONSOLIDATED FINANCIAL STATEMENTS

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# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## ASSETS

[€ million]	Note	Dec. 31, 2018	Dec. 31, 2019
<b>ASSETS</b>			
Intangible assets	(1)	2,475.3	2,687.3
Tangible assets	(2)	2,204.0	2,743.3
Investment properties	(3)	10.3	18.1
Investments in joint ventures	(4)	167.3	183.8
Investments in associated companies	(5)	947.8	944.7
Other financial assets		118.6	138.5
Financial assets		1,233.7	1,267.0
Other non-current assets	(7)	72.1	83.1
Deferred taxes	(26)	208.5	261.9
<b>Non-current assets</b>		<b>6,203.9</b>	<b>7,060.7</b>
Inventories	(6)	1,127.8	1,218.3
Trade receivables		1,467.5	1,482.1
Other current assets		265.8	376.3
Current receivables	(7)	1,733.3	1,858.4
Current tax assets		81.1	88.8
Securities and cash at bank and in hand	(8)	984.7	1,117.3
<b>Current assets</b>		<b>3,926.9</b>	<b>4,282.8</b>
<b>Non-current assets held for sale and disposal groups</b>	<b>(9)</b>	<b>108.3</b>	<b>11.0</b>
		<b>10,239.1</b>	<b>11,354.5</b>

## EQUITY AND LIABILITIES

[€ million]	Note	Dec. 31, 2018	Dec. 31, 2019
<b>EQUITY AND LIABILITIES</b>			
Subscribed capital		450.0	450.0
Capital reserves		50.2	50.2
Retained earnings		4,452.9	4,902.1
<b>Equity without non-controlling interests</b>		<b>4,953.1</b>	<b>5,402.3</b>
Non-controlling interests		359.0	417.2
<b>Equity</b>	<b>(10)</b>	<b>5,312.1</b>	<b>5,819.5</b>
Provisions for pensions and similar obligations	(11)	718.1	842.3
Other long-term provisions	(12)	109.0	115.2
Long-term provisions		827.1	957.5
Financial debt		887.6	1,132.3
Other non-current liabilities		132.3	167.3
Liabilities	(13)	1,019.9	1,299.6
Deferred taxes	(26)	348.8	347.4
<b>Non-current liabilities</b>		<b>2,195.8</b>	<b>2,604.5</b>
Other current provisions	(12)	571.6	597.2
Current tax liabilities		90.7	107.6
Financial debt		802.5	1,052.8
Trade payables		883.0	914.0
Other current liabilities		316.1	258.3
Liabilities	(13)	2,001.6	2,225.1
<b>Current liabilities</b>		<b>2,663.9</b>	<b>2,929.9</b>
<b>Liabilities in connection with non-current assets held for sale and disposal groups</b>	<b>(9)</b>	<b>67.3</b>	<b>0.6</b>
		<b>10,239.1</b>	<b>11,354.5</b>

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS

[€ million]	Note	2018	2019
Sales	(14)	9,455.4	9,467.8
Cost of sales	(15)	-6,395.6	-6,480.5
<b>Gross profit</b>		<b>3,059.8</b>	<b>2,987.3</b>
Selling expenses	(16)	-1,297.2	-1,298.3
Administrative expenses	(17)	-633.5	-638.6
Research and development expenses	(18)	-374.3	-414.6
Other income	(19)	135.3	313.9
Other expenses	(20)	-83.5	-119.3
Income from investments in joint ventures	(4),(21)	22.0	14.3
<b>Profit from operations</b>		<b>828.6</b>	<b>844.7</b>
Income from investments in associated companies	(5),(22)	46.9	-15.9
Other investment result	(23)	-9.5	33.9
Other interest and similar income	(24)	13.3	20.8
Interest and similar expenses	(25)	-44.0	-55.0
<b>Financial result</b>		<b>6.7</b>	<b>-16.2</b>
<b>Profit before income taxes</b>		<b>835.3</b>	<b>828.5</b>
Income taxes	(26)	-232.9	-217.9
<b>Consolidated profit</b>		<b>602.4</b>	<b>610.6</b>
Of which: attributable to Freudenberg		553.2	571.0
Of which: attributable to non-controlling interests	(27)	49.2	39.6

# CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

[€ million]	Note	2018	2019
<b>Consolidated profit</b>		<b>602.4</b>	<b>610.6</b>
<b>Other comprehensive income:</b>			
Remeasurement of defined benefit plans	(11)	5.3	-121.0
Changes in value of securities		-22.3	-4.0
Income tax relating to items that will not be reclassified subsequently to profit or loss	(10)	-1.7	34.9
Share in other comprehensive income and loss of associated companies	(5)	-34.4	5.0
<b>Items that will not be reclassified subsequently to profit or loss</b>		<b>-53.1</b>	<b>-85.1</b>
Exchange rate differences	(10)	73.6	75.4
Changes in value of derivative financial instruments	(10)	0.3	-0.3
Miscellaneous comprehensive income		10.4	-8.2
Income tax relating to items that will be reclassified subsequently to profit or loss when specific conditions are met	(10)	-4.0	-1.7
Share in other comprehensive income and loss of joint ventures	(4)	0.2	0.0
Share in other comprehensive income and loss of associated companies	(5)	-19.0	2.2
<b>Items that will be reclassified subsequently to profit or loss when specific conditions are met</b>		<b>61.5</b>	<b>67.4</b>
<b>Other comprehensive income for the year</b>		<b>8.4</b>	<b>-17.7</b>
<b>Total comprehensive income for the year</b>		<b>610.8</b>	<b>592.9</b>
Of which: attributable to Freudenberg		553.5	549.9
Of which: attributable to non-controlling interests		57.3	43.0

# CONSOLIDATED STATEMENT OF CASH FLOWS

[€ million]	Note	2018	2019
Profit before taxes		835.3	828.5
Depreciation, amortization and impairment losses on intangible assets, tangible assets, investment properties and financial assets less write-ups		441.7	559.0
Income from investments and interest income		-41.6	18.5
Income taxes paid		-244.6	-237.1
Profit or loss on disposal of intangible assets, tangible assets, investment properties and financial assets		-22.1	-195.5
Dividends received		26.8	44.0
Other expenditure and income not affecting payments		-2.5	-29.4
Changes in inventories, trade receivables and other assets		-70.5	40.1
Changes in trade payables and other liabilities		5.6	-23.0
Changes in provisions		-68.3	-12.3
Interest paid		-41.7	-54.7
Interest received		10.3	18.8
<b>Cash flow from operating activities</b>	<b>(28)</b>	<b>828.4</b>	<b>956.9</b>
Cash inflow from disposals of intangible assets, tangible assets and investment properties		47.9	25.8
Cash outflow from acquisitions in intangible assets, tangible assets and investment properties		-378.6	-362.1
Cash inflow from disposals of financial assets		1.5	29.6
Cash outflow from acquisitions of financial assets		-74.5	-161.9
Cash inflow in connection with the disposal of consolidated companies or other business units less cash disposed of		-1.5	186.2
Cash outflows in connection with the acquisition of consolidated companies or other business units less cash acquired		-175.8	-318.5
<b>Cash flow from investing activities</b>		<b>-581.0</b>	<b>-600.9</b>
Payments to shareholders/non-controlling interests	(29)	-142.4	-157.6
Cash inflow from the take-up of financial debts		178.0	201.9
Cash outflow from the repayment of financial debts		-287.4	-274.5
Cash inflow from disposals of loans and securities held as non-current assets		3.6	3.0
Cash outflow from acquisitions of loans and securities held as non-current assets		-0.8	-3.7
<b>Cash flow from financing activities</b>		<b>-249.0</b>	<b>-230.9</b>
<b>Changes in cash and cash equivalents with effect on payments</b>	<b>(31)</b>	<b>-1.6</b>	<b>125.1</b>
Changes in cash and cash equivalents from changes in consolidated group		0.0	-3.4
Changes in cash and cash equivalents from exchange rate differences		-9.1	9.4
<b>Cash and cash equivalents at beginning of year<sup>1</sup></b>		<b>998.8</b>	<b>988.1</b>
<b>Cash and cash equivalents at end of year<sup>1</sup></b>		<b>988.1</b>	<b>1,119.2</b>

<sup>1</sup> The figures include assets and groups of assets held for sale.

## CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

[€ million]	Subscribed capital	Capital reserves	Currency translation	Remeasurement of defined benefit obligations	Fair value measurement of securities	Financial investments accounted for using the equity method
<b>Status Jan. 1, 2018</b>	<b>450.0</b>	<b>50.2</b>	<b>-155.3</b>	<b>-318.5</b>	<b>44.7</b>	<b>123.3</b>
Consolidated profit						
Appropriation of profit						
Other comprehensive income			69.5	8.3	-22.5	-56.4
<b>Status Dec. 31, 2018</b>	<b>450.0</b>	<b>50.2</b>	<b>-85.8</b>	<b>-310.2</b>	<b>22.2</b>	<b>66.9</b>
<b>Status Jan. 1, 2019</b>	<b>450.0</b>	<b>50.2</b>	<b>-85.8</b>	<b>-310.2</b>	<b>22.2</b>	<b>66.9</b>
Changes in consolidated group						5.4
Consolidated profit						
Appropriation of profit						
Other comprehensive income			69.3	-115.4	-3.9	8.3
<b>Status Dec. 31, 2019</b>	<b>450.0</b>	<b>50.2</b>	<b>-16.5</b>	<b>-425.6</b>	<b>18.3</b>	<b>80.6</b>

[€ million]	Tax effects recognized in equity	Other retained earnings	Total retained earnings	Equity without non-controlling interests	Non-controlling interests	Equity
<b>Status Jan. 1, 2018</b>	<b>82.8</b>	<b>4,240.9</b>	<b>4,017.9</b>	<b>4,518.1</b>	<b>325.9</b>	<b>4,844.0</b>
Consolidated profit		553.2	553.2	553.2	49.2	602.4
Appropriation of profit		-118.5	-118.5	-118.5	-24.2	-142.7
Other comprehensive income	-6.3	7.7	0.3	0.3	8.1	8.4
<b>Status Dec. 31, 2018</b>	<b>76.5</b>	<b>4,683.3</b>	<b>4,452.9</b>	<b>4,953.1</b>	<b>359.0</b>	<b>5,312.1</b>
<b>Status Jan. 1, 2019</b>	<b>76.5</b>	<b>4,683.3</b>	<b>4,452.9</b>	<b>4,953.1</b>	<b>359.0</b>	<b>5,312.1</b>
Changes in consolidated group			5.4	5.4	65.9	71.3
Consolidated profit		571.0	571.0	571.0	39.6	610.6
Appropriation of profit		-106.1	-106.1	-106.1	-50.7	-156.8
Other comprehensive income	32.4	-11.8	-21.1	-21.1	3.4	-17.7
<b>Status Dec. 31, 2019</b>	<b>108.9</b>	<b>5,136.4</b>	<b>4,902.1</b>	<b>5,402.3</b>	<b>417.2</b>	<b>5,819.5</b>

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

## General

Freudenberg is an international industrial group mainly active as a supplier to the automotive, mechanical engineering, oil and gas industries as well as the textile and apparel industries. The portfolio also includes medical technology and consumer goods.

The consolidated financial statements of Freudenberg SE, Weinheim, Germany (registered with Mannheim Local Court, HRB 714579), for 2019 have been drawn up in accordance with the International Financial Reporting Standards (IFRS) as they are to be applied in the European Union (EU) as of the date of the statement of financial position (December 31, 2019).

Freudenberg SE has availed itself of the right as laid down in Sec. 315e (3) HGB (Handelsgesetzbuch, "German Commercial Code") to set up its consolidated financial statements in accordance with IFRS.

The Group currency is the euro. All amounts are indicated in million euros unless otherwise stated.

## Accounting standards published but not yet applied

The following additional standards, interpretations and amendments published by the International Accounting Standards Board (IASB) and the IFRS Interpretations Committee are not yet binding. The application of these standards, interpretations and amendments is subject to endorsement by the EU which, in some cases, is still pending.

Standards/interpretations/amendments		Application binding from <sup>1</sup>	Endorsed by EU	Probable impact
IFRS 3	Amendments to IFRS 3 – <i>Business Combination</i>	January 1, 2020	No	No material impact
IFRS 17	<i>Insurance Contracts</i>	January 1, 2021	No	No material impact
Various standards	Amendments to IAS 1 and IAS 8 – <i>Definition of Material</i>	January 1, 2020	Yes	No material impact
Conceptual Framework	Amendments to Conceptual Framework – <i>References to the Conceptual Framework in IFRS Standards</i>	January 1, 2020	Yes	No material impact
Various standards	Amendments to IFRS 9, IAS 39 and IFRS 7 – <i>Interest Rate Benchmark Reform</i>	January 1, 2020	Yes	No material impact

<sup>1</sup> From this date or for reporting periods beginning after this date.

### Accounting standards applied for the first time in the reporting year

In the 2019 financial year, the application of the following amended and new standards was binding for the first time:

Standards/amendments	Title	Impact
IFRS 9	<i>Amendments to IFRS 9 – Prepayment Features with Negative Compensation</i>	No material impact
IFRS 16	Leases	See information provided below
IAS 19	<i>Amendments to IAS 19 – Plan Amendment, Curtailment or Settlement</i>	No material impact
IAS 28	<i>Long-term Interests in Associates and Joint Ventures</i>	No material impact
Various standards	<i>Annual Improvements to IFRSs 2015-2017 Cycle</i>	No material impact
IFRIC 23	<i>Uncertainty over Income Tax Treatments</i>	No material impact

In January 2016, the IASB published IFRS 16 – *Leases*. The standard was endorsed into EU law on October 31, 2017. IFRS 16 replaces IAS 17 – *Leases* and related interpretations. The introduction of IFRS 16 with effect from January 1, 2019 has eliminated the distinction between operating and finance leases on the part of the lessee. Since the introduction of IFRS 16, Freudenberg has therefore capitalized all leases as right-of-use assets and recognized the resulting payment obligations as lease liabilities at net present value. A right-of-use asset is defined as the right to use a leased asset for the agreed lease term in return for a charge. The requirements for the recognition of leases by the lessor remain largely unchanged by IFRS 16.

In accordance with the transition requirements, Freudenberg applies the new standard on the basis of the modified retrospective method; the comparison period is therefore presented in accordance with the previous requirements under this method. There is no negative impact on equity at the time of the first-time application, as at January 1, 2019, as a right-of-use asset in the amount of the lease liability is recognized for all existing operating leases. In the case of leases previously classed as finance leases, the carrying amount of the leased asset as at December 31, 2018 in accordance with IAS 17 and the carrying amount of the lease liability in accordance with IAS 17 are recognized

as the initial carrying amount of the right-of-use asset and the lease liability in accordance with IFRS 16.

In connection with the transition to IFRS 16, right-of-use assets with respect to leased assets were recognized in the amount of €358.7 million as at January 1, 2019. With respect to classes of assets, this amount breaks down as follows:

[€ million]	
Land and buildings	301.5
Passenger cars	38.2
Forklift trucks	13.4
IT infrastructure	5.6
<b>Total</b>	<b>358.7</b>

The figure disclosed for land and buildings under non-current assets as at December 31, 2018 already included assets in the amount of €5.4 million as finance leases.

The reconciliation between commitments arising from operating leasing contracts as at December 31, 2018 and the initial carrying amounts of lease liabilities as at January 1, 2019 is as follows:

[€ million]	
Commitments arising from operating leasing contracts at December 31, 2018	375.0
Minimum lease payments (notional amount) on finance lease liabilities at December 31, 2018	7.6
Leases of low-value assets (relief option)	-16.6
Service components (application option)	3.3
Other <sup>1</sup>	18.9
<b>Gross lease liabilities at January 1, 2019</b>	<b>388.2</b>
Discounting	-29.6
<b>Lease liabilities at January 1, 2019</b>	<b>358.6</b>

<sup>1</sup> Mainly includes effects from the reassessment of leases as part of the introduction of IFRS 16.

Lease liabilities were discounted using the lessee's incremental borrowing rate as at January 1, 2019. The weighted average interest rate was 2.58 percent.

## Consolidated group

Apart from Freudenberg SE, 60 German (previous year: 66) and 342 foreign (previous year: 355) **affiliated companies**, with respect to which Freudenberg SE has the power to direct the relevant activities of the company, the right to variable returns from the company and the ability to affect such variable returns, are fully consolidated.

Freudenberg operates a joint venture in the field of mechanical seals within the EagleBurgmann Business Group together with the partner Eagle Industry Co., Ltd., Tokyo, Japan. Freudenberg holds a 25-percent stake in EagleBurgmann Japan Co., Ltd., Tokyo, Japan. The partner also holds a 25-percent indirect stake in EagleBurgmann Germany GmbH & Co. KG, Wolfkratshausen, Germany. According to the joint venture agreement between the partners, Freudenberg exercises control over affiliated companies of the EagleBurgmann Group in which Freudenberg holds less than half of the voting rights of the other company; such affiliated companies are therefore fully consolidated.

In the consolidated financial statements 14 foreign (previous year: 14) **joint ventures** are included. These legally independent companies are managed jointly with the partner company in each case. Both parties hold rights to the net assets of the companies. The joint ventures are consolidated by the equity method.

In addition, 9 foreign (previous year: 10) **associated companies** are included in the consolidated financial statements. Freudenberg does not control these companies but only exercises a significant influence. These companies are consolidated by the equity method.

All affiliated companies, joint ventures and associated companies are listed under "Shareholdings".

In the year under review, 7 companies were included in the consolidated financial statements as fully consolidated affiliated companies for the first time. 26 companies which had previously been fully consolidated were no longer included as fully consolidated affiliated companies due to sale, liquidation or merger. The timing of the initial consolidation was determined on the basis of the date when Freudenberg SE gained control. In the event of loss of control, deconsolidation is effected.

## Acquisitions and disposals

With effect from April 1, 2019, the Freudenberg Filtration Technologies Business Group acquired 75 percent of the shares in Apollo Air-Cleaner Co., Ltd., Foshan, China (Apollo). The company is a leading provider of air and water filtration solutions in China. In 2018, Apollo generated sales of about €96 million with about 1,000 employees. Following the completion of the transaction, Apollo will continue as a joint venture between Freudenberg as the main shareholder and the previous sole proprietor Apollo ZhanMao Technologies (HK) Co., Limited, Wanchai, Hong Kong, under the name of Freudenberg Apollo Filtration Technologies. The company is fully consolidated as part of the Freudenberg Group. The consideration for the acquisition was €138.1 million, which was transferred in full with effect on payments. In a contract between them, the two shareholders have agreed on put and call options for the acquisition of the entire minority interest, which may be exercised subject to a number of conditions. At the date of acquisition, the put option was measured at fair value on the basis of level 3 input factors. At the date of acquisition, the fair value was €52.9 million. The goodwill in the amount of €114.6 million resulting from the purchase price allocation, which is not deductible for tax purposes, mainly represents synergy potential in connection with the processing of the rapidly growing Chinese market for filtration solutions and synergies resulting from complementary competences in research, development and production activities for filtration solutions.

Since the date of the acquisition, Freudenberg Apollo Filtration Technologies has generated sales in the amount of €80.8 million and has contributed profit of €2.4 million to consolidated profit. If the acquisition had already taken place at January 1, 2019, sales would have been €18.1 million higher and consolidated profit would have been €0.9 million<sup>1</sup> higher.

With effect from December 31, 2019, the Freudenberg Performance Materials Business Group acquired all the shares in the Filc Group, Škofja Loka, Slovenia (Filc). Filc is a producer of needle punch nonwoven textiles and laminated materials. The company employs about 360 people and focuses on the automotive and construction industries. The consideration for the acquisition of the shares was €212.0 million, which was transferred in full with effect on payments. The goodwill in the amount of €108.6 million resulting from the provisional purchase price allocation mainly represents synergy potential in connection with the mutual exchange of technologies and know-how for the production of needle punch nonwoven textiles. As at the date of the statement of financial position, the purchase price allocation was provisional as a detailed analysis of the assets and liabilities transferred had not been finalized. If the acquisition had already taken place as at January 1, 2019, the sales of the Freudenberg Group would have been €89.8 million higher and the consolidated profit would have been €11.3 million higher.

With effect from January 1, 2019, the Freudenberg Sealing Technologies Business Group acquired further shares in the battery manufacturer XALT Energy, LLC, Midland, Michigan, USA, raising its stake to about 50 percent. The Freudenberg Medical Business Group also increased its stake in the medical technology specialist Cambus Teoranta, Spiddal, Ireland, to a total of 90 percent. Previously, the two companies had been consolidated as associated companies by the equity method. They have been fully consolidated with effect from January 1, 2019 and April 1, 2019, respectively. Both separately and together, the two acquisitions were not significant.

The transaction costs arising in connection with the company acquisitions were, in each case, not significant and were recognized with effect on net income. As at the acquisition date, there was no significant difference in each case between the gross contractual amounts receivable and the fair value of the acquired receivables.

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<sup>1</sup> Adjusted for expenses which would already have been recognized in the prior period in the event of acquisition at January 1, 2019.

The fair values of the main asset and liability items of the companies acquired as at the acquisition dates were determined mainly on the basis of level 3 input factors. The cumulative values were as follows:

[€ million]	Apollo	Filc
Intangible assets	160.8	108.7
Tangible assets	29.5	44.5
Other non-current assets	0.7	11.8
Inventories	10.4	15.5
Trade receivables	20.1	13.7
Other current assets	4.5	0.8
Cash and cash equivalents	4.2	27.5
<b>Assets</b>	<b>230.2</b>	<b>222.5</b>
Non-current liabilities	11.8	0.8
Current liabilities	34.2	9.7
<b>Liabilities</b>	<b>46.0</b>	<b>10.5</b>
<b>Net assets</b>	<b>184.2</b>	<b>212.0</b>

Intangible assets identified in connection with purchase price allocations mainly concern customer lists/relations, technologies and know-how. The fair values of the customer lists identified were measured by the residual value method on the basis of business planning with a useful life of 9 to 15 years. As regards technologies, a relief-from-royalty approach with a useful life of 5 to 15 years was applied.

With effect from February 28, 2019, the Freudenberg Group sold the Freudenberg IT Business Group (FIT) to the Syntax Group. The Business Group which was sold is a global cloud provider and IT service provider for upscale medium-sized enterprises. FIT provides a broad IT service spectrum that covers almost the entire SAP landscape. This strategic disposal will allow the two companies to pool their specific strengths in ERP know-how and to serve new markets with a growing portfolio. In 2018, Freudenberg IT generated sales of about €164.8 million.

## Consolidation methods

The consolidated financial statements are based on the annual accounts of Freudenberg SE and the consolidated companies according to IFRS. All the annual accounts concerned were drawn up as at December 31, 2019. In accordance with IFRS 10, the accounts of the individual companies to be included in the consolidated financial statements were drawn up applying uniform accounting and measurement methods.

The acquisition costs of the individual consolidated companies are set off against the pro-rata share in the fair value of the equity of the companies concerned as of the date of acquisition according to the purchase method. Identifiable acquired assets and liabilities are also included in the consolidated statement of financial position at their fair values as of the acquisition date. Any remaining differences are shown as goodwill.

Inter-company profits and losses, sales, expenses and income and all receivables and payables between consolidated companies are eliminated. Deferred taxes are set up on consolidation transactions affecting net income.

Joint ventures and associated companies are consolidated by the equity method on the basis of financial statements drawn up in accordance with IFRS.

The differences arising from the acquisition of shareholdings in joint ventures and associated companies form part of the book value of the shareholding in the company concerned. Amortization is not recognized on goodwill in subsequent periods. An impairment test is carried out on the book value of the shareholding in the joint venture or associated company as a whole if there are indications that the carrying amount could be impaired.

## Accounting and measurement principles

Acquired intangible assets are capitalized at acquisition cost and amortized on a systematic basis.

Systematic amortization is based on the following useful lives:

Software	3 to 8 years
Patents and licenses	depending on contract term

Intangible assets with finite useful lives acquired in a business combination are amortized on a systematic basis over useful lives of up to 25 years.

An impairment test is carried out on goodwill at least once per year. For the impairment test, the goodwill acquired is allocated to the groups of cash-generating units expected to benefit from the business combination. In line with internal management reporting, the groups of cash-generating units are represented by the Business Groups. An impairment loss is recognized if the carrying amount of the group of cash-generating units is higher than its recoverable amount. The recoverable amount is the higher of the fair value less costs to sell and the value in use of the group of cash-generating units.

For the determination of the recoverable amount, the value in use of the group of cash-generating units concerned is determined by the discounted cash flow method on the basis of a detailed planning period of 5 years. The discount rates used for the determination of the value in use are based on the weighted average cost of capital (hereafter WACC) determined separately for each group of cash-generating units.

Impairments of capitalized goodwill are shown under other expenses in the consolidated statement of profit or loss. Reversals of impairments are not recognized with respect to goodwill for which impairments have been recognized.

Impairment losses going beyond goodwill are recognized for individual assets of cash-generating units if the fair value less costs of disposal of such units or the value in use of such units has fallen below their carrying amount.

Provided that such assets meet the requirements of IAS 38, internally generated intangible assets are carried as assets at production cost and are amortized on a systematic basis over their useful lives, if their useful lives are finite.

If the useful life of intangible assets is not considered to be finite, no amortization is effected. An impairment test is carried out on such assets annually. An intangible asset may be regarded as having an indefinite useful life when, based on an analysis of all of the relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash flows for the Group.

Expenditure in connection with development projects is capitalized as intangible assets if, in addition to meeting the criteria of IAS 38, a Group threshold is exceeded. Otherwise, development expenditure is shown as expenses. Capitalized development expenditure is amortized on a straight-line basis over the underlying useful life of the product concerned. Amortization of capitalized development expenditure is normally recognized in research and development expenses.

Tangible assets are capitalized at acquisition or production cost. In the case of assets produced by Group companies, production cost also includes directly attributable cost as well as pro-rata overheads and depreciation.

Borrowing costs are capitalized as part of acquisition or production cost in the case of qualifying assets.

Expenditure for repairs and maintenance is generally shown as expenses. Such expenditure is only capitalized if future economic benefits in connection with such expenditure are probable and the

acquisition or production cost can be reliably measured.

Taxable grants and tax-free investment subsidies, normally paid by public bodies, are set off against acquisition or production cost or recognized in the statement of financial position as deferred income.

Movable non-current assets and industrial buildings are depreciated over their useful lives, normally on a straight-line basis.

Systematic depreciation is determined on the basis of the following useful lives:

Buildings	max. 50 years
Machinery and equipment	5 to 20 years
Other fixtures, fittings and office equipment	3 to 20 years

An impairment test on tangible and intangible assets assigned to cash-generating units is always carried out if circumstances or changed conditions indicate that the carrying amount of such cash-generating units may not be recovered. The composition of the cash-generating units is determined at the divisional or regional level as a function of the business model and differs between Business Groups. If the impairment of an asset reflected by a write-down in the past is reduced or eliminated, the impairment loss is reversed. The amortized acquisition or production cost represents the upper limit of measurement in such cases.

Under IFRS 16, right-of-use assets and corresponding payment obligations are recognized for all leased assets. The right-of-use asset represents the lessee's right to use a leased asset (the underlying asset) for an agreed term in return for a charge. In accordance with the relief options allowed by IFRS 16, Freudenberg recognizes lease payments associated with underlying assets of low value as expenses on a straight-line basis in the statement of profit or loss. Assets of low value are identified on the basis of classes of assets. Leased assets in the classes of machinery and equipment, IT equipment and other fixtures, fittings and office equipment are classed as of low value. In the case of leased assets in the other classes of assets land and buildings, passenger cars, fork lift trucks and IT infrastructure, right-of-use assets and corresponding

lease liabilities are recognized even if the term of the lease is short (less than 12 months). In the case of contracts which include a lease component and another non-lease component, such as a service installment, Freudenberg recognizes such non-lease components as part of the lease in accordance with the practical expedient allowed by IFRS 16. Right-of-use assets are depreciated on a straight-line basis over the shorter of the useful life of the asset and the term of the lease. In the event that the exercise of a purchase option is assessed as reasonably certain, the right-of-use asset is depreciated over the useful life of the underlying asset irrespective of the term of the lease.

Land and buildings held to earn rentals from third parties are dealt with as investment properties. Such properties are measured at acquisition cost. Investment properties are depreciated over their useful lives. This approach normally corresponds to straight-line depreciation. As a general principle, systematic depreciation is calculated on the basis of a maximum useful life of 50 years. The fair value is determined by the discounted cash flow method.

Participations are shown at fair value. In some cases, amortized cost represents the best estimate of fair value.

Investments in joint ventures and associated companies are shown at acquisition cost on first-time consolidation and subsequently adjusted for changes in the share of the shareholder in the net assets of the company concerned. In the event that the losses of a joint venture or associated company attributable to Freudenberg exceed the value of the share in that company, no further impairment losses are recognized. If there is objective evidence of impairment or value recovery in the case of such participations, assumptions concerning future business developments must be made with a view to determining the recoverable amount.

Long-term loans are discounted if the amount of such discount is significant.

Inventories are shown at acquisition or production cost or at net realizable value, where this is lower. Inventories of raw materials and consumables and merchandise are measured by the weighted average cost method. Production cost includes directly

attributable costs as well as production and material overheads and depreciation.

Receivables and other assets are recognized at amortized cost. Loss allowances are made on the basis of the expected credit loss model. For trade receivables, the simplified approach to impairment losses is adopted. In this approach, the loss allowance is always calculated on the basis of the lifetime expected credit losses. In order to determine the expected credit losses, customers are assigned to groups with similar credit risks. Individual impairment losses are recognized if circumstances become apparent which allow the conclusion that certain receivables are subject to a credit risk in excess of the general credit risk. In the determination of loss allowances, credit insurance is taken into consideration. The amortized cost is approximately equivalent to the fair value of the assets concerned. Long-term receivables are discounted if the amount of such discount is significant.

Contract assets, which are mainly the result of realization of revenue over time for customer-specific products and development contracts are recognized at amortized cost. For determining impairment losses, the simplified procedure for determining the expected credit losses is applied.

The other financial assets are classified and measured on the basis of the business model within which the financial assets are held and on the basis of contractual cash flows at the time of acquisition. There are differences between the treatment of equity and debt instruments. Investments in equity instruments which are held as long-term strategic participations, and which are not expected to be sold within the short- to medium-term future are measured in equity without effect on net income. Debt instruments with cash flows not consisting solely of interest payments and principal repayments, investments for which another measurement would result in an accounting mismatch and shares in partnerships are measured at fair value through profit or loss. An impairment test is carried out for debt instruments measured at amortized cost or at fair value through other comprehensive income.

Cash at bank or in hand is shown at its nominal value. Cash held in foreign currencies is converted using the exchange rate as of the statement of financial position date. The expected credit loss model is applied.

Derivative financial instruments that do not meet the requirements for hedge accounting are measured at fair value through profit or loss.

Non-current assets and groups of assets held for sale are shown separately in the statement of financial position if they are available for immediate sale in their present condition and the sale of such assets is highly probable within the next 12 months. Such assets are shown at the lower of fair value less costs to sell and book value. Systematic depreciation is not recognized on such assets from the date of reclassification. Liabilities included in a disposal group are shown separately under liabilities.

The requirement for the reversal of the impairment of assets has been complied with both for non-current and for current assets. Unless individual standards call for a different measurement, the amortized acquisition or production costs represent the upper limit of measurement in such cases.

Provisions for pensions and similar obligations are determined by the projected unit credit method using actuarial principles. Service cost and the net interest on the net defined benefit liability are recognized under personnel expenses with an impact on net income. Gains and losses from remeasurements of the net defined benefit liability are disclosed under other comprehensive income. Assets held to provide benefits for employees are measured at fair value.

Deferred taxes are calculated on temporary differences between the book values of assets and liabilities in the consolidated statement of financial position and their tax bases, taking into account the applicable national income tax rates valid on the date of realization and already in force on the statement of financial position date. In addition, deferred tax assets are recognized for tax losses carried forward if sufficient taxable income will be available in the future. Deferred tax assets and liabilities are only set off against each other in cases where the income taxes concerned are levied by the same tax authority and concern the same period. In the case of deferred tax assets which are not impaired following the offsetting, it is assumed that future taxable income will be sufficient to allow the realization of the deferred tax assets formed.

Other provisions allow for all recognizable risks and uncertain obligations towards third parties which will probably result in an outflow of resources which can be reliably estimated. Such provisions are recognized at their most probable settlement value and discounted if the amount of such discount is significant. Reimbursement rights in this connection are shown separately under other assets. In its contracts with customers, Freudenberg provides warranty services for general repair obligations but does not provide for any extended warranties. In accordance with IFRS 15, the existing warranties are mainly classified as assurance-type warranties and are recognized in accordance with IAS 37 – *Provisions, Contingent Liabilities and Contingent Assets*.

Liabilities are shown at their face value or at the repayment or settlement value, where this is higher. Non-current liabilities are discounted if the amount of such discount is significant.

Contract liabilities relate to considerations received from customers in advance of performance under a contract. Contract liabilities are recognized as sales as soon as the promised goods or services have been transferred to the customer.

Lease liabilities include fixed payments defined in the lease (less any lease incentives to be provided by the lessor), variable lease payments that depend on an index or a rate and amounts expected to be payable by the lessee under residual value guarantees. In addition, payments on the basis of purchase or extension options must be taken into consideration if the lessee is reasonably certain to exercise that option. In the case of termination options, penalties for terminating the lease are only to be included if the lease term reflects the lessee exercising an option to terminate the lease. Lease payments must be discounted using the interest rate implicit in the lease if that rate can be readily determined. If that rate cannot be readily determined, the lessee's incremental borrowing rate must be used. This is normally the case with Freudenberg. The specific incremental borrowing rate for a lease is determined on the basis of an interest matrix. This matrix is based on interbank rates and takes into consideration the term and currency of the lease as well as a risk premium.

Put options granted to the holders of non-controlling interests for the sale of their shares are recognized as

forward purchases. The item recorded in equity for these shares is de-recognized and a liability measured at fair value, which corresponds to the net present value of the price at the time of exercise, is recognized. As at each statement of financial position date, the liability is remeasured. Any resulting changes in book value are recognized with an effect on net income.

Sales are measured at the fair value of the consideration received or to be received. Sales are recognized when control of the promised good or service is transferred to the customer.

The delivery of goods normally represents a performance obligation that is satisfied at a specific point in time. In determining the timing of satisfaction, the transfer of significant risks and rewards of ownership of the asset is taken as the main criterion. Normally, this is the time when the goods are physically delivered to the customer.

Sales from the delivery of customer-specific products are recognized over time, provided Freudenberg has an enforceable right to payment from the customer in an amount that at least compensates Freudenberg for the performance completed to date plus a reasonable profit margin. The amount of revenue is based on the progress towards complete satisfaction of a performance obligation and measured on the basis of the units produced.

Sales from the performance of services are recognized in the accounting period in which the services are performed. Revenue is recognized in the amount which Freudenberg has a right to invoice, as this amount of consideration corresponds directly to the value to the customer of Freudenberg's performance completed to date. Customers are normally invoiced monthly.

Sales in connection with customer-specific development projects are realized over time. In the case of fixed-price contracts, the amount of sales is measured based on the cost incurred to date related to the total expected cost to be incurred in connection with the full satisfaction of the performance obligation. In the case of customer-specific development projects for which Freudenberg has a right to consideration from a customer in an amount that corresponds directly to the value to the customer of Freudenberg's performance completed to date,

sales are recognized as a practical expedient in the amount of the consideration which Freudenberg has a right to invoice.

Invoices are normally issued following the physical delivery of goods to the customer or the performance of the service promised in the contract. Payments by customers under fixed-price contracts are based on a contractually agreed payment plan. There are no material contracts with customers under which the time between the transfer of a promised good or service and payment in connection with such transfer exceeds one year.

In the event that the service performed by Freudenberg exceeds the payments received or to be received by Freudenberg, a contract asset is recognized. As soon as the right to receive the consideration from the customer becomes unconditional, the contract asset is reclassified to trade receivables. If the payments received from the customer exceed the service performed by Freudenberg, a corresponding contract liability is recognized.

The performance obligations entered into by Freudenberg under contracts with customers normally have an expected original duration of one year or less. In the case of longer terms, Freudenberg is normally entitled to consideration corresponding directly to the performance of services completed to date. Accordingly, the performance obligation contracted but not yet (fully) fulfilled on the reporting date are not disclosed.

The consolidated statement of cash flows is broken down into cash flows from operating, investing and financing activities. Effects arising from changes in the consolidated group and the effects of exchange rate differences have been eliminated from the consolidated statement of cash flows. The influence of these effects on cash and cash equivalents is indicated separately.

### **The exercise of judgment and estimates in the application of accounting and measurement methods**

In some cases, it is necessary to apply accounting methods based on estimates or the exercise of discretion in connection with the establishment of the consolidated financial statements. Normally, these methods include complex, subjective assessments and the use of uncertain assumptions which may be subject to change. It is therefore conceivable that actual amounts in the future and future events may deviate from the forecasts made as estimates for the same reporting period could have been made differently for equally understandable reasons. Such accounting methods based on estimates and the exercise of discretion may therefore have a material impact on the net assets, financial position and results of operations in the consolidated financial statements and may also change over the course of time. The estimates used for the establishment of the consolidated financial statements and the underlying assumptions are regularly reviewed and any changes are taken into consideration as soon as better information is available.

The composition of a cash-generating unit and the determination of the recoverable amount for the performance of impairment tests is connected with assessments made by management concerning future developments and experience gained in the past. The cash flows predicted on the basis of these assessments may be affected by factors including volatility of capital markets, exchange rate fluctuations and expected economic development. The WACCs used for discounting take into account the market risk and the capital structure of companies comparable to the applicable group of cash-generating units. Changes in these factors may have significant impact on the existence or amount of a value impairment. Further details are given in note (1).

The actuarial assessments for the determination of provisions for pensions and similar obligations are based on major assumptions and estimates with respect to the discount rates used and expected future adjustments to salaries and pensions as well as life expectancy. All the parameters used are regularly reviewed as of the statement of financial position date.

Any changes in the parameters used may lead to changes in statement of financial position values. Further details are given in note (11).

The determination of the settlement amount of provisions for restructuring, environmental risks, guarantees and litigation is normally connected with estimates and uncertainty. For the measurement of such values, the assessments of local independent experts are used in some cases. In the future, deviations between actual events and the assumptions made may necessitate adjustments to the Group's provisions. More detailed information on provisions is given in note (12).

The measurement of leases is based in part on estimates and assessments concerning the term of the lease. Extension and termination options must be taken into consideration in the determination of the term if it is reasonably certain that the lessee will exercise an extension option or not exercise a termination option. In assessing whether the lessee is reasonably certain to exercise an option to extend the lease or not to exercise an option to terminate the lease, all relevant facts and circumstances that create an economic incentive for the lessee to exercise or not exercise the option concerned must be taken into consideration. Such aspects may include penalties, fixtures installed on the leased asset by the lessee and the opportunity cost of exercising or not exercising the option concerned. Information on leased assets is given in note (2).

The measurement of certain derivative financial instruments without an active market such as put or call options and earn-out clauses is based on probability predictions and the best possible estimates of the expected settlement amount, taking into consideration recognized mathematical finance methods. The same applies to the determination of expected credit losses recognized as loss allowances in connection with financial instruments measured at amortized cost. Further information on financial instruments is given in note (13).

When determining whether sufficient taxable income will be available in the future for assessing the value of deferred tax assets and the usability of losses carried forward, various estimates, including the development of tax planning strategies, must be made. Deviations between the actual results and the estimates made

may have an effect on the assets, liabilities and earnings situation. Further details are given in note (26).

The determination of the amount and timing of revenue from contracts with customers is affected by a number of estimations. Sales are recognized in the amount of the consideration to which Freudenberg expects to be entitled. Especially in the case of the delivery of goods the amount of consideration may vary as a result of variable consideration. The amount of variable consideration is based on estimates and is determined upon the inception of the contract and reassessed at the end of each reporting period. The variable consideration is estimated either by using the expected value method or by using the most likely amount method. This depends on which method Freudenberg expects to better predict the amount of consideration to which it will be entitled. Sales are only recognized to the extent that it is highly probable that a significant reversal will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Amounts which have been received (or are to be received) and which will probably have to be refunded are recognized as refund liabilities and disclosed under other liabilities.

For the recognition of sales from customer-specific development projects, estimates need to be made concerning the degree of completion or the total cost of the contract. A change in these estimates may lead to an increase or reduction in sales in the reporting period.

Fair value is determined on the basis of input factors in 3 defined categories. Determination is based on estimates and assumptions associated with uncertainty. The following fair value measurement hierarchy is applied:

Level 1: Use of quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.

Level 2: Determination of fair value using measurement procedures based on observed input factors for similar assets or liabilities in active markets or for identical assets or liabilities in markets that are not active.

Level 3: Measurement of assets and liabilities using measurement methods based on unobservable inputs as adequate observable market data are not available for the measurement of fair value.

### Currency translations

The financial statements of almost all companies included in the consolidated financial statements which are not located in the eurozone are drawn up in the national currencies concerned. This is the currency of the primary economic environment in which the companies concerned operate (concept of functional currency).

In the accounts of individual companies, foreign-currency receivables and liabilities are translated at the exchange rates as of the date of the statement of financial position.

Goodwill created as a result of acquisitions on or after March 31, 2004, is carried as an asset of the economically independent foreign companies concerned in their respective functional currencies.

In the consolidated financial statements, the financial statements of all companies not located in the eurozone are translated in accordance with the following principles:

- Statement of financial position items are translated at the exchange rate as of the date of the statement of financial position.

- Statement of profit or loss items are translated at average annual exchange rates.
- Differences arising from the use of different exchange rates are recognized in equity without an effect on net income.

The same principles are used in the case of investments in joint ventures and associated companies consolidated by the equity method.

The annual financial statements of companies located in hyperinflationary countries are translated in accordance with IAS 29. Gains or losses as a result of the adjustment of the carrying amounts of non-monetary items to reflect inflation are recognized in other income or other expenses. From the point of view of the Group, current inflation adjustments on the basis of historic acquisition and production costs had no material impact on the net assets, financial position or results of operations of the Group as at December 31, 2019.

The exchange rates of currencies used for currency conversion which are material to the annual financial statements developed as follows:

Country	Currency	Closing rate		Average rate		
		1 euro =	Dec. 31, 2018	Dec. 31, 2019	2018	2019
United Kingdom	GBP		0.8945	0.8508	0.8860	0.8759
Japan	JPY		125.8500	121.9400	130.0060	121.9590
Mexico	MXN		22.4921	21.2202	22.6526	21.6082
Russian Federation	RUB		79.7153	69.9563	74.1711	72.2182
Turkey	TRY		6.0588	6.6843	5.6835	6.3577
USA	USD		1.1450	1.1234	1.1793	1.1195

Differences arising from the use of different exchange rates compared with the previous year are shown in the statement of changes in intangible and

tangible assets with respect to non-current assets and in the consolidated statement of comprehensive income with respect to equity.

## NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

**(1) Intangible assets**

Changes in intangible assets from January 1 to December 31, 2018:

[€ million]	Internally generated software	Concessions, licenses and others <sup>1</sup>	Goodwill	Payments made on account	Intangible assets in course of construction	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2018</b>	<b>3.9</b>	<b>1,718.1</b>	<b>1,567.6</b>	<b>2.4</b>	<b>12.7</b>	<b>3,304.7</b>
Changes in consolidated group	0.0	36.3	41.7	0.0	0.0	78.0
Exchange rate differences	0.2	13.6	10.1	0.0	0.0	23.9
Additions	0.0	14.0	0.3	2.0	2.9	19.2
Disposals	-0.1	-18.6	0.0	0.0	0.0	-18.7
Reclassifications <sup>2</sup>	0.4	2.5	-4.0	-1.4	-11.8	-14.3
<b>Status Dec. 31, 2018</b>	<b>4.4</b>	<b>1,765.9</b>	<b>1,615.7</b>	<b>3.0</b>	<b>3.8</b>	<b>3,392.8</b>
<b>AMORTIZATION</b>						
<b>Status Jan. 1, 2018</b>	<b>3.1</b>	<b>670.8</b>	<b>99.9</b>	<b>0.0</b>	<b>0.0</b>	<b>773.8</b>
Changes in consolidated group	0.0	0.1	0.0	0.0	0.0	0.1
Exchange rate differences	0.1	9.5	1.3	0.0	0.0	10.9
Additions - systematic	0.3	108.4	0.0	0.0	0.0	108.7
Impairment losses	0.0	6.8	44.4	0.0	0.0	51.2
Write-ups	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	-0.1	-17.9	0.0	0.0	0.0	-18.0
Reclassifications <sup>2</sup>	0.0	-9.2	0.0	0.0	0.0	-9.2
<b>Status Dec. 31, 2018</b>	<b>3.4</b>	<b>768.5</b>	<b>145.6</b>	<b>0.0</b>	<b>0.0</b>	<b>917.5</b>
<b>Book value Dec. 31, 2018</b>	<b>1.0</b>	<b>997.4</b>	<b>1,470.1</b>	<b>3.0</b>	<b>3.8</b>	<b>2,475.3</b>

<sup>1</sup> Intangible assets identified in connection with purchase price allocations mainly concern customer lists/relations, technologies and know-how.

<sup>2</sup> The reclassifications also include transfers to other statement of financial position items.

Changes in intangible assets from January 1 to December 31, 2019:

[€ million]	Internally generated software	Concessions, licenses and others <sup>1</sup>	Goodwill	Payments made on account	Intangible assets in course of construction	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2019</b>	<b>4.4</b>	<b>1,765.9</b>	<b>1,615.7</b>	<b>3.0</b>	<b>3.8</b>	<b>3,392.8</b>
Changes in consolidated group	0.3	113.5	270.4	0.0	0.0	384.2
Exchange rate differences	0.1	11.6	7.0	0.0	0.0	18.7
Additions	0.1	12.8	0.5	0.7	2.8	16.9
Disposals	-0.3	-3.4	-1.0	0.0	0.0	-4.7
Reclassifications <sup>2</sup>	0.0	4.1	0.0	-1.5	-2.4	0.2
<b>Status Dec. 31, 2019</b>	<b>4.6</b>	<b>1,904.5</b>	<b>1,892.6</b>	<b>2.2</b>	<b>4.2</b>	<b>3,808.1</b>
<b>AMORTIZATION</b>						
<b>Status Jan. 1, 2019</b>	<b>3.4</b>	<b>768.5</b>	<b>145.6</b>	<b>0.0</b>	<b>0.0</b>	<b>917.5</b>
Changes in consolidated group	0.1	5.8	0.0	0.0	0.0	5.9
Exchange rate differences	0.1	7.9	2.4	0.0	0.0	10.4
Additions – systematic	0.4	110.7	0.0	0.0	0.0	111.1
Impairment losses	0.0	1.8	77.8	0.0	0.0	79.6
Write-ups/revaluations	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	-0.4	-3.3	0.0	0.0	0.0	-3.7
Reclassifications <sup>2</sup>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Status Dec. 31, 2019</b>	<b>3.6</b>	<b>891.4</b>	<b>225.8</b>	<b>0.0</b>	<b>0.0</b>	<b>1,120.8</b>
<b>Book value Dec. 31, 2019</b>	<b>1.0</b>	<b>1,013.1</b>	<b>1,666.8</b>	<b>2.2</b>	<b>4.2</b>	<b>2,687.3</b>

<sup>1</sup> Intangible assets identified in connection with purchase price allocations mainly concern customer lists/relations, technologies and know-how.

<sup>2</sup> The reclassifications also include transfers to other statement of financial position items.

Goodwill was subjected to an impairment test in the 2019 financial year. Apart from the expected developments in sales and profit as well as net investments of the Business Groups concerned, the basic assumptions used for determining the value in use of the groups of cash-generating units included a growth rate of 2.0 percent (previous year: 2.0 percent) and pre-tax WACCs ranging from 4.6 percent to 8.3 percent (previous year: ranging from 8.0 percent to 10.9 percent).

On this basis, an impairment of goodwill was recognized only for the group of cash-generating units of Freudenberg Medical. This was the result of unfavorable conditions in a challenging market environment. On the basis of a WACC of 7.6 percent (previous year: 9.2 percent) and the growth rate stated above, the carrying amount following impairment was €62.3 million.

The two significant goodwill items are assigned to the groups of cash-generating units Vibracoustic and Freudenberg Sealing Technologies. The WACCs used for the impairment test were 7.9 percent (previous year: 8.0 percent) for Vibracoustic and 7.8 percent (previous year: 10.9 percent) for Freudenberg Sealing Technologies. The assumed sustainable growth rate was 2.0 percent (previous year: 2.0 percent). The book values of these goodwill items are shown in the following table:

[€ million]	Goodwill	
	Dec. 31, 2018	Dec. 31, 2019
Vibracoustic	835.9	835.9
Freudenberg Sealing Technologies	180.7	220.5

The operative planning for the group of cash-generating units of Vibracoustic assumes a sales growth rate. This is slightly above the expected development of the global automobile production derived from external studies. The main areas of growth will be in the regions of North America and Europe. As in previous years, it is planned to compensate for cost increases by productivity improvements.

The business plans for 2020 of the group of cash-generating units of Freudenberg Sealing Technologies are based on slightly weaker market developments following a significant fall 2019. Despite differences between the various regions and sectors, a slight decline is expected in the sealing segment. This applies both to the automotive sector and to the general industry market segments. Rising costs are to be mitigated by the implementation of capacity adjustment projects, productivity increases, leaner processes in administration, and a selective price policy. The transformation to e-mobility is proceeding rapidly. In traditional seal business, the share of components for e-mobility applications is to be significantly increased. Sales in the battery sector are almost to double and development activities in the field of the fuel cell will be significantly expanded. Freudenberg Sealing Technologies is providing considerable resources for this purpose.

In the case of a variation in the WACC of up to +1.0 percentage points, it would have been necessary to recognize further impairments in the amount of €35.4 million for the group of cash-generating units of Freudenberg Medical. There would have been no need for impairment with respect to the major goodwill items.

## (2) Tangible assets

Changes in tangible assets from January 1 to December 31, 2018:

[€ million]	Land and buildings	Machinery and equipment	Other fixtures, fittings and office equipment	Payments made on account	Construction in progress	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2018</b>	<b>1,469.0</b>	<b>3,375.2</b>	<b>866.1</b>	<b>40.7</b>	<b>169.1</b>	<b>5,920.1</b>
Changes in consolidated group	9.3	8.0	5.3	0.0	0.4	23.0
Exchange rate differences	15.5	36.3	4.7	0.4	3.0	59.9
Additions	31.8	88.5	52.1	38.8	153.6	364.8
Disposals	-14.4	-153.6	-38.6	-2.5	-2.3	-211.4
Reclassifications <sup>1</sup>	28.2	109.0	-92.7	-46.6	-144.0	-146.1
<b>Status Dec. 31, 2018</b>	<b>1,539.4</b>	<b>3,463.4</b>	<b>796.9</b>	<b>30.8</b>	<b>179.8</b>	<b>6,010.3</b>
<b>DEPRECIATION</b>						
<b>Status Jan. 1, 2018</b>	<b>668.5</b>	<b>2,438.9</b>	<b>648.9</b>	<b>0.0</b>	<b>0.2</b>	<b>3,756.5</b>
Changes in consolidated group	3.7	5.7	3.9	0.0	0.0	13.3
Exchange rate differences	7.4	32.0	4.5	0.0	0.0	43.9
Additions – systematic	47.3	159.2	63.0	0.0	0.0	269.5
Impairment losses	0.2	3.1	0.5	0.0	0.0	3.8
Write-ups	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	-9.2	-140.6	-36.4	0.0	0.0	-186.2
Reclassifications <sup>1</sup>	-12.9	0.3	-81.9	0.0	0.0	-94.5
<b>Status Dec. 31, 2018</b>	<b>705.0</b>	<b>2,498.6</b>	<b>602.5</b>	<b>0.0</b>	<b>0.2</b>	<b>3,806.3</b>
<b>Book value Dec. 31, 2018</b>	<b>834.4</b>	<b>964.8</b>	<b>194.4</b>	<b>30.8</b>	<b>179.6</b>	<b>2,204.0</b>

<sup>1</sup> The transfers also include reclassifications to other statement of financial position items.

Changes in tangible assets from January 1 to December 31, 2019:

[€ million]	Land and buildings	Machinery and equipment	Other fixtures, fittings and office equipment	Payments made on account	Construction in progress	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2019<sup>2</sup></b>	<b>1,835.5</b>	<b>3,463.4</b>	<b>854.1</b>	<b>30.8</b>	<b>179.8</b>	<b>6,363.6</b>
Changes in consolidated group	130.0	98.3	3.8	0.1	10.6	242.8
Exchange rate differences	18.4	35.3	4.8	0.3	3.2	62.0
Additions	61.7	88.0	74.1	31.3	163.8	418.9
Disposals	-25.0	-82.7	-42.6	-0.8	-1.0	-152.1
Reclassifications <sup>1</sup>	13.9	131.4	18.4	-30.9	-166.9	-34.1
<b>Status Dec. 31, 2019</b>	<b>2,034.5</b>	<b>3,733.7</b>	<b>912.6</b>	<b>30.8</b>	<b>189.5</b>	<b>6,901.1</b>
<b>DEPRECIATION</b>						
<b>Status Jan. 1, 2019</b>	<b>705.0</b>	<b>2,498.6</b>	<b>602.5</b>	<b>0.0</b>	<b>0.2</b>	<b>3,806.3</b>
Changes in consolidated group	18.2	66.6	2.1	0.0	0.0	86.9
Exchange rate differences	6.7	25.7	3.4	0.0	0.0	35.8
Additions – systematic	106.6	171.6	87.0	0.0	0.0	365.2
Impairment losses	0.0	2.2	0.1	0.0	0.1	2.4
Write-ups	0.0	-0.9	0.0	0.0	0.0	-0.9
Disposals	-9.7	-74.2	-36.4	0.0	0.0	-120.3
Reclassifications <sup>1</sup>	-5.1	-12.4	-0.1	0.0	0.0	-17.6
<b>Status Dec. 31, 2019</b>	<b>821.7</b>	<b>2,677.2</b>	<b>658.6</b>	<b>0.0</b>	<b>0.3</b>	<b>4,157.8</b>
<b>Book value Dec. 31, 2019</b>	<b>1,212.8</b>	<b>1,056.5</b>	<b>254.0</b>	<b>30.8</b>	<b>189.2</b>	<b>2,743.3</b>

<sup>1</sup> The transfers also include reclassifications to other statement of financial position items.

<sup>2</sup> The opening balances were in some cases adjusted due to the effects of the first-time application of IFRS 16.

As in the previous year, Freudenberg received government grants of an insignificant amount. The grants mainly concerned investment promotion.

### Additional disclosures on leased assets - Right-of-use assets

Following the introduction of IFRS 16, Freudenberg has recognized right-of-use assets in respect of leased assets since January 1, 2019. In the year under review, the following amounts were recognized in the state

ment of changes in tangible assets under the category “Land and buildings” (land and buildings) or “Other fixtures, fittings and office equipment” (passenger cars, forklift trucks and IT infrastructure):

[€ million]	Land and buildings	Passenger cars	Forklift trucks	IT infrastructure	Total
Acquisition/Production cost	339.9	56.4	20.6	6.9	423.8
Of which: additions	44.1	22.4	8.0	2.2	76.7
Depreciation	59.9	19.2	5.7	2.2	87.0
<b>Book value Dec. 31, 2019</b>	<b>280.0</b>	<b>37.2</b>	<b>14.9</b>	<b>4.7</b>	<b>336.8</b>

In the 2019 financial year, the interest expense for leased assets amounted to €8.6 million. In addition, expenses for leased assets of low value were recognized in the statement of profit or loss in the amount of €19.2 million. The total cash outflow for leasing in 2019 was €118.1 million.

There were no significant direct operating expenses in the year under review or in the previous year.

### (3) Investment properties

Details of land and buildings held by Freudenberg as investment properties are shown in the table below:

[€ million]	2018	2019
Rent income	3.9	4.9

In the reporting year, real property rented to the Freudenberg IT Business Group, which was sold with effect from February 28, 2019, was included in investment properties for the first time. Some of these properties are entirely non-owner occupied while others are partly owner-occupied. The land and buildings shown as investment properties in the previous year were entirely non-owner occupied.

There are no restrictions on the saleability of investment properties. There are no contractual obligations to purchase, build or develop investment properties. Furthermore, Freudenberg is not under any contractual obligations to repair or maintain such investment properties going beyond its statutory obligations.

Changes in investment properties from January 1 to December 31:

[€ million]	2018	2019
<b>ACQUISITION/PRODUCTION COST</b>		
<b>Status Jan. 1</b>	<b>46.0</b>	<b>43.3</b>
Changes in consolidated group	0.0	0.0
Exchange rate differences	0.0	0.0
Additions	0.0	0.0
Write-ups/revaluations	0.0	0.0
Disposals	0.0	0.0
Reclassifications	-2.7	13.0
<b>Status Dec. 31</b>	<b>43.3</b>	<b>56.3</b>
<b>DEPRECIATION</b>		
<b>Status Jan. 1</b>	<b>33.3</b>	<b>33.0</b>
Changes in consolidated group	0.0	0.0
Exchange rate differences	0.0	0.0
Additions - systematic	1.3	1.8
Impairment losses	0.0	0.0
Write-ups/revaluations	0.0	0.0
Disposals	0.0	0.0
Reclassifications	-1.6	3.4
<b>Status Dec. 31</b>	<b>33.0</b>	<b>38.2</b>
<b>Book value Dec. 31</b>	<b>10.3</b>	<b>18.1</b>

The fair value of investment properties was €50.6 million (previous year: €36.7 million) and was calculated on the basis of discounted cash flows (level 3 inputs).

#### (4) Investments in joint ventures

The joint venture agreement with NOK Corporation, Tokyo, Japan, is of major importance for Freudenberg.

NOK-Freudenberg Singapore Pte. Ltd., Singapore, is a 50:50 joint venture between the Japanese NOK Corporation and Freudenberg SE with the objective of serving the high-growth Chinese and Indian markets with locally-produced and imported sealing products.

The summarized financial information of this joint venture company is set out below:

[€ million]	NOK-Freudenberg Singapore Pte. Ltd.	
	Dec. 31, 2018	Dec. 31, 2019
Current assets	257.1	243.6
Of which: cash and cash equivalents	77.7	61.5
Non-current assets	226.0	269.5
Current liabilities	181.0	166.4
Of which: current financial liabilities	75.8	53.2
Non-current liabilities	0.8	6.8
<b>Equity without non-controlling interests</b>	<b>301.3</b>	<b>339.9</b>
Freudenberg share	50.0 %	50.0 %
Pro-rata share in equity	150.6	170.0
<b>At-equity measurement</b>	<b>150.6</b>	<b>170.0</b>
	<b>2018</b>	<b>2019</b>
Sales	375.3	418.7
Profit or loss from continuing operations	42.9	28.9
Other comprehensive income	-3.9	-0.9
<b>Total comprehensive income</b>	<b>39.0</b>	<b>28.0</b>
Of which: depreciation and amortization	-19.0	-22.4
Of which: interest income	0.6	1.3
Of which: interest expenses	-1.0	-2.7
Of which: income tax expense or income	-12.6	-14.3

As in the previous year, Freudenberg did not receive any dividend from NOK-Freudenberg Singapore Pte. Ltd.

The total carrying amount of interests in all individual joint ventures which are not material was €13.8 million (previous year: €16.7 million).

The pro-rata share of the profit or loss from continuing operations of all individual joint ventures classed as not material was €-0.1 million (previous year: €0.5 million) and the pro-rata share in other comprehensive income was €0.1 million (previous year: €0.5 million).

## (5) Investments in associated companies

For Freudenberg, its most important investment in associated companies is its participation in the Japanese company NOK Corporation with its registered office in Tokyo, Japan. NOK Corporation applies Japanese GAAP. Adjustment to the financial reporting requirements of Freudenberg was effected on the basis of the information published by NOK Corporation.

The NOK Group manufactures and supplies sealing products, flexible printed circuits, roll products for office equipment and further products such as specialty lubricants.

This major associated company gave the following figures in its consolidated interim financial statements as at December 31:

[€ million]	NOK Corporation	
	Dec. 31, 2018	Dec. 31, 2019
Current assets	2,763.9	2,748.8
Non-current assets	3,621.8	3,742.0
Current liabilities	1,600.9	1,533.7
Non-current liabilities	813.0	988.3
Treasury shares	-1.8	-1.9
Non-controlling interests	326.6	338.4
<b>Equity without treasury shares and non-controlling interests</b>	<b>3,647.0</b>	<b>3,632.3</b>
Freudenberg share	25.1%	25.1 %
Pro-rata share in equity	915.4	911.7
Goodwill	7.1	7.1
<b>At-equity measurement</b>	<b>922.5</b>	<b>918.8</b>

	2018	2019
Sales	5,322.6	5,159.6
Profit or loss from continuing operations	213.9	-85.0
Other comprehensive income	-220.0	30.5
<b>Total comprehensive income</b>	<b>-6.1</b>	<b>-54.5</b>

The increase in the other comprehensive income of NOK Corporation is chiefly due to effects from the change in the value of securities available for sale.

Freudenberg received dividends in the amount of €17.9 million (previous year: €16.9 million) from NOK Corporation.

As at December 31, 2019, the market value of the shareholding in NOK Corporation was €584.8 million (¥71,313.8 million) (previous year: €530.4 million; ¥66,750.7 million).

The total carrying amount of interests in all associated companies classed as not material was €25.9 million (previous year: €25.3 million).

The pro-rata share in the profit or loss from continuing operations of all individual associated companies classed as not material was €6.5 million (previous year: €0.2 million) and the pro-rata share in the other comprehensive income of these companies was €0.8 million (previous year: €1.2 million). The pro-rata share in the total comprehensive income was therefore €7.3 million (previous year €1.4 million).

## (6) Inventories

Inventories break down as follows:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Raw materials and consumables	352.1	376.8
Work in progress	150.9	162.8
Finished goods and merchandise	561.7	621.7
Customer-specific tools in construction	59.9	53.5
Payments made on account	3.2	3.5
	<b>1,127.8</b>	<b>1,218.3</b>

Inventories rose by €90.5 million compared with the previous year. After eliminating the effects of changes in the consolidated group and exchange rate effects, inventories rose by about 4 percent.

Write-downs of inventories totaling €29.4 million (previous year: €31.3 million) were recognized as expenses in the reporting year.

Write-ups totaling €17.3 million (previous year: €13.1 million) were effected on inventories as the reason for the impairment losses concerned no longer existed.

The inventories shown are not subject to any significant restrictions on title or disposal.

## (7) Receivables

[€ million]	Dec. 31, 2018	Dec. 31, 2019
<b>Trade receivables</b>	<b>1,467.5</b>	<b>1,482.1</b>
Of which: Residual term up to 1 year	1,467.5	1,482.1
Of which: Residual term more than 1 year	0.0	0.0
<b>Other assets</b>	<b>337.9</b>	<b>459.4</b>
Of which: Residual term up to 1 year	265.8	376.3
Of which: Residual term more than 1 year	72.1	83.1

After adjustment for effects resulting from changes in the consolidated group and exchange rate effects, trade receivables fell by about 2 percent.

The increase in the other assets compared with the previous year was mainly due to a payment deposited in an escrow account in connection with the offer for the acquisition of Low & Bonar PLC, London, UK.

Since the 2019 financial year, contract assets have not been disclosed as a separate item but under other assets in the statement of financial position, because the amount concerned is not material. As at December 31, 2019, contract assets amounted to €23.1 million (previous year: €60.0 million). Changes in contract assets are mainly the result of the satisfaction of performance obligations laid down in contracts with customers. The fall in contract assets compared with the previous year was the result of the fact that fewer contracts met the requirements for the realization of sales over time in the year under review.

The other assets for the year under review include pension plan assets in excess of the corresponding pension obligations amounting to €4.5 million (previous year: €5.6 million).

The other assets also include other tax receivables in the amount of €88.0 million (previous year: €73.6 million) and liability insurance claims totaling €5.1 million (previous year: €5.2 million).

The claims for reimbursement in connection with recognized provisions, which are included in other assets, are shown in the other provisions under note (12).

### (8) Securities and cash at bank and in hand

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Securities	180.9	201.7
Checks and cash in hand	4.1	2.4
Cash at banks	799.7	913.2
	<b>984.7</b>	<b>1,117.3</b>

The increase in securities mainly concerns a rise in the amount of commercial papers and other short-term investments.

### (9) Assets and groups of assets held for sale

In December 2019, the Freudenberg Performance Materials Business Group signed a contract for the sale of its South American business with nonwovens for the hygiene industry to the Brazilian nonwoven specialist Fitesa Não Tecidos S.A., Porto Alegre, Brazil. The Business Group has therefore completed its departure from the hygiene segment, which is no longer part of its core business. As at the statement of financial position date, the assets and liabilities of the disposal group were classified as held for sale. As at the reclassification date, the carrying amount of the assets and liabilities concerned was in each case lower than their fair value less costs to sell. The sale took effect in February 2020.

In the previous year, the assets held for sale and related liabilities mainly concerned the disposal group Freudenberg IT. This Business Group was sold with effect from February 28, 2019 (see “Acquisitions and disposals”). Furthermore, land and buildings with a carrying amount of €4.3 million which were not regarded as necessary for the business of Freudenberg were disposed of in the year under review.

The assets and liabilities of the disposal groups break down as follows:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Intangible and tangible assets	57.3	5.5
Inventories	1.1	2.3
Trade receivables	27.1	0.9
Other assets	19.4	0.4
Securities and cash at bank and in hand	3.4	1.9
<b>Non-current assets held for sale and disposal groups</b>	<b>108.3</b>	<b>11.0</b>
Provisions for pensions and similar obligations	15.4	0.0
Other provisions	20.6	0.4
Trade payables	19.3	0.2
Other liabilities	12.0	0.0
<b>Liabilities in connection with non-current assets held for sale and disposal groups</b>	<b>67.3</b>	<b>0.6</b>

As at the date of the statement of financial position, the cumulative other comprehensive income of the disposal group recognized directly in equity amounted to €0 million (previous year: €4.4 million).

## (10) Equity

The subscribed capital in the amount of €450.0 million (previous year: €450.0 million) consists of 450 million no-par-value registered shares. The sole shareholder of Freudenberg SE is Freudenberg & Co. Kommanditgesellschaft, Weinheim (hereafter: Freudenberg & Co. KG).

The **reserves** break down as follows:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Capital reserves	50.2	50.2
Retained earnings	4,452.9	4,902.1
	<b>4,503.1</b>	<b>4,952.3</b>

The capital reserves consist of contributions in kind made by the shareholder.

The retained earnings include net income earned by the Group in the past and not distributed as well as reserves of companies included in the consolidated financial statements including expenses and income recorded without effect on net income.

The profit distributed in the reporting year amounted to €106.1 million (previous year: €118.5 million). This corresponded to a profit per share of €0.24 (previous year: €0.26).

The Board of Management proposes that the 2019 net retained profit in the amount of €2,719.1 million (previous year: €2,371.2 million) should be carried forward to new account.

In the reporting year, income (+) and expenses (-) which had previously been recorded without an effect on net income with respect to the following components of other comprehensive income were reclassified to the statement of profit or loss:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Exchange rate differences	-1.0	-0.8
Derivative financial instruments	-0.1	-0.1
	<b>-1.1</b>	<b>-0.9</b>

In the 2019 financial year, tax effects (income (+) / expenses (-)) recorded without effect on net income are attributable to the various items of other comprehensive income as follows:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Remeasurement of defined benefit plans	-2.2	34.6
Securities and other items	-3.5	-1.4
	<b>-5.7</b>	<b>33.2</b>

## Non-controlling interests

The change in non-controlling interests in the equity of consolidated affiliated companies from €359.0 million to €417.2 million is mainly the result of the full consolidation for the first time of XALT Energy, LLC, Midland, Michigan, USA, the allocation of profit for the year and exchange rate differences. Furthermore, dividends also resulted in a reduction in non-controlling interests.

In the case of the following affiliated company, the consolidated financial statements include significant non-controlling interests in the amount of 25 percent of the shares:

[€ million]		
Freudenberg-NOK General Partnership, Plymouth, USA	Dec. 31, 2018	Dec. 31, 2019
Profit (+) / loss (-) attributable to non-controlling interests	12.9	17.5
Total amount of non-controlling interests	127.6	127.9

This affiliated company is included in the consolidated financial statements with the following values:

[€ million]		
Freudenberg-NOK General Partnership	Dec. 31, 2018	Dec. 31, 2019
Current assets	313.7	299.7
Non-current assets	309.1	296.0
Current liabilities	90.4	79.0
Non-current liabilities	31.7	45.2
	2018	2019
Sales	638.2	647.7
Profit (+) / loss (-)	59.7	57.2
Total comprehensive income	80.8	66.6

Freudenberg-NOK General Partnership paid dividends in the amount of €24.5 million (previous year: €1.2 million) to the holder of the non-controlling interests.

Other non-controlling interests especially concern the EagleBurgmann Business Group, where they arise especially as a result of the contractual agreements with the partner Eagle Industry Co. Ltd., Tokyo, Japan.

## (11) Provisions for pensions and similar obligations

The Freudenberg pension scheme consists of both defined contribution and defined benefit pension plans. Defined benefit plans include both fixed salary and final salary plans. The provisions for pensions and similar obligations include obligations arising from current pensions and future pension entitlements.

The pension plans at Freudenberg Group mainly concern German, Japanese and British companies. The pension obligations of the German companies are commitments financed by provisions. These obligations are subject to the rules of the pension plan concerned and the applicable statutory provisions. The plans include benefit commitments dependent on service periods and on salaries and provide for disability benefits and benefits for surviving dependents as well as for retirement benefits.

The pension plans of British companies are managed by third party pension funds. The representatives of the pension funds are legally obliged to act in the interest of all participants in the plan. In cooperation with investment advisers, they are responsible for the development and regular review of investment strategies for the plan assets. Commitments based on age and years of service include both retirement benefits and certain forms of survivor benefits. Most of these plans are frozen and future entitlements can no longer be earned by plan participants. The pension obligations of these companies are mainly financed by plan assets, funded chiefly by employers' contributions.

The pension plans in Japan consist of benefit commitments based on age and years of service. These pension plans are managed by a third-party pension fund. The pension obligations of the Japanese companies are mainly financed by plan assets, funded solely by employers' contributions.

Apart from pension obligations, this item also includes obligations similar to pensions, such as amounts paid to employees upon the termination of their employment which do not constitute termination benefits. These benefits vary in accordance with the legal, tax and economic conditions in the countries concerned.

All defined benefit schemes of the Freudenberg Group are subject to typical actuarial risks, especially investment and interest risks.

Current service cost and net interest on the net defined benefit liability are disclosed in the statement of profit or loss under personnel expenses in the relevant functional areas.

In the case of the defined contribution plans, there are no additional obligations apart from the payment of contributions. Contributions paid are expensed under personnel expenses and amounted to €81.2 million in 2019 (previous year: €84.3 million).

The defined benefit obligations were calculated on actuarial principles by the projected unit credit method. The calculation was based on the following discount rates as major actuarial assumptions:

	Dec. 31, 2018	Dec. 31, 2019
Germany	1.95 %	1.05 %
Japan	0.52 %	0.42 %
United Kingdom	2.82 %	1.97 %

In the case of the other foreign companies, the discount rates ranged from 0.1 to 3.1 percent (previous year: 0.9 to 4.2 percent).

As a result of the pension plan regulations, the assumed trend in salaries and pensions only has an effect on the value of pension obligations in exceptional cases.

Net obligations are shown in the following items of the statement of financial position:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Provisions for pensions and similar obligations	718.1	842.3
Other assets	5.6	4.5
	<b>712.5</b>	<b>837.8</b>

Net obligations are calculated as follows:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Present value of funded obligations	266.7	277.2
Fair value of plan assets	-247.1	-256.2
<b>Surplus (-)/deficit (+)</b>	<b>19.6</b>	<b>21.0</b>
Present value of unfunded obligations	692.9	816.8
	<b>712.5</b>	<b>837.8</b>

Defined benefit obligations developed as follows:

[€ million]	Germany	Japan	United Kingdom	Miscellaneous	2018
<b>Present value of defined benefit obligations, Jan. 1, 2018</b>	<b>639.2</b>	<b>121.7</b>	<b>129.0</b>	<b>114.2</b>	<b>1,004.1</b>
Current service cost	14.4	3.8	0.0	4.8	23.0
Interest cost	11.6	0.7	2.6	2.5	17.4
Gains (-) and losses (+) from remeasurement of defined benefit obligations	-4.2	0.8	-5.7	-1.7	-10.8
Gains (-) and losses (+) on settlements	0.0	0.0	0.0	0.3	0.3
Past service cost	0.2	0.0	0.5	0.5	1.2
Contributions by plan participants	0.1	0.0	0.0	0.6	0.7
Liabilities extinguished on settlements	0.0	0.0	-25.8	-7.6	-33.4
Benefits paid	-19.8	-4.4	-7.4	-6.2	-37.8
Changes in consolidated group	0.0	0.0	0.0	0.0	0.0
Other changes	-15.1	0.0	0.0	0.5	-14.6
Exchange rate differences	0.0	8.9	-1.1	1.7	9.5
<b>Present value of defined benefit obligations, Dec. 31, 2018</b>	<b>626.4</b>	<b>131.5</b>	<b>92.1</b>	<b>109.6</b>	<b>959.6</b>

[€ million]	Germany	Japan	United Kingdom	Miscellaneous	2019
<b>Present value of defined benefit obligations, Jan. 1, 2019</b>	<b>626.4</b>	<b>131.5</b>	<b>92.1</b>	<b>109.6</b>	<b>959.6</b>
Current service cost	14.8	4.4	0.0	4.7	23.9
Interest cost	12.0	0.7	2.6	2.5	17.8
Gains (-) and losses (+) from remeasurement of defined benefit obligations	108.3	1.6	16.0	9.3	135.2
Gains (-) and losses (+) on settlements	0.0	0.0	0.0	-0.3	-0.3
Past service cost	0.0	0.0	0.0	-0.1	-0.1
Contributions by plan participants	0.0	0.0	0.0	0.4	0.4
Liabilities extinguished on settlements	0.0	0.0	0.0	-0.1	-0.1
Benefits paid	-19.4	-4.8	-7.2	-20.3	-51.7
Changes in consolidated group	0.0	0.0	0.0	0.8	0.8
Other changes	0.1	0.0	0.0	-1.9	-1.8
Exchange rate differences	0.0	4.2	4.7	1.4	10.3
<b>Present value of defined benefit obligations, Dec. 31, 2019</b>	<b>742.2</b>	<b>137.6</b>	<b>108.2</b>	<b>106.0</b>	<b>1,094.0</b>

The plan assets of funded pension plans developed as follows:

[€ million]	Japan	United Kingdom	Miscellaneous	2018
<b>Fair value of plan assets, Jan. 1, 2018</b>	<b>98.7</b>	<b>127.7</b>	<b>49.0</b>	<b>275.4</b>
Interest income	0.5	2.6	1.1	4.2
Gains (+) and losses (-) from remeasurement of plan assets	-0.3	-5.7	0.4	-5.6
Contributions by employer	6.2	2.2	5.2	13.6
Contributions by plan participants	0.0	0.0	0.6	0.6
Liabilities extinguished on settlements	0.0	-25.8	-7.7	-33.5
Benefits paid	-4.1	-7.4	-3.0	-14.5
General plan administration costs	0.0	-0.2	-0.3	-0.5
Changes in consolidated group	0.0	0.0	0.0	0.0
Other changes	0.0	0.0	-0.2	-0.2
Exchange rate differences	7.2	-1.0	1.4	7.6
<b>Fair value of plan assets, Dec. 31, 2018</b>	<b>108.2</b>	<b>92.4</b>	<b>46.5</b>	<b>247.1</b>

[€ million]	Japan	United Kingdom	Miscellaneous	2019
<b>Fair value of plan assets, Jan. 1, 2019</b>	<b>108.2</b>	<b>92.4</b>	<b>46.5</b>	<b>247.1</b>
Interest income	0.6	2.7	0.8	4.1
Gains (+) and losses (-) from remeasurement of plan assets	1.5	12.2	0.5	14.2
Contributions by employer	6.7	2.4	3.2	12.3
Contributions by plan participants	0.0	0.0	0.4	0.4
Liabilities extinguished on settlements	0.0	0.0	-0.5	-0.5
Benefits paid	-4.3	-7.2	-16.9	-28.4
General plan administration costs	0.0	-0.1	-0.1	-0.2
Changes in consolidated group	0.0	0.0	-0.4	-0.4
Other changes	0.0	0.0	-1.5	-1.5
Exchange rate differences	3.5	4.7	0.9	9.1
<b>Fair value of plan assets, Dec. 31, 2019</b>	<b>116.2</b>	<b>107.1</b>	<b>32.9</b>	<b>256.2</b>

The fair value of plan assets with quoted prices in active markets was as follows:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Equity instruments	80.4	93.7
Interest-bearing securities	55.8	59.1
Other assets	81.9	78.4
	<b>218.1</b>	<b>231.2</b>

The fair value of plan assets without quoted prices in active markets was as follows:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Equity instruments	0.7	1.2
Interest-bearing securities	0.4	1.0
Other assets	27.9	22.8
	<b>29.0</b>	<b>25.0</b>

In the reporting year, gains and losses from the remeasurement of the defined benefit obligations and plan assets recognized in retained earnings developed as follows:

[€ million]	2018	2019
<b>Gains (+) and losses (-) from remeasurement, Jan. 1</b>	<b>-305.1</b>	<b>-288.6</b>
Gains (+) and losses (-) from remeasurement of defined benefit obligations	10.8	-135.2
Of which: as a result of changed financial assumptions	17.9	-133.4
Of which: as a result of changed demographic assumptions	-6.5	-1.6
Of which: as a result of experience-based adjustments	-0.6	-0.2
Gains (+) and losses (-) from remeasurement of plan assets	-5.5	14.2
Reclassifications/other changes	10.7	-1.8
Exchange rate differences	0.5	-2.3
<b>Gains (+) and losses (-) from remeasurement, Dec. 31</b>	<b>-288.6</b>	<b>-413.7</b>

In the following year, contributions in the amount of €11.6 million (previous year: €11.5 million) will probably be made to plan assets.

The weighted average duration of defined benefit obligations as at the end of the reporting year was 17.6 years (previous year: 16.4 years).

The possible changes in the defined benefit obligation as a result of changes in the discount rate, a major actuarial assumption, were calculated on the basis of the projected unit credit method. If the discount rate as at the statement of financial position date had been 0.50 percentage points lower, the present value of defined benefit obligations as at the statement of financial position date would have been €102.2 million (previous year: €83.2 million) higher. If the discount rate as at the statement of financial position date had been 0.50 percentage points higher, the present value of defined benefit obligations as at the statement of financial position date would have been €90.4 million (previous year: €74.3 million) lower.

**(12) Other provisions**

[€ million]	Personnel obligations	Warranties and guarantees	Onerous contracts	Miscellaneous <sup>1</sup>	Total
<b>Status Jan. 1, 2019</b>	<b>340.0</b>	<b>70.6</b>	<b>25.5</b>	<b>244.9</b>	<b>681.0</b>
Increases	240.2	26.4	22.6	160.5	449.7
Unwinding of discount and effect of change in discount rate	0.1	0.0	0.0	0.9	1.0
Amounts used	-236.5	-8.1	-14.6	-103.4	-362.6
Reversal	-18.8	-22.3	-5.1	-39.2	-85.4
Exchange rate differences	2.0	0.2	0.1	0.9	3.2
Changes in consolidated group	9.3	0.2	0.0	15.2	24.7
Other changes	1.2	-0.3	5.0	-5.1	0.8
<b>Status Dec. 31, 2019</b>	<b>337.5</b>	<b>66.7</b>	<b>33.5</b>	<b>274.7</b>	<b>712.4</b>
Of which: long-term	66.6	1.3	0.9	46.4	115.2
Of which: short-term	270.9	65.4	32.6	228.3	597.2
Reimbursement claims connected with provisions and shown in the statement of financial position under other assets	0.4	2.0	0.0	0.1	2.5

<sup>1</sup> The opening balances were in some cases adjusted due to the effects of the first time application of IFRS 16.

The provisions for personnel obligations mainly include provisions for other short-term employee benefits such as bonuses and commissions, provisions for vacation not taken and other long-term employee benefits such as long-term remuneration components as well as provisions for termination benefits.

The provisions for guarantees and warranties concern products supplied and services rendered. The provisions for onerous contracts include unrealized losses from contracts which have not been performed or not been fully performed.

The miscellaneous provisions include the following items:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Restructuring	33.4	58.6
Environmental protection	21.6	21.5
Legal action	24.1	19.9
Other	165.4	174.7
<b>Total</b>	<b>244.5</b>	<b>274.7</b>

### (13) Liabilities

[€ million]	Residual term		Dec. 31, 2018	Residual term		Dec. 31, 2019
	Short-term	Long-term		Short-term	Long-term	
Liabilities to banks (= financial debt)	133.5	282.4	415.9	243.5	170.1	413.6
Cash pool Liabilities	101.9	0.0	101.9	134.7	0.0	134.7
Other financial debt <sup>1</sup>	11.5	0.0	11.5	28.3	81.5	109.8
Lease Liabilities	0.7	5.6	6.3	87.8	254.3	342.1
Shareholder's loans	375.0	300.0	675.0	372.0	300.0	672.0
Accounts of Freudenberg & Co. KG Partners	179.9	299.6	479.5	186.5	326.4	512.9
<b>Financial debt</b>	<b>802.5</b>	<b>887.6</b>	<b>1,690.1</b>	<b>1,052.8</b>	<b>1,132.3</b>	<b>2,185.1</b>
<b>Trade payables</b>	<b>883.0</b>	<b>0.0</b>	<b>883.0</b>	<b>914.0</b>	<b>0.0</b>	<b>914.0</b>
Contract liabilities	33.5	0.0	33.5	26.9	0.0	26.9
Miscellaneous liabilities <sup>1</sup>	282.6	132.3	414.9	231.4	167.3	398.7
<b>Other liabilities</b>	<b>316.1</b>	<b>132.3</b>	<b>448.4</b>	<b>258.3</b>	<b>167.3</b>	<b>425.6</b>
	<b>2,001.6</b>	<b>1,019.9</b>	<b>3,021.5</b>	<b>2,225.1</b>	<b>1,299.6</b>	<b>3,524.7</b>

<sup>1</sup> Compared to the previous year, there was a reclassification from miscellaneous liabilities to other financial debt.

The average interest rate on long-term liabilities to banks is 0.91 percent (previous year: 1.00 percent). For the first time, the other financial debt includes loans by third parties with an interest rate between 1.00 and 6.00 percent on the long-term portion.

The interest payable on the certificates of indebtedness included in the liabilities to banks is based on variable and fixed components. Cash flows for variable and fixed interest and repayment of principal will probably be as follows from 2020 to 2023:

[€ million]	Book Value	Cash Flows		
	Dec. 31, 2019	2020	2021	2022-2023
Certificates of indebtedness	214.5	160.3	0.9	58.2

Liabilities in connection with leasing in the previous financial year resulted from finance leases in accordance with IAS 17, with an average interest rate of 3.18 percent. Additional lease liabilities were recognized as at January 1, 2019 as a result of the first-time application of IFRS 16. As at December 31, 2019, possible future cash outflows in the amount of €21.4 million were not included in lease liabilities because a lease had been concluded but not yet inceptioned as at the date of the statement of financial position or because it was not assessed as reasonably certain that an extension option would be exercised.

The loans granted by the shareholder were extended during the reporting year. Interest is payable on these

loans at rates between 1.00 and 3.35 percent (previous year: between 1.00 and 3.35 percent).

The interest rates applicable to accounts of Freudenberg & Co. KG Partners vary between 1.00 and 4.00 percent depending on the individual agreements (previous year: between 1.00 and 4.00 percent).

Miscellaneous liabilities include liabilities for outstanding wages and salaries, holiday pay and special bonuses and liabilities for other taxes, as well as liabilities in connection with social security and other refund liabilities.

**Contingent liabilities and other financial obligations**

[€ million]	Dec. 31, 2018	Dec. 31, 2019
<b>CONTINGENT LIABILITIES</b>		
Bills of exchange	0.1	0.0
Guarantees	15.8	4.2
Warranty agreements	0.2	10.2
Collateral for third-party liabilities	0.1	0.0
Miscellaneous	0.4	2.2
	<b>16.6</b>	<b>16.6</b>
<b>OTHER FINANCIAL COMMITMENTS</b>		
Commitments arising from leasing contracts	370.3	0.0
Purchase commitments in connection with intangible assets	1.4	0.5
Purchase commitments in connection with tangible assets	47.7	74.5
Purchase commitments in connection with the delivery of goods and services	92.7	178.4
Miscellaneous	23.4	9.9
	<b>535.5</b>	<b>263.3</b>

In addition, the following contingent liabilities and other financial commitments concern joint ventures:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
<b>CONTINGENT LIABILITIES</b>		
Guarantees	5.6	0.0
Warranties	0.4	8.5
	<b>6.0</b>	<b>8.5</b>
<b>OTHER FINANCIAL COMMITMENTS</b>		
Commitments arising from leasing contracts	4.7	0.0
Purchase commitments in connection with the delivery of goods and services	0.0	0.0
	<b>4.7</b>	<b>0.0</b>

**Additional information on financial instruments**

The term “financial instrument” is used to refer to any contract that gives rise to both a financial asset of one enterprise and a financial liability or equity instrument of another enterprise. A distinction is made between primary and derivative financial instruments. Primary financial instruments in the case of the purchase or sale of assets are recognized at the settlement date, i.e. the delivery of the asset concerned. Derivative financial instruments are recognized as of the trade date. In the

event of loss of control over the contractually agreed rights to a financial asset, the asset concerned is derecognized. Financial liabilities are derecognized on the statement of financial position when the commitment is discharged or cancelled, or expires.

According to IFRS 9, financial instruments are divided into the following categories:

- Measured at amortized cost

This category includes debt instruments with cash flows consisting solely of principal and interest payments. They are held by Freudenberg in a business model whose objective is achieved by collecting the contractual cash flows.

- Measured at fair value through other comprehensive income

This category includes both debt and equity instruments. Debt instruments are to be included in this category if the cash flows associated with these instruments consists solely of principal and interest payments and the business model has the objective of both collecting contractual cash flows and selling financial assets. Amounts recognized in other comprehensive income for those debt instruments are reclassified to the statement of profit or loss upon the later disposal of such instruments. Equity instruments not held for trading may be assigned to this category. The amounts recognized in other comprehensive income for those equity instruments are not reclassified to the statement of profit or loss in the event of the later disposal of such instruments.

- Measured at fair value through profit or loss

This category includes both debt and equity instruments. Debt instruments are to be assigned to this category in the event that the cash flows associated with such instruments do not consist solely of principal and interest payments or if the business model is based mainly on short-term trading intentions. Equity instruments must also be assigned to this category if there are trading intentions. If there are no trading intentions, there is an option to classify equity instruments as measured at fair value through profit or loss. In addition, both debt and equity instruments are classified in this category if such classification prevents an accounting mismatch between assets and liabilities. The same applies to partnership shares. Those shares are not considered to be equity instruments and also do not meet the condition that the cash flows associated with them consist solely of principal and interest payments. Derivative financial instruments that do not meet the requirements for hedge accounting are also measured at fair value through profit or loss.

Freudenberg does not hold any financial assets or liabilities for short-term trading purposes.

## Financial instruments

Financial instruments are assigned to categories on the basis of the relevant items in the statement of financial position. The allocation to the categories unambiguously defines the accounting and measurement of the instruments.

[€ million]	At amortized cost	At fair value through other comprehensive income	At fair value through profit or loss	Book value Dec. 31, 2018
<b>ASSETS</b>				
Other financial assets	6.6	57.0	55.0	118.6
Trade receivables	1,467.5			1,467.5
Other assets	132.6		27.3	159.9
Securities and cash at bank and in hand	984.7			984.7
	<b>2,591.4</b>	<b>57.0</b>	<b>82.3</b>	<b>2,730.7</b>

<b>LIABILITIES</b>				
Financial debts	1,690.1			1,690.1
Trade payables	883.0			883.0
Other liabilities	293.5		0.4	293.9
	<b>2,866.6</b>		<b>0.4</b>	<b>2,867.0</b>

[€ million]	At amortized cost	At fair value through other comprehensive income	At fair value through profit or loss	Book value Dec. 31, 2019
<b>ASSETS</b>				
Other financial assets	15.7	52.3	70.5	138.5
Trade receivables	1,482.1			1,482.1
Other assets	262.0		40.7	302.7
Securities and cash at bank and in hand	1,117.3			1,117.3
	<b>2,877.1</b>	<b>52.3</b>	<b>111.2</b>	<b>3,040.6</b>

<b>LIABILITIES</b>				
Financial debts	2,185.1			2,185.1
Trade payables	914.0			914.0
Other liabilities	276.7		2.7	279.4
	<b>3,375.8</b>		<b>2.7</b>	<b>3,378.5</b>

Loans and receivables are measured at amortized cost. The cash flows arising from these financial assets consist solely of principal and interest payments and they are held by Freudenberg within a business model

whose objective is achieved by collecting the contractual cash flows. The fair values of financial assets and financial liabilities measured at amortized

cost are approximately equal to the carrying amounts of such assets and liabilities.

The other financial assets measured at fair value through other comprehensive income as at the statement of financial position date consist solely of equity instruments not held for trading purposes. The greater part of these financial instruments, in the amount of €47.4 million (previous year: €53.3 million) were measured on the basis of active markets for identical assets (level 1 input factors). For the remaining equity instruments, in the amount of €4.9 million (previous year: €3.7 million), the amortized cost represents the best estimate of the fair value. The amounts recognized in other comprehensive income for equity instruments are not reclassified to the statement of profit or loss upon the later disposal of such instruments. In the reporting period, there were no disposals of significant equity instruments in this category.

The other financial instruments measured at fair value through profit or loss are debt instruments with an amount of €2.9 million (previous year: €2.5 million) with cash flows not consisting solely of principal and interest payments, investments for which another measurement would lead to an accounting mismatch with an amount of €9.4 million (previous year: €9.0 million) and shares in partnerships with an amount of €58.2 million (previous year: €43.5 million). In the case of shares in partnerships, the amortized cost represents the fair value, unless there is sufficient recent information available for the measurement of fair value. In the event that later information becomes available, measurement changes are recognized in fair value with an effect on net income. The other financial assets measured at fair value through profit or loss are measured on the basis of active markets for identical assets (level 1 inputs). The income recognized in the reporting period for financial instruments in this category was €14.8 million (previous year: loss of €1.9 million). The other assets in this category solely include derivative financial instruments. These chiefly concern option rights for the acquisition of shares in companies with a value of €40.6 million (previous year: €26.7 million). The fair value of these assets is measured on the basis of developed, unobservable input factors (level 3 input factors). The other assets and other liabilities include derivative financial instruments used for hedging currency risks but do not meet the requirements for hedge accounting. Such derivatives

are measured at fair value through profit or loss (see information on hedging transactions).

### Information on credit risks

In accordance with IFRS 9, expected credit losses are the key factor in measuring impairment losses. Impairment losses are recognized in accordance with IFRS 9 for all financial assets measured at amortized cost, for debt instruments measured at fair value without effect on net income, and for contract assets. IFRS 9 provides for a three-stage procedure. Loss allowances are measured either on the basis of the 12-month expected credit loss (stage 1) or on the basis of the lifetime expected credit loss if there has been a significant increase in credit risk since initial recognition (stage 2) or a credit impairment has been identified (stage 3).

Securities and cash at bank and in hand are debt instruments that are measured at amortized cost. Such assets held by Freudenberg mainly have a low credit risk and are due in the short-term. Such assets must therefore be assigned to stage 1 of the impairment model. The loss allowance as at the date of the statement of financial position was €1.0 million. The impairment losses were not adjusted in the reporting period.

For trade receivables, the simplified approach in accordance with IFRS 9 is adopted. In this approach, the loss allowance is always calculated on the basis of the lifetime expected credit losses. In order to determine the expected credit losses, customers are assigned to groups with similar credit risks. In the case of appropriate individual circumstances and risk indications, individual impairment losses are recognized. Information related to the past and to the future is taken into consideration in the measurement of impairment losses.

In order to determine the expected credit losses for a group of receivables, Freudenberg applies two factors. The first factor takes the country risk into account and the second factor accounts for the customer-specific default risk.

The centrally defined country risk factor covers factors such as transfer or convertibility risks, moratoriums, and capital or currency regulations which would

prevent a company from converting its local currency into a foreign currency and/or transferring foreign currency to creditors in other countries. This specifically includes circumstances such as war, confiscation, revolution, insurrections, flooding and earthquakes. In addition the model considers forward looking information regarding the financial and economic situation. The financial information includes medium-term financial solvency indicators such as overall foreign debt and total payments in connection with external debts. These figures are typically connected with indicators such as the gross domestic product and/or foreign exchange revenues. Economic information includes long-term structural indicators that measure the growth potential such as income levels, savings rates or economic growth rates achieved and vulnerability, such as export diversification, dependence on subsidies or the size of economies.

The customer-specific risk is based on shared credit risk characteristics of receivable groups. It takes into consideration specific business models, customer experience, differences in local payment cultures and market knowledge. If there is a major difference between different due date ranges, impairment loss rates are calculated separately for the different due date ranges.

To a large extent (between 70 and 90 percent), trade receivables are covered by credit insurance. Credit insurance is taken into account in the calculation of the impairment losses. Otherwise, the carrying amount represents the maximum credit risk.

Trade receivables are de-recognized if, on the basis of an appropriate estimate, it is not to be expected that the receivable may be realized in whole or in part. In this context, the information concerned must indicate that a debtor has financial problems and that there is no realistic prospect of the receipt of payments, for example if a debtor has been placed under liquidation or is subject to insolvency proceedings. As at the statement of financial position date, derecognized receivables in the amount of €1.5 million (previous year: €1.3 million) were still subject to enforcement activity.

The risk profile of trade receivables is summarized in the table below:

[€ million]	Gross carrying amount Dec. 31, 2018 <sup>1</sup>	Weighted average loss rate <sup>2</sup>	Loss allowance
Current (not past due)	1,259.4	1%	12.0
1 – 60 days past due	196.0	2%	4.3
61 – 180 days past due	43.8	9%	3.9
181 – 360 days past due	12.7	18%	2.3
More than 360 days past due	9.6	46%	4.4

<sup>1</sup>The figures include assets and groups of assets held for sale.

<sup>2</sup>The weighted average loss rate was rounded to full percentage values.

[€ million]	Gross carrying amount Dec. 31, 2019 <sup>1</sup>	Weighted average loss rate <sup>2</sup>	Loss allowance
Current (not past due)	1,220.2	0%	4.7
1 – 60 days past due	218.1	3%	7.6
61 – 180 days past due	50.0	14%	7.2
181 – 360 days past due	15.2	28%	4.2
More than 360 days past due	11.3	72%	8.1

<sup>1</sup>The figures include assets and groups of assets held for sale.

<sup>2</sup>The weighted average loss rate was rounded to full percentage values.

Loss allowance to trade receivables developed as follows:

[€ million]	2018	2019
<b>Loss allowance Jan. 1</b>	<b>26.3</b>	<b>26.9</b>
Changes in consolidated group	0.1	0.7
Exchange rate differences	-0.4	0.2
Additions (expenses for impairments)	9.6	16.5
Amounts used	-2.9	-8.4
Reversals (write-ups)	-5.8	-4.1
<b>Loss allowance Dec. 31</b>	<b>26.9</b>	<b>31.8</b>

As at the statement of financial position date, loss allowance to other assets amounted to €0.5 million (previous year: €0.7 million). No significant impairment losses to contract assets were recognized in the year under review.

### Hedging transactions

Freudenberg SE is responsible for all financing activities and also coordinates the cash management system for the entire group of companies. Group companies obtain the financing they require via cash pools or internal loans or, in some countries, in the form of bank loans guaranteed by Freudenberg SE.

The limits of action, responsibilities and control procedures in connection with derivative financial instruments are laid down in a binding form in internal directives for Group companies. Freudenberg does not expose itself to additional financial risks through speculation with derivative financial instruments but uses such instruments only for hedging purposes and therefore reducing risks in connection with transactions. Future transactions are only hedged if there is a high probability of occurrence. As a general principle Freudenberg uses derivative financial instruments for hedging interest rates and foreign exchange risks. Open risk items are primarily hedged via transactions within the Group. External hedging transactions are only concluded after consultation with the responsible corporate function.

The interest rate risk represents the risk that the fair value or future cash flows of financial instruments may fluctuate as a result of changes in market interest rates. As in the previous year, there were no derivatives entered into for the purpose of interest rate hedging as at December 31, 2019.

Freudenberg is active internationally and is subject to exchange rate risks resulting from transactions in foreign currencies. Currency risks arise from future business transactions and recognized assets and liabilities concluded in a currency which is not the functional currency of the relevant Group company. The objective of hedging transactions is to reduce the volatility resulting from foreign currencies. For this purpose, currency futures and currency swaps are concluded.

Derivative financial instruments for hedging recognized assets or liabilities (fair value hedges) are shown in the statement of financial position at fair value. Changes in the fair value are recorded in the statement of profit or loss.

Financial instruments for hedging future cash flows (cash flow hedges) are also included in the statement of financial position at fair value, but changes in the fair value of such instruments are recognized without effect on net income under retained earnings, taking into consideration the applicable income taxes and recognized in the statement of profit or loss when future cash flows are realized. Ineffective portions of hedge transactions are always recognized in the statement of profit or loss. The effectiveness of hedging transactions is determined regularly by prospective assessment upon the inception of the transaction. For hedging currency risks, the main hedging transactions concluded are based on contract terms that are congruent with the underlying transaction. Ineffectiveness may arise if parameters such as the timing of a planned transaction change compared with the original estimate.

Derivative financial instruments are used solely for hedging purposes. However, if the derivatives do not meet the requirements for hedge accounting, they must be assessed as “held for trading” for accounting purposes. Such instruments are measured at fair value through profit or loss.

As at December 31, the Group held the following currency futures:

[€ million]	Dec. 31, 2018	Dec. 31, 2019
<b>DERIVATIVE FINANCIAL INSTRUMENTS - CASH FLOW HEDGES</b>		
Other assets – book value (assets)	0.4	0.1
Other liabilities – book value (equity and liabilities)	0.3	0.0
Notional amount	31.7	3.0
Maturity date	1 / 2019 – 12 / 2019	1 / 2020 – 7 / 2020
Hedge ratio	1:1	1:1
Change in exchange rate of outstanding hedging instruments	0.1	0.1
<b>DERIVATIVE FINANCIAL INSTRUMENTS - FAIR VALUE HEDGES</b>		
Other assets – book value (assets)	0.0	0.1
Other liabilities – book value (equity and liabilities)	0.2	0.2
Notional amount	3.6	17.1
Maturity date	2 / 2019 – 9 / 2020	1 / 2020 – 12 / 2020
Hedge ratio	1:1	1:1
Change in exchange rate of outstanding hedging instruments	-0.2	-0.1
Change in value of hedged item	0.2	0.1
<b>DERIVATIVE FINANCIAL INSTRUMENTS HELD FOR TRADING</b>		
Other assets – book value (assets)	0.6	0.1
Other liabilities – book value (equity and liabilities)	0.4	2.7
Notional amount	131.8	240.1
Maturity date	1 / 2019 – 12 / 2019	1 / 2020 – 12 / 2020

In the reporting year, value changes in the case of currency futures (cash flow hedges) are recognized in equity in the amount of €0.1 million (previous year: €0.1 million).

The fair values of currency futures were determined on the basis of the quoted currency future prices for similar financial instruments (level 2 inputs).

Derivatives to hedge currency risks in connection with the US dollar represent a large part of the notional amount.

[€ million]	Dec. 31, 2018	Dec. 31, 2019
Notional amount currency pair USD/EUR	60.2	63.3
Weighted average hedged rate for the year USD/EUR	1.14	1.12

## Risks in connection with financial instruments

Freudenberg is exposed to risks resulting from changes in exchange rates and interest rates and, as a general principle, uses conventional derivative instruments such as interest rate swaps, caps and currency futures to hedge risks in connection with business operations and financing to a limited extent. The use of these instruments is governed by Freudenberg directives within the risk management system which lay down limits on the basis of the value of the underlying transactions, define approval procedures, exclude the use of derivative instruments for speculative purposes, minimize credit risks and govern internal reporting and the separation of functions. Compliance with these directives and the proper handling and measurement of transactions are regularly verified, observing the principle of separation of functions. Furthermore, risk management for financial instruments is integrated in the Freudenberg Group risk management system.

The risks which are hedged are chiefly as follows:

### Interest rate risk:

In the case of fixed-interest loans or investments, there is a risk that changes in the market interest rate will affect the market value of the item concerned (market value risk contingent on interest rates). In contrast, variable interest loans and investments are not subject to this risk as the interest rate is adjusted to reflect changes in the market situation with a very short delay. However, there is a risk with respect to future interest payments as a result of short-term fluctuations in market interest rates (cash flow risk contingent on interest rates).

Risks associated with interest rate changes mainly affect long-term items. If market interest rates had been 0.5 percentage points higher or lower, on average, as of December 31, 2019, this would have had only an insignificant impact on net income.

### Currency risk:

The primary financial instruments are chiefly held in the functional currency.

Exchange rate differences caused by the conversion of financial statements into the Group currency are not taken into consideration.

If the value of the Euro against major currencies held at the date of the statement of financial position (USD, GBP and JPY) had been 10 percent higher as at December 31, 2019, the profit before income taxes would have been €17.2 million (previous year: €10.4 million) lower. If the value of the euro against major currencies held (USD, GBP and JPY) had been 10 percent lower as at December 31, 2018, the profit before income taxes would have been €21.0 million (previous year: €12.7 million) higher.

### Liquidity risk:

Risks connected with cash flow fluctuations are identified by the cash flow planning system already existing. As a result of Freudenberg's good rating ("A3") and the credit lines granted by banks on a binding basis, Freudenberg can access ample sources of funds at all times.

### Credit risk:

Specific loss allowances are recognized to take account of identifiable risks not covered by credit insurance. In addition, a loss allowance is recognized for expected credit losses. Otherwise, the book value represents the maximum credit risk.

Freudenberg only concludes derivative financial instruments with national and international banks of investment grade rating. Credit risks are largely limited by distributing between several banks and a policy of applying caps to individual banks.

## NOTES TO THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS

### (14) Sales

[€ million]	2018	2019
Sales from sales of goods	9,077.1	9,217.6
Sales from services	153.7	37.4
Sales from research and development / research and development licenses	92.5	87.2
Sales from production-related licenses	1.2	0.8
Other sales	130.9	124.8
	<b>9,455.4</b>	<b>9,467.8</b>

Other sales include, inter alia, sales from the sale of customer-specific tools, sales from rental and lease contracts and sales from support and supplementary operations. A breakdown of sales by sectors and regions is given in the management report.

In the 2019 financial year, sales in the amount of €28.6 million (previous year: €25.5 million) were recorded which had been recognized as contract liabilities at the beginning of the financial year.

### (15) Cost of sales

Cost of sales, amounting to €6,480.5 million (previous year: €6,395.6 million), indicates the cost of goods and services sold. Apart from individual directly attributable costs, such as personnel expenses and material expenses, also overheads including depreciation/amortization as well as development expenses for customer-specific development projects are shown under cost of sales.

### (16) Selling expenses

Selling expenses, amounting to €1,298.3 million (previous year: €1,297.2 million), include all expenses incurred in the sales area, for example personnel, advertising, carriage and packaging expenses.

### (17) Administrative expenses

In 2019, administrative expenses amounted to €638.6 million (previous year: €633.5million). Administrative expenses include all expenses which cannot be allocated to production, sales or research and development and concern, inter alia, personnel expenses and miscellaneous administrative expenses.

### (18) Research and development expenses

Apart from personnel and material expenses, research and development expenses chiefly include the cost of licenses and patents occurring in the course of development projects.

**(19) Other income**

[€ million]	2018	2019
Currency and exchange gains <sup>1</sup>	7.9	6.8
Income from other secondary business	2.2	2.3
Income from the change in status of investments previously consolidated at equity	0.0	39.0
Income from disposals of non-current assets	29.4	164.9
Income from recharges	10.9	10.5
Miscellaneous income	84.9	90.4
	<b>135.3</b>	<b>313.9</b>

<sup>1</sup> After offsetting of exchange rate losses.

The increase in other income is chiefly due to higher income from disposals of non-current assets. This includes the sale of Freudenberg IT. The increase in income from the change in status of investments previously consolidated at equity is a result of the increase in the stakes held in XALT Energy, LLC, and Cambus Teoranta.

**(20) Other expenses**

[€ million]	2018	2019
Losses resulting from disposals of non-current assets	7.3	8.4
Miscellaneous expenses	76.2	110.9
	<b>83.5</b>	<b>119.3</b>

The miscellaneous expenses mainly include the impairment loss on the goodwill of the group of cash-generating unit Freudenberg Medical in the amount of €77.8 million.

**(21) Income from investments in joint ventures**

The income from investments in joint ventures amounted to €14.3 million (previous year: €22.0 million).

**(22) Income from investments in associated companies**

The fall in income from investments in associated companies from €46.9 million to €-15.9 million is a result of the reduced pro rata profit of the associated company NOK Corporation, Tokyo, Japan.

**(23) Other investment result**

The increase in other investment result from €-9.5 million to €33.9 million was chiefly the result of increased income from investments and increased income from the re-measurement of financial assets measured at fair value through profit or loss.

**(24) Other interest and similar income**

The other interest and similar income amounted to €20.8 million (previous year: €13.3 million).

**(25) Interest and similar expenses**

In 2019, interest expenses amounted to €55.0 million (previous year: €44.0 million). This item chiefly includes interest on shareholder's loans in the amount of €13.4 million (previous year: €13.4 million) and interest payable to the Partners of Freudenberg & Co. KG in the amount of €14.3 million (previous year: €13.1 million).

## (26) Income taxes

This item shows German corporation tax (plus solidarity surcharge) and municipal trade taxes as well as similar taxes on income payable in other countries.

The figure also includes deferred taxes on temporary differences between the tax balance sheets and commercial balance sheets of individual group companies, on adjustments to consistent measurement within the Freudenberg Group and on the consolidation procedure.

Deferred taxes are calculated at the tax rates applicable in the respective countries.

Income taxes break down as follows (expense (-) / income (+)):

[€ million]	2018	2019
Current taxes related to the reporting period	-242.2	-240.7
Current taxes related to prior periods	-6.6	-7.7
Deferred taxes	15.9	30.5
	<b>-232.9</b>	<b>-217.9</b>

The amount of deferred tax income related to changes in tax rates was €1.1 million (previous year: €0.9 million). Deferred tax income includes income in the amount of €30.9 million (previous year: €14.5 million) resulting from the development or elimination of temporary differences. In the reporting year, impairment losses with respect to deferred tax assets on temporary differences were recognized in the amount of €9.0 million (previous year: €6.1 million).

In the reporting year, deferred taxes related to transactions recognized directly in equity resulted in an increase in equity of €33.2 million (previous year: reduction in equity of €5.7 million).

As of December 31, 2019, tax losses carried forward amounted to €624.5 million (previous year: €388.2 million). Deferred tax assets were recognized in respect of tax losses carried forward totaling €28.2 million (previous year: €37.7 million). Deferred tax assets were not recognized in respect of tax losses carried forward with a total amount of €596.3 million (previous year: €350.5 million) as it is not expected that these losses will be usable. Of the tax losses carried forward, €21.0 million (previous year: €19.5 million) will be forfeited in the period up to 2029 if they are not used.

In the reporting year, tax losses carried forward totaling €27.2 million (previous year: €14.7 million) for which no deferred tax assets had been recognized were used.

Deferred taxes concern temporary differences and tax losses carried forward in the following amounts:

[€ million]	Deferred tax assets Dec. 31, 2018	Deferred tax liabilities Dec. 31, 2018	Deferred tax assets Dec. 31, 2019	Deferred tax liabilities Dec. 31, 2019
Intangible assets	18.1	287.7	19.3	275.3
Tangible assets	11.1	119.3	10.0	123.5
Financial assets	1.3	2.0	1.1	2.0
Inventories	42.7	0.7	50.7	1.0
Receivables	19.3	8.4	16.6	9.0
Other assets	3.0	8.6	4.6	7.1
Provisions for pensions and similar obligations	119.8	0.3	150.9	0.2
Other provisions	54.0	2.2	71.8	3.3
Liabilities	28.4	11.5	28.3	17.8
Balance of rights of use assets and liabilities from leasing	0.0	0.0	2.5	2.4
Other liabilities	0.1	4.2	0.6	5.7
Tax losses carried forward	6.8	0.0	5.4	0.0
	<b>304.6</b>	<b>444.9</b>	<b>361.8</b>	<b>447.3</b>
Offsetting	-96.1	-96.1	-99.9	-99.9
<b>Recognized in statement of financial position</b>	<b>208.5</b>	<b>348.8</b>	<b>261.9</b>	<b>347.4</b>

No deferred tax items were set up on temporary differences arising from shareholdings totaling €43.1 million (previous year: €44.5 million) as short-term dividend payments are not expected.

No deferred tax liabilities were recognized in respect of differences in the retained earnings of affiliated companies amounting to €2,317.5 million (previous year: €1,974.7 million) as it is intended to use these funds for maintaining the substance and expanding the business of the companies concerned.

### Reconciliation of expected income tax with actual income tax expense

Freudenberg SE and its German subsidiaries are subject to corporation tax (plus solidarity surcharge) and the municipal trade tax on income. Income realized in other countries is taxed at the rates applicable in the respective countries. The tax rate of 30.0 percent (previous year: 30.0 percent) used for calculating the expected tax expense is based on the structure of Freudenberg relevant for taxation. It is calculated as the weighted average of the tax rates for the regions in which Freudenberg realized its main income. Non-taxable income includes, inter alia, the profit after tax of participations consolidated by the equity method, dividends received from non-consolidated companies and income from the re-measurement of financial assets measured at fair value through profit or loss.

[€ million]	2018	2019
Profit before income taxes	835.3	828.5
<b>Expected income tax expense (-)/ income (+)</b>	<b>-250.6</b>	<b>-248.6</b>
Different tax rates:		
In Germany	0.6	0.3
In other countries	44.3	44.8
Tax portion of:		
Non-taxable income	46.9	51.5
Non-deductible expenses	-64.1	-59.7
Current taxes related to prior periods	-3.6	-2.6
Tax portion of new tax losses carried forward for which no deferred tax assets were recognized	-12.4	-13.0
Tax portion of tax losses carried forward and used for which no deferred tax assets were recognized	0.6	2.8
Other taxation effects	5.4	6.6
<b>Actual income tax expense</b>	<b>-232.9</b>	<b>-217.9</b>
Effective tax rate (percent)	27.9	26.3

### (27) Profit or loss attributable to non-controlling interests

[€ million]	2018	2019
Profit	55.9	62.4
Loss	-6.7	-22.8
	<b>49.2</b>	<b>39.6</b>

## NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS

### (28) Cash flow from operating activities

The cash flow from operating activities takes into account dividends received from joint ventures totaling €0.3 million (previous year: €0.3 million) and dividends received from associated companies totaling €24.6 million (previous year: €21.7 million).

### (29) Payments to shareholders/non-controlling interests

Payments to shareholders and non-controlling interests include dividends paid to the shareholder, to the Partners of Freudenberg & Co. KG and to holders of non-controlling interests in Group companies.

### (30) Reconciliation of financial debt

The table below shows the reconciliation of financial debt:

[€ million]	2018	With effect on payments	Additions	Without effect on payments			2019
				Acquisitions/ Disposals	Exchange rate effects	Others <sup>1</sup>	
Liabilities to banks	415.9	-18.3	0.0	10.4	5.6	0.0	413.6
Liabilities from cash pool	101.9	6.1	0.0	0.0	0.0	26.7	134.7
Leasing liabilities	6.3	-89.4	62.5	3.8	3.5	355.4	342.1
Other financial debt	11.5	0.1	0.0	60.5	-5.8	43.5	109.8
Shareholder's loans	675.0	-3.0	0.0	0.0	0.0	0.0	672.0
Accounts of Freudenberg & Co. KG Partners	479.5	31.9	0.0	0.0	0.0	1.5	512.9
<b>Financial debt</b>	<b>1,690.1</b>	<b>-72.6</b>	<b>62.5</b>	<b>74.7</b>	<b>3.3</b>	<b>427.1</b>	<b>2,185.1</b>

<sup>1</sup> Includes the changeover effect from IFRS 16 in the amount of €353.1 million.

### (31) Changes in cash and cash equivalents with effect on payments

Freudenberg recognizes checks, cash in hand, cash at bank and short-term securities with an original term of up to three months as cash and cash equivalents. Cash and cash equivalents include funds with an amount of €2.5 million (previous year: €1.8 million) subject to restrictions on use.

The funds subject to restrictions on use by Freudenberg largely concern cash and cash equivalents held by affiliates which can only be used by Freudenberg with restrictions as a result of exchange controls.

## FURTHER NOTES

### Material expenses

[€ million]	2018	2019
Raw materials, consumables and merchandise purchased	3,824.3	3,880.4
Services purchased	267.2	252.1
	<b>4,091.5</b>	<b>4,132.5</b>

### Workforce and personnel expenses

In the year under review, an average of 49,108 (previous year: 48,894) persons were employed in the following functions:

2019	Germany	Other countries	Total
Production	6,484	26,041	32,525
Sales	2,018	6,481	8,499
Research and development	1,806	1,978	3,784
Administration	1,345	2,955	4,300
	<b>11,653</b>	<b>37,455</b>	<b>49,108</b>

[€ million]	2018	2019
Wages and salaries	2,134.9	2,146.5
Social security contributions and costs of pensions and assistance	515.0	531.1
<b>Personnel expenses</b>	<b>2,649.9</b>	<b>2,677.6</b>

### Research and development

In the year under review, research and development activities amounting to €480.9 million (previous year: €444.3 million) were performed. Sales from research and development and research and development licenses amounted to €87.2 million (previous year: €92.5 million). In the reporting year, government grants for research and development projects totaling €3.9 million (previous year: €3.4 million) were received.

## Related party disclosure

Relations with related parties concern the parent company Freudenberg & Co. KG, joint ventures, associated companies and other related parties.

Other related parties include other participations of the parent company and companies that are not included in the consolidated financial statements for reasons of materiality. Transactions with these parties in the course of the company's ordinary business were as follows:

[€ million]	Sales 2018	Receivables			Payables		
		Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2018	Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2018
Parent company	4.6	3.8	0.0	3.8	482.6	300.0	782.6
Joint ventures	54.9	61.8	0.0	61.8	2.2	0.0	2.2
Associated companies	17.1	5.7	0.0	5.7	7.5	0.0	7.5
Other related parties	3.7	7.3	0.0	7.3	44.0	0.0	44.0
	<b>80.3</b>	<b>78.6</b>	<b>0.0</b>	<b>78.6</b>	<b>536.3</b>	<b>300.0</b>	<b>836.3</b>

[€ million]	Sales 2019	Receivables			Payables		
		Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2019	Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2019
Parent company	3.1	6.0	0.0	6.0	477.6	300.0	777.6
Joint ventures	42.9	47.0	0.0	47.0	5.3	9.2	14.5
Associated companies	16.5	5.2	0.0	5.2	10.3	0.0	10.3
Other related parties	3.9	2.4	0.0	2.4	50.3	0.0	50.3
	<b>66.4</b>	<b>60.6</b>	<b>0.0</b>	<b>60.6</b>	<b>543.5</b>	<b>309.2</b>	<b>852.7</b>

Related parties also include the members of the Board of Management and the Supervisory Board. The members of these bodies are listed under "Company Boards".

The total remuneration of members of the Board of Management, including expenditure for short-term payments for members of the Board of Management amounted to €8.7 million (previous year: €8.6 million).

A current service cost of €3.9 million (previous year: €3.1 million) was incurred with respect to company pensions for Board of Management members. An amount of €52.8 million (previous year: €45.1 million) was assigned to provisions for pension obligations to former members of the Board of Management.

Under a service agreement, Freudenberg SE paid an amount of €1.2 million (previous year: €1.2 million) to its parent company for the performance of key management functions.

## Fees of the Auditor

The auditor, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, performed the following services in the 2019 financial year:

[€ million]	2019
Auditing services	1.5
Other assurance services	0.1
Other services	1.0
	<b>2.6</b>

## Major events after the date of the statement of financial position

The pandemic spread of the new coronavirus at the beginning of 2020 had an adverse impact on economic development. Should the current situation persist or become more severe over the coming months, there will probably be negative consequences. In view of the dynamic developments, it is currently not possible to make a well-founded quantitative estimate of the possible impact on the assets, financial position and results of operations of the group of companies.

Apart from this development, there were no other events of major significance for the net assets, financial position and results of operation of the group of companies up to March 20, 2020.

Weinheim, March 20, 2020

Freudenberg SE

The Board of Management

# SHAREHOLDINGS

AS AT DECEMBER 31, 2019

Company	Location	Country	Share of capital [%]
Freudenberg SE	Weinheim	Germany	-
<b>I. AFFILIATED COMPANIES</b>			
<b>Germany</b>			
Blaesus Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG	Mainz	Germany	82.24
Burgmann International GmbH¹	Wolfratshausen	Germany	100.00
Capol GmbH¹	Elmshorn	Germany	100.00
Carl Freudenberg KG	Weinheim	Germany	100.00
Chem-Trend (Deutschland) GmbH¹	Maisach-Gernlinden	Germany	100.00
Corteco GmbH¹	Weinheim	Germany	100.00
CT Beteiligungs-GmbH¹	Munich	Germany	100.00
Dichtomatik Vertriebsgesellschaft für technische Dichtungen m.b.H	Hamburg	Germany	100.00
DS Beteiligungs-GmbH¹	Weinheim	Germany	100.00
DS Verwaltungs-GmbH	Weinheim	Germany	100.00
EagleBurgmann Atlantic GmbH	Wolfratshausen	Germany	75.00
EagleBurgmann Espesey GmbH	Moers	Germany	75.00
EagleBurgmann Germany GmbH & Co. KG¹	Wolfratshausen	Germany	75.00
EagleBurgmann Germany Verwaltungs-GmbH	Wolfratshausen	Germany	75.00
EagleBurgmann Middle-East GmbH	Wolfratshausen	Germany	60.00
Externa Handels- und Beteiligungsgesellschaft mit beschränkter Haftung¹	Weinheim	Germany	100.00
FCS-Munich GmbH¹	Weinheim	Germany	100.00
FFT Beteiligungs-GmbH¹	Weinheim	Germany	100.00
FHP Export GmbH¹	Weinheim	Germany	100.00
Freudenberg Chemical Specialities SE & Co. KG¹	Munich	Germany	100.00
Freudenberg DS Tooling Center GmbH & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Filtration Technologies SE & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Haushaltsprodukte Augsburg GmbH¹	Augsburg	Germany	100.00
Freudenberg Home and Cleaning Solutions GmbH¹	Weinheim	Germany	100.00
Freudenberg Medical Europe GmbH¹	Kaiserslautern	Germany	100.00
Freudenberg Oil & Gas GmbH¹	Weinheim	Germany	100.00
Freudenberg Performance Materials Apparel SE & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Performance Materials Holding SE & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Performance Materials Logistics SE & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Performance Materials SE & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Performance Materials Service SE & Co. KG¹	Kaiserslautern	Germany	100.00
Freudenberg Process Seals GmbH & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Real Estate GmbH¹	Weinheim	Germany	100.00
Freudenberg Sealing Technologies GmbH¹	Hamburg	Germany	100.00
Freudenberg Sealing Technologies GmbH & Co. KG¹	Weinheim	Germany	100.00
Freudenberg Technology Innovation SE & Co. KG¹	Weinheim	Germany	100.00

Company	Location	Country	Share of capital [%]
Freudenberg Verwaltungs- und Beteiligungs-GmbH	Weinheim	Germany	100.00
Freudenberg Wohnbauhilfe GmbH	Weinheim	Germany	100.00
FV Beteiligungs-GmbH <sup>1</sup>	Weinheim	Germany	100.00
Hanns Glass GmbH & Co. KG <sup>1</sup>	Meuselwitz	Germany	75.00
Hanns Glass Immobilienverwaltung GmbH & Co. KG <sup>1</sup>	Paderborn	Germany	75.00
Hemoteq AG	Würselen	Germany	87.49
Integral Accumulator GmbH <sup>1</sup>	Weinheim	Germany	100.00
Japan Vilene Europe GmbH	Meuselwitz	Germany	75.00
JUBA Jutta Baumgartner GmbH	Meuselwitz	Germany	75.00
Kaul GmbH	Elmshorn	Germany	100.00
Klüber Lubrication Deutschland SE & Co. KG <sup>1</sup>	Munich	Germany	100.00
Klüber Lubrication GmbH <sup>1</sup>	Weinheim	Germany	100.00
Klüber Lubrication München SE & Co. KG <sup>1</sup>	Munich	Germany	100.00
Lederer GmbH <sup>1</sup>	Öhringen	Germany	100.00
OKS Spezialschmierstoffe GmbH <sup>1</sup>	Maisach-Gernlinden	Germany	100.00
PTFE Compounds Germany GmbH <sup>1</sup>	Bördeland	Germany	100.00
Schneegans Freudenberg GmbH & Co. KG <sup>1</sup>	Emmerich am Rhein	Germany	100.00
SF GmbH	Emmerich am Rhein	Germany	100.00
SurTec Deutschland GmbH <sup>1</sup>	Zwingenberg	Germany	100.00
SurTec International GmbH <sup>1</sup>	Bensheim	Germany	100.00
Vibracoustic AG <sup>1</sup>	Darmstadt	Germany	100.00
Vibracoustic AG & Co. KG <sup>1</sup>	Weinheim	Germany	100.00
Vibracoustic Asia Holding GmbH	Weinheim	Germany	100.00
Vibracoustic CV Air Springs GmbH	Hamburg	Germany	65.07
Vibracoustic Europe GmbH <sup>1</sup>	Darmstadt	Germany	100.00
Vileda Gesellschaft mit beschränkter Haftung <sup>1</sup>	Weinheim	Germany	100.00
<b>Other Countries</b>			
Freudenberg S.A. Telas sin Tejer	Buenos Aires	Argentina	100.00
Klüber Lubrication Argentina S.A.	Buenos Aires	Argentina	100.00
Chem-Trend Australia Pty Ltd	Thomastown	Australia	100.00
E.D. Oates Pty. Ltd.	Broadmeadows	Australia	100.00
EagleBurgmann Australasia Pty. Ltd.	Ingleburn	Australia	25.00
Freudenberg Filtration Technologies (Aust) Pty. Ltd.	Braeside	Australia	100.00
Freudenberg Household Products Pty. Ltd.	Broadmeadows	Australia	100.00
Freudenberg Pty. Ltd.	Thomastown	Australia	100.00
Freudenberg Sealing Technologies Pty. Ltd.	Brendale	Australia	100.00
Klüber Lubrication Australia Pty. Ltd.	Thomastown	Australia	100.00
EagleBurgmann Belgium B.V.B.A.	Sint-Job-in-'t-Goor	Belgium	75.03
FHP Vileda S.C.S.	Verviers	Belgium	100.00
Klüber Lubrication Belgium Netherlands S.A.	Dottignies	Belgium	100.00
Klüber Lubrication Benelux S.A./N.V.	Dottignies	Belgium	100.00
Chem-Trend Industria e Comercio de Produtos Quimicos Ltda.	Valinhos	Brazil	100.00
EagleBurgmann do Brasil Vedacoes Ltda.	Campinas	Brazil	75.00

Company	Location	Country	Share of capital [%]
Freudenberg Hygiene Brazil LTDA.	Jacareí	Brazil	100.00
Freudenberg Nao-Tecidos Ltda.	Jacareí	Brazil	100.00
Freudenberg Servicos Corporativos da America do Sul Ltda.	Barueri	Brazil	100.00
Freudenberg-NOK-Componentes Brasil Ltda.	Diadema	Brazil	75.00
Klüber Lubrication Lubrificantes Especiais Ltda.	Barueri	Brazil	100.00
SurTec do Brasil Ltda.	Valinhos	Brazil	100.00
Vibracoustic South America Ltda.	Guarulhos	Brazil	100.00
Hänsel Textil Bulgaria ood	Rousse	Bulgaria	100.00
Freudenberg Productos del Hogar Ltda.	Santiago de Chile	Chile	100.00
Klüber Lubrication Chile Ltda.	Santiago de Chile	Chile	100.00
Burgmann Dalian Co. Ltd.	Dalian	China	40.00
Changchun Integral Accumulator Co., Ltd.	Changchun	China	100.00
Chem-Trend (Shanghai) Trading Co. Ltd.	Shanghai	China	100.00
Chem-Trend Chemicals (Shanghai) Co., Ltd.	Shanghai	China	100.00
Dichtomatik (China) Co., Ltd.	Shanghai	China	100.00
EagleBurgmann Shanghai Co., Ltd.	Shanghai	China	40.00
EagleBurgmann Technology (Shanghai) Co., Ltd.	Shanghai	China	50.00
EagleBurgmann Technology (Tianjin) Co., Ltd.	Tianjin	China	50.00
Freudenberg & Vilene Interlinings (Nantong) Co. Ltd.	Nantong	China	87.50
Freudenberg & Vilene International Trading (Shanghai) Co., Ltd.	Shanghai	China	87.50
Freudenberg & Vilene Nonwovens (Suzhou) Co. Ltd.	Suzhou	China	87.50
Freudenberg Apollo Filtration Technologies Co., Ltd.	Foshan	China	75.00
Freudenberg Home and Cleaning Solutions (Ningbo) Co., Ltd.	Ningbo	China	100.00
Freudenberg Household Products (Suzhou) Co., Ltd.	Suzhou	China	100.00
Freudenberg Management (Shanghai) Co. Ltd.	Shanghai	China	100.00
Freudenberg Medical Plastic & Metal Manufacturing (Shenzhen) Co., Ltd.	Shenzhen	China	100.00
Freudenberg Politex Ltd.	Shanghai	China	100.00
Freudenberg Real Estate (Yantai) Co. Ltd.	Yantai	China	100.00
Freudenberg Spunweb (Shanghai) Trading Co., Ltd.	Shanghai	China	67.69
Freudenberg Vilene Filter (Chengdu) Co. Ltd.	Chengdu	China	87.50
Klüber Lubrication (Shanghai) Co., Ltd.	Shanghai	China	100.00
Klüber Lubrication Industries (Shanghai) Co., Ltd.	Shanghai	China	100.00
SurTec Metal Surface Treatment Technology Co. Ltd.	Hangzhou	China	100.00
Tianjin VIAM Automotive Products Co., Ltd.	Tianjin	China	75.00
Trelleborg Automotive Design (Shanghai) Co. Ltd.	Shanghai	China	100.00
Vibracoustic (Chongqing) Co. Ltd.	Chongqing	China	100.00
Vibracoustic (Shanghai) Sales & Trading Co., Ltd.	Shanghai	China	100.00
Vibracoustic (Wuxi) Vibration Isolators Co., Ltd.	Wuxi	China	100.00
Vibracoustic (Yantai) Co., Ltd.	Yantai	China	100.00
Vibracoustic CV Air Springs (Yantai) Co., Ltd.	Yantai	China	65.07
Freudenberg Medical srl.	San José	Costa Rica	100.00
Chem-Trend A/S	Søborg	Denmark	100.00
EagleBurgmann KE A/S	Ringkøbing	Denmark	75.00
Klüber Lubrication Nordic A/S	Skovlunde	Denmark	100.00

Company	Location	Country	Share of capital [%]
SurTec Scandinavia ApS	Kopenhagen	Denmark	100.00
OÜ Merinvest	Mullutu	Estonia	100.00
Freudenberg Filtration Technologies Finland Oy	Naantali	Finland	100.00
Freudenberg Home and Cleaning Solutions Oy	Espoo	Finland	100.00
Chem-Trend France S.A.S.U.	Entzheim	France	100.00
Corteco SAS	Nantiat	France	100.00
Dichtomatik S.A.S	Mâcon	France	100.00
EagleBurgmann France S.A.S.	Sartrouville	France	75.00
FHP Vileda S.A.	Asnières Sur Seine	France	100.00
Freudenberg Filtration Technologies SAS	Villebon-sur-Yvette	France	100.00
Freudenberg Immobilier SAS	Chamborêt	France	100.00
Freudenberg Joints Elastomères SAS	Langres	France	100.00
Freudenberg Joints Plats SAS	Chamborêt	France	100.00
Freudenberg Performance Materials S.A.S.	Colmar	France	100.00
Freudenberg Sealing Technologies SAS	Langres	France	100.00
Klüber Lubrication France S.A.S.	Valence	France	100.00
SurTec France S.A.S.	Toulouse	France	100.00
Vibracoustic France SAS	Carquefou	France	100.00
Vibracoustic Nantes SAS	Carquefou	France	100.00
FHP Hellas S.A.	Kifissia, Athens	Greece	100.00
Aquabio Ltd.	Worcester	United Kingdom	100.00
Capol (U.K.) Limited	Huddersfield	United Kingdom	100.00
Chem-Trend (UK) Ltd.	Huddersfield	United Kingdom	100.00
Dichtomatik Ltd.	Derby	United Kingdom	100.00
EagleBurgmann Industries UK LP	Warwick	United Kingdom	75.00
EagleBurgmann Industries UK Ltd.	Warwick	United Kingdom	75.00
Filtamark Ltd.	Crewe	United Kingdom	100.00
Freudenberg Filtration Technologies UK Limited	Crewe	United Kingdom	100.00
Freudenberg Household Products LP	Rochdale	United Kingdom	100.00
Freudenberg Limited	Littleborough	United Kingdom	100.00
Freudenberg Oil & Gas Technologies Ltd.	Port Talbot	United Kingdom	100.00
Freudenberg Performance Materials LP	Littleborough	United Kingdom	100.00
Freudenberg Sealing Technologies Limited	North Shields	United Kingdom	100.00
Freudenberg Vileda Ltd.	Rochdale	United Kingdom	100.00
KE-Burgmann UK Ltd.	Congleton	United Kingdom	75.00
Klüber Lubrication Great Britain Ltd.	Huddersfield	United Kingdom	100.00
Techlok Limited	Port Talbot	United Kingdom	100.00
Freudenberg Textile Technologies, S.A.	Guatemala City	Guatemala	100.00
APEC (Asia) Limited	Hong Kong	Hong Kong	100.00
Freudenberg & Vilene Int. Ltd.	Hong Kong	Hong Kong	87.50
Freudenberg Household Products Ltd.	Hong Kong	Hong Kong	100.00
Freudenberg Trading (Hongkong) Ltd.	Hong Kong	Hong Kong	100.00
Japan Vilene (Hong Kong) Ltd.	Hong Kong	Hong Kong	75.00
Jump (Asia) Distributors Ltd	Hong Kong	Hong Kong	100.00

Company	Location	Country	Share of capital [%]
Klüber Lubrication China Ltd.	Hong Kong	Hong Kong	100.00
Vibracoustic Hong Kong Holdings Ltd.	Hong Kong	Hong Kong	100.00
Chem-Trend Chemicals Co. Pvt. Ltd.	Bangalore	India	100.00
Dichtomatik India Seals Private Limited	Kancheepuram	India	100.00
EagleBurgmann India Pvt. Ltd.	Pune	India	50.00
EagleBurgmann KE Pvt. Ltd.	Chennai	India	75.00
Freudenberg Filtration Technologies India Private Limited	Pune	India	100.00
Freudenberg Gala Household Product Pvt. Ltd.	Mumbai	India	60.00
Freudenberg Performance Materials India Pvt. Ltd.	Chennai	India	100.00
Freudenberg Regional Corporate Center India Pvt. Ltd.	Bangalore	India	100.00
Gimi India Pvt. Ltd.	Bangalore	India	100.00
Klüber Lubrication India Pvt. Ltd.	Bangalore	India	90.00
SurTec Chemicals India Pvt. Ltd.	Bangalore	India	100.00
Vibracoustic India Pvt. Ltd.	Mohali	India	100.00
Vibracoustic Noida Pvt. Ltd.	New-Delhi	India	100.00
PT EagleBurgmann Indonesia	Cikarang Selatan	Indonesia	24.98
PT Klüber Lubrication Indonesia	Jakarta	Indonesia	100.00
Cambus Teoranta	Spiddal	Ireland	90.00
VistaMed Ltd.	Carrick-on-Shannon	Ireland	90.00
Chem-Trend Italy del Dr. Gian Franco Colori S.a.s.	Milan	Italy	100.00
Corteco S.r.l. (a socio unico)	Pinerolo	Italy	100.00
Dichtomatik S.a.s. di Externa Italia S.r.l.	Genoa	Italy	100.00
EagleBurgmann Italia S.r.l.	Vimercate	Italy	75.00
Externa Holding S.r.l.	Milan	Italy	100.00
Externa Italia S.r.l.	Pinerolo	Italy	100.00
FHP di R. Freudenberg S.A.S.	Milan	Italy	100.00
Freudenberg Italia S.a.s. di Freudenberg S.p.A.	Milan	Italy	100.00
Freudenberg Performance Materials Apparel S.a.s. di Externa Holding S.r.l.	Milan	Italy	100.00
Freudenberg S.p.A.	Milan	Italy	100.00
Freudenberg Sealing Technologies S.a.s. di Externa Italia S.r.l.u.	Pinerolo	Italy	100.00
Freudenberg Technologie di Filtrazione S.a.s. di Externa Holding S.r.l.	Milan	Italy	100.00
Hänsel Textil Italia S.a.s. di Externa Holding S.r.l.	Rho	Italy	100.00
Klüber Lubrication Italia S.a.s. di G. Colori	Milan	Italy	100.00
Politex S.a.s. di Freudenberg Politex s.r.l.	Novedrate	Italy	100.00
Chem-Trend Japan K.K.	Kobe	Japan	100.00
EagleBurgmann Japan Co., Ltd.	Tokyo	Japan	25.00
Freudenberg Spunweb Japan Company, Ltd.	Osaka	Japan	67.69
Japan VIAM Co., Ltd.	Moriyama	Japan	75.00
Japan Vilene Company Ltd.	Tokyo	Japan	75.00
Oshitari Laboratory, Inc.	Sayama	Japan	75.00
Oyama Chemical Co., Ltd.	Oyama	Japan	75.00
Pacific Giken Co., Ltd.	Yasu	Japan	75.00
SurTec MMC Japan KK	Tokyo	Japan	56.00
Vibracoustic Japan KK	Yokohama	Japan	100.00

Company	Location	Country	Share of capital [%]
Vilene Create Co., Ltd.	Tokyo	Japan	75.00
VIS Co., Ltd.	Tokyo	Japan	75.00
Freudenberg Vileda Jordan Ltd.	Amman	Jordan	51.00
Capol Inc.	Saint-Hubert	Canada	100.00
Dichtomatik Canada, Inc.	Markham	Canada	100.00
EagleBurgmann Canada Inc.	Milton	Canada	75.00
Freudenberg Filtration Technologies Inc.	London	Canada	100.00
Freudenberg Household Products Inc.	Laval	Canada	100.00
Freudenberg Oil & Gas Canada Inc.	Nisku	Canada	100.00
Freudenberg-NOK Inc.	Tillsonburg	Canada	75.00
TOO Freudenberg Oil & Gas	Atyrau	Kazakhstan	100.00
EagleBurgmann Colombia, S.A.S.	Cota, Cundinamarca	Colombia	75.00
EagleBurgmann (Malaysia) SDN. BHD.	Shah Alam	Malaysia	25.00
Freudenberg Household Products (Malaysia) Sdn Bhd	Petaling Jaya	Malaysia	100.00
Freudenberg Oil & Gas Technologies Sdn. Bhd.	Kuala Lumpur	Malaysia	100.00
Freudenberg-NOK St Malaysia Sdn. Bhd.	Petaling Jaya	Malaysia	75.00
Klüber Lubrication (Malaysia) Sdn. Bhd.	Shah Alam	Malaysia	100.00
Chem-Trend Comercial, S.A. de C.V.	Querétaro	Mexico	100.00
Dichtomatik de Mexico S.A. de C.V.	Querétaro	Mexico	95.50
EagleBurgmann Mexico S.A. de C.V.	Cuautitlán	Mexico	75.00
Freudenberg Filtration Technologies, S.A. de C.V.	Silao	Mexico	100.00
Freudenberg Productos del Hogar, S.A. de C.V.	Mexico City	Mexico	100.00
Freudenberg-NOK Sealing Technologies de Mexico, S.A. de C.V.	Cuautla	Mexico	75.00
Klüber Lubricacion Mexicana S.A. de C.V.	Querétaro	Mexico	100.00
VIAM Manufacturing Mexico S.A. de C.V.	Aguascalientes	Mexico	75.00
Vibracoustic de México, S.A. de C.V.	Lerma	Mexico	100.00
Vibracoustic Nevado, S.A. de C.V.	Toluca	Mexico	100.00
Vibracoustic Toluca, S.A. de C.V.	Toluca	Mexico	100.00
Vitechmex Nonwovens S.A. de C.V.	Aguascalientes	Mexico	75.00
Dichtomatik B.V.	Zwolle	Netherlands	100.00
EagleBurgmann Netherlands B.V.	Veenendaal	Netherlands	75.00
Freudenberg Household Products B.V.	Arnhem	Netherlands	100.00
SurTec Benelux B.V.	Reuver	Netherlands	100.00
EagleBurgmann Norway AS	Skedsmokorset	Norway	75.00
Freudenberg Home and Cleaning Solutions AS	Skedsmokorset	Norway	100.00
Freudenberg Oil & Gas Technologies AS	Drammen	Norway	100.00
Vestpak AS	Sandnes	Norway	100.00
Dichtomatik Handelsgesellschaft mbH	Vienna	Austria	100.00
EagleBurgmann Austria GmbH	Salzburg	Austria	75.00
EagleBurgmann Production Center Judenburg GmbH	Judenburg	Austria	75.00
Freudenberg Austria GmbH	Kufstein	Austria	100.00
Freudenberg Sealing Technologies Austria GmbH & Co. KG	Kufstein	Austria	100.00
Klüber Lubrication Austria Ges.m.b.H.	Salzburg	Austria	100.00
SurTec Produkte und Systeme für die Oberflächenbehandlung GesmbH	Salzburg	Austria	100.00

Company	Location	Country	Share of capital [%]
EagleBurgmann Philippines, Inc.	Dasmarinas, Cavite	Philippines	25.00
Chem-Trend Polska Sp. z o.o.	Kobylnica	Poland	100.00
Chem-Trend Polska sp. z o.o. spółka komandytowa	Kobylnica	Poland	100.00
EagleBurgmann Poland sp. z o.o.	Warsaw	Poland	75.00
FHP Vileda Sp. z o.o.	Warsaw	Poland	100.00
FIM Polska Sp. z o.o.	Środa Śląska	Poland	100.00
Freudenberg Sealing Technologies Sp. z o.o.	Śnieciska	Poland	100.00
Freudenberg Vilene Sp. z o.o.	Lodz	Poland	100.00
Klüber Lubrication Polska Sp. z o.o.	Kobylnica	Poland	100.00
SurTec Polska Sp. z o.o.	Kobylnica	Poland	100.00
Vibracoustic Polska Sp. z o.o.	Środa Śląska	Poland	100.00
ST Ibérica Sociedade Unipessoal, LDA	Albergaria-a-Velha	Portugal	100.00
Chem-Trend Romania s.r.l.	Sibiu	Romania	100.00
Freudenberg Management Imobiliar SRL	Braşov	Romania	100.00
Freudenberg Performance Materials Apparel srl	Bukarest	Romania	100.00
Freudenberg Performance Materials SRL	Braşov	Romania	100.00
Klueber Lubrication Romania s.r.l.	Sibiu	Romania	100.00
SurTec Romania s.r.l.	Braşov	Romania	100.00
Vibracoustic Romania SRL	Dej	Romania	100.00
EagleBurgmann OOO	Moscow	Russian Federation	75.00
Freudenberg Filtration Technologies OOO	Nizhniy Novgorod	Russian Federation	100.00
Freudenberg Household Products Eastern Europe OOO	St. Petersburg	Russian Federation	70.00
Freudenberg Politex OOO	Zavolzhye	Russian Federation	100.00
Freudenberg Vileda Eastern Europe OOO	Moscow	Russian Federation	100.00
Klüber Lubrication OOO	Moscow	Russian Federation	100.00
OOO Freudenberg Sealing Technologies	Moscow	Russian Federation	100.00
OOO SurTec	Moscow	Russian Federation	100.00
Vibracoustic Volga OOO	Sawolschje	Russian Federation	100.00
AlMozn National Co. For Home Appliances Limited	Jeddah	Saudi-Arabia	75.00
EagleBurgmann Saudi Arabia Ltd.	Al-Khobar	Saudi-Arabia	51.00
Dichtomatik A.B.	Landskrona	Sweden	100.00
EagleBurgmann Sweden AB	Norrköping	Sweden	75.00
Freudenberg Home and Cleaning Solutions AB	Norrköping	Sweden	100.00
Freudenberg Sealing Technologies AB	Stockholm	Sweden	100.00
Vibracoustic China Holding AB	Forsheda	Sweden	100.00
Vibracoustic Forsheda AB	Forsheda	Sweden	100.00
Vibracoustic Sweden Holding AB	Forsheda	Sweden	100.00
Vibracoustic Wuxi Holding AB	Forsheda	Sweden	100.00
EagleBurgmann (Switzerland) AG	Höri	Switzerland	75.00
Freudenberg Sealing Technologies AG	Zurich	Switzerland	100.00
Klüber Lubrication AG (Schweiz)	Zurich	Switzerland	100.00
SurTec Cacak d.o.o.	Čačak	Serbia	100.00
Chem-Trend Singapore Pte. Ltd.	Singapore	Singapore	100.00
EagleBurgmann KE Pte. Ltd.	Singapore	Singapore	75.00
EagleBurgmann Singapore Pte. Ltd.	Singapore	Singapore	25.00

Company	Location	Country	Share of capital [%]
EBI Asia Pacific Pte. Ltd.	Singapore	Singapore	25.00
EBI Asia Pte. Ltd.	Singapore	Singapore	50.00
Freudenberg Oil & Gas Pte. Ltd.	Singapore	Singapore	100.00
Klüber Lubrication South East Asia Pte. Ltd.	Singapore	Singapore	100.00
Freudenberg Filtration Technologies Slovensko, s.r.o.	Potvorice	Slovakia	90.00
Freudenberg Immobilienmanagement Slovakia, s.r.o.	Potvorice	Slovakia	100.00
SurTec SK s.r.o.	Vráble	Slovakia	100.00
FILC tovarna filca d.o.o.	Škofja Loka	Slovenia	100.00
Freudenberg Gospodinjski Proizvodi d.o.o.	Limbuš	Slovenia	100.00
NELINTA podjetniško in poslovno svetovanje d.o.o.	Mengeš	Slovenia	100.00
SurTec Adria d.o.o.	Ljubljana	Slovenia	100.00
EagleBurgmann Ibérica S.A.	Madrid	Spain	75.00
Freudenberg Espana S.A.	Parets del Vallès	Spain	100.00
Freudenberg Espana S.A., Telas sin Tejer, S.en C.	Parets del Vallès	Spain	100.00
Freudenberg Home and Cleaning Solutions Iberica, S.L.U.	Parets del Vallès	Spain	100.00
Freudenberg Sealing Technologies, S.L.U.	Parets del Vallès	Spain	100.00
Klüber Lubrication GmbH Ibérica S.en C.	Parets del Vallès	Spain	100.00
Vibracoustic Cascante S.A.U.	Cascante	Spain	100.00
Vibracoustic Spain Holding S.L.U.	Martorell	Spain	100.00
Vibracoustic Spain S.A.U.	Martorell	Spain	100.00
Freudenberg & Vilene International Lanka (Private) Limited	Colombo	Sri Lanka	87.50
Hänsel Textil Lanka PVT Ltd.	Colombo	Sri Lanka	87.50
EagleBurgmann Seals South Africa (Pty) Ltd.	Modderfontein/ Johannesburg	South Africa	55.50
Freudenberg Filtration Technologies (Pty) Ltd.	Cape Town	South Africa	100.00
Freudenberg Nonwovens (Pty.) Ltd.	Cape Town	South Africa	100.00
Klüber Lubrication (Pty.) Ltd.	Alrode Alberton	South Africa	100.00
SurTec South Africa Pty. Ltd.	Alrode Alberton	South Africa	100.00
Vibracoustic-Ikhwezi (Pty) Ltd.	East London	South Africa	70.00
Chem-Trend Korea Ltd.	Anseong-si	South Korea	100.00
EagleBurgmann Korea Co., Ltd.	Osan	South Korea	25.00
Freudenberg Home and Cleaning Solutions Korea Ltd.	Seoul	South Korea	100.00
Freudenberg Vilene Filtration Technologies Korea Co., Ltd.	Seoul	South Korea	87.50
Korea Vilene Co., Ltd.	Pyeongtaek-si	South Korea	87.50
SurTec Korea Co., Ltd.	Changwon-si	South Korea	100.00
Vibracoustic Kunhwa Co. Ltd.	Gyeongsan-si	South Korea	51.00
EagleBurgmann Taiwan Co., Ltd.	Kauohsiung	Taiwan	25.00
Freudenberg & Vilene Nonwovens (Taiwan) Co. Ltd.	Taoyuan	Taiwan	87.50
Freudenberg Far Eastern Spunweb Comp. Ltd.	Taoyuan	Taiwan	67.69
Chem-Trend Trading (Thailand) Co. Ltd.	Bangkok	Thailand	100.00
EagleBurgmann (Thailand) Co., Ltd.	Rayong	Thailand	25.00
Freudenberg & Vilene Filter (Thailand) Co. Ltd.	Chonburi	Thailand	87.50
Jump Distributors (Thailand) Co Ltd	Nonthaburi	Thailand	100.00
Klüber Lubrication (Thailand) Co., Ltd.	Bangkok	Thailand	100.00

Company	Location	Country	Share of capital [%]
Lucky Gecko Co Ltd	Bangkok	Thailand	100.00
VIAM Manufacturing (Thailand) Co., Ltd.	Prachin Buri	Thailand	75.00
Vibracoustic (Thailand) Ltd.	Sriracha	Thailand	100.00
Accu-Tech s.r.o.	Chrastava	Czech Republic	49.00
EagleBurgmann Czech s.r.o.	Prague	Czech Republic	75.00
Freudenberg Home and Cleaning Solutions s.r.o.	Prague	Czech Republic	100.00
Freudenberg Sealing Technologies s.r.o.	Opatovice nad Labem	Czech Republic	100.00
Hanns Glass CZ s.r.o.	Cheb	Czech Republic	75.00
Klüber Lubrication CZ, s.r.o.	Prague	Czech Republic	100.00
SurTec CR s.r.o.	Prague	Czech Republic	100.00
TPE správní s.r.o.	Melnik	Czech Republic	100.00
Vibracoustic CZ s.r.o.	Melnik	Czech Republic	100.00
Beltan Vibracoustic Titresim Elemanlari Sanayi ve Ticaret A.S.	Bursa	Turkey	100.00
Eagle Burgmann Endüstriyel Sızdırmazlık Sanayi ve Ticaret Limited Şirketi	Istanbul	Turkey	75.00
Freudenberg Household Products Evici Kullanım Araçları Sanayi ve Ticaret A.S.	Istanbul	Turkey	100.00
Freudenberg Sealing Technologies Sanayi ve Ticaret A.S.	Bursa	Turkey	100.00
Freudenberg Vılene Tela Sanayi ve Ticaret A.S.	Istanbul	Turkey	100.00
Klüber Lubrication Yağlama Ürünleri Sanayi ve Ticaret A.S.	Istanbul	Turkey	100.00
Vibracoustic Çerkezköy Oto Parçaları Dış Ticaret A.S.	Çerkezköy	Turkey	100.00
Vibracoustic Çerkezköy Otomotiv Sanayi ve Ticaret A.S.	Çerkezköy	Turkey	100.00
Vibracoustic CV Air Springs Otomotiv Sanayi ve Ticaret A.S.	Gemlik	Turkey	65.07
Vibracoustic CVAS Turkey Trading Otomotiv A.S.	Bursa	Turkey	65.07
Dichtomatik Kft.	Budapest	Hungary	100.00
EagleBurgmann Hungaria Kft.	Budapest	Hungary	75.00
Freudenberg Háztartási Cikkek Kereskedelmi BT	Budapest	Hungary	100.00
Freudenberg IM Hungária Kft.	Nyíregyháza	Hungary	100.00
Freudenberg Sealing Technologies Kft.	Kecskemét	Hungary	100.00
Freudenberg Tömítés Ipari Kft.	Lajosmizse	Hungary	100.00
Vibracoustic CV Air Springs Magyarország Kft.	Nyíregyháza	Hungary	65.07
Capol LLC	Deerfield	USA	100.00
Chem-Trend Limited Partnership	Howell	USA	100.00
Dichtomatik Americas, L.P.	Shakopee	USA	100.00
EagleBurgmann Industries Inc.	Houston	USA	75.00
EagleBurgmann Industries LP	Houston	USA	75.00
Filc USA LLC	Dayton	USA	99.50
Freudenberg Filtration Technologies LP	Hopkinsville	USA	100.00
Freudenberg Household Products Inc.	Aurora	USA	100.00
Freudenberg Household Products LP	Aurora	USA	100.00
Freudenberg Medical, LLC	Gloucester	USA	100.00
Freudenberg North America Limited Partnership	Plymouth	USA	100.00
Freudenberg Oil & Gas, LLC	Houston	USA	100.00
Freudenberg Performance Materials LP	Durham	USA	100.00

Company	Location	Country	Share of capital [%]
Freudenberg Real Estate LP	Plymouth	USA	100.00
Freudenberg Texbond L.P.	Macon	USA	100.00
Freudenberg-NOK General Partnership	Plymouth	USA	75.00
Freudenberg-NOK Holdings, Inc.	Wilmington	USA	75.00
Intpacor Inc.	Plymouth	USA	100.00
Klüber Lubrication NA LP	Tyler	USA	100.00
Pellon Corporation	Plymouth	USA	100.00
SurTec, Inc.	Brunswick	USA	100.00
Tobul Accumulator Incorporated	Bamberg	USA	100.00
Upper Bristol Ramp, LLC	Wilmington	USA	75.00
VIAM Holding, Inc.	Manchester	USA	75.00
VIAM Manufacturing, Inc.	Manchester	USA	75.00
Vibracoustic CV Air Springs USA, Inc.	Wilmington	USA	65.07
Vibracoustic North America Holdings, Inc.	Plymouth	USA	100.00
Vibracoustic North America LP	Plymouth	USA	100.00
Vibracoustic USA, Inc.	South Haven	USA	100.00
VICAM Inc.	Manchester	USA	75.00
VITECH Manufacturing L.P.	Hopkinsville	USA	75.00
VITECH Manufacturing, Inc.	Hopkinsville	USA	75.00
XALT Energy, LLC	Midland	USA	50.10
XALT Energy MI, LLC	Midland	USA	50.10
EagleBurgmann Middle East FZE	Dubai	United Arab Emirates	60.00
Freudenberg Oil and Gas FZE	Dubai	United Arab Emirates	100.00
Chem-Trend Vietnam Company Limited	Ho Chi Min City	Vietnam	100.00
EagleBurgmann Vietnam Company Limited	Ho Chi Min City	Vietnam	25.00
SurTec Viet Nam Co., Ltd.	Ho Chi Min City	Vietnam	100.00

Company	Location	Country	Share of capital [%]
<b>II. INVESTMENTS IN JOINT VENTURES (CONSOLIDATED BY EQUITY METHOD)</b>			
<b>Germany</b>			
<b>Other Countries</b>			
Corfina s.r.l.	Pinerolo	Italy	50.00
NOK-Freudenberg Singapore Pte. Ltd. <sup>2</sup>	Singapore	Singapore	50.00
TETL Holdings, LLC	Dover	USA	41.25
TTKKE Holdings, LLC	Dover	USA	30.00

<b>III. INVESTMENTS IN ASSOCIATED COMPANIES (CONSOLIDATED BY EQUITY METHOD)</b>			
<b>Germany</b>			
<b>Other Countries</b>			
Hikotomi Industrial Co., Ltd.	Hikone	Japan	24.98
NOK Corporation	Tokyo	Japan	25.10
NOK Klüber Co., Ltd.	Tokyo	Japan	49.00
Shinwa Products Co., Ltd.	Tsuzuranuki	Japan	34.09
Klüber Lubrication Korea Ltd.	Seoul	South Korea	48.00
Dawson Manufacturing Company	Benton Harbor	USA	45.00
Ishino Gasket North America L.L.C.	East Lansing	USA	37.50
EagleBurgmann Venezuela, C.A.	Caracas	Venezuela	41.25
SurTec Middle East (L.L.C.)	Sharjah	United Arab Emirates	35.00

<sup>1</sup> Application of Sec. 264 (3), HGB (Handelsgesetzbuch, "German Commercial Code") and Sec. 264b, HGB.

<sup>2</sup> Consolidated financial statements including  
 Changchun NOK-Freudenberg Oilseal Co., Ltd., Changchun, China  
 Corteco China Co. Ltd., Shanghai, China  
 Corteco India Private Limited, Neu-Delhi, India  
 Freudenberg-NOK Pvt. Ltd., Neu-Delhi, India  
 NOK-Freudenberg Group Sales (China) Co., Ltd., Shanghai, China  
 NOK-Freudenberg Group Trading (China) Co., Ltd., Shanghai, China  
 NOK-Freudenberg Hong Kong Ltd., Hong Kong, Hong Kong  
 PT NOK Freudenberg Sealing Technologies, Kota Batam, Indonesia  
 Taicang NOK-Freudenberg Sealing Products Co., Ltd., Taicang, China  
 Wuxi NOK-Freudenberg Oilseal Co., Ltd., Wuxi, China

# INDEPENDENT AUDITOR'S REPORT

## To Freudenberg SE

### Opinions

We have audited the consolidated financial statements of Freudenberg SE, Weinheim, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2019, the consolidated statement of profit or loss, the consolidated statement of comprehensive income, the consolidated statement of cash flow, the consolidated statement of changes in equity for the fiscal year from 1 January to 31 December 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Freudenberg SE for the fiscal year from 1 January to 31 December 2019.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at 31 December 2019 and of its financial performance for the fiscal year from 1 January to 31 December 2019, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

### Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the Group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

### Other information

The supervisory board is responsible for the report of the supervisory board in the annual report. In all other respects, the executive directors are responsible for the other information. The other information comprises

- the presentation of the company boards, the executive council and the management of the business groups in the annual report,
- the foreword of the board of management in the annual report and
- the section "responsibility for society" in the annual report.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

**Responsibilities of the executive directors and the supervisory board for the consolidated financial statements and the group management report**

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting, unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

**Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report**

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery,

intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements

and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Mannheim, 20 March 2020

Ernst & Young GmbH

Wirtschaftsprüfungsgesellschaft

Prof. Dr. Wollmert

Matischiok

Wirtschaftsprüfer

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