

ANNUAL REPORT FREUDENBERG GROUP

2022

# HIGHLIGHTS

[€ million]	2018	2019	2020	2021	2022
<b>Sales</b>					
Germany	1,641	1,477	1,378	1,584	1,736
EU (excluding Germany)	2,448	2,445	2,133	2,411	2,706
Other European countries	429	412	605	743	797
North America	2,434	2,526	2,259	2,599	3,458
South/Central America	285	284	194	247	333
Asian	2,016	2,115	2,073	2,244	2,481
Africa/Australia	202	209	199	211	242
<b>Total sales</b>	<b>9,455</b>	<b>9,468</b>	<b>8,841</b>	<b>10,039</b>	<b>11,753</b>
Consolidated profit	602	611	366	587	640
Cash flow from operating activities	828	957	1,139	862	608
Cash flow from investing activities	-581	-601	-241	-534	-434
Balance sheet total	10,239	11,355	11,855	12,921	13,151
Equity	5,312	5,820	5,696	6,491	7,108
Equity ratio	52 %	51 %	48 %	50 %	54 %
Workforce (as at Dec. 31)	49,137	48,851	47,777	49,836	51,462
Workforce (annual average)	48,894	49,108	47,909	48,787	50,598

# 2022 FREUDENBERG ANNUAL REPORT

## CONTENTS

### COMPANY BOARDS

Supervisory Board	2
Board of Management	3
Executive Council	4
Management of the Business Groups	5

### REPORT OF THE SUPERVISORY BOARD 6

### FOREWORD OF THE BOARD OF MANAGEMENT 8

### COMBINED MANAGEMENT REPORT

#### Fundamental Information

Business Model	14
Research and Development	17

#### Report on Economic Conditions

Macroeconomic Environment	22
Business Development and Position	25
Earnings Position	27
Financial Position	27

#### Review of Operations by Business Area 31

#### Report on Events after the Date of the Statement of Financial Position 60

#### Report on Opportunities and Risks 61

#### Report on Expected Developments 70

#### Freudenberg SE (HGB) 72

### FREUDENBERG EMBRACES RESPONSIBILITY

#### (Step by Step to Climate Neutrality) 76

### CONSOLIDATED FINANCIAL STATEMENTS OF FREUDENBERG SE

Consolidated Statement of Financial Position	130
Consolidated Statement of Profit or Loss	132
Consolidated Statement of Comprehensive Income	133
Consolidated Statement of Cash Flows	134
Consolidated Statement of Changes in Equity	135
Notes to the Consolidated Financial Statements	136
Shareholdings	187
Independent Auditor's Report	197

# COMPANY BOARDS

## SUPERVISORY BOARD



1st row from left:  
Wentzler, Schücking, Braun, Cardoso, Freudenberg

2nd row from left:  
Freudenberg-Beetz, Haas-Wittmüß, Kairisto, Pott,  
Schildhauer

3rd row from left:  
Thielen, Towfigh, Zeschky

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

**Dr. Christoph Schücking,  
Frankfurt am Main**  
Deputy Chairman of the Supervisory  
Board of Freudenberg SE  
Attorney and Notary Public (retired)

**Anna Maria Braun, LL. M., Melsungen**  
Chief Executive Officer of B. Braun SE

**Carlos M. Cardoso, Incline Village,  
Nevada, USA**  
Principal of CMPC Advisors LLC

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

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

**Martin Haas-Wittmüß, Dreieich**  
Vice President of Springer Nature AG  
& Co. KGaA

**Essimari Kairisto, Korschenbroich**  
Member of the Supervisory Boards  
of Applus+ Services S.A.,  
Fortum Oyj, TenneT Holding B.V. and  
Iveco Group N.V.

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

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

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

**Professor Dr. Emanuel V. Towfigh,  
Bad Soden**  
University Professor,  
EBS University Law School

**Dr. Jürgen Zeschky, Aurich**  
CEO Enercon

## BOARD OF MANAGEMENT



From left: Krauch, Sohi, Loidl and Krieger

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

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

**Dr. Ralf Krieger, Leimen**  
Member of the Board, CFO

**Esther Maria Loidl, Heidelberg**  
Member of the Board, CHRO

## EXECUTIVE COUNCIL

Members	Business Groups
Claus Möhlenkamp (CEO)	Freudenberg Sealing Technologies
Dr. Andreas Raps (CEO)	EagleBurgmann
Frank Müller (CEO)	Vibracoustic
Dr. Frank Heislitz (CEO)	Freudenberg Performance Materials
Karin Overbeck (CEO)	Freudenberg Home and Cleaning Solutions
Filip Krulis (CEO)	Freudenberg Chemical Specialities
and the Board of Management	
Membership of the above-mentioned six senior executives 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 Groups
Claus Möhlenkamp (CEO and Member of the Executive Council), Ludger Neuwinger-Heimes (CFO), Dr. Matthias Sckuhr (COO/CTO)	Freudenberg Sealing Technologies
Dr. Max Gisbert Kley (CEO), Dr. Jan Kuiken (CTO), Nils Martens (CCO), Jason Meier (CFO)	Freudenberg e-Power Systems
Jason Kollatschny (CEO), Bozidar Grcevic (CFO)	Freudenberg Oil & Gas Technologies
Dr. Andreas Raps (CEO and Member of the Executive Council), Dr. Sebastian Weiss (CFO), Dr. Kai Ziegler (CTO)	EagleBurgmann
Frank Müller (CEO and Member of the Executive Council), Marco Altherr (CFO), Dr. Jörg Böcking (CTO), Axel Wersel (COO)	Vibracoustic
Dr. Frank Heislitz (CEO and Member of the Executive Council), Thomas Herr (CFO), John McNabb (CTO)	Freudenberg Performance Materials
Dr. Andreas Kreuter (CEO), Ed Borger (COO), Frank Reuther (CFO)	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
Filip Krulis (CEO and Member of the Executive Council), Dr. Jörg Matthias Großmann (CFO)	Freudenberg Chemical Specialities
Dr. Mark Ostwald (CEO), Michael McGee (COO), Kurt Ziminski (CFO)	Freudenberg Medical

# REPORT OF THE SUPERVISORY BOARD



Martin Wentzler (Chairman)

2022 was shaped by the consequences of the war in Ukraine and by the impact of the COVID-19 pandemic, particularly in China. Several other factors, such as high inflation, supply chain disruptions and raw material availability, presented considerable challenges. Management of the Freudenberg Group was adapted to the constantly-changing situation and varying conditions throughout the world. The Supervisory Board was closely involved in these processes, and was kept informed of developments by the Board of Management. There was intensive coordination between the Chief Executive Officer and the Chairman of the Supervisory Board. Furthermore, the Supervisory Board advised the Board of Management in the management of the Group and oversaw and monitored the conduct of business. In addition, the Chairman of the Supervisory Board, the Chairman of the Audit Committee and the Board member responsible for Finance exchanged information on a regular basis.

The Supervisory Board held seven meetings in 2022. The markets, sales and earnings development, the financial situation, the strategy and the risk management of the Group were analyzed and discussed in detail at all the meetings.

An important topic for the Supervisory Board in the year under review was the founding of the new **Freudenberg e-Power Systems** Business Group in April 2022. Freudenberg e-Power Systems has

extensive expertise in battery and fuel cell technology and supplies emission-neutral energy systems for heavy-duty applications.

The Supervisory Board also consulted on the Group's decision-making regarding the orderly termination of business activities in **Russia** in line with the local laws and regulations.

A further item on the agenda of the Supervisory Board was the reappraisal of Freudenberg's activities in **China**. At a time of great global economic upheaval, the company evaluated developments in China in several areas, such as production, supply chain and human resources, and the impact of these developments on the Freudenberg Group's strategy in the country.

Furthermore, the Supervisory Board dealt in depth with various **investment projects** as well as **acquisitions and their integration** in the Group. SurTec International GmbH (a Freudenberg company belonging to the Freudenberg Chemical Specialities Business Group), Bensheim, Germany, acquired omniTECHNIK Mikroverkapselungs GmbH, Munich, Germany, in December 2022. The transaction also includes the acquisition of all the shares in the joint venture Precote USA LLC, East Lansing, Michigan, USA, by Sur Tec Inc., Upper Arlington, Ohio, USA. In addition, Freudenberg e-Power Systems acquired the remaining ownership interest in XALT Energy, LLC, Wilmington, Delaware, USA, in January 2023.

The Supervisory Board also advised on the **"Balance" project**. The ambition of this project is to further improve talent development at local and regional level in both production and administration with a particular focus on Asia and North America.

The **Audit Committee** met five times in the year under review. The first two meetings focused on the annual financial statements and the consolidated financial statements as at December 31, 2021, and the report concerning these annual financial statements prepared by the auditor. The auditor also presented its evaluation of the standard internal controls applied by Freudenberg. Other issues addressed by the Audit Committee included risk management in the Group, management of cybersecurity risks, the work of the Ethics Office, the concept for the Group-level compliance management system, the application mutatis mutandis of the German Corporate



Governance Code, and the project to implement EU sustainability reporting standards. Corporate Audit reported to each meeting of the Audit Committee on the status and findings of the internal audits.

The **Personnel Committee** met three times in 2022. One important topic was succession planning in key Group bodies. Other topics addressed by the committee included leadership development and the talent management process.

The **Innovation and Technology Committee** held three meetings. The topics on the agenda included key technologies and solutions in the field of hydrogen and fuel cells. A further item was KPIs for measuring the efficiency of research and development. Other topics included various activities under the Group-wide sustainability project, such as measuring energy-saving potential at sites and the electrification of production processes. The project's goals are to reduce Group-wide CO<sub>2</sub> emissions by 25 percent by 2025 and to achieve climate neutrality by 2045.

The annual financial statements, the consolidated financial statements compiled pursuant to IFRS, the consolidated management report for Freudenberg SE and the Group as well as the dependent company report 2022 for Freudenberg SE were audited by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, Germany, 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 the Group as well as the annual financial statements of Freudenberg SE and, following examination, concurred with the auditor's findings. The annual financial statements of Freudenberg SE as at December 31, 2022 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 auditor, who issued the following opinion:

“Pursuant to Section 313 AktG, we have been engaged to audit the report of the Board of Management on relations with affiliated companies for the financial year from January 1 to December 31, 2022,

prepared in accordance with the provisions of Section 312 AktG. Based on the results of our audit, the dependent company report does not give rise to any reservations. In accordance with Section 313 (3) 1st sentence AktG., we have therefore issued the following opinion:

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

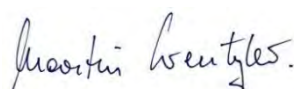
1. The factual statements made in the report are correct,
2. The payments made by the company in connection with legal transactions detailed in the report were not unreasonably high,
3. There are no circumstances in favor of a significantly different assessment than that made by the Board of Management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

The Supervisory Board examined and approved the report on relations with affiliated companies and signed off on the auditor's report. The Supervisory Board's examination of the report on relations with affiliated companies did not result in any objections to the concluding statement by the Board of Management in the dependent company report.

Dr. Christoph Schücking was reelected to the Supervisory Board of Freudenberg SE in 2022. He was also appointed as Deputy Chairman of the corporate body.

The Supervisor Board expresses its thanks to the Business Group managing bodies and the Board of Management for successfully overcoming numerous challenges in the 2022 financial year, for their prudent and decisive actions and successful management of business. Special thanks go to all Freudenberg employees for their outstanding and successful endeavors during another challenging year.

Weinheim, March 14, 2023  
For the Supervisory Board



Martin Wentzler  
Chairman

# FOREWORD OF THE BOARD OF MANAGEMENT

For Freudenberg, 2022 was an eventful year that posed many challenges. Aside from the effects of the war in Ukraine, these included the availability of energy and raw materials, disrupted supply chains and high inflation. In addition, we faced fluctuations in demand from customers and a lack of skilled labor. In China, the year was also shaped by the COVID-19 pandemic.

Despite these difficult conditions, 2022 was a successful year for us. Our more than 51,000 employees all played a part in this achievement – a heartfelt thank you goes out to everyone. Our business success will allow us to make high investments in future technologies, machinery and equipment. This way, we will safeguard the future of Freudenberg.



Dr. Mohsen Sohi (CEO)

## What makes Freudenberg strong

To date, Freudenberg has mastered the current challenges comparatively well. Among other factors, this is due to the **wide range of our products and markets**, the **diversity of our employees** from 146 countries and our **broad-based global positioning**.

Another strength of the Freudenberg Group is **its technological expertise and innovative strength**. One third of Freudenberg's products have been on the market for less than four years. The objective of all our innovation activities is the continuous expansion and renewal of our portfolio of products and services. We keep in tune with the times, are bold in our actions, and stand for the highest quality levels. This is appreciated by our customers as well as our business partners.

Another of our strengths is our **stable ownership structure** and the **long-term orientation** this allows.

One example is the development of our business in the field of medical technology. In 2004, we made our first acquisition in this area for €3.4 million. In the year under review, the Freudenberg Medical Business Group already generated sales of more than €300 million – and growth will continue over the coming years.

At the same time, constantly questioning who we are and what we can improve is in Freudenberg's DNA. The ability to react flexibly to new conditions is essential. In the year under review, Freudenberg reassessed its activities in China. At a time of great global economic upheaval, we can observe competition between the systems of the USA, China and Europe. We have therefore analyzed developments in China and assessed their possible impact on our activities. We can already say that we will continue to invest in China. This country is an important market for us. Nevertheless, we do not intend to be dependent on our business in China. For this reason, we will step up our investments in other regions, including the USA or Southeast Asia.

Wherever Freudenberg is active, all our business activities are based on our **Guiding Principles**, which go back to the company founder Carl Johann Freudenberg. For Freudenberg, values are not negotiable. This is why the Group decided to respond to Russia's war of aggression against Ukraine by ending investment in Russia and terminating business activities in the country in an orderly process in line with the local rules and regulations.

# Financial KPIs

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## Sales

**11,753.1**

Previous year: 10,038.7

(€ million)

The reasons for the marked rise in a challenging market environment are sales price increases as a result of inflation, positive exchange rate effects and higher sales volumes.

## Operating result

**941.8**

Previous year: 877.3

(€ million)

The higher operating result is due to sales price increases, largely offset by significantly higher material and energy costs, and higher earnings contributions from higher sales volumes. Startup costs for expanding battery and fuel cell business continued to be incurred.

## Return on sales

**8.0%**

Previous year: 8.7%

## Consolidated profit

**639.6**

Previous year: 587.1

(€ million)

## Equity ratio

**54.0%**

Previous year: 50.2%

## CAPEX

**401.5**

Previous year: 304.8

(€ million)

(investments in property, plant and equipment, inter alia)

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# Research and development

## Investments

**576.8**

Previous year: 500.2

(€ million)

## R & D ratio

**4.9%**

Previous year: 5.0%

(share of R & D investment in sales)

## New products

**31.6%**

Previous year: 32.4%

(share in sales of products introduced less than four years ago)

## On the way to climate neutrality

Climate change is one of the greatest challenges of our time. That is why sustainability has top priority at Freudenberg. The Group focuses on resource efficiency, particularly with regard to energy and materials, in order to reduce our CO<sub>2</sub> emissions. The company has set itself clear goals in this context: we intend to reduce our CO<sub>2</sub> emissions by 25 percent by 2025 and to be climate-neutral by 2045. We are committed to a multistep strategy consisting of reductions in energy use and electrification as well as the self-generation and purchasing of green electricity and offsets for CO<sub>2</sub> emissions.

The “**Be energy efficient**” initiative lays the foundation for these efforts. It is an important component of the overarching “**Sustainability drives Climate Action**” project, uncovering energy-saving potential at Freudenberg locations and focusing on energy consumption, process electrification, and the energy efficiency of buildings. So far, around one-third of the Freudenberg Group’s entire CO<sub>2</sub> emissions have been analyzed under the initiative.

**Renewable energy** is one of the most important pillars for greater climate protection and meeting Freudenberg’s goals for climate neutrality. In this context, the **self-generation of green electricity** is an important component, and is becoming increasingly relevant. Electricity is mainly generated by rooftop photovoltaic arrays installed at our locations – from China to Mexico and Spain.

In addition to self-generation, Freudenberg is also committed to the **purchase of green electricity**: the Group is considered to be an especially reliable partner, and is therefore able to conclude long-term supply contracts for green electricity with energy suppliers. Examples include the supply of solar power from Germany’s largest photovoltaic park in Tramm-Göthen or participation in electricity generated by the “Nordsee-Ost” offshore wind farm. At the end of 2022, the Freudenberg sites in Denmark, Sweden and Austria purchased 100 percent green electricity. They will be joined by sites in other countries in 2023.

## The transformation of mobility

The topic of **mobility** is closely linked to sustainability. This sector faces a fundamental transformation to e-mobility. Freudenberg is making massive investments in the mobility of the future – in battery, hydrogen and fuel cell technology as well as in the development of high-tech components for electric vehicles. In view of the strategic importance and growth potential of this area, we established a new Business Group, **Freudenberg e-Power Systems**, in April 2022. With extensive experience and know-how in battery and fuel cell technology, the company offers emission-neutral energy systems for heavy-duty applications.

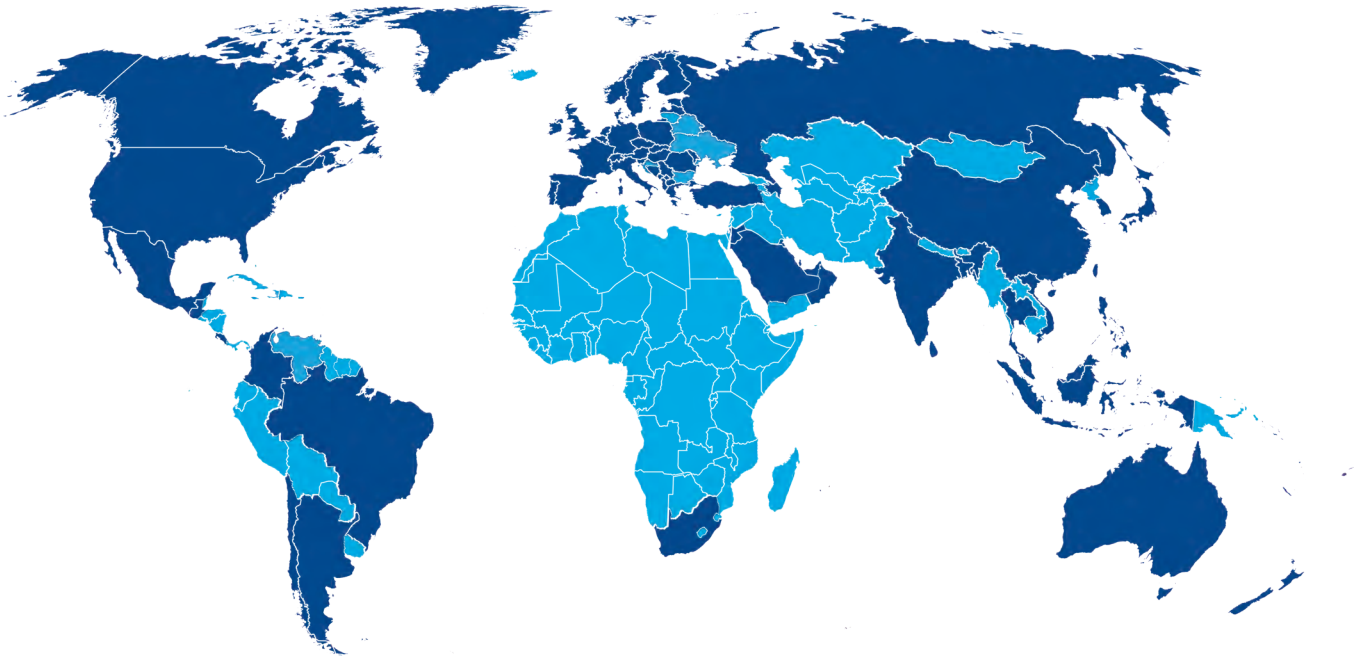
In the year under review, Freudenberg e-Power Systems embarked on cooperation with global technology company ZF Friedrichshafen. The goal of this cooperation is to develop a hybrid fuel cell/battery drive system and the components that are critical for its functioning. These zero-emission fuel cells will replace conventional diesel drives in trucks and buses, as well as maritime applications. The first prototype vehicles are expected to hit the roads by 2023, with series production scheduled to start shortly thereafter.

## Portfolio development

As regards **acquisitions**, Freudenberg focuses on companies with extensive technical expertise that can help us reinforce our market position in highly-specialized segments. In December 2022, the Freudenberg company **SurTec International GmbH**, Bensheim, Germany, acquired omniTECHNIK Mikroverkapselungs GmbH, Munich, Germany. The transaction also included the acquisition of all the shares in the joint venture Precote USA LLC, East Lansing, Michigan, USA, by Sur Tec Inc., Upper Arlington, Ohio, USA. In addition, **Freudenberg e-Power Systems** acquired the remaining ownership interest in XALT Energy, LLC, Wilmington, Delaware, USA, in January 2023. Freudenberg already held a 50.1 percent stake in the joint venture prior to the acquisition. XALT Energy produces lithium-ion battery cells. Its subsidiary Freudenberg Battery Power Systems Inc., Wilmington, Delaware, USA, develops and produces complete battery systems.

# People at Freudenberg

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**51,462**

As of December 31, 2022,  
Freudenberg employed 51,462  
people.

**146**

The employees of the Freudenberg  
Group come from 146 different  
countries.

**60**

There are Freudenberg sites  
in 60 countries.

## Employees by regions

**12,413**

(in Germany)

**11,867**

(in North America)

**10,711**

(in Asia)

**14,924**

(in Europe without Germany)

**1,004**

(in South/Central America)

**543**

(in Africa/Australia)

**LDIFR**

(Lost Day Incident Frequency Rate)

**1.8**

(all accidents at work with at least  
one day of work lost per million  
hours worked)

## Safety of Freudenberg employees

The safety of our employees is of utmost priority – also beyond the COVID-19 pandemic. As a result of a number of factors including the lifting of restrictions in connection with the pandemic, the LDIFR value (accidents with at least one day of work lost per million hours worked) rose to 1.8 in the year under review (previous year: 1.3). Nevertheless, the number of accidents within the Freudenberg Group remains at a low level compared with other companies in manufacturing industry.

## Corporate citizenship

Through its global e<sup>2</sup> (education and environment) program, Freudenberg supports projects in the two key areas of education and the environment. Since the program was launched in 2015, the Group has provided a total of €18 million to fund not-for-profit projects and has already supported about 170 projects. The special feature of the program is that thousands of Freudenberg employees are involved, and every cent donated is used directly to fund projects.

Furthermore, Freudenberg donated €3 million as immediate humanitarian aid at the beginning of the war in Ukraine. Further donations were forthcoming from employees and Partners. In addition to donations to major aid organizations for immediate aid, funds also went to a private charitable initiative that provides a new home for displaced persons near the Ukrainian city of Lviv. Another share of the donation went to the Planet Water Foundation, which has installed six Aqua-Block systems providing people in Ukraine with access to clean drinking water.

## Outlook

We expect the macro-economic and geopolitical environment to remain uncertain. Challenges and risks, in some cases exacerbated by the war in Ukraine and the COVID-19 pandemic, arise in connection with energy supplies, raw material shortages, price increases, delivery problems on the part of suppliers and skilled labor shortages. To manage such difficulties, we will remain agile at each of our facilities throughout the world and will continue to respond quickly and flexibly to constantly-changing demands. In doing so, we will always focus on customer centricity. This approach applies to all sectors and regions. At the same time, we intend to continue investing in long-term projects. The transformation in mobility, digitalization and sustainable solutions will remain our key strategic topics.

## Thanks to employees and customers

The entire Freudenberg Group has brought a difficult year to a successful close in terms of economic performance. Our managers and employees have played their part with considerable personal dedication and high reliability. On behalf of the entire Board of Management, I would like to thank them most sincerely for their efforts. We would also like to express our appreciation to all our customers and business partners for their confidence and for their excellent cooperation in these extraordinary times.

Freudenberg is a strong and healthy company and is well-positioned. Together, we will continue to master all challenges as we move forward.

Weinheim, March 14, 2023  
For the Board of Management



Dr. Mohsen Sohi  
CEO

# Sustainability at Freudenberg

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In the year under review, the Freudenberg Group improved its energy efficiency and increased the share of renewable energies. Especially as a result of these efforts, Freudenberg reduced its relative CO<sub>2</sub> emissions per € million sales to about 55 tonnes. Over the coming years, Freudenberg intends to continue this development and consistently remain under the target for 2025 of 65 tonnes of CO<sub>2</sub> emissions per € million sales.

## Energy use

**936**  
(GWh, direct)

**1,647**  
(GWh, indirect)

**30%**  
(Share of renewable energies in total electricity consumption)

**2,583**  
(GWh, total)

These values represent energy consumption in 2022, including self-generated and purchased energy.

**0.22**  
(Specific energy consumption, kWh/€ of sales)

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## CO<sub>2</sub> emissions

These values represent the total global CO<sub>2</sub> emissions of the Freudenberg Group in 2022 (market-based), as a result of the use of self-generated and purchased energy.

**649**  
(1,000 t, total)

**55.2**  
(t/million € of sales)

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## Waste

**12.2**  
(t/million € of sales)

# 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 2022, the number of companies in Freudenberg totaled 457 located in 56 countries, 427 of these companies were included in the consolidation. 404 companies, including 153 sales companies and 169 production companies, were fully consolidated. The remaining companies were holding or management companies.

The new Freudenberg e-Power Systems Business Group was founded in April 2022. It bundles the Freudenberg Group's activities in the field of emission-neutral energy storage and energy generation systems, focusing on the battery and fuel cell product segments. These activities were previously the responsibility of the Freudenberg Sealing Technologies Business Group.

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

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

As at December 31, 2022.

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 more than 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, Wilmington, Delaware, USA, which is fully consolidated in the consolidated financial statements, as well as NOK-Freudenberg Singapore Co. 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, and end users 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 structure** 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

With the outbreak of the war in Ukraine, the Freudenberg Group ceased almost all trading activities in and out of Russia and Belarus. The Group will terminate all business activities in these countries in an orderly process in line with the local laws and regulations.

Freudenberg significantly scaled back its activities in Russia in the year under review. Business operations at six of the former nine Russian companies have already entirely ceased. As a result, there are only three Group companies left in the Russian market. Work on solutions to fully terminate the activities of these remaining units continues. However, this is proving difficult in light of specific legal obligations and local regulatory requirements.

## Acquisitions and disinvestments and discontinued operations

**SurTec** International GmbH (a Freudenberg company belonging to the Freudenberg Chemical Specialities Business Group), Bensheim, Germany, acquired omniTECHNIK Mikroverkapselungs GmbH, Munich, Germany, in December 2022. The transaction also includes the acquisition of all the shares in the joint venture Precote USA LLC, East Lansing, Michigan, USA, by Sur Tec Inc., Upper Arlington, Ohio, USA. There will be a double-digit million increase in annual sales by Freudenberg Chemical Specialities as a result of the acquisition.

Furthermore, **Freudenberg e-Power Systems** acquired the outstanding ownership interest in XALT Energy, LLC, Wilmington, Delaware, USA, from co-owners MBP Investors LLC and TK Advanced Battery, LLC, in early January 2023. Until then, Freudenberg had held a 50.1 percent stake in the joint venture. XALT Energy produces lithium-ion batteries, its subsidiary Freudenberg Battery Power Systems, LLC, Wilmington, Delaware, USA, develops and produces complete battery systems.

## 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 important goal for the Freudenberg Group is the automation and digitalization of production processes. To this end, data are collected from smart manufacturing processes and analyzed with the aim of achieving optimal and self-adaptive control of production steps in the future using advanced methods such as artificial intelligence. The basic approach at Freudenberg is that digitalization must either offer the customer added value or significantly improve internal efficiency.

Furthermore, all Business Groups continued to work on responding to customer needs even more effectively and optimizing business processes. EagleBurgmann, for example, continued with the successful implementation of a global project designed to reduce the complexity of its project portfolio and enable intelligent project management. Going forward, there is to be a stronger focus on anticipating customer needs and serving them efficiently using a toolkit system.

Details of this project, together with further examples, can be found in the chapter entitled "Review of Operations by Business Area".

## RESEARCH AND DEVELOPMENT

As a leading technology group and innovative partner, Freudenberg constantly aspires to meet the highest demands in terms of product, process and service quality. Working on this ambition together with customers and partners from the scientific community creates solutions that support the sustainable development of the environment and society. The company's research and development activities therefore play an important role in this context.

In the 2022 financial year, Freudenberg conducted research and development activities in the amount of €576.8 million (previous year: €500.2 million). This represents 4.9 percent of sales (previous year: 5.0 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.

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 31.6 percent (previous year: 32.4 percent).

### **Lasting competitive advantages through strategic innovations**

The goal of all innovation activities is to constantly expand and refresh the portfolio of products and services. Holistic innovation management throughout the Group forms the basis for this. Research and development activities are defined and pursued at strategic level by the Business Groups.

The Freudenberg Technology Innovation corporate function has a special part to play in innovation management. Employees from the corporate function have expertise in materials, processes, surface technology methods, tribology, electrochemistry and digitalization. Together with the Business Groups, they focus on driving medium- and long-term innovation activities forward.

Under the "Janus" program, Freudenberg reevaluated the assumptions for developing future scenarios in light of recent political and economic changes and defined future growth fields. As part of the "Janus 2.0" follow-up program, Freudenberg Technology Innovation is identifying the most promising opportunities in the prioritized growth fields, working in close collaboration with the Business Groups.

## **Bundling research topics in overarching competence fields**

Drawing on the Business Groups' technology roadmaps, Freudenberg Technology Innovation bundles the strategic research topics from the Business Groups into four overarching competence fields known as flagships. The subject areas within the individual flagships are also continuously refreshed under Freudenberg's ten technology platforms. Once they have reached an appropriate maturity level, the technological solutions resulting from this process are transferred to the Business Groups with the goal of industrial-scale production. Selective use is also made of publicly-funded projects, collaboration in scientific networks and patent strategies.

The four **flagships** are:

### **Process & Data Sciences:**

The automation and digitalization of production processes is an important goal in the Freudenberg Group. Data from manufacturing process collected for this purpose is analyzed to determine how advanced methods such as artificial intelligence can be used to steer the optimization and self-adaptation of production steps in future.

The "Advanced Data Management" strategic project, for example, addresses aspects of the systematic and structured creation of value from data. The project also focuses on data flow organization, data ownership and data usability.

Systematic image processing is an important factor in speeding up industrial processes with the help of automated solutions. The "Machine Vision" strategic project addresses issues ranging from automated grasping or feeding systems and quality control – particularly as regards surface quality – through to new business models for spare parts delivery.

In addition, an "Internet of Things" lab was set up under this flagship. This lab follows up various data-driven applications from individual Business Groups and develops first prototypes based on the "Minimum Viable Product" principle. Examples include an optical switchgear cabinet monitoring system for hotspots and sensor data transfer via a low-power wireless network.

Furthermore, the corporate function's technical center laid the groundwork for an inline process control system for elastomer injection molding. This involved the full digitalization of an injection molding machine to address and analyze relevant issues raised by the various Business Groups relating to artificial intelligence-aided autonomous process management in manufacturing processes.

### **Virtualization of Material & Product Development:**

Artificial intelligence (AI) and simulation competence play a major role in material development. This flagship addresses the implementation of relevant AI- and simulation-aided methods to accelerate material development and design the optimal characteristics profile of the material to suit its future application, while at the same time reducing costs and the ecological footprint.

The goal of the "Material Informatics" strategic project is to improve the efficiency of material development by using data-driven methods. The project focuses on elastomer, polymer and formulation development for applications in growth fields such as fuel cells. The requirements for the virtualization of a fuel cell are extremely challenging because the complex interactions between physical, chemical and electrochemical factors must be reproduced. This involves the use of multiscale technologies where the input includes test findings from new characterization methods at micro and nano level. Going forward, the competence required for this project will be developed with the help of three PhD students under the EU's BLESSED funding program (Bridging Models at Different Scales To Design New Generation Fuel Cells for Electrified Mobility) approved by the European Commission in 2022.

The product developers' job of predicting product properties is made simpler through the use of simulation methods developed centrally. The "Macroscopic Simulation" strategic project, for example, models macroscopic properties such as friction behavior on the basis of the materials used, design and operating conditions.

### **New Mobility & Energy Transition:**

It is Freudenberg's ambition to help advance the energy transition by developing innovative components

for fuel cells, batteries and electrolyzers. The goal of this flagship is to analyze relevant technological trends and develop an in-depth understanding of them. This work identifies and prioritizes technological approaches. Freudenberg Technology Innovation focuses in particular on building up strategic competences and the related development of new methods, materials and processes for climate-neutral energy technology and e-mobility.

Networking the relevant players along the value chain is a key step towards collaborating on new solutions. The Freudenberg Technology Innovation corporate function expanded the “Energy Transformation” internal and external networks in the year under review. Moreover, Freudenberg participates in selected industrial policy platforms at regional and international level.

Freudenberg Technology Innovation successfully placed its “SusSeal4H2” project outline under the “2 + 2 Green Hydrogen” funding call issued by Germany’s Federal Research Ministry in cooperation with Japan. The aim of the project is to prove the performance of innovative polymer sealing materials when in contact with hydrogen under various static and dynamic conditions. Experts will address the development of suitable sealing materials with a significantly smaller ecological footprint than present materials. The project partners are Bundesanstalt für Materialforschung und -prüfung (BAM), Kyushu University in Japan and NOK Corporation.

Furthermore, electrochemical facilities at the technical center were expanded to include specific testing and production methods to enable the manufacture of proprietary, customized intermediate products in the future.

#### Sustainable Materials and Processes:

In order to create a sustainable product portfolio, Freudenberg is devoting greater attention to expanding the requisite core competences in materials and manufacturing processes through the introduction of new key technologies. Flagship activities center on bio-based and biologically degradable raw materials, new recycling processes and the use of such recycles, as well as efficient manufacturing processes.

One core task of this flagship is to search for alternatives to per- and polyfluoroalkyl substances (PFAS). Because of their unique physical and chemical properties, PFAS are currently used in various key components of fuel cells and electrolyzer cells. This chemical stability, combined with the resistance to heat and weather and pronounced hydrophobicity also means that PFAS are resistant to degradation in the natural environment. For this reason, the European Union (EU) is planning a comprehensive REACH restriction process (Registration, Evaluation, Authorisation of Chemicals) to ban the manufacture, placement on the market and use of PFAS within the EU. Freudenberg Technology Innovation has already identified the first promising alternatives for selected fuel cell research questions.

#### Selected innovations

##### Sustainable mobility

With its innovative high-performance materials, **Freudenberg Sealing Technologies** makes a valuable contribution to the further development of sustainable mobility. These proprietary materials are designed to optimize relevant key properties such as flame-retardant capability, electric and thermal conductivity and ease of processing for new mobility technologies, and to transfer these properties to customer solutions. With Quantix Ultra, for example, Freudenberg Sealing Technologies has successfully developed a material that neither melts nor catches fire at very high temperatures and is well suited to injection molding. This innovation brings openings for entirely new e-mobility applications. For instance, all components installed close to the battery, such as the tubes supplying the battery with coolant both during normal operation and in the event of thermal runaway, must comply with stringent flame-retardant specifications. Another high-performance material is used in the DIAvent pressure equalization elements, making them extremely robust against mechanical stress. Furthermore, the company has improved the performance of the silicone-based elastomer for Freudenberg’s heat shield, preventing the overheating of damaged battery cells.

The vibration specialist **Vibracoustic** is also supporting the advance of sustainable mobility through the use of test benches developed in-house to investigate

high-frequency decoupling elements: these test benches can analyze and optimize complete axle systems without the need to have the full car on site. Successful customer projects have already confirmed the applicability of the electric axle test bench for meeting the requirements of the increased frequency range of electric vehicles.

The newly-established **Freudenberg e-Power Systems** Business Group reached an important milestone with the world's first type-approved methanol-powered fuel cell system for use in maritime applications. The system helps to make ocean shipping climate-neutral, efficient and safe.

### Energy transformation and sustainability

**Freudenberg Performance Materials** helps to transmit clean energy successfully with its water blocking tapes used in undersea cables. Thanks to the specially developed new materials, power generated by offshore wind turbines can be transmitted over long distances via high-voltage subsea cables, thus advancing the energy transformation. Furthermore, the Business Group developed a new bio-based binder mixture that substitutes biocomponents for synthetic materials. This application is used to reinforce roofing membranes made of recycled PET. The Business Group can therefore offer an environmentally-friendly, health-oriented complete solution for the building industry.

The WKA 1200 modular-design chamber seal from **EagleBurgmann** will significantly reduce CO<sub>2</sub> emissions by lowering barrier gas consumption. The product can be used, for example, in compressors for hydrogen applications, thus furthering a critical key technology for the energy transformation.

The patent-pending HX series sealrings from **Freudenberg Oil & Gas Technologies** reduce fugitive emissions by up to 99 percent compared to conventional sealing solutions for API and ASME flanges. Tests confirm that the leak rates for the HX series are substantially lower than the current industry standard. This significantly reduces damage to the climate from emissions of gases such as CO<sub>2</sub> and methane released during hydrocarbon transmission or storage – and contributes to meeting the goals of the Paris Agreement.

In the year under review, **Vibracoustic** addressed the sustainable procurement of natural rubber and the biotechnical recycling of natural rubber scrap, thus making a contribution to the circular economy and reducing the footprint of new product solutions.

### Health and safety

The Vileda Looper from **Freudenberg Home and Cleaning Solutions** is a cordless electric spray mop that helps end customers remove up to 99.9 percent of bacteria and viruses from floors. The combination of rotating microfiber pads and the spray water function cleans without the use of chemicals. In the Vileda Professional division, the digital, cloud-based EviSense solution helps cleaning professionals carry out their jobs more effectively and efficiently. The sensor-based EviSense digital control unit clips onto the mop handle. It uses RFID technology to communicate with nearby rooms and supports cleaners by giving them useful information such as cleaning progress, outstanding tasks and whether the mop head needs changing. EviSense also enables cleaning companies to evidence that cleaning tasks have been performed, thus providing an important service for the cleaning industry.

**Freudenberg Medical** launched HelixFlex in the year under review, a high purity thermoplastic elastomer TPE tubing designed for use in pharmaceutical and biopharmaceutical applications. The tubing is an alternative to silicone, where supplies are becoming increasingly scarce, and can be welded to existing tubing lines and heat-sealed to allow for easy, fast and safe fluid handling, transport, and transfer in biopharma processes.

Korea Vilene Co., Ltd, Pyeongtaek-si, South Korea, a **Japan Vilene Company** subsidiary, launched a filter substrate that well-known manufacturers are already using in air purifiers for the health sector.

One focus of innovation activities at **Freudenberg Chemical Specialities** was the substitution of per- and polyfluoroalkyl substances (PFAS), a family of persistent chemicals. In the release agents market in particular, the subsidiary Chem-Trend developed numerous PFAS-free solutions for applications in the rubber processing industry and for the manufacture of composites. In addition, the subsidiary Capol developed a

new solution for use in the food industry – a release agent based on natural formulations that can be sprayed on cheese slices as a substitute for the commonly-used plastic interleaving film.

In the year under review, **Freudenberg Filtration Technologies** completed the installation of the new fully-automated impregnation process for activated carbon at the Shunde facility in China. The new, proprietary vacuum technology ensures a cleaner, safer and more efficient process.



A Freudenberg employee preparing polymer materials with a twin-screw extruder.

# REPORT ON ECONOMIC CONDITIONS

## MACROECONOMIC ENVIRONMENT

The COVID-19 pandemic gradually transitioned to an endemic during the course of 2022. While international supply chains improved as a result, they nevertheless continued to present a challenge for world trade. This situation was compounded by Russia's invasion of Ukraine on February 24, 2022, putting significant additional pressure on the world economy. Western industrialized nations agreed on severe sanctions against Russia. Markets were hard hit by the sharp drop in supplies of oil and, above all, gas. This triggered energy price spikes, some of them dramatic, throughout the world. A large share of Ukraine's export business collapsed due to the continued military aggression. Inflation rates rose significantly worldwide, causing several central banks to raise interest rates.

The US Federal Reserve was particularly swift in increasing its benchmark interest rate in a series of sharp rises, adjusting rates a total of seven times to take its benchmark rate to 4.5 percent at the end of the year. The European Central Bank began raising its

interest rates in July 2022, taking the base rate to 2.5 percent in four steps. In November, the Bank of England made the biggest interest rate rise since 1989. The Bank Rate at year-end was 3.5 percent. All of these restrictive monetary policy measures significantly curbed economic development. Many governments introduced fiscal initiatives to shore up their economies. Comparatively warm weather and numerous energy-saving measures prevented serious energy shortages.

The Chinese government only eased its strict zero-COVID policy towards the end of the year and after public unrest. The People's Republic of China fell short of its role as a growth engine for the world economy in 2022. Other countries in the Asia-Pacific region benefited to some extent from this shortcoming. Economic output in India again grew strongly, but failed to realize its double-digit growth potential due to the continued lack of structural reforms.

EUROPE		
Region	GDP growth 2021	GDP growth 2022
Eurozone	5.1 %	3.3 %
Germany	2.7 %	1.9 %
France	6.7 %	2.5 %
Greece	8.3 %	5.3 %
Ireland	14.2 %	9.4 %
Italy	6.3 %	3.7 %
Portugal	4.3 %	6.5 %
Spain	4.7 %	4.7 %
United Kingdom	7.0 %	4.2 %

Sources: Consensus Inc., national statistical offices  
 GDP growth 2022: as at February 2023  
 GDP growth 2021: as at date reported in previous year

WORLD REGIONS		
Region	GDP growth 2021	GDP growth 2022
Argentina	9.3 %	5.3 %
Brazil	4.7 %	2.9 %
China	7.9 %	2.9 %
India	9.2 %	6.9 %
Japan	1.7 %	1.2 %
Mexico	5.5 %	2.9 %
Russia	4.5 %	-2.2 %
Taiwan	6.0 %	3.1 %
USA	5.6 %	2.0 %

Sources: Consensus Inc., national statistical offices  
 GDP growth 2022: as at February 2023  
 GDP growth 2021: as at date reported in previous year



**Sector-specific environment**

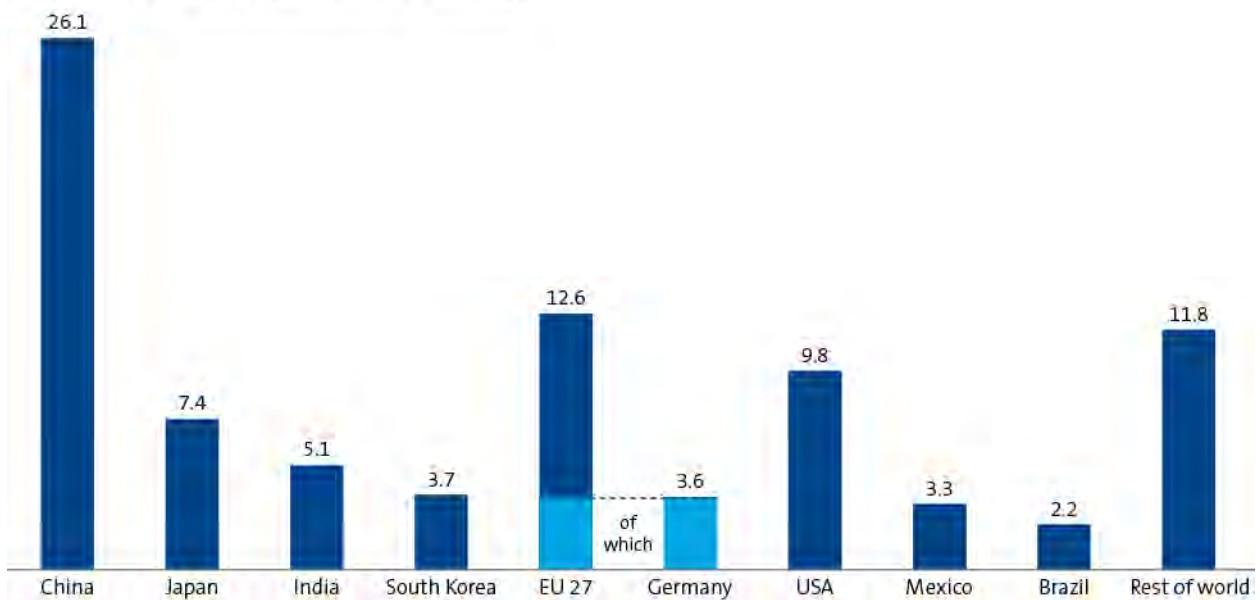
The changes in the macroeconomic environment also had an impact on the Freudenberg Group’s main sales markets.

The supply bottlenecks in the **automotive industry** continued in 2022, but eased somewhat as the year progressed. As a result, global production of light vehicles grew 6 percent year-on-year to a total of 82.0 million units. Growth rates even reached double digits in India (23 percent), Germany (12 percent) and North America (10 percent). In South Korea (9 percent) and China (6 percent), the growth rate was slightly better than the global average. In contrast, there was a marked decline in production in Japan (-1 percent), Italy (-2 percent), and the United Kingdom (-7 percent), with a particularly significant fall in Russia (-65 percent) (Source: IHS Markit).

The share of all-electric vehicles in global production rose to just short of 10 percent in 2022 and the share of hybrid vehicles grew to a good 9 percent (Source: LMC).

Despite the supply bottlenecks, the shortage of skilled labor and the sharp rises in energy prices, production in the global **mechanical engineering** sector increased by 3 percent thanks to unusually high order backlogs. The rise in the eurozone was 5 percent, although big countries for mechanical engineering such as Germany (1 percent) and Italy (4 percent) only posted below-average development. France (-1 percent) and the United Kingdom (-10 percent) reported a decline. Production momentum in Japan was much stronger (9 percent). Growth in China ran at -1 percent (Sources: VDMA, national statistical offices).

**LIGHT VEHICLE DOMESTIC PRODUCTION**  
2022 production in million units (82.0 million units worldwide)



Source: IHS Markit, February 2023

The **textile and apparel industry** increasingly felt the effects of rising inflation and a corresponding reluctance to spend. This impacted production in key manufacturing countries such as China (-3 percent). In contrast, the EU27 again recorded strong growth (5 percent) (Source: national statistical offices).

It is generally accepted that rising interest rates impact business in the **construction industry**. This became increasingly obvious during the course of 2022. Notwithstanding this phenomenon, the annual average was often quite robust, for example a 3 percent increase in the EU27, 10 percent in the USA, 7 percent in Japan and 14 percent in India. The real estate crisis that has been smoldering for years in China again reared its head with a 10 percent fall in production (Source: national statistical offices).

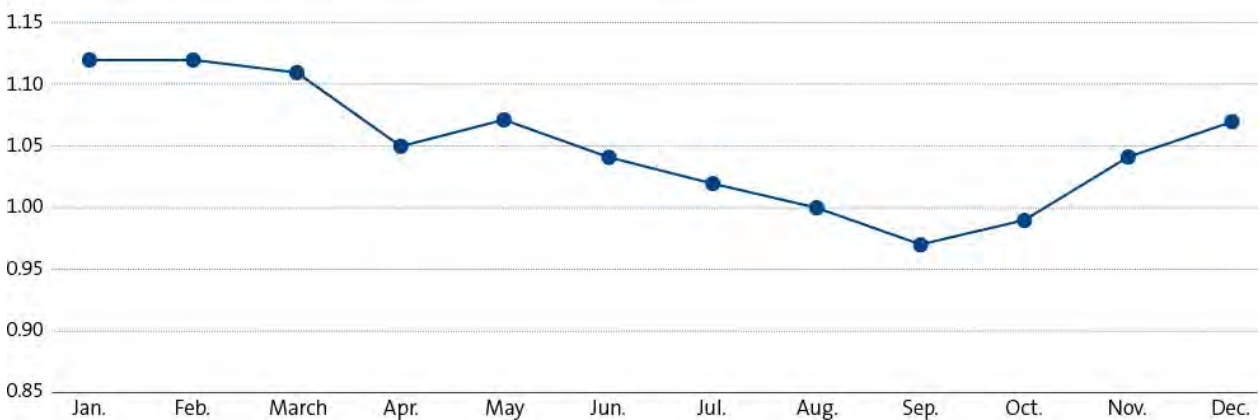
As is often the case, developments in the **medical technology** industry were largely unaffected by the macroeconomic environment. Production in the USA grew 8 percent, and just short of 1 percent in Japan. Production stagnated in the EU27 (0 percent). (Source: national statistical offices).

The easing of corona measures triggered strong catch-up effects in **private consumption**. This momentum was only partly dampened by rising inflation that hit record levels in many countries and was well above the desired level. Instead, savings rates fell further in order to satisfy consumer wishes. In many countries, increased spending among private consumers was higher than GDP growth (Source: national statistical offices).

Given the uncertainty surrounding the war between Russia and Ukraine and in light of global economic developments, the **oil price** in 2022 was very volatile. The average annual price was US \$ 94.21 per barrel (WTI), some 39 percent higher than the previous year (Source: Handelsblatt).

The euro **exchange rate** per US dollar fell sharply between February and October, but recovered slightly towards the end of the year. The annual average exchange rate of approx. 1.05 US \$ per euro was nevertheless 11 percent below the previous year's level (Sources: Deutsche Bundesbank / European Central Bank).

EURO EXCHANGE RATE DEVELOPMENT IN 2022  
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 of operating result describes the result 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 of 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 with at least one day of work lost per million hours worked. The indicator also includes data for temporary employees and agency staff.

The forecasts made at the beginning of the year with respect to the financial and non-financial key 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 2021	Forecast for 2022	Change	ACTUAL 2022
Sales [€ million]	10,038.7	slightly above prior-year level	+17.1 %	11,753.1
Operating result [€ million]	877.3	marginally increased	+7.4 %	941.8
Return on sales [percent]	8.7	at prior-year level	-0.7 % points	8.0
LDIFR [LDI per million working hours]	1.3	at prior-year level	+0.5	1.8

At €11,753.1 million, sales were noticeably higher than the prior-year level of €10,038.7 million, and as a result the forecast development was exceeded. The increase despite challenging market conditions is mainly attributable to sales price increases as a result of inflation and positive exchange rate effects.

At €941.8 million, the operating result was higher than the prior-year level of €877.3 million and therefore above the forecast development. The rise is attributable to sales price increases, largely offset by significantly higher material and energy costs and higher earnings contributions from slightly higher sales volumes. In addition, startup costs for expanding the battery and fuel cell business continue to be incurred.

Once more, one focus at all levels of the company in the 2022 financial year lay on occupational safety. Measures in this area in 2022 again concentrated on rules for correct conduct and preventive measures to protect against the coronavirus. The internal Safety Boost initiative also continued in 2022. Under this initiative, occupational safety activities are continually 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 2022 financial year was 1.8 (previous year: 1.3), and therefore did not meet the expected development. The rise is in part attributable to the fact that many restrictions related to the pandemic were lifted.

## Sales

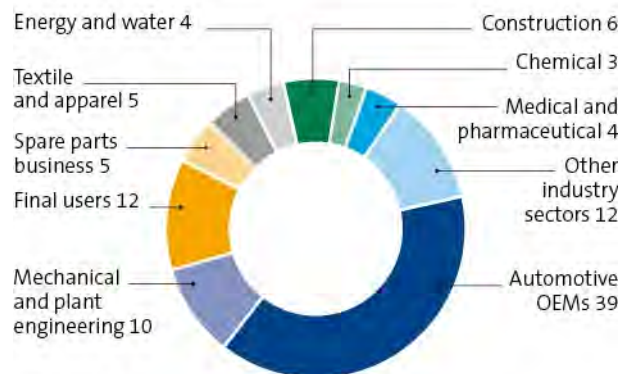
Freudenberg aims for profitable growth achieved both through its own efforts (organic) and through acquisitions (external). Key success factors are, in particular, the innovative product range, customer-oriented, flexible solutions to problems in the different sectors of industry, and structured expansion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

In the 2022 financial year, Freudenberg generated sales of €11,753.1 million (previous year: €10,038.7 million). Exchange rate effects totaling €495.2 million had a positive effect on sales. These effects were primarily attributable to developments in the exchange rates of the US dollar, the Japanese yen and the Mexican peso. Acquisitions in the year under review accounted for sales of some €114.2 million. Disinvestment effects amounted to some €3.4 million. This includes sales of acquired or disinvested companies for the period until they are included or not included, as the case may be, in the consolidation of the Freudenberg Group for a full twelve months.

### Sectors and regions

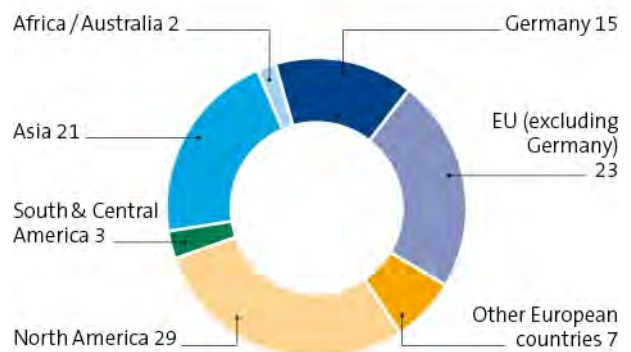
Sales distribution by sectors remained generally stable in the 2022 financial year. The share of sales to the other industry sector rose slightly to 12 percent (previous year: 11 percent). In contrast, the share of sales to the mechanical and plant engineering sector decreased slightly to 10 percent (previous year: 11 percent). There was no change in the share in total sales compared with the previous year for the remaining sectors.

SALES BY SECTOR [in %]



The North America region accounted for 29 percent of total sales (previous year: 26 percent). Freudenberg generated a share of 23 percent (previous year: 24 percent) of total sales in the European Union excluding Germany. The Asia region accounted for 21 percent (previous year: 23 percent) of total sales.

SALES BY REGION [in %]



## Earnings position

[€ million]	2021	2022
Sales	10,038.7	11,753.1
Cost of sales	-6,904.7	-8,259.5
<b>Gross profit</b>	<b>3,134.0</b>	<b>3,493.6</b>
Selling expenses	-1,369.2	-1,535.7
Administrative expenses	-637.2	-702.5
Research and development expenses	-428.4	-506.6
Other income and expenses	38.5	51.6
Income from participation in joint ventures	26.0	23.3
<b>Profit from operations</b>	<b>763.7</b>	<b>823.7</b>
Financial result	14.5	33.3
<b>Profit before income taxes</b>	<b>778.2</b>	<b>857.0</b>
Income taxes	-191.1	-217.4
<b>Consolidated profit</b>	<b>587.1</b>	<b>639.6</b>

At €11,753.1 million, sales in 2022 were above the level of the previous year. Gross profit fell by 1.5 percentage points. The selling expenses ratio decreased to 13.1 percent and the administrative expenses ratio to 6.0 percent.

Compared with the previous year, there was an increase in research and development expenses, although the research and development expense to sales ratio remained at the prior-year level of 4.3 percent. The increase in research and development expenses reflects the continued growth in battery cell and fuel cell business.

The financial result rose by €18.8 million compared with the previous year, chiefly as a result of the rise of €12.9 million in other investment result and the rise of €2.1 million in the pro rata share in the results of associated companies.

The consolidated profit was €52.5 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 continues to be 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, 2022, Freudenberg had undrawn committed credit lines amounting to about €815 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 in the year under review. 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, 2021	Dec, 31, 2022	Change	
	[€ million]	[€ million]	[percent]	[€ million]
<b>Asset structure</b>				
Non-current assets	7,401.3	7,299.0	-1.4%	-102.3
Current assets	5,519.8	5,851.9	6.0%	332.1
<b>Assets</b>	<b>12,921.1</b>	<b>13,150.9</b>	<b>1.8%</b>	<b>229.8</b>
<b>Capital structure</b>				
Equity	6,490.5	7,108.0	9.5%	617.5
Non-current liabilities	3,039.5	2,558.5	-15.8%	-481.0
Current liabilities	3,391.1	3,484.4	2.8%	93.3
<b>Equity and liabilities</b>	<b>12,921.1</b>	<b>13,150.9</b>	<b>1.8%</b>	<b>229.8</b>

### Capital structure

In the 2022 financial year, the statement of financial position total rose by €229.8 million. The **equity ratio** increased from 50.2 percent to 54.0 percent. **Equity** rose by €617.5 million. This increase is chiefly due to the positive consolidated result. Actuarial gains on the remeasurement of defined-benefit pension plans also contributed to the increase in equity. These effects were partially offset by dividend payments to the parent company Freudenberg & Co. KG and holders of non-controlling interests.

**Non-current liabilities** amounted to €2,558.5 million (previous year: €3,039.5 million). This development was chiefly due to a reduction of €246.9 million in long-term financial debt and a fall in provisions for pensions and similar obligations from €808 million in the previous year to a total of €604.9 million. The reason for this development was the use of a higher interest rate for calculations, resulting in actuarial gains.

The €93.3 million rise in **current liabilities** to €3,484.4 million was chiefly the result of the increase in trade payables. This was partially offset by reduced short-term other provisions and lower short-term financial debt.

Adjusted for exchange rate effects and changes in the consolidated group, non-current liabilities fell by 16.1 percent, while current liabilities increased by 1.5 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 €401.5 million (previous year: €304.8 million).

The Freudenberg Group invested worldwide. The new Business Group Freudenberg e-Power Systems began to expand its manufacturing and assembly capacities for the production of battery systems at Midland, USA. At Parets des Vallès in Spain, Freudenberg Sealing Technologies started work on the construction of a highly advanced plant to manufacture elastomer products for the automotive industry. Vibracoustic expanded its production and assembly capacities for bellows in Europe, the USA and Mexico. At its location in Škofja Loka, Slovenia, Freudenberg Performance Materials continued to invest in its needlepunch nonwovens plant.

Investments in Germany totaled €144.3 million (previous year: €88.0 million). Freudenberg Performance Materials expanded its plant for gas diffusion layers (a key component of fuel cells) in Weinheim, Germany. Vibracoustic increased capacities for air spring production in Hamburg, Germany. EagleBurgmann embarked on modernization projects for its innovation center at the Wolfratshausen facility and for the manufacture of mechanical seals and other products at Eurasburg.

Investments planned for 2023 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 2022 financial year amounted to €607.7 million, corresponding to a decrease of €254.1 million compared with the previous year. This fall was chiefly due to a significant rise in working capital.

As a result of lower cash outflows for acquisitions, the negative **cash flow from investing activities** decreased from €-533.5 million in the previous year to €-434.2 million.

**Cash flow from financing activities** in the 2022 financial year was €-522.2 million (previous year: €-197.5 million). The cash outflows mainly concerned the repayment of financial debts.

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 increased by €229.8 million to €13,150.9 million (previous year: €12,921.1 million).

**Non-current assets** fell from €7,401.3 million to €7,299.0 million. This development was chiefly due to reductions in intangible assets, other non-current assets and deferred tax assets. These falls were partially offset by the increase in tangible assets. Adjusted for exchange rate effects and changes in the consolidated group, non-current assets decreased by €90.4 million.

**Current assets** rose by €332.1 million to €5,851.9 million. This rise was due chiefly to increases of €311.8 million in inventories and €335.7 million in current receivables. The increase was partially offset by the fall of €358.9 million in cash and cash equivalents. Adjusted for exchange rate effects and changes in the consolidated group, current assets rose by a total of €301.0 million.

## Overall assessment

The 2022 financial year was shaped by a difficult economic and geopolitical environment chiefly affected by the consequences of the war in Ukraine and by the continuing impact of the COVID-19 pandemic – especially in China. Nevertheless, both the sales and the operating result of the Freudenberg Group were above the level of the previous year. The Business Groups benefited from higher sales prices. On the other hand, significant increases in material prices had a negative impact on the result.

As in previous years, Freudenberg continued to invest in the future viability of the Group in 2022. In addition to customer orientation, key topics were the transformation in mobility, digitalization and sustainability. Special mention should be made of investments in the battery and fuel cell business. Freudenberg aims for profitable growth which may come both from its own resources and from acquisitions. In a volatile environment and especially in times of crisis, it is beneficial to be a broadly diversified company. We continue to aim for a balanced portfolio of cyclical and non-cyclical business with sales distributed evenly among North and South America, Europe and Asia. The liquidity situation of Freudenberg remains solid.

Furthermore, occupational safety continued to be one of the main focuses of the Group in the 2022 financial year. To ensure continuous improvement, development work continued on existing measures and innovative approaches were added. In the year under review, the non-financial performance indicator LDIFR was 1.8 (previous year: 1.3).

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 eleven Business Groups are divided into four Business Areas: "Seals 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, the Freudenberg Group 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 Vibrations Control Technology Business Area comprised the following Business Groups:

- Freudenberg Sealing Technologies (from page 32)
- Freudenberg e-Power Systems (from page 35)
- Freudenberg Oil & Gas Technologies (from page 36)
- EagleBurgmann (from page 38)
- Vibracoustic (from page 41)

Sales in this Business Area amounted to €6,067.1 million (previous year: €5,135.4 million). The headcount at the close of the financial year was 30,449 (previous year: 29,111).

### 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 (from page 44)
- Freudenberg Filtration Technologies (from page 47)
- Japan Vilene Company (from page 50)

In total, the Business Area generated sales of €2,760.2 million (previous year: €2,413.4 million) in the last year. At year-end 2022, the headcount was 10,943, compared with 11,227 at the end of the previous year.

### Cleaning Technologies and Products Business Area

In the year under review, the Cleaning Technologies and Products Business Area comprised the following Business Group:

- Freudenberg Home and Cleaning Solutions (from page 52)

Sales in this Business Area amounted to €1,285.4 million (previous year: €1,140.2 million). The headcount at the close of the financial year was 3,300 (previous year: 3,279).

### Specialties Business Area

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

- Freudenberg Chemical Specialties (from page 55)
- Freudenberg Medical (from page 58)

Overall, the companies in this Business Area generated sales totaling €1,902.2 million (previous year: €1,593.1 million). At year-end 2022, the headcount was 6,770, compared with 6,219 at year-end 2021.

## FREUDENBERG SEALING TECHNOLOGIES



	2021	2022
Sales [€ million]	2,199.9	2,455.5
Workforce	13,492	13,384

Seal assembly in the clean room for accumulator production at Freudenberg Sealing Technologies in Remagen

### Business Group profile

Freudenberg Sealing Technologies is a long-standing technology expert and global market leader for demanding and novel sealing technologies for applications in several different industries, and in particular in e-mobility.

With its unique materials and technology expertise, the company is a proven supplier for demanding products and applications, as well as a development and service partner to customers in the automotive industry and in general industries.

The Corteco brand is a specialist for the independent automotive spare parts market.

### Business development (summary)

- Challenging market environment due to many lockdowns in China, difficulties with raw materials supply, and high inflation
- Significant year-on-year sales growth for the Business Group
- High price increases for materials were largely passed on to customers
- Appreciable growth in Freudenberg Sealing Technologies business in Europe and North America
- Freudenberg Sealing Technologies business in China did not meet expectations

### Business development (in-depth)

Business at Freudenberg Sealing Technologies developed well in 2022, despite difficult market conditions, such as the war in Ukraine, several COVID-19 lockdowns in China, difficulties with the supply of raw material and commodities, and high inflation. Overall, the Business Group grew sales by 12 percent – driven by positive exchange rate effects, higher demand in almost all market segments, and across-the-board sales price increases.

Freudenberg Sealing Technologies business in Europe and North America grew appreciably year-on-year by nine, respectively 25 percent. Business in China, on the other hand, did not meet expectations, due to several COVID-19 lockdowns and the associated production shut-downs and delivery problems as well as the drop in market demand in the general Industry sector.

### Key events

- Transformation into a supplier of technology and components for e-mobility and other alternative drive technologies well on track
- DIAvent pressure equalization element is innovation highlight
- Several awards as top employer and for corporate citizenship

In April 2022, Freudenberg Sealing Technologies Battery & Fuel Cell Systems Division was hived off into a new independent Business Group named Freudenberg e-Power Systems. Freudenberg Sealing Technologies had successfully established business in fuel cells and battery systems since 2018.

Freudenberg Sealing Technologies used 2022 to progress further with the transformation from an established provider of seals for internal combustion engines to a supplier of technology and components for e-mobility and other alternative drive technologies. The Business Group Divisions built up extensive product portfolios for new electric drivetrain applications. At the end of 2022, the vast majority of new enquiries from automotive customers related to e-mobility applications.

Innovations such as the DIAvent pressure equalizing element are and will remain the drivers of this transformation: The hermetically sealed housings of lithium-ion batteries for vehicles must be equipped with special devices that perform the necessary pressure equalization. DIAvent combines several functions in a single component: pressure equalization during normal operation, fast and reliable opening for emergency degassing in a worst-case scenario – the thermal runaway of a cell – and subsequent closing after pressure equalization. The element thus not only ensures significantly greater safety, but is also more robust than conventional solutions. What started out in development as a single product has now become a complete DIAvent product family with a broad range of applications. Numerous industrial-scale orders have been placed by vehicle manufacturers and battery producers.

Nomination of the DIAvent pressure equalization element for the Automotive News PACE Award 2022 is confirmation that Freudenberg Sealing Technologies has established itself on the e-mobility market. The prestigious annual award from the US "Automotive News" newspaper is given to automotive suppliers in recognition of a technological innovation in product or process.

DIAvent is one of several promising innovations from the Business Group. Others new developments include the flame barrier fabrics and heat shields as well as established products such as the Plug&Seal connectors.

For the automotive industry, electromagnetic shielding is a key issue for the future, because effectively protecting the many electronic components and systems in electric vehicles from disruptions caused by electromagnetic waves is a major challenge. "Seal & Shield" is the name of one possible solution marketed by Freudenberg Sealing Technologies to meet this challenge. Coatings with a high level of electric conductivity that deflect electromagnetic waves from the surface of plastic housings were developed. The protective coating, the plastic housing and its seal create a single unit. The Business Group's "Seal & Shield" solutions were nominated for the Altair Enlighten Award 2022. The award honors the greatest sustainability and lightweighting advancements that successfully reduce carbon footprint, mitigate water and

energy consumption, and leverage material reuse and recycling efforts.

Freudenberg Sealing Technologies also applies its expertise in fuel cell sealing solutions to develop advanced sealing solutions for electrolyzers. By bonding its sealing materials to electrolyzer stack plates, the company offers customers plate units designed to optimize sealing performance in aggressive electrolyzer environments.

Freudenberg Sealing Technologies invested in machinery, plant and locations in the year under review. At the Lajosmizse site in Hungary, for example, the Business Group invested several million euros in a new workshop, a modern 300 square meter warehouse and a roughly 1,200 square meter production hall. Automated production cells and a modern automated robot unit were also installed at the site. This investment brought a significant increase in manufacturing capacity and flexibility.

The Business Group won several top employer awards in 2022. Freudenberg Sealing Technologies in Parets del Vallès, Spain, was recognized as a Best Workplace by the Great Place to Work international research and management consultancy. Freudenberg-NOK Sealing Technologies in Plymouth, USA, was honored with the Top Workplace Award 2022 from Detroit Free Press for the fifth time in succession. Furthermore, "Wirtschaftskammer Tirol" (Chamber of Commerce of Tirol) and "Kammer für Arbeiter und Angestellte" (Chamber of Labor) recognized Freudenberg Sealing Technologies in Kufstein, Austria, as an excellent training company.

In addition, the Freudenberg Sealing Technologies location in Pinerolo, Italy, was honored with the "Welcome. Working for Refugee Integration" award from the UN Refugee Agency for the third time.

## **Location changes**

Ground-breaking for the new Freudenberg Sealing Technologies factory in Parets del Vallès, Spain, took place in September 2022. The factory is scheduled to commence operations in the second half of 2023. Given growing demand for elastomer products from the automotive industry, the factory is being entirely rebuilt. The new production facility will rank among the most modern and sustainable plants operated by Freudenberg Sealing Technologies. A photovoltaic array will supply the site with green electricity. A highly-efficient energy recovery system will deliver energy for HVAC applications and the factory will use waste heat from the machines for the heating and warm water system.

The new Integrated Precision Solutions Lead Center facility in Emmerich, Germany, was commissioned in September 2022. Until then, the Lead Center operated two plants. What used to be the second plant was expanded, because the former main plant located in a mixed zone near the inner city was no longer fit for the purpose of this project.

## FREUDENBERG E-POWER SYSTEMS



	2021	2022
Sales [€ million]	0.0	87.4
Workforce	0	751

An employee operating a rolling unit for aluminum foil at a stamping machine – this foil is used in lithium-ion batteries.

### Business Group profile

The Freudenberg e-Power Systems Business Group was founded in April 2022. It bundles the Freudenberg Group’s activities in the field of emission-neutral energy storage and energy generation systems in the battery and fuel cell products segment. The Business Group specializes in challenging heavy-duty applications for road and maritime applications. The battery and fuel cell systems are used in trucks and buses as well as cruise ships and ferries.

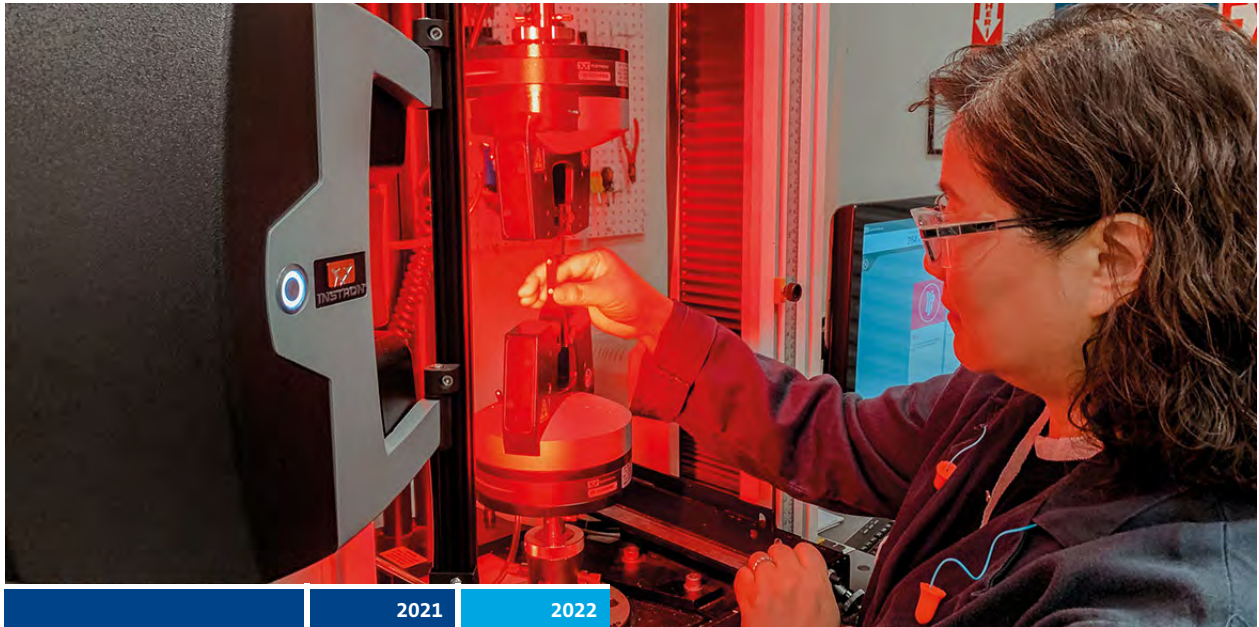
### Business development / key events

2022 was shaped by sales growth in the battery segment. Significant business growth at Freudenberg Battery Power Systems, LLC, Wilmington, USA, was attributable to the delivery of battery systems to North American manufacturers of city and school buses. Strong momentum came from the U.S. administration’s financial incentives for switching to renewable energy together with initiatives to reduce harmful emissions. The Business Group made significant

progress in fuel cell development with the installation of the first two 100-kilowatt methanol-powered systems on a cruise ship, together with type approval for the methanol fuel cell system from the international classification society RINA (Registro Italiano Navale). Preparations for further maritime and road-based projects are underway. The Business Group is cooperating with ZF Friedrichshafen AG to develop a highly-integrated complete electric drive solution for heavy-duty commercial vehicles.

Furthermore, the Business Group acquired the outstanding ownership interest in XALT Energy, LLC, Wilmington, USA, from co-owners MBP Investors LLC and TK Advanced Battery, LLC, in early January 2023. Until then, Freudenberg had held a 50.1 percent stake. XALT Energy produces lithium-ion batteries, its subsidiary Freudenberg Battery Power Systems, LLC, Wilmington, USA, develops and produced complete battery systems.

## FREUDENBERG OIL & GAS TECHNOLOGIES



	2021	2022
Sales [€ million]	70.2	97.5
Workforce	376	398

A Freudenberg Oil & Gas Technologies employee tests a polymer sample at the material testing lab in Houston, Texas, USA.

### Business Group profile

Freudenberg Oil & Gas Technologies is a global provider of critical sealing and connector solutions, niche products and services to the global energy market – including the oil and gas, renewable energies and alternative energies market segments. The products are used in the drilling, extraction and processing of oil and gas, and enable energy generation from geothermal, tidal and solar sources.

Freudenberg Oil & Gas Technologies develops and delivers products, technologies and services for a wide range of customers including oil and gas producers, original equipment manufacturers (OEMs), and engineering and service companies that in turn provide technologies, equipment and services for onshore and offshore oil and gas production and energy generation systems throughout the world. The Business Group has its own materials and product testing lab in Houston, Texas, USA, and operates production and service centers in Canada, Malaysia, Norway, Singapore, United Kingdom, United Arab Emirates and the USA.

### Business development (summary)

- Recovery in upstream sector continued in the year under review
- Number of drilling rigs grew worldwide in 2022
- OPEC-plus countries cut oil production levels from October 2022
- Business Group sales developed better than expected
- All three Freudenberg Oil & Gas Technologies Strategic Business Units contributed to growth

### Business development (in-depth)

2022 saw the upstream sector of the oil and gas market continue its recovery. Overall investments in this sector grew by 15 percent versus the previous year, with most of the increase coming from higher prices. Overall activity grew by around 28 percent year-on-year, measured by the total number of drilling rigs in operation worldwide, although this level is still lower than the 2019 pre-corona pandemic level.

The market again reverted to oversupply due to a slowing global economy, resulting in the OPEC-plus countries cutting oil production by some 100 million barrels per day from October 2022 in order to bring supply and demand back into balance.

Russia's invasion of Ukraine impacted the global oil and gas market in two ways: first, it disrupted the delivery of natural gas to Europe previously supplied by Russia. Second, it affected the overall supply chain for key components used in end products within the oil and gas industry, resulting in extended delivery times and higher prices.

Freudenberg Oil & Gas Technologies' activities continued to increase in the year under review. Sales by the Business Group developed better than expected. All three Freudenberg Oil & Gas Technologies Strategic Business Units contributed to growth.

### Key events

- Demand for the Business Group's prototype service continued
- Offshore products successfully brought to land-based applications
- New high-integrity products commercialized

In 2022, all Strategic Business Units at Freudenberg Oil & Gas Technologies continued to focus on product and market diversification, resulting in new product commercialization and market share growth.

The Pressure Control Strategic Business Unit continued to gain share in the certified drilling and geothermal drilling markets in the year under review, and worked with the global energy company Chevron Corporation to certify the Business Group's proprietary Ultra annular seal to a continuous high operating temperature.

Furthermore, the prototype service offered by Freudenberg Oil & Gas Technologies continued to be successful in the year under review. This service provides dedicated project management that brings together Freudenberg Oil & Gas Technologies' leading expertise in engineering, manufacturing 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 product development and testing laboratory to provide verified, certified solutions tailored to the requirements of the industry. In addition, the Engineered Seals Strategic Business Unit commercialized new FFKM elastomers and a cross-linked PEEK thermoplastic for high pressure and high temperature applications.

The High Integrity Connectors Strategic Business Unit successfully brought Freudenberg Oil & Gas Technologies offshore products and technologies to land-based applications, more specifically in West Texas, USA. Further key offshore projects were also won.

New products commercialized by the Business Group in 2022 included a single bolt high integrity connector for pipeline applications, a patent-pending seal ring for use in flanges which shows reductions of fugitive emissions of up to 99 percent versus conventional seals, and an all-electrically operated high integrity connector.



	2021	2022
Sales [€ million]	823.2	917.7
Workforce	5,645	5,883

Assembling a seal supply system at the EagleBurgmann Business Group

**Business Group 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. These sealing solutions are used where safety and reliability are most important, for example, in the (petro-)chemical industry and refineries, the pharmaceutical as well as the food processing industry, power plant technology or water applications.

Throughout the world, EagleBurgmann offers its customers sealing solutions that enable entire sectors of industry to become more sustainable and “greener”.

A dense sales and service network ensures the best possible customer proximity and is optimally complemented by digital offerings.

**Business development (summary)**

- EagleBurgmann once again global first fit market leader
- Double-digit growth rates in energy, water and oil & gas sectors
- Pronounced increase in incoming orders in year under review
- Rising prices and disrupted supply chains particularly challenging
- Growth in digital business activities as digital channels expanded



### Business development (in-depth)

EagleBurgmann successfully defended and expanded its position as the global market leader in the first fit market (OEM business). The Business Group thus also laid the foundation for robust development of the profitable aftermarket in services and spare parts. EagleBurgmann recorded above-average growth in the aftermarket during the year under review.

In terms of applications, sales growth was especially evident in products for agitators, mixers and kneaders. Furthermore, the Business Group was particularly successful in the core market segments of energy and water, where double-digit growth was recorded. At the same time, the oil and gas market witnessed a revival. There, too, the Business Group reported double-digit growth.

There was a pronounced increase in incoming orders for the year as a whole. This offers positive prospects for the Business Group for the coming financial year.

Major challenges in 2022 came in particular from rising prices on raw material markets and supply chain disruptions.

Digital sales channels were professionalized by further developing the online shop and improving many aspects of online sales. This met with a positive response from customers, as confirmed by growth in EagleBurgmann's digital activities.

### Key events

- Several new contracts in the "Major International Projects" business area
- Delivery of mechanical seals for world's largest seawater desalination plant
- Products from the Business Group prevent methane emissions
- New market segments gain importance due to the energy transition

EagleBurgmann concluded several new contracts in the "Major International Projects" business area. Under one such project, for example, EagleBurgmann is supplying seals and sealing systems for a refinery belonging to the Chinese company Hengli Group. This project represents progress in EagleBurgmann's business development in Asia.

In addition, the Business Group supported construction of the world's largest seawater desalination plant in the year under review. The plant is being built near Tel Aviv at a total investment of almost half a billion euros. Once built, it will desalinate an annual 100 billion liters of water and convert it into potable and industrial process water for over 1.5 million people, thus meeting 20 percent of Israel's water needs. A reverse osmosis process is used to purify the water. This physical process to remove substances dissolved in liquids uses pressure to reverse the natural osmosis process. EagleBurgmann supplied state-of-the-art SH3 and SH15 mechanical seals specially developed for extremely high pressures in water applications. Not only do they allow for a reliable and smooth operation but, thanks to their durability, they also help make the desalination plant more sustainable.

At the World Climate Conference in Egypt, leaders and heads of state from all over the globe repeated their pledge to reduce methane emissions by 30 percent by 2030. EagleBurgmann supplies products that help achieve this goal: one example is the CobaDGS mechanical seal that significantly reduces methane emissions from pipeline compressors used to transport natural gas. Another example is the RoTech booster, a gas seal booster that keeps gas seals reliably clean during standby conditions and prevents venting the compressor, thus releasing methane to the environment. More widespread use of this equipment can prevent the emission of several million tonnes of CO<sub>2</sub> equivalent per year.

New market segments are gaining importance due to the energy transition and the associated reduction in the use of fossil raw materials. EagleBurgmann is focusing more closely on projects concerning the use of hydrogen, energy storage and reducing emissions. The Business Group responded to technical challenges, both old and new, such as CO<sub>2</sub> and hydrogen sealing issues, by engineering technologically-advanced sealing solutions for compressors and pumps for these critical applications. Developments in the

fields of carbon dioxide and hydrogen continue to be closely monitored and are part of EagleBurgmann's strategy to assume technical market leadership with products such as the "Zero Leakage" range, thus contributing to achieving new standards.

In the year under review, EagleBurgmann also successfully continued with a global project to reduce the complexity of the product portfolio and manage the portfolio intelligently. Going forward, there is to be a stronger focus on anticipating customers' needs and serving them efficiently using a toolkit system. Milestones in the EagleBurgmann Complexity Management Program in the year under review were modernized products manufactured using global modular processes. This aims to save costs, increase flexibility and counteract bottlenecks in raw materials and manufacturing capacity thanks to shorter delivery times. The Business Group also responded to persistently higher material costs by expanding the global purchasing network.

The digital transformation of the Business Group was a further important strategic project. EagleBurgmann's "Smart Seal Sensor" product line celebrated its market launch following the successful conclusion of the project with a Canadian pipeline operator. Going forward, smart products fitted with sensors will enable EagleBurgmann customers to digitally monitor the operating parameters of mechanical seals, visualize their performance and process data on web-based platforms.

### **Location changes**

EagleBurgmann opened a new manufacturing facility in Valinhos, near São Paulo, Brazil. A workforce of over 100 manufactures mechanical seals, expansion joints and supply systems at the new plant. The majority of EagleBurgmann customers in Brazil come from the chemical industry, mining, the oil and gas industry, and the refinery sector. The new facility was designed with a special focus on sustainability aspects such as energy supply and consumption. Valinhos is a further pillar in EagleBurgmann's global production network strategy.

A major project for the future continued at EagleBurgmann's largest manufacturing location in Eurasburg, Germany. Over the period up to 2027, production of mechanical seals and other products is to be modernized, automated and digitized. As a further step in this project, production was refocused and realigned, further manufacturing workstreams were restructured, and the internal flow of goods optimized.

## VIBRACOUSTIC



	2021	2022
Sales [€ million]	2,042.1	2,509.0
Workforce	9,598	10,033

Engine mount production at the Vibracoustic facility in Martorell, Spain

### Business Group profile

Vibracoustic is a global leading NVH (noise, vibration, harshness) expert for the automotive industry and provides tailored solutions that offer more comfort, while contributing to efficiency, safety and the operating life of vehicles. Thanks to its know-how throughout the entire product life cycle and in all vehicle systems, and its broad product portfolio, Vibracoustic provides solutions to current and future NVH challenges in all vehicle segments.

With a global network of production and engineering sites, the Business Group supplies almost all light and commercial vehicle manufacturers as well as their direct suppliers worldwide with components that significantly improve driving comfort.

### Business development (summary)

- Challenging environment for Vibracoustic
- The Business Group nevertheless grew faster than the market and won orders in all regions, vehicle segments, and product and customer groups
- Appreciable increase in Vibracoustic sales in the year under review primarily attributable to higher business volume

## Business development (in-depth)

The automotive industry was still clearly feeling the impact of the corona pandemic repercussions in 2022. Added to this were new challenges either triggered or exacerbated by the ongoing war in Ukraine.

Increases in personnel and materials costs, supply chain bottlenecks and global vehicle production that remains well below the pre-corona level set the scene for a difficult market environment for Vibracoustic in the year under review. All Business Group sites concentrated on easing the challenging situation through cost control and efficiency improvements.

Despite the difficult environment, Vibracoustic grew faster than the market thanks to the "Air Springs" product group and the favorable customer/vehicle mix. The Business Group won orders in all regions, vehicle segments, and product and customer groups, thus strengthening the company's order backlog for future growth.

Vibracoustic sales in 2022 grew more strongly than expected, mainly due to higher business volume.

In addition, there were numerous discussions with customers concerning price adjustments and inflation compensation. During these discussions, Vibracoustic was able to push through price increases for its products and partially offset cost rises.

## Key events

- New structure defined with four business divisions in future
- Product innovations such as a new hydraulic leveling system launched
- Intensive work on "Best Reach", "Best Cost" and "Best Quality" strategic topics

Vibracoustic conducted a project in 2022 to evaluate the structure of its divisions in light of changing market and customer needs. A new structure with four business divisions was defined: "Mounts", "Air Springs", "Damping and Decoupling", and "Commercial Vehicles". Preparations to roll out this structure effective January 1, 2023, were made in the year under review.

Market launches by Vibracoustic in 2022 included platforms in all regions and for all product groups. These included electric vehicles from premium German, US and Chinese automotive brands, large SUV and commercial vehicle platforms, as well as compact vehicles for European car makers.

Vibracoustic made large-scale investments in bellows manufacturing and assembly capacities in Europe and North America in response to significantly higher global demand for passenger car air springs. Furthermore, the company invested in the market launch of various rubber-to-metal products in 2022, above all in Germany, Spain, Poland, USA, Mexico and China.

Vibracoustic rolled out product innovations, such as a hydraulic leveling system, in 2022. This technology is an innovative, cost-efficient ride height and suspension leveling system mainly for use in electric vehicles. It enables car manufacturers to offer ride height adjustability in lower segment cars.

The Business Group also commercialized innovative decoupling solutions for auxiliary systems such as coolers, pumps and compressors, in electric vehicles. These mounting solutions safely decouple auxiliary components and increase durability as well as comfort both during the ride and when stationary, for instance during fast charging.

Vibracoustic continued its intensive work on its strategic topics of "Best Reach", "Best Cost" and "Best Quality" in the year under review. Aside from digitalization initiatives, the focus was on the "Vibracoustic Energy Efficiency" sustainability program. Based on Freudenberg's "Be Energy Efficient" initiative, this program aims to analyze and reduce energy consumption, thus lowering CO<sub>2</sub> emissions and saving energy costs.

### **Location changes**

In light of market developments, Vibracoustic decided in the year under review to dissolve the joint venture called Vibracoustic-Ikhwezi (Pty) Ltd., East London, South Africa, and shut down the production facility in East London, South Africa. Relocation of the production volume to other Vibracoustic manufacturing sites began in 2022. The facility in East London is to close during the first half of 2023.

## FREUDENBERG PERFORMANCE MATERIALS



	2021	2022
Sales [€ million]	1,320.4	1,571.5
Workforce	4,927	5,058

Inside the clean room: producing PU foam for advanced wound care products

### Business Group 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, building interiors, shoe and leather goods, as well as special applications.

### Business development (summary)

- Business recovered throughout the first half of 2022, but this was followed by a downturn in the second six months of the year
- Very uncertain business climate, high raw material and energy prices, raw material availability and supply chain reliability proved challenging
- Significant sales growth at Freudenberg Performance Materials mainly shaped by growth in North America in the “Building Materials”, “Apparel” and “Carpets”, “Filtration”, and “Shoes” global segments
- Strong demand for gas diffusion layers for fuel cells

### Business development (in-depth)

Following the outbreak of the COVID-19 pandemic in 2020 and the associated downturn on global markets, Freudenberg Performance Materials business rebounded significantly in 2021. This trend continued throughout the first half of 2022, but slackened noticeably or even reversed in the second six months of the year. Overall, Freudenberg Performance Materials sales in the year under review clearly exceeded the level of the previous year.

The very challenging business environment persisted in 2022 and continued to be shaped by a high degree of uncertainty. There were further significant increases in raw material and energy prices during the course of the year under review, with prices at a substantially higher level than the previous year. Raw material availability remained an uncertainty factor. Moreover, Freudenberg Performance Materials continued to face major challenges from global supply chain problems. This applied in particular with regard to the availability of transport containers as well as the COVID-19 lockdowns in China.

The Business Group's sales growth in the year under review was essentially shaped by growth in North America in the global segments of "Building Materials", "Apparel" and "Carpets", "Filtration", and "Shoes" and by "Coated Technical Textiles".

The "Building Materials" segment saw significant year-on-year sales growth. Very high demand from customers, particularly in the first half of the year, was met despite heavy pressure on supply chains. The second six months saw a decline in business compared with the first half of the year.

There was strong growth in the "Apparel" segment in 2022, in part attributable to market recovery from the impact of the COVID-19 pandemic and to the stronger focus on functional apparel.

Sales in the "Coated Technical Textiles" segment increased in the year under review. The main growth drivers for business were industrial applications, truck tarpaulins and sun protection.

The "Carpet" segment expanded on the back of strong business in North America. However, this

business cooled off at global level during the second half of the year.

Gas diffusion layer business benefited from continued growth in new mobility and again saw strong demand. Even though production was expanded further, it was still not possible to meet demand from all customers due to capacity limitations. Capacity expansion is currently underway and will substantially enhance production. This underscores the Business Group's ambition to proactively shape the breakthrough of fuel cell stack mass production for the mobility transformation.

Overall, the "Healthcare" segment saw positive development during the year under review. Components for advanced wound care in particular contributed to this development. Transdermal business was transferred to Freudenberg's Japan Vilene Company effective January 1, 2022.

The automotive market remained volatile in the year under review, in part as a result of the COVID-19 lockdowns in China and the continued shortage of chips. This reduced demand for products in this segment. The effects of the shortage were felt most severely in the Asia-Pacific market.

The market for anti-condensation products in Europe and North America developed very well in the first half of the year under review. The business climate in Europe cooled down noticeably in the second six months. Demand on the American market, however, remained stable.

### Key events

- New line for needle-punched nonwovens commissioned at the Filc group production location in Škofja Loka, Slovenia
- Installation of a new gas diffusion layer facility in Weinheim started
- Ebbw Vale and Littleborough facilities in the United Kingdom awarded the first silver medals from EcoVadis

A new line for needle-punched nonwovens was commissioned at the Škofja Loka, Slovenia, production

location of FILC tovarna filca d.o.o. Filc had reached its capacity limits due to high demand.

Furthermore, the decision was taken to invest in a new line for EnkaMat products at the Changzhou site in China. EnkaMats are 3D matrix mats that prevent erosion. Despite possible COVID-19 restrictions, production is scheduled to commence in 2023.

Installation of a new factory for gas diffusion layers began in Weinheim during the year under review. It is planned to commence production in summer 2023. Approval to expand gas diffusion layer production capacity at the Weinheim location was given in the year under review in order to meet future demand in the high-growth market for fuel cell applications. Commissioning of the additional production plant is planned for October 2024.

In light of market changes in the apparel market, Freudenberg Performance Materials is focusing on the manufacture of base materials for interlinings at the Weinheim location from 2023. Material finishing and coating will in future be bundled at the Italian site in Sant'Omero. To that end, machinery and plant must be relocated from Weinheim to Sant'Omero. Implementation of the necessary infrastructure measures at the Sant'Omero site is already well advanced. Most of this work is to be completed in the first quarter of 2023.

Toyota Boshoku Europe recognized FILC tovarna filca d.o.o., Škofja Loka, Slovenia, as one of the best suppliers with the Silver TBEU Award in the category of quality. The jury praised the high quality of the complex decorative material for car headliners and seats.

The Ebbw Vale and Littleborough facilities in the United Kingdom were awarded the Silver Medal from EcoVadis, the provider of business sustainability rankings. Freudenberg Performance Materials manufactures solutions for advanced wound care and ostomy products at these two locations. With the award, EcoVadis recognized the company's performance in the categories of environment, ethics, labor and human rights, and sustainable procurement.

In 2022, Freudenberg Performance Materials in Kaiserslautern, Germany, together with Freudenberg Filtration Technologies and Freudenberg Medical, the two other Business Groups that operate at the

location, received the state of Rhineland-Palatinate award for their exemplary contribution to the integration of severely disabled people into working life. The award recognizes the high proportion of disabled employees in the total workforce. The quota is just under 15 percent, and is therefore even higher than the figure for 2016 when Freudenberg in Kaiserslautern was honored with a special award from the state of Rhineland-Palatinate.

The independent jury at the leading ISPO trade fair nominated the 100 percent biodegradable thermal insulation comfortemp nature Lyocell HO 60x, made from Lyocell regenerated fibers, for the Textrends Award fall/winter 2024/25 season.

Filc received the Golden Key Award from the US Rural Builder trade journal for its Dr!pstop product brand. The award honors consistently high quality and excellent customer service. Over 30,000 readers of the magazine vote for the Golden Key Award winners.



## FREUDENBERG FILTRATION TECHNOLOGIES



	2021	2022
Sales [€ million]	578.3	677.0
Workforce	3,894	3,552

Freudenberg employees at work on the production line for micronAir cabin air filters with an activated carbon layer

### Business Group profile

Freudenberg Filtration Technologies is a development, production and application specialist for air and liquid filtration. The Business Group's solutions help make customers' industrial processes more efficient, conserve resources, protect people and the environment, helping improve quality of life.

As a globally renowned partner for reliable, energy efficient filtration designs, Freudenberg Filtration Technologies is dedicated to competency in the automotive & transport, energy & resources, hygiene, comfort & health, production & building technology industries and to technologically sophisticated special applications.

System solutions such as the development, installation and the operation of complete filtration solutions as well as wide-ranging services for air and water quality management complement the innovative product portfolio.

### Business development (summary)

- Business year shaped by numerous challenges, such as energy crisis, price increases, supply chain bottlenecks and labor shortages
- Investments in key future topics, such as smart automation in production, digital solutions and strengthening innovation capabilities
- Business development in automotive filtration and industrial filtration generally positive
- Marked downturn in sales in the Consumer division due to weaker demand for indoor air purifiers
- Integration of new "Residential & Commercial" division develops as planned

## Business development (in-depth)

The business year was shaped by several challenges. These included the war in Ukraine, the energy crisis, price increases, supply chain bottlenecks, a reluctance to spend triggered by the economic situation, and the COVID-19 pandemic. The sharp increases in energy, transport and raw material costs were offset by price adjustments. In addition, a considerable effort was required to prevent supply bottlenecks resulting from volatile supply chains. The impact of the growing labor shortage in many countries was particularly noticeable at some production facilities, above all in the USA. Rationalization measures in manufacturing operations, activities to improve purchasing logistics and systematic cost and liquidity management contributed to cushioning the negative effects.

At the same time, Freudenberg Filtration Technologies is also focusing on important future topics: expanding smart automation in production, shaping business processes efficiently through Six Sigma Green and Black Belt training, the efficient use of digital solutions, improving customer relations management, and strengthening innovation capabilities.

Given the overall unstable geopolitical and economic situation, market development for filtration applications was generally satisfactory. Market momentum was shaped by the continued high need to protect people from contaminants and the necessity to optimize industrial processes in terms of operating cost efficiency and sustainability. The year-on-year rise in sales at Freudenberg Filtration Technologies was chiefly attributable to growth in the industrial and automotive filter business, the two acquisitions in the USA that took place in 2021, and favorable exchange rate effects for the Business Group.

Overall, business with automotive filters was good, and sales growth was recorded. The Business Group's Automotive team pressed ahead with expanding new segments such as buses and agricultural machinery through innovations and marketing campaigns, and recorded higher demand for air filters and humidifiers for fuel cell drivetrains. One example is the fuel cell filters supplied by Freudenberg Filtration Technologies for India's first zero-emission bus powered by hydrogen fuel cells.

Demand for indoor air purifiers in Asia and North America weakened in the year under review as the market showed signs of saturation following the very high momentum during the pandemic and as consumers were reluctant to spend in light of the weaker economic situation. This resulted in a marked downturn in sales in the Consumer division, and the Business Group responded with flexible cost-cutting measures. Freudenberg Filtration Technologies expects the market to pick up again and believes it is well placed to respond with innovative products, modern production lines at the new facility in Shunde, and an experienced sales and development team.

Business with industrial filters grew year-on-year, with increased sales in North America, India and South Africa in particular. The market position in the Middle East was expanded thanks to the successful acquisition of new customers. While sales in the strategic segments of gas turbines and compressors and industrial painting as well as general air filtration developed very well, there was a sharp downturn in orders for respiratory mask media as a result of oversupply. The production line for certified mouth-nose masks in Kaiserslautern set up at the beginning of the Corona pandemic was therefore shut down.

In 2021, Freudenberg Filtration Technologies established the new "Residential & Commercial" division with the acquisition of two residential air filter manufacturers in the USA. In 2022, the division performed well in a very competitive market environment. The post-merger integration process to integrate both acquisitions in Freudenberg Filtration Technologies processes and systems and leverage synergies and efficiency improvements has so far proceeded to plan.

### Key events

- One of the largest photovoltaic arrays in the entire Freudenberg Group was commissioned at the new location in Shunde, China
- Business Group invested worldwide in productivity increases
- Market launch of new products, such as new filter elements based on high-performance nano fiber media for fine particle filtration in vehicle cabins

Freudenberg Filtration Technologies installed one of the largest photovoltaic arrays in the entire Freudenberg Group at its new location in Shunde, Foshan City, China, in the year under review. At over 9,500 square meters, the array will generate over 1.8 million kilowatt hours of electricity per year, and save more than 1,100 tonnes of CO<sub>2</sub> emissions. The new array can meet up to 20 percent of electricity demand at the Business Group's largest site worldwide. This investment is one of several measures aimed at achieving climate neutrality at the Business Group's own facilities by 2039.

Investments in productivity increases were also made. A further high-speed pleating machine for automotive filters was commissioned in Kaiserslautern, Germany. Investments in new standardized smart automation for manufacturing plant also progressed successfully. Smart automation not only boosts the productivity of manufacturing plant, but also contributes to more sustainable production processes by reducing cycle times. A further focus lay on reducing the number of physically demanding tasks through the use of cobot technologies.

Investments in improving occupational safety and increasing the level of automation were made at the production sites in the USA acquired the previous year. The optimization measures in warehousing and dispatching begun at the site in Weinheim, Germany, the previous year were successfully concluded.

Freudenberg Filtration Technologies launched several new products: examples include new filter elements based on high-performance nano fiber media for fine particle filtration in vehicle cabins. A premium cassette filter with lower flow resistance, longer service life and a new burst protection grid for safer

operation was developed for the turbomachinery market segment. A new integrated filtration solution improves protection against harmful dust concentrations in mining vehicles. One process technology innovation is a fully-automated impregnation method for activated carbon.

### Location changes

In the USA, the site in Belvidere, Illinois, that has belonged to Freudenberg since 2021 was modernized and expanded. The nearby sites in Huntley and Walker were closed and operations relocated to Belvidere as well as the site in Keyes, also Illinois. Production capacity at the facility in Pasadena, Texas, was adjusted following expiry of business with a major customer. Some 100 jobs were affected.

## JAPAN VILENE COMPANY



	2021	2022
Sales [€ million]	514.7	511.7
Workforce	2,406	2,333

Japan Vilene Company employees at the nonwovens production line at the Shiga facility, Japan

### Business Group profile

Since it was established in 1960, Japan Vilene Company has been one of the leading nonwoven manufacturers on the Japanese market. The company's motto "Engineering Fabric Innovation" exemplifies the Business Group's long-standing material expertise and extensive know-how in production processes and technologies as well as nonwoven processing.

The Business Group's "Automotive", "Medical", "Electrical" and "Industrial" divisions offer a broad portfolio of products for a wide range of applications.

### Business development (summary)

- Business Group sales were slightly lower than the previous year
- Sharp increases in material and energy process proved challenging
- Mixed developments in individual sectors and world regions
- Demand for car floor mats dropped in the year under review

### Business development (in-depth)

Japan Vilene Company sales in 2022 were slightly lower than the previous year. The sharp increases in material and energy prices were particularly challenging.

Sales developments by the Business Group in the various world regions were mixed. While there was a slight decrease in business in North America, Europe and the home market of Japan, sales in the rest of Asia (excluding Japan) saw growth.

Japan Vilene Company's performance in the various units and sectors was similarly mixed. Sales in the Apparel & Amenity Division, for example, were lower as demand for medical protective clothing in the third year of the COVID-19 pandemic was down on the previous years. There was lower demand for headliners and car floor mats from Japan Vilene Company in the automotive industry, in part attributable to disruptions in vehicle production in Japan and North America due to the shortage of vehicle parts. In contrast, Business Group sales of filters for use in buildings and factories in Japan increased in the year under review.

### Key events

- Transdermal business transferred from Freudenberg Performance Materials
- Focus on digitalization, productivity improvements and sustainability

Japan Vilene Company took over the transdermal business from the Freudenberg Performance Materials Business Group effective January 1, 2022. Japan Vilene Company has thus assumed responsibility for global transdermal business. The Business Group began direct transdermal nonwoven base material sales to customers in the USA and Europe in the year under review.

A major tornado caused extensive damage to the facility of Hanns Glass GmbH & Co. KG, Meuselwitz, a German company belonging to Japan Vilene Company, in Paderborn, Germany, in May 2022. Production was interrupted for several weeks; most of the facility was again operational by the end of 2022. The site

manufactures products for the automotive industry such as carpets and mats for car interiors.

Alongside digitalization, sustainability was a further focus issue for the Business Group in 2022. Under Freudenberg's "Sustainability drives Climate Action" sustainability project Japan Vilene Company identified energy efficiency potential – and thus also CO<sub>2</sub> savings potential – at the facilities in Shiga and Tokyo, both Japan.

Companies belonging to Japan Vilene Company constantly work on new products and services. One example of these efforts comes from Korea Vilene Co., Ltd., Pyeongtaek-si, South Korea, a Business Group subsidiary, that launched a filter substrate already being used by manufacturers to build air purifiers for the health sector.

Japan Vilene Company was again recognized for its achievements in 2022. Among other awards, Nissan honored Japan VIAM Co., Ltd., Moriyama, Japan, as the best supplier of car floor mats for the seventh year in succession.

### Location changes

VITECH Manufacturing L.P., Hopkinsville, Kentucky, USA, a company belonging to Japan Vilene Company, ceased production of nonwovens for car headliners in July 2022. Production is being integrated in Vitechmex Nonwovens S.A. de C.V., Aguascalientes, Mexico, another unit in the Business Group. The goal is to serve customers even better and improve productivity.

## FREUDENBERG HOME AND CLEANING SOLUTIONS



	2021	2022
Sales [€ million]	1,140.2	1,285.4
Workforce	3,279	3,300

Good working atmosphere: Freudenberg Home and Cleaning Solutions employees at the plant near Bologna, Italy

### Business Group 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 inter alia under the brand names Vileda, Vileda Professional, O-Cedar, Gimi, Oates, 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.

### Business development (summary)

- Double-digit sales increase for the Business Group through higher sales volume, price adjustments and favorable exchange rate effects
- Persistently high material and transport costs proved challenging
- Freudenberg Home and Cleaning Solutions consumer business growth in the EMEA, North and South America and Asia regions
- New sales record for Vileda Professional

### Business development (in-depth)

Overall, the consumer climate in 2022 was subdued. The reasons for this were high inflation and the associated reluctance to spend.

Freudenberg Home and Cleaning Solutions nevertheless won market share in its product segments. The double-digit year-on-year increase in Business Group sales is attributable to a higher sales volume, price adjustments and favorable exchange rate effects. Persistently high material and transport costs impacted business development.

Adjusted for exchange rate effects, Freudenberg Home and Cleaning Solutions consumer business in the EMEA region, i.e., the economic region comprising Europe, the Middle East and Africa, grew further in 2022. Growth was driven in particular by the Spin Mop and Spray Mop floor cleaning products. Laundry care product sales also developed well, with sales rises in the high single-digit range.

Freudenberg Home and Cleaning Solutions recorded double-digit growth in North and South America and grew its market share in all markets. In this region the Business Group was able to build on the success of EasyWring Spin Mop System in particular. This product is the market leader in the US and Canada. The EasyWring RinseClean Spin Mop and the PetPro Broom and Dustpan innovations also made a significant contribution to sales growth.

In Asia, Freudenberg Home and Cleaning Solutions business continued to improve steadily and recorded double-digit growth in the 2022 financial year. Key growth drivers were strategic products such as Spin Mops and the Gala brand No Dust Broom in India.

In the professional cleaning business, Vileda Professional not only more than made good the losses from the previous year as restrictions imposed during the pandemic were lifted in 2022, but also recorded growth and posted a new sales record. Sales grew in all regions and the global market position expanded. Particularly noteworthy are developments in the “Foodservice and Hotel” customer segment in the countries of Southern Europe as travel activity rebounded when most corona restrictions were lifted.

### Key events

- Numerous innovations launched – these included a solution for communicating with cleaning professionals
- Recognized with prestigious awards, including the Red Dot Design Award and the Clean House Award
- In 2022, Freudenberg Home and Cleaning Solutions decided to change its business model for consumer business in Chile

Innovations once again grew business for Freudenberg Home and Cleaning Solutions in 2022: one example is the Vileda SUN-RISE rotary dryer in the laundry care segment for the Europe, Middle East and Africa economic region. The product is designed for drying laundry outdoors and its patented tensioning system ensures the lines are always tight and do not sag. Furthermore, the lines can be fully retracted into the arms by means of a special closing system, keeping them clean from rain and dirt.

The Vileda Looper and the Vileda JetClean Pet in the e-products segments are examples of further innovations:

The Vileda Looper is a lightweight, cordless electric spray mop. The combination of rotating microfiber pads and the spray water function cleans floors effortlessly and thoroughly.

The Vileda JetClean Pet is a further development of the Vileda-JetClean-3in1 suction mop for hard floors specially designed for pet owners.

In the professional cleaning business, Vileda Professional expanded its portfolio in the strategically important segment of digitally-aided cleaning with the EviSense solution. EviSense is a digital sensor unit designed for installation on cleaning equipment. EviSense connects with all mop heads and all rooms and communicates with them. The system supports cleaners by giving them useful information on when they need to change the mop head, which rooms have already been cleaned and what cleaning tasks still remain. The system was nominated for the “Inter-clean Innovation Award” at the InterClean exhibition in 2022.

The Business Group and its products were recognized with prestigious awards in 2022: the PetPro Broom and Dustpan from the O-Cedar brand were honored twice, receiving both the Red Dot Design Award and the Clean House Award from the Better Home and Gardens magazine. Furthermore, the Indian sales company was recognized with several industry awards for its #whyjustcleanhome marketing campaign; under this initiative, the company cleaned up the streets of three big cities in preparation for the Diwali festival for the third year in succession.

In 2022, Freudenberg Home and Cleaning Solutions decided to change its business model for consumer business in Chile. In order to maintain long-term profitability, the Business Group decided to switch from the local sales company to a local distributor model by the end of the second quarter of 2023.



## FREUDENBERG CHEMICAL SPECIALITIES



	2021	2022
Sales [€ million]	1,257.3	1,457.2
Workforce	3,817	3,991

These SurTec employees in Zwingenberg share a joke while cleaning a mobile mixing tank.

### Business Group profile

The Freudenberg Chemical Specialities Business Group comprises the operationally autonomous divisions of Klüber Lubrication, Chem-Trend, SurTec, OKS and Capol.

Klüber Lubrication is a leading manufacturer of specialty lubricants. Chem-Trend is one of the leading suppliers of release agents used to manufacture composite, rubber, plastic, metal and polyurethane molded parts. SurTec is a globally active supplier of chemical specialties for surface treatment and electroplating. OKS specializes in performance lubricants and in repair and maintenance products. Capol is a specialized provider of surface treatment products for the confectionary industry and pigments and natural flavors for the food industry.

### Business development (summary)

- Successful year for Freudenberg Chemical Specialities
- Growth in almost all regions and in key market segments
- Sharp rise in cost prices for energy and raw materials
- Raw material shortages, logistic and supply chain problems proved challenging

## Business development (in-depth)

All Freudenberg Chemical Specialities divisions reported a successful year. The five companies belonging to the Business Group developed better than expected given the generally difficult economic environment. Demand was stable in key market segments such as automotive, food, renewable energy, textile and electronics.

Sales growth is in part attributable to a higher business volume, favorable exchange rate effects and price adjustments. The sharp rise in cost prices for energy, external services, materials and other consumables made these price adjustments necessary.

Significantly higher inflation rates impacted customers' purchasing power in many markets. Raw material shortages, logistic and supply chain problems continued to prove challenging.

The situation for the teams in functional areas concerned directly or indirectly with the continuity of business processes and uninterrupted deliveries to customers again proved challenging. However, the measures to safeguard business operations and competitiveness introduced back in 2020 are proving their worth as efficient tools and thus making a contribution to stabilizing operational processes and maintaining customer deliveries at a satisfactory level.

While the first six months of 2022 still felt some of the impact of the COVID-19 pandemic, the operational level in the second half of the year almost returned to normal, highlighting Freudenberg Chemical Specialities' ability to adapt business processes to changed conditions. The Business Group outperformed its original business targets for the year as a whole. There was growth in almost all regional markets. The Americas, especially South America, posted strong growth. Developments on most Asia markets were at a level similar to the previous year, although Business Group companies felt the effects of the lockdowns in China imposed by the government in connection with China's zero Covid policy. Growth in Europe was lower.

Developments in the various divisions were as follows:

With its specialty lubricants and the associated services, Klüber Lubrication reported growth in most of its market segments. Volatility in certain market segments was more than offset by growth elsewhere.

Chem-Trend, the release agent and process chemicals specialist, also posted stable development, even though demand from customers in some key industries, such as thermoplastics, weakened.

The total sales volume at SurTec in the chemical surface treatment market such as the construction and electronics industry and decorative and functional electroplating, was lower than expected.

Development of Capol, a supplier of confectionary finishing products and other food additives, was stable and outperformed the sales figures for 2021.

OKS, the specialist for products for chemotechnical maintenance and repair also recorded growth. Measured against the other divisions this growth was smaller, as demand from specialist retailers for process chemical materials and maintenance products decreased due to volatile industrial production. Furthermore, global distribution problems proved challenging.

### Key events

- SurTec acquired omniTECHNIK Mikroverkapselungs GmbH, a specialist in thread locking products
- Integration of acquisitions in 2021 successfully concluded
- Klüber Lubrication was the only lubricant manufacturer to receive a top supplier award for innovation and sustainability from leading automotive supplier Schaeffler

SurTec International GmbH, Bensheim, Germany, acquired omniTECHNIK Mikroverkapselungs GmbH, Munich, Germany. The transaction also includes the acquisition of all the shares in the joint venture Precote USA LLC, East Lansing, Michigan, USA, by SurTec subsidiary SurTec Inc., Upper Arlington, Ohio, USA. The acquisition contract lays the foundations for the two

companies to be integrated in the SurTec Group in the future.

TRAXIT started operations at its production facility in Huzhou, China, in November 2020. The plant also meets more stringent requirements in terms of efficiency, sustainability and environmental protection and is designed for growth. This includes expansion capacity to accommodate administrative functions, laboratories, quality management, production and warehousing in the future. The second, older TRAXIT production facility in Tianjin, China, had reached its capacity limit with no prospect of further expansion to meet the growing demand from customers anticipated for the future. These were the main reasons behind the decision taken during the year under review to discontinue production in Tianjin and relocate production capacities from Tianjin to Huzhou. Relocation will be completed in 2023.

All business of Italtecno Srl, Modena, Italy, acquired by SurTec in 2021 has been fully integrated. The same applies for Deurowood GmbH, Hard, Austria, acquired in 2021, which has now been fully integrated in Chem-Trend business.

Special project groups in the five divisions deliver significant input to enhance sustainability in terms of protecting natural resources, internal added value. and at customer level, resulting in major progress in strategic portfolio and innovation management.

Freudenberg Chemical Specialities presented Operational Excellence Awards for the first time to encourage greater awareness of the significance of operational excellence projects in its five divisions. Five awards for outstanding achievements were presented.

Klüber Lubrication was the only lubricant manufacturer to receive a top supplier award for innovation and sustainability from leading automotive supplier Schaeffler. Furthermore, Klüber Lubrication received a gold rating and a Gold Award from EcoVadis – a global provider of sustainability rankings for companies that has conducted tens of thousands of audits in recent years.

## FREUDENBERG MEDICAL



	2021	2022
Sales [€ million]	232.1	327.2
Workforce	2,037	2,404

A snapshot of catheter manufacturing at the facility operated by VistaMed, a Freudenberg company, in Carrick-on-Shannon, Ireland

### Business Group profile

Freudenberg Medical is the global partner for the design, development and production of innovative medical devices that play a critical role in a variety of medical and pharmaceutical procedures. All products help improve people's health every day – everywhere around the globe.

The portfolio includes complex catheters, hypotubes, engineered needles, balloons and coating solutions for minimally invasive procedures as well as precision molded components, medical silicone and plastic tubing

### Business development (summary)

- Medical device market continued its recovery in numerous countries in the year under review
- Freudenberg Medical benefited from increased demand for products needed to fight the COVID-19 pandemic
- Significant year-on-year increase in Business Group sales due to the launch and ramp-up of innovative products

### Business development (in-depth)

In 2022, the medical device market in numerous countries continued to rebound from the downturn caused by the COVID-19 pandemic. Elective surgical procedures were postponed during the peak phases of the pandemic, resulting in a decline in demand for medical devices. The backlog of such operations decreased during the year under review. The market for medical devices was nevertheless impacted by the sharp rise in inflation, raw material and labor shortages as well as shipping and logistics delays in 2022. However, since the healthcare sector has priority access to critically needed raw materials and services, large-scale production shutdowns were avoided.

In the year under review, Freudenberg Medical benefited from demand for products that were needed to fight the COVID-19 pandemic. These included thermoplastic components for diagnostic testing devices and silicone tubing. The Business Group supplies the latter to pharmaceutical companies that produce the COVID-19 vaccines needed worldwide. The silicone tubing meets the highest quality and regulatory requirements because it comes into direct contact with the drugs.

Freudenberg Medical continued to outperform the market in the year under review and recorded a significant year-on-year increase in sales. This is due to the launch and ramp-up of innovative products that help to improve patients' quality of life. Examples include the introduction of the nasal inhaler against migraine headaches, a Ranger Paclitaxel drug-coated balloon to treat peripheral artery disease, and diagnostic testing devices to identify most viral and bacterial respiratory infections.

### Key events

- Increase in shareholding in Cambus Teoranta, Spiddal, Ireland
- Virtual reality training for catheter manufacturing employees

A key investment project to increase capacity was the expansion of a class 7 clean room at the facility in Alajuela, Costa Rica. The new production capacity was commissioned in the fourth quarter of 2022. Other investments by the Business Group in the year under review included medical coating lines, state-of-the-art injection molding equipment, and the expansion of automation capabilities at production sites.

In March 2022, Freudenberg Medical acquired a further 4.9 percent share in Cambus Teoranta, Spiddal, Ireland, bringing its total shareholding to 94.9 percent. The company develops and manufactures technologically advanced hypotubes and specialty needles. Going forward, Cambus will operate in the market as "Freudenberg Medical"; to that end, a rebranding process launched in the year under review will be completed in 2023.

Robust and repeatable processes are paramount in the highly-regulated medical device market. To meet these requirements and maintain competitiveness, Freudenberg Medical established a center of excellence for automation integration into molding, coating, and assembly processes. The significantly higher number of internally-developed automation solutions makes the Business Group less dependent on workforce fluctuations and high labor costs. Fluctuation and the associated induction of employees on the shop floor remain a major challenge for Freudenberg Medical. That applies in particular to highly-specialized manual catheter manufacturing, where many process steps must be accomplished under magnification. In the year under review, Freudenberg Medical replaced traditional training that required line downtimes and tied up needed resources by training in a virtual environment where employees train at their individual pace. This is also more sustainable as training scrap is widely reduced.

## **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, inter alia, identified as part of the strategy process. Freudenberg operates a Group-wide risk management system to identify risks in a timely fashion and respond to them appropriately. Newly-acquired companies can temporarily increase the Group's risk profile as described below until the integration process has been completed. The following presentation 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 also leveraged this expertise for many customers from Europe or North America in emerging economies. Vice versa, 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 generate additional benefit from its global network.

#### 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 faster-than-market growth in existing business areas. This is also accomplished 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 2022 include the acquisition of omniTECHNIK Mikroverkapselungs GmbH, Munich, Germany, and Precote USA LLC, East Lansing, Michigan, USA. Options to acquire new areas of business that complement Freudenberg are also examined. In the long term, Freudenberg's goal is a strategically balanced portfolio of cyclical and noncyclical businesses with sales distributed evenly among the regions of North and South America, Europe and Asia.

## **Forward-looking product development**

Social trends, ecological imperatives and the regulatory environment 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 or to compliance with human rights throughout the supply chain, are key drivers in the search for innovative solutions, new raw materials and recycling opportunities. Significant market potential and opportunities for the future lie in the systematic focus on such changes and the Group's ensuing innovation activities at as early a stage as possible. Freudenberg's sustainability criteria for product development are material consumption, waste and saving energy along with reducing emissions and water consumption. The Group-wide "Sustainability drives Climate Action" program coordinates the special focus on saving energy and reducing CO<sub>2</sub> as well as the Group's positioning on climate protection and climate change. Several Business Groups offer new products that reduce fugitive emissions by up to 99 percent compared to conventional sealing solutions, thereby reducing the release of toxic substances into the environment or increasing the process efficiency or longevity of future-oriented facilities.

## **Mobility**

The term "new mobility" as used by Freudenberg describes solutions offered to customers spanning the entire spectrum of drive technologies, such as optimized internal combustion engines, hybrid solutions, battery electric vehicles and fuel cell systems. Gas diffusion layers from Freudenberg are a performance-defining component in fuel cells. Traditional products such as the classic Simmerring have been advanced further through targeted efforts to develop special conductive properties for applications in electric motors. Special seals for use in fuel cells, and components for the electromagnetic shielding of high-voltage parts in electric powertrains open up further fields of application, some of them entirely new. An innovative membrane product for use in batteries combines pressure equalization during normal operation, opening for emergency degassing and subsequent closing after pressure equalization in a single component. Air spring systems that optimize passive cooling of batteries installed in the floor pan are used in electric vehicles and hybrid models. Freudenberg's filter systems

feature in all types of vehicle, including those powered by batteries or fuel cells.

Applications for trucks, buses and ships are developed in collaboration with partners. Freudenberg's strength as a partner lies in its broad-based line-up, together with its industrialization know-how and its technology and materials competence, for example, its battery and fuel cell expertise.

Freudenberg regards itself as well prepared for the changes in drive technologies in a range of applications, given that other components and systems offset reductions in demand for products such as conventional seals. Going forward, Freudenberg will remain a competent provider of solutions for high-tech innovations for all types of drivetrains.

## **Digitalization**

At Freudenberg, digitalization centers on gaining a better understanding of customers' wishes, reducing cycle times, updating products and making them more innovative, and commercializing products faster. All efforts pursue at least one of two objectives: to enhance customer benefit or to leverage internal efficiencies.

New applications and products cover a broad spectrum, from intelligent filter systems that are activated exactly when the air must be purified through to the smart, precise measurement of lubricating oils to meet real requirements efficiently during maintenance work, for example on cable cars. Examples of new digital applications include sensor technology that can monitor the condition of a seal in real time, can predict when a seal must be replaced, and can document the entire process. The practical execution of upcoming projects is supported by a "Digitalization Hub" that structures and implements digitalization projects. Parallel to this, a key focus lies in knowledge transfer and networking with business units.

## **Further development of strategic issues**

Throughout the world regions, Freudenberg's know-how and innovative capability 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 material efficiency across the Business Groups. Joint projects and programs are always implemented under expert guidance and achieve concrete results.

The Freudenberg Technology Innovation corporate function focuses on the future-oriented technological development of the Group as a whole. Independently identified trends, technologies and developments, together with technology topics from within the Group, are bundled into strategic subject areas and structured for further development. This includes expertise in analyzing complex datasets and modelling, new mobility topics, the energy transition, as well as sustainable materials and the associated processes. In this context, strengthening existing external and internal networks and establishing new ones is becoming increasingly important in order to identify trends promptly, evaluate them and work on solutions together with partners.

### **Talent management**

A talent management process covering the majority of employees worldwide has been in place at Freudenberg for several years. A shared HR system landscape enables 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 efficient personnel development. The process enables Freudenberg to take personnel decisions on the basis of sound and reliable information.

### **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. 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, allowing, for example, the mapping of sustainability risks.

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 the main factors involved.

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.

### **Macroeconomic and sectoral risks**

Freudenberg offers solutions in 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, and also exposed to the effects of geopolitical risks. The unexpected duration and intensity of the Russia-Ukraine war already has far-reaching consequences. The military escalation and the embargo measures imposed are already causing significant disruption in global supply chains with direct and indirect impact on the Group. This is evidenced by restricted availability of products, especially raw materials and bought-in parts, inflationary effects and significant wide-scale increases in the cost of energy supply and logistics that are unavoidable or cannot be offset by short-term operational or strategic measures and will continue to persist. International trade disputes with disruptive effects on regional and global supply chains are monitored particularly closely. In spite of sustained efforts to diversify further, a slump in demand in a specific region or sector or a persistent international trade dispute, for example, can lead to a substantial decline in sales and earnings for Freudenberg, as for other companies, and thus pose a significant risk for Freudenberg. The broad-based diversification of the Group with respect to geographic regions and business sectors will help to keep the overall impact on Freudenberg within manageable limits despite isolated problem areas. Permanent changes in geopolitical borderlines could require adjustments to the Group's strategic orientation.

Freudenberg has taken 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.

### **Legal risks and compliance**

Freudenberg is a globally active manufacturer of functionally relevant technical components and system parts, including battery and fuel cell systems, for the automotive industry as well as many other sectors of industry. The Group manufactures mechanical cleaning equipment and filter products for end users and is active in the manufacture and sale of medical materials and components. Freudenberg also develops and produces specialty lubricants, release agents and a broad range of specialty chemicals for very diverse applications. 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 product liability, data protection, contractual warranty risks, competition and antitrust law, tax and excise duty law, M&A transactions, asset misappropriation, anti-corruption regulations, money laundering, infringements of intellectual property rights (patents and brand law), export controls, chemicals regulation 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 significant 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 on an annual basis and, where necessary, adapted to changed conditions.

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 call for the monitoring of legislative trends, interdisciplinary and cross-border communication as well as a swift response and proactive approach. This includes, for example, the current preparations to comply with the form and content of legislative initiatives such as the Corporate Sustainability Reporting Directive or the Act on Corporate Due Diligence Obligations in Supply Chains. Measures undertaken in this context include an analysis to identify risks arising from human rights violations within the Group's own area of responsibility and along the supply chain, and expanding the remit of the Ethics Office to include reports from external whistleblowers.

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 translated into all the main relevant languages and in-person seminars) to communicate compliance issues through training, dialog and discussions. Digital communication media such as web-based training, e-learning tools, interactive video conferences, and similar, 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 entirely ruled out; this could trigger negative judicial consequences or damage the image or reputation of Freudenberg.

### **Information security risk**

Modern business processes are to a significant extent based on information captured, processed, exchanged and stored digitally. Potential risks caused by disruptions 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.

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 appropriate measures. For example, measures such as geographically separate, redundant data centers are implemented to deal with technical risks.

At Freudenberg, as elsewhere, the relevance of cyber risks is steadily growing. Freudenberg counters new, professional attack techniques, such as supply chain attacks, through the risk-based continued development of protection and response mechanisms, and by expanding expert capacities, particularly as regards monitoring, and response capabilities in the event of an incident. In this context, the IT security level of IT service providers is regularly reviewed and aligned with Freudenberg's requirements.

Various forms of internal training and communication measures encourage heightened awareness on the part of employees with regard to the secure handling of information and information processing systems and processes. Despite all technical, organizational and awareness measures, significant system failures and damage to Freudenberg as the result of a cyberattack cannot be ruled out.

## **Interruptions 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, the current pronounced uncertainty regarding the availability of specific raw materials and energy, delays in upstream stages of the supply chain or in the Group's own supply chain levels, restricted availability of IT infrastructure, damage from natural hazards, or any combination of these causes. Possible consequences are loss of sales revenue and earnings, contract infringements, contractual penalties and claims for damages as well as reputational damage.

Recent years have seen an increase in nature events probably associated with climate change. Freudenberg real estate is also affected by regional floods, fires and storms, and damage can result in an impact on sales revenue and earnings. Insurance cover has been arranged for actual damage and any resulting interruption of operations.

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 insured individual risks deemed by Freudenberg to merit cover. While not universal, these concepts and their evolution have also proved their worth in the special circumstances of a pandemic setting. 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, for example, in the event of sudden, wide-scale interruptions in energy supply, with a possible impact on the sales revenue 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 expert groups specifically tasked with the identification, analysis and steering 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 bank and Partners' financing as well as 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. In line with a central framework of regulations, exchange rate risks are determined locally on a cause-specific basis and steered under a consultation process. 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 June 2022. 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 4.9 percent, Freudenberg invested a substantial share of sales in research and development in the 2022 financial year. The share of sales attributable to new products totaled 31.6 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, such as the consequence of raw material supply bottlenecks. These activities could in retrospect prove disadvantageous and, above all, could negatively impact the earnings situation of the Group.

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 consultations with internal and external experts and consultants and, where appropriate, plausibility checks on the outcomes of the consultation process. 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. These measures significantly reduce the risk.

### **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 repeatedly 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 extreme 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 for acquisition projects. By using natural hazard databases, Freudenberg can conduct portfolio analyses on natural hazards as well as trends and risks relating to medium- and long-term climate risks and take appropriate action.

Freudenberg has been monitoring the risk of a global pandemic for several years (SARS, avian influenza virus H5N1, zika virus) and initiated or prepared basic protective measures. In spite of the precautions taken, with the international outbreak of the SARS-CoV-2 coronavirus it was not possible to avoid the impact on employees, working conditions or supply chains, or the effect of falling demand. Temporary plant closures

and loss of sales in some areas contrasted with sales growth in other areas of the Group, highlighting the benefits of the Group's strong international and sectoral diversification.

The precautions and measures to fight pandemics have been developed further on the basis of the experience gathered to date. Despite the hygiene measures in place at sites, Freudenberg employees can nevertheless be affected at work or in a private context. Depending on the course of events, in particular with regard to a further sharp global outbreak of this or another virus or lengthy quarantine measures, effects leading directly or indirectly to loss of sales revenue or earnings cannot be excluded. We expect the COVID-19 virus or mutations thereof could continue to impact the working environment and business activities through 2023 at least.

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 health and safety 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 certain 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 guidelines form 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 function 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 Freudenberg auditor 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 operative planning of the Freudenberg Group for 2023 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 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.

We expect the generally challenging macroeconomic environment to continue in the 2023 financial year. Measured against a noticeable global economic recovery in 2021 and slight growth in 2022, we expect subdued global economic growth in 2023.<sup>1</sup> Economic and geopolitical uncertainty remains high in 2023. One uncertainty factor is the threat to geopolitical stability with far-reaching consequences for trade relations and supply chains. Further developments in the conflict between Russia and Ukraine as well as a possible intervention by China in Taiwan in particular are uncertain. There are growing indications of a recession, or at least stagnation, in some regions that could prove lengthy or intensify further and could result in a downturn in customer demand. There is also uncertainty regarding price developments on procurement markets for raw materials and, more particularly, energy. Labor markets are facing a shortage of skilled workers and inflationary developments. Against this backdrop, we expect modest business development in the markets relevant to the Group.

With regard to our regional core markets, we expect the slight increase of 1.9 percent in Germany's economic growth in 2022 to be followed by a recessionary phase with minus 0.5 percent growth in 2023. In the eurozone, which remains the Group's largest sales region, we expect to see growth stagnate at 0.0 percent in 2023 after a 3.3 percent increase in 2022. High prices for raw materials, intermediate products and energy along with persistent supply chain problems, will impact economic development. Forecasts put inflation in the eurozone at an average of 6.1 percent in 2023. This will dampen consumption. Following several major hikes in interest rates, the European Central Bank announced at the end of 2022 that there would be further increases in the key rate to bring inflation back down to the 2 percent target. Rising interest rates are expected to impact investment activity.

We expect economic growth in the USA to drop from 2.0 percent in 2022 to only 0.3 percent in 2023. Given the low unemployment rate, private consumption remains a growth driver, but is cooling down somewhat due to rising interest rates. The central bank in the United States continues to fight inflation at the expense of the economy.

In Japan, growth is forecast to be a robust 1.2 percent. Private consumption is stimulating growth now that COVID restrictions have been lifted.

Economic development in the emerging economies will present a mixed picture. China remains one of the most important growth regions for Freudenberg. Following growth of 2.9 percent in 2022, we anticipate an increase of 4.6 percent in 2023 on the back of an expansive fiscal and monetary policy alongside the easing of the zero-COVID policy. We forecast economic growth of 5.7 percent for India in 2023.

Against the backdrop of subdued global economic growth in 2023, developments in the sectors served by Freudenberg will be mixed. The automotive sector is a particularly important industry for Freudenberg. Based on 6.2 percent growth in the automotive industry in 2022, we expect production to increase

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



worldwide by 3.6 percent in 2023. We anticipate growth of 5.3 percent in Europe, 5.4 percent in North America, 6.8 percent in Japan, 7.7 percent in India, and 1.1 percent in China. A return to the 2019 pre-crisis level is only expected post-2023.

In the mechanical and plant engineering industry, Freudenberg's second most important sector, we anticipate an increase of 1.0 percent in 2023.

Private consumption is also expected to see positive development. We expect growth of 1.2 percent in the industrialized nations, with higher rates in some of the emerging economies, for example 5.8 percent in China and 6.1 percent in India.

In the oil and gas industry we anticipate growth rates of between 0.0 and 5.0 percent in the industry's regions.

To manage the uncertainties outlined above, we will stay agile at each of our locations throughout the world and continue to respond swiftly and flexibly to changing requirements. Customer centricity is a main focus of all our efforts. This principle applies to all sectors and regions. We will therefore continue to invest in long-term projects. The mobility transformation, digitalization and sustainable solutions will remain our key strategic themes. We will adopt a selective and focused approach to developing our portfolio further and strengthening it through acquisitions relating to promising technologies. Our efforts in this context are guided by the findings of the foresight project named "Odyssey" that examined what the world might look like in 2050 and what business opportunities this might bring for Freudenberg. The project was launched in 2015, and a follow-up project called "Janus" started in 2020 to address the impact of recent political and economic changes on the framework set out in "Odyssey". Additionally, the interdisciplinary "Janus" team was tasked in the 2021 financial year with analyzing the impact of the COVID-19 pandemic, growing protectionism, nationalism and trade conflicts on the future. Our long-term goal is a balanced portfolio of cyclical and non-cyclical businesses with equal sales contributions from North and South America, Europe and Asia.

In 2023, we will again continue to drive forward with our projects in the fields of sustainability, non-financial key performance indicators and corporate

citizenship. 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. We expect to see the Lost Day Incident Frequency Rate (LDIFR) in the 2023 financial year on the level of the previous year.

Given the opportunities and risks described in the previous chapter, or in the event that the expectations and assumptions described above do not materialize, the actual development of Freudenberg may show a positive or negative deviation from this report on expected developments.

Anticipated sales developments in our Business Groups reflect the regional and sectoral developments and challenges described above. We expect Group sales in the 2023 financial year to be slightly higher than the level of the previous year. Set against the backdrop of a persistently challenging macroeconomic environment, we anticipate a slightly higher operating result. On the basis of these forecasts, we expect a return on sales for 2023 at the level of the previous year.

Weinheim, March 14, 2023

The Board of Management

## FREUDENBERG SE (HGB)

Freudenberg SE is a wholly-owned subsidiary of Freudenberg & Co. KG, Weinheim, Germany, 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]	2021	2022
Sales	36.8	46.9
Investment result	544.0	702.0
Other operating income	8.3	2.8
Material expenses	-25.9	-32.7
Personnel expenses	-7.7	-18.6
Other operating expenses	-90.1	-103.8
Financial result	-26.1	-25.1
<b>Profit before taxes</b>	<b>439.3</b>	<b>571.5</b>
Income taxes	-40.5	-17.7
<b>Profit for the year</b>	<b>398.8</b>	<b>553.8</b>

The **sales** of Freudenberg SE largely result from the charging of services and from royalties for the Freudenberg global brand amounting to €12.8 million (previous year: €9.9 million).

The **investment result** increased from €544.0 million to €702.0 million. The positive development in the results of individual affiliates had a corresponding impact on the overall result. The rise in dividend payments from €33.4 million to €62.7 million also had a positive effect.

**Other operating income** fell from €8.3 million to €2.8 million. In the previous year, income from the reversal

of provisions had been €5.3 million higher than in 2022.

**Material expenses** rose from €25.9 million to €32.7 million and represent services purchased.

At €18.6 million, **personnel expenses** were considerably higher than the level for 2021 (previous year: €7.7 million). This figure was boosted by the amount of €8.3 million allocated to provisions for pensions. The previous year had been characterized by the positive effect of the reversal of provisions for pensions in the amount of €2.4 million. In the year under review, expenses for salaries, at €10.1 million, ran at about the prior-year level of €10.0 million.

The **other operating expenses** rose from €90.1 million to €103.8 million. This rise was chiefly due to higher research and development expenses as well as expenses for data processing services.

The **financial result** rose by €1.0 million and is therefore at the same level as the previous year.

**Income taxes** fell by €22.8 million from €40.5 million to €17.7 million. This was mainly due to the lower taxable income of Freudenberg SE and affiliates and to a fall of €6.1 million in taxes for prior periods.

At €553.8 million (previous year: €398.8 million), the **profit for the year** of Freudenberg SE was above the level of the previous year.

## ASSETS, LIABILITIES AND FINANCIAL POSITION

[€ million]	Dec. 31, 2022	Dec. 31, 2021
Intangible assets	7.9	6.1
Tangible assets	1.6	1.7
Financial assets	2,762.1	2,965.4
Receivables and other assets	3,041.2	3,226.7
Cash at bank and in hand	169.1	71.5
<b>Total assets</b>	<b>5,981.9</b>	<b>6,271.4</b>
Equity	3,836.0	4,296.3
Provisions	163.8	153.3
Liabilities	1,982.1	1,821.8
<b>Total equity and liabilities</b>	<b>5,981.9</b>	<b>6,271.4</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 of the statement of financial position date, financial assets had risen by €203.3 million to €2,965.4 million (previous year: €2,762.1 million).

Receivables and other assets mainly include amounts receivable from affiliates. As at the date of the statement of financial position, these had risen by €185.5 million to €3,226.7 million (previous year: €3,041.2 million). This is mainly the result of higher cash pool receivables from Externa Handels- und Beteiligungsgesellschaft mit beschränkter Haftung with headquarters in Weinheim, Germany.

Equity increased to €4,296.3 million (previous year: €3,836.0 million). The net retained profit rose by €460.4 million from €3,090.7 million to €3,551.1 million. The profit for the year increased from €398.8 million to €553.8 million. The retained profit was reduced by dividends paid in the amount of €93.5 million (previous year: €101.5 million).

Provisions fell by €10.5 million from €163.8 million to €153.3 million and chiefly include provisions for pensions.

Liabilities decreased by €160.3 million from €1,982.1 million to €1,821.8 million, chiefly as a result of loan repayments.

## 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. This statement is not affected by any events reported in the chapter “Report on Events After the Date of the Statement of Financial Position”.

## 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 2022, the Shareholders Meeting resolved, as proposed by the Supervisory Board and the Board of Management, to pay a dividend of €93.5 million (previous year: €101.5 million) to the sole shareholder Freudenberg & Co. KG in 2021 from the net retained profit as at December 31, 2021, which amounted to €3,090.7 million.

The Board of Management proposes that the retained profit for the 2022 financial year, amounting to €3,551.1 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.”



## Freudenberg embraces responsibility.

Examples of how Freudenberg embraced responsibility in 2022 can be found on the following pages.

Technology and Responsibility	78
Sustainability	86
Human Rights and Labor	104
Health, Safety and Environmental Protection	112
Corporate Citizenship	118
Compliance	122



# Step <sub>by</sub> Step to Climate Neutrality



Excellent **technology** and  
living **values**

Freudenberg defines success as achieving financial success while at the same time taking the company's responsibility for society and the environment seriously. The two goals are inseparably linked and firmly anchored in the company's Guiding Principles.



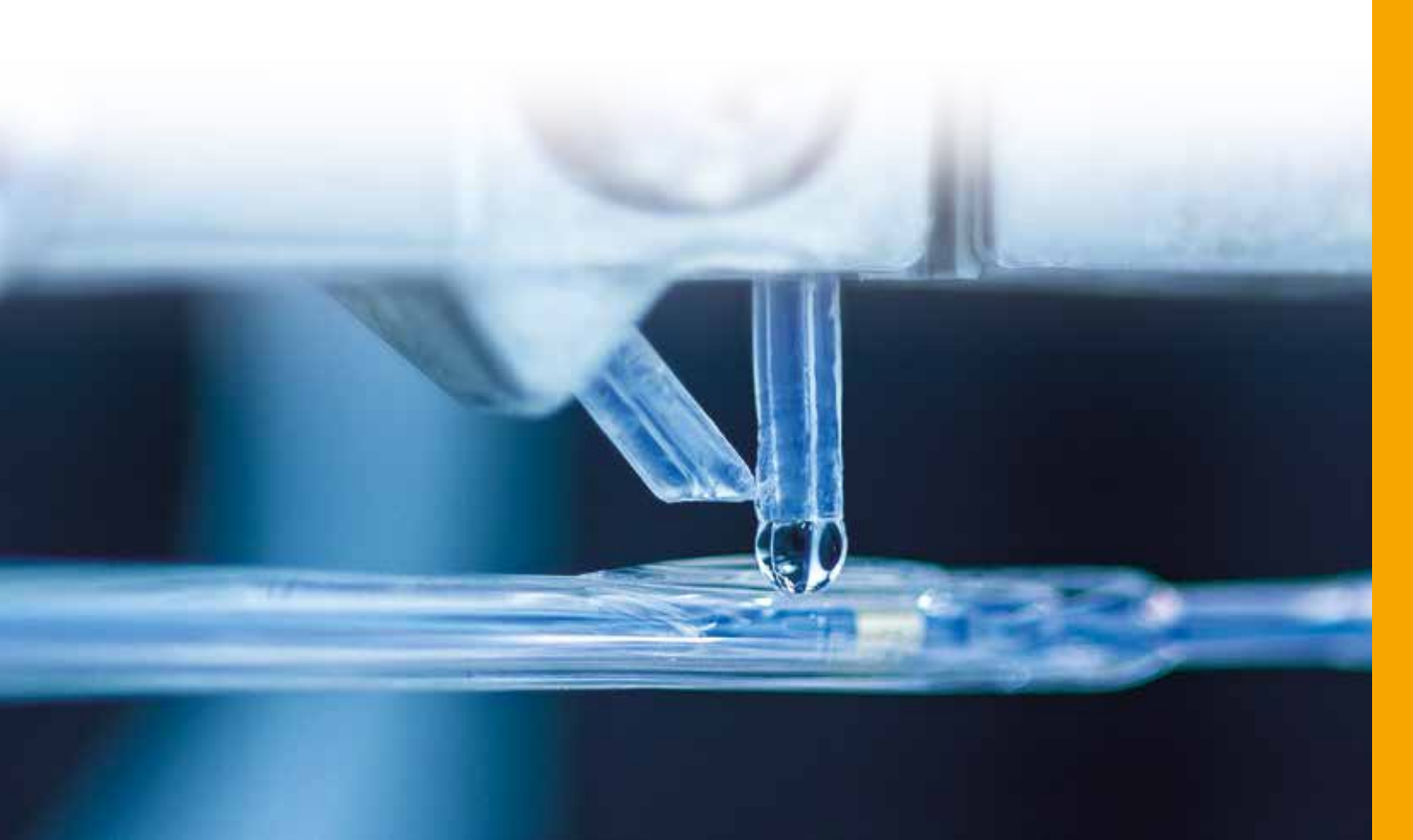
Freudenberg is an agile and flexible global technology company with a scientifically-based vision of progress. Our employees are experts in products, services and solutions that are at the forefront of technology and used in thousands of applications and about 40 market segments. Our seals, vibration-control components, batteries and fuel cells, technical textiles, filters, cleaning technologies, specialty chemicals and medical products make a valuable contribution to

the success of our customers around the world. The company has always been family-owned, and the values of the founder Carl Johann Freudenberg have kept it grounded. We have been true to these values since 1849.

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**Freudenberg offers creative technical solutions with excellent quality. Their bedrock is technological expertise and the capacity to innovate.**

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# More than markets and metrics

Freudenberg stands for excellent technologies and innovations. For the company, though, that is not enough: while markets and metrics are important, Freudenberg is also resolved to take responsibility for society.

This responsibility comes in many forms: Freudenberg has set itself clear environmental goals, and aspires to become a climate-neutral company by 2045.

The company also encourages diversity among the workforce and stands for a corporate culture that enables all employees to contribute their strengths. Freudenberg also embraces this responsibility outside the company in many areas where aid is needed. In 2022, for example, 3 million euros of immediate aid was donated to help victims of the war in Ukraine. The company also runs a global program to support education and environmental protection.

These examples demonstrate the depth of Freudenberg's commitment to its value orientation.



**The themes of the Freudenberg Group's Guiding Principles are value for customers, leadership, responsibility, innovation, people, and long-term orientation. The "Responsibility" Guiding Principle is particularly relevant with regard to Freudenberg's responsibility for society:**

## **RESPONSIBILITY**

Our company and its family shareholders together are committed to protecting the environment and being responsible corporate citizens in all countries and communities in which we do business. 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, toward our business partners and toward the general public.

**Freudenberg is a values-based technology company that feels a responsibility to its customers and society.**

Responsibility for society encompasses five areas at Freudenberg:

**Sustainability; Health, Safety and Environmental Protection; Corporate Citizenship; Compliance; Human Rights and Labor.**

By tradition, all these themes are important for Freudenberg and are also anchored in the company’s Values and Principles as well as the Code of Conduct.

For politics and society, fairer and more sustainable business is becoming increasingly important. The EU’s Corporate Sustainability Reporting Directive, for example, places a growing focus on environmental, social and governance (ESG) issues. From the 2025 financial year at the latest, companies must report on ESG issues, for example when the application of the double materiality principle identifies these issues as important. Furthermore, under the EU Taxonomy Regulation, companies are required to disclose which of their products contribute to meeting the EU’s environmental objectives.



- Freudenberg Values and Principles
- Areas relevant to the “Responsibility” theme

# Commitment to global sustainability goals

**Sustainable Development Goals: Freudenberg focuses on eight of the 17 goals.**



Freudenberg has always been values-oriented. Freudenberg is a participant of the UN Global Compact, because values are non-negotiable and because communicating our actions to the public is equally important. Through its participation, the company affirms its support for the ten basic principles on human rights, labor, anti-corruption and environmental protection agreed by the United Nations. Freudenberg is also committed to the seventeen Sustainable Development Goals that were proclaimed as a global framework in 2016, shortly after the Paris Climate Conference. Freudenberg prioritizes eight of the 17 goals where it can make an important contribution.



One example of a sustainable solution is employing used and recycled plastic. Recycled polypropylene pellets are transformed into red components for the Vileda brand of the Freudenberg Home and Cleaning Solutions Business Group. Here the focus is on goals 12 and 13 on the list of Sustainable Development Goals.

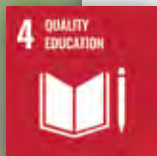


From a global perspective, sustainability has many facets. For an industrial company like Freudenberg with manufacturing locations all over the world, the following eight Sustainable Development Goals out of a total of 17 are at the center of business activities. For each of them, we have defined the contribution we are striving to make in our daily work.



**GOOD HEALTH AND WELL-BEING**

Occupational health and safety have top priority at Freudenberg. It goes without saying that we offer our employees a health service. Along with the prevention of common diseases, healthy nutrition and the mental health of our employees are especially important to us.



**QUALITY EDUCATION**

Demographic change in Europe makes a shortage of skilled labor likely in the future. Other continents have overwhelmingly young populations. In both cases, we need robust training schemes. We promote lifelong learning for our employees through numerous vocational training and further education courses.



**AFFORDABLE AND CLEAN ENERGY**

We aim to secure access to reliable, modern and affordable energy for all our locations. Around the world, there are completely different conditions for procuring clean energy. Where possible, we conclude long-term contracts that guarantee a supply of clean energy and generate green electricity ourselves.



**DECENT WORK AND ECONOMIC GROWTH**

We have a social obligation to all of our employees. Discrimination and the marginalization of vulnerable persons have no place in the company. The Group maintains good and trusting relations with employee representatives.



**INDUSTRY, INNOVATION AND INFRASTRUCTURE**

The value of a robust infrastructure to an industrial company is self-explanatory. We promote sustainable industrialization through ongoing investment in existing and new plants. Our products are used in large infrastructure projects.



**REDUCED INEQUALITIES**

Diversity is anchored in the Group's Values and Principles. With a range of initiatives, Freudenberg supports a work environment where everyone is valued, respected and heard. Special attention is paid to a balanced gender distribution in which targeted career development enables women to serve in top leadership positions.



**RESPONSIBLE CONSUMPTION AND PRODUCTION**

We use resources responsibly. We prioritize the use of recyclates and recyclable raw materials as well as reducing the volume of packaging. Our employees are trained to internalize working methods in our companies and assess them using key performance indicators.



**CLIMATE ACTION**

The industrial sector accounts for a high proportion of global greenhouse gas emissions. By 2045 at the latest, we aspire to be climate-neutral in terms of Scope 1 and 2, and we are adopting crucial measures to achieve this goal. First, we are maximizing energy efficiency and reducing our energy consumption. Second, we are electrifying our energy supply. Third, we are using green electricity. Fourth, we are offsetting unavoidable CO<sub>2</sub> emissions.

# Freudenberg-wide initiative

## Nothing but winners in the »We all take care« Award

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

Since its launch in 2002, the Freudenberg-wide “We all take care” initiative has honored employees and teams who are especially committed to making work safer, healthier and more environmentally-friendly, or who have made a commitment to society. With 283 projects submitted, participation in the year under review was exceptionally high. The focus was on climate protection and sustainability.

4 x **1<sup>st</sup>** places

#### The four winners in 2022:

- Freudenberg Service
- Freudenberg Performance Materials
- Freudenberg Sealing Technologies, Remagen
- Freudenberg Sealing Technologies, Weinheim

For the 17 finalists, the outcome came as a complete surprise. For the first time since the Freudenberg-wide “We all take care” initiative was launched in 2002, the jury selected four joint first places in the “We all take care” Award. In doing so, the jury demonstrated the great significance of the initiative for the Group.

Among the four winners were Freudenberg Service, who made a key contribution to combating the pandemic with its vaccination center at Weinheim Industrial Park, and Freudenberg Performance Materials in Nantong, who found a way to significantly reduce its energy consumption with the aid of intelligent compressed air control. Freudenberg Sealing Technologies took home two trophies: after the devastating floods in the Ahr valley, the Freudenberg Sealing Technologies team from Remagen was commended for its efforts in assisting colleagues and the neighboring communities in the disaster area. Freudenberg Sealing Technology in Weinheim used digital methods to

analyze motion sequences ergonomically to improve workplace design.

In addition, two further Business Groups each received a special prize: as a first-time contributor to “We all take care”, Japan Vilene Company submitted a project for the prevention of cutting injuries. The jury also praised Vibracoustic’s Turkish site in Bursa for its submission of numerous project ideas over the last years. This year, the site came up with an idea on how to prevent workplace accidents involving industrial robots, and also launched a social relief project.



Safer, healthier, more environmentally friendly: that is what the “We all take care” Award stands for.



Sustainability

# Fully focused on climate neutrality

Freudenberg's understanding of sustainability is very focused: sustainability is about resource efficiency, particularly with regard to energy and materials, in order to reduce CO<sub>2</sub> emissions.



Freudenberg's definition of sustainability is consistent with the UN's Brundtland definition. The company would like to help keep our planet livable far into the future. That means producing as little waste and emissions as possible and minimizing the use of water, energy and materials.

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**One thing has emerged from the energy crisis: Freudenberg is on the right track. Reducing energy consumption, alongside the purchase and self-generation of green electricity, is making our company less dependent on energy prices as well as increasing climate protection.**

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The purchase and self-generation of green electricity are part of Freudenberg's multistep strategy.

The Group's commitment to climate protection also makes good business sense. Demand for sustainable products is rising. That takes innovation and represents a huge opportunity for Freudenberg as a technology company. At the same time, sustainable companies are more attractive to customers, who integrate them as suppliers into their own sustainability programs.

Developments on the energy market are another reason why minimizing our own energy consumption pays off. Energy supplies, in Europe in particular, are being disrupted – all the more so since Russia invaded Ukraine in February 2022. Global supply lines have been realigned; Russia's role as a key global energy supplier has altered significantly. This geopolitical shift occurred at the same time as the transformation to renewable energy continued, placing entirely new demands on electricity suppliers' infrastructure. All in all, there was chaos – albeit temporary – and great uncertainty on the energy market. The result was very volatile, soaring energy prices.

**Climate change is one of the greatest challenges of our time. That is why sustainability has top priority at Freudenberg and the company has set itself clear goals:**

Freudenberg has set its course for climate-neutral manufacturing. The first milestone is to reduce relative CO<sub>2</sub> emissions, measured per million euros of sales, by 25 percent over the period from 2020 to 2025. Freudenberg aspires to be a climate-neutral company by 2045. The company is laying the foundation for this ambitious goal with a wide-ranging project called “Sustainability drives Climate Action.” Since 2019, the opportunities and challenges that man-made climate change poses for Freudenberg have been analyzed. The company has turned to a

multistep strategy: reductions in energy use, electrification, as well as the purchasing and self-generation of green electricity, and offsets for CO<sub>2</sub> emissions. Some of these steps are being implemented simultaneously.

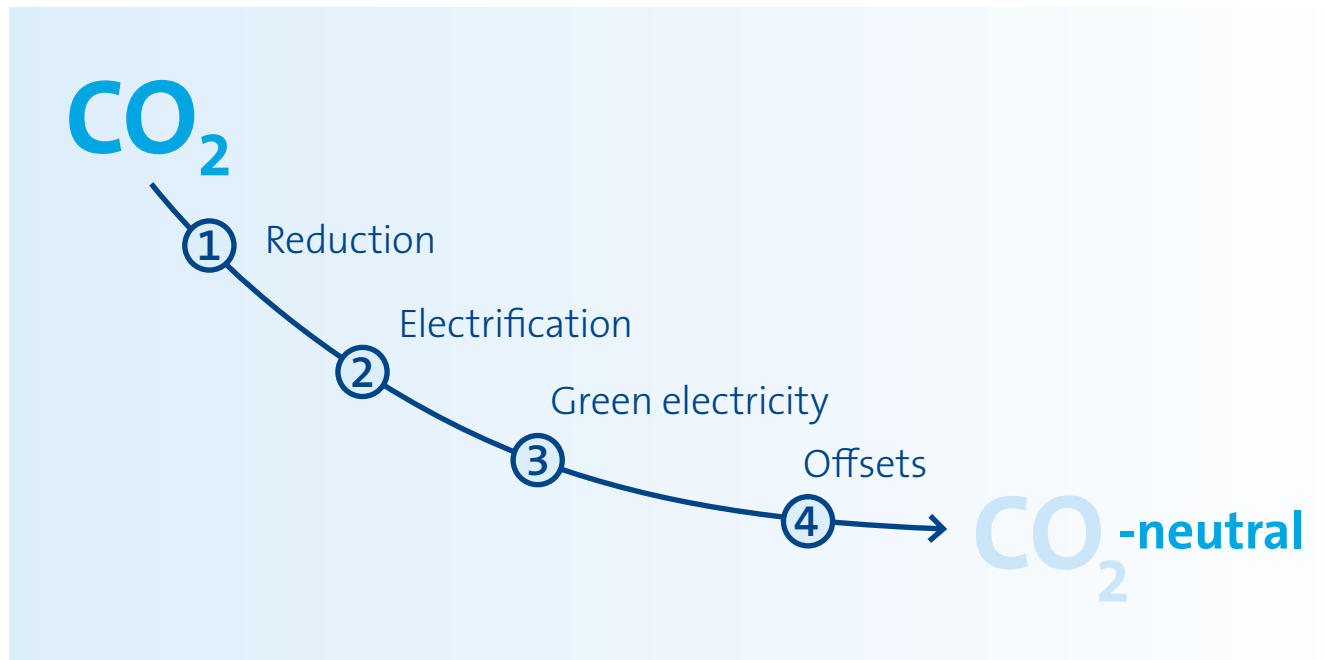
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**Relative CO<sub>2</sub> emissions are to be reduced by 25 percent by 2025.**

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## 4 steps to CO<sub>2</sub> neutrality



The four steps to CO<sub>2</sub> neutrality apply for all Freudenberg companies. However, the baselines vary from Business Group to Business Group – in some cases quite significantly – depending, for example, on how much energy is needed for their production processes. The technological hurdles that must be overcome, such as those in research and development, are just as varied. That is why some Freudenberg companies will

achieve climate-neutral manufacturing sooner than others. What is important is the verifiable measurement and documentation of our progress so that every company can contribute to our common goal of becoming a climate-neutral company by 2045.

Freudenberg aspires to be a  
climate-neutral company by  
**2045** at the latest.

## Decreasing energy consumption at every site

The “Be energy efficient” initiative, or “Bee” for short, lays the foundation for uniform and comparable energy standards within the Freudenberg Group. It is an important component of the “Sustainability drives Climate Action” project and has been uncovering energy-saving potential at Freudenberg locations since 2019. It focuses in particular on the issues of energy consumption, process electrification, and the energy efficiency of buildings. So far, around one-third of the Freudenberg Group’s entire CO<sub>2</sub> emissions have been analyzed under the initiative.

---

**Freudenberg is convinced that reducing CO<sub>2</sub> emissions first and foremost means energy conservation, process electrification, and the purchase and self-generation of green electricity.**

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Energy saving potential of up to 30 percent has been identified through reductions in energy use. Efforts in 2022 concentrated in particular on compressed air, heat recovery and cooling/refrigeration: energy monitoring also helps to save energy through organizational measures. As part of the “Bee” initiative, energy-efficiency experts have developed a flexible consulting approach for the sites. It ranges from measures that can be quickly carried out, to decision-making aids for long-term investments in production facilities. The services are rounded out by the Bee Academy, a comprehensive online training program covering the fundamentals of energy management and energy efficiency.

Renewable energy is one of the most important pillars for greater climate protection and meeting Freudenberg’s goals for climate neutrality. In addition to purchasing power supplies, the self-generation of green electricity is an important component, and is becoming increasingly relevant. Electricity is mainly generated by rooftop photovoltaic arrays. In 2022, these systems were commissioned at various sites, for example in China and Holland.

Freudenberg is considered to be an especially reliable partner, and was therefore again able to conclude long-term supply contracts for green electricity with energy suppliers in 2022. Under what are known as “power purchase agreements,” the electricity is delivered at a fixed price over a ten-year period. These agreements are a cornerstone of Freudenberg’s efforts to achieve its climate goals, and they make a major contribution to renewable energy’s steady growth.

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**At the end of 2022, the Freudenberg sites in Denmark, Sweden and Austria operated entirely on green electricity. Germany, Italy and Spain will follow in 2023.**

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Freudenberg develops environmentally-friendly key technologies and solutions for hydrogen applications.

### **Freudenberg plays a major role in shaping the development of emission-free mobility**

The focus of Freudenberg's research and development departments is on future-oriented, sustainable innovations.

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### **Freudenberg is investing heavily in the mobility of the future. In batteries, hydrogen and fuel cell technology, as well as the development of high-tech components for electric vehicles.**

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Products from the Freudenberg Group drive issues for the future such as the energy transformation, or support the advance of electromobility. Freudenberg develops environmentally-friendly key technologies and solutions for hydrogen applications, for example, or designs a hybrid battery-fuel cell powertrain for trucks and long-distance buses. A new Business Group – Freudenberg e-Power Systems – was founded in 2022, highlighting the significance of battery and fuel cell technology for the Freudenberg Group. Freudenberg e-Power Systems is one of the leading suppliers of emission-neutral energy systems for heavy-duty applications. The company offers customized, hybrid solutions for sustainable and efficient electromobility.

A further example of Freudenberg's strategy to invest in electromobility applications is the acquisition of the remaining stake in XALT Energy, LLC, Wilmington, Delaware, USA. XALT Energy produces lithium-ion battery cells, its subsidiary Freudenberg Battery Power Systems develops and produces complete battery systems.

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Freudenberg wishes to reduce its relative CO<sub>2</sub> emissions, measured per million euros of sales, by 25 percent by 2025. Freudenberg aspires to be a climate-neutral company by 2045 at the latest. Both goals are referred to Scope 1 and Scope 2.

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# Group-wide Key Performance Indicators on Sustainability

Figures for 2022 show a very positive trend. Freudenberg is progressing faster than planned on reducing CO<sub>2</sub> emissions.

The three most important areas of activity for all Business Groups are **energy efficiency, CO<sub>2</sub> emissions and waste**. The company has introduced eight key performance indicators throughout the Group that create transparency with regard to improvements in these areas and help to drive sustainability at Freudenberg. Freudenberg introduced a new sustainability reporting system at all sites in 2022. With this tool, energy consumption and CO<sub>2</sub> emissions as well as the amount of waste generated can be documented in a verifiable manner.

## Energy use

**936**  
(direct, GWh)

**1,647**  
(indirect, GWh)

**30%**  
(renewable energy as a proportion  
of total energy consumption)

**2,583**  
(total, GWh)

These metrics show energy consumption from self-generated and purchased energy in 2022.

**0.22**  
(energy efficiency,  
kWh/euro sales)

## CO<sub>2</sub> emissions

These metrics quantify the Freudenberg Group's global CO<sub>2</sub> emissions in 2022 (market-based) from self-generated and purchased energy.

**649**  
(total, 1,000 t)

**55.2**  
(t/million euros sales)

In the year under review, the Group continued to improve its energy efficiency and increased the share of renewable energies. Especially as a result of these efforts, Freudenberg reduced its relative CO<sub>2</sub> emissions per € million sales to about 55 tonnes. Over the coming years, Freudenberg intends to continue this development and consistently remain under the target for 2025 of 65 tonnes of CO<sub>2</sub> emissions per € million sales.

## Waste

**12.2**  
(t/million euro sales)

**Sustainability has two dimensions for the Freudenberg Group.** First, the way the company shapes its own processes and uses its systems to reduce resource consumption (footprint). Second, Freudenberg offers numerous products and solutions that enable customers to manufacture more efficiently and sustainably or to make their products more resource-efficient (handprint).



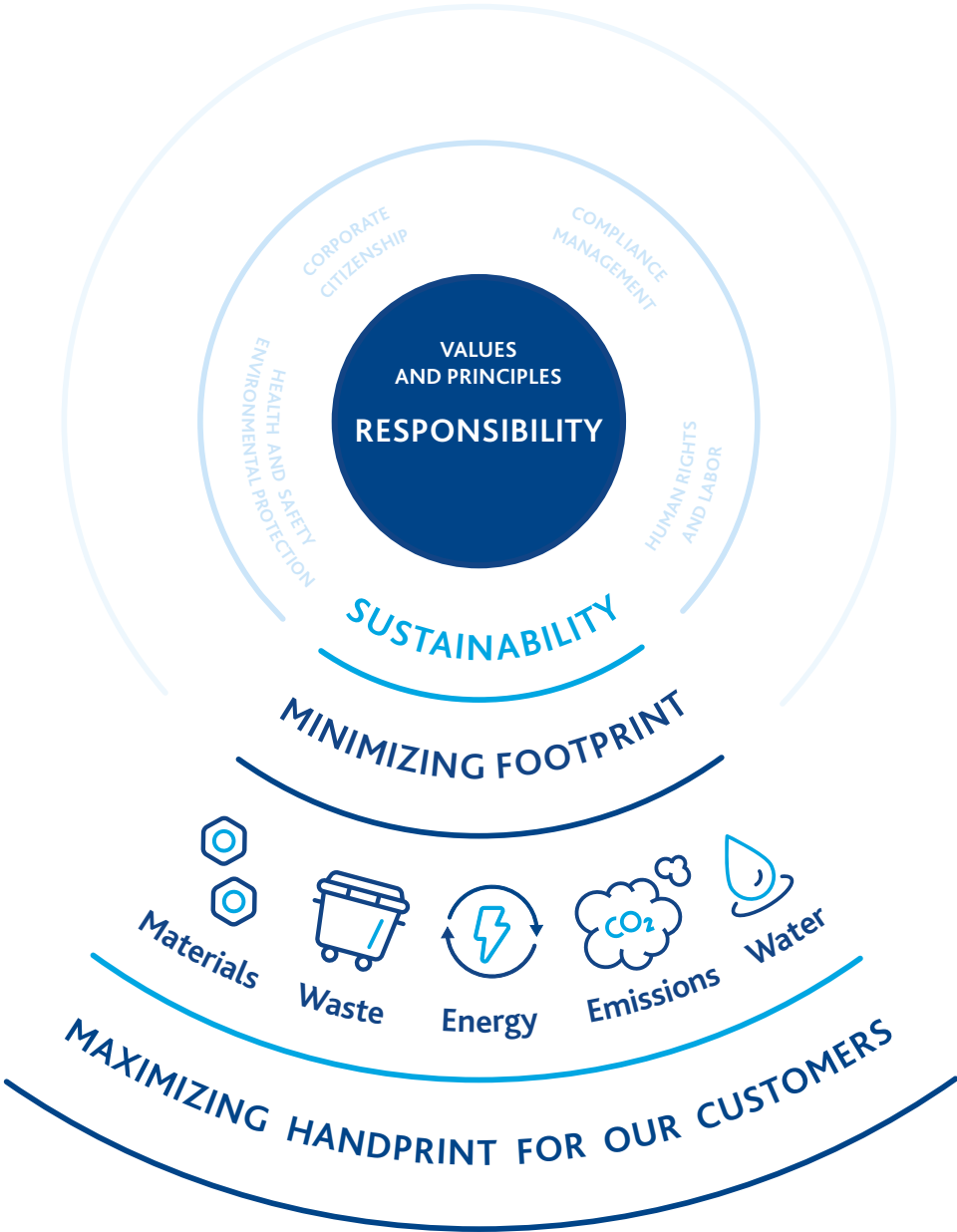
**By reducing its footprint and expanding customers' handprints, Freudenberg is contributing to greater sustainability worldwide.**






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Handprints and footprints are always a matter of resource and energy efficiency, and that invariably means technology. Examples of successful sustainability projects can be found on **pages 96 to 103**.

The five subject areas – **materials, waste, energy, emissions and water** – have the greatest relevance for the Freudenberg Group as a whole.





 <b>Materials</b>	 <b>Waste</b>	 <b>Energy</b>	 <b>Emissions</b>	 <b>Water</b>
Materials efficiency Recycled, renewable and substitute materials End of life (EOL) product handling	Waste handling	Energy efficiency Renewable energy	Air pollution/ emissions	Water pollution Water use

# Examples of successful sustainability projects

## Energy experts evaluate Japan Vilene Company sites

The first analysis – a virtual one carried out at a distance of 12,000 kilometers – took place at the height of the Corona pandemic in 2021. A second, very detailed evaluation was then conducted in Japan in fall 2022 when the energy efficiency team from Freudenberg Service in Weinheim visited the Shiga and Tokyo facilities of Japan Vilene Company.

As part of the “Bee - Be energy efficient” initiative, a key component of the “Sustainability drives Climate Action” project, the team identifies energy efficiency and CO<sub>2</sub> savings potential at Freudenberg sites. The team uses either the online “Bee Basic Analysis” or an on-site “Bee Advanced Analysis.”

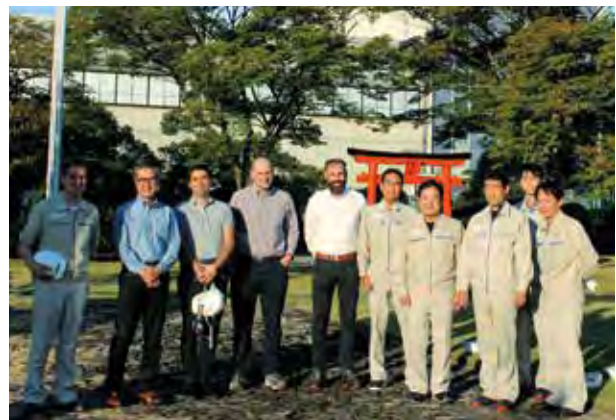
The Japan Vilene Company sites in Shiga and Tokyo opted to participate in both analyses. The virtual basic analysis in 2021 identified initial savings potential as well as low-investment measures that could be quickly implemented.

In fall 2022, the energy efficiency team then traveled to Japan for several days to conduct a “Bee Advanced Analysis” and assess the production processes and supporting systems. The aim was to evaluate the maximum energy efficiency level of the two sites – based on state-of-the-art technology. Concrete site-specific suggestions for improvement were then made, particularly in the areas of “compressed air,” “heat recovery,” and “cooling/refrigeration.”

Since the management of Japan Vilene Company attached considerable importance to the topic and

many employees from various disciplines participated in the workshops and investigations with Freudenberg Service colleagues – from production to maintenance and operational excellence – the analysis in Japan was very successful. It led to an intensive exchange that brought together the best of both worlds: the in-depth energy expertise of the Freudenberg Service team on the one hand and a profound understanding of processes by Japan Vilene Company employees on the other.

In cooperation with its local energy suppliers and energy consultants, who were also present during the analysis, Japan Vilene Company is now implementing the optimization proposals that were identified. As a result, energy consumption at the sites will be considerably reduced and CO<sub>2</sub> emissions significantly lowered.



When process understanding meets energy expertise: Japan Vilene Company employees worked with the energy team from Freudenberg Service to identify savings potential.



### After the sun comes the wind

The purchase of green electricity, i.e. electricity from renewable sources such as wind, solar and hydro power, plays an important role for Freudenberg in achieving its climate neutrality goals. Freudenberg is regarded as a particularly reliable partner, which enables the company to conclude long-term supply contracts for green electricity with energy suppliers. Known as “power purchase agreements”, or PPAs for short, these are long-term bilateral agreements between energy suppliers and purchasers on the basis of which investments are made for the expansion of renewable energy. This type of contract not only actively drives climate protection, but can also be financially rewarding. The special feature is that the electricity is delivered at a fixed price over the regular contract term of ten years, thus offering greater planning security.

While Freudenberg has so far concentrated on PPAs for the supply of solar power, the focus in 2022 was primarily on the purchase of electricity from wind power. The idea behind this is that solar and wind complement each other over the course of the year and together form the foundation for future power supply. In order to manage the renewable energies portfolio along these lines, Freudenberg concluded an agreement in 2022 under which the company will participate in the electricity generated by “Nordsee Ost” offshore wind farm from 2025 onwards.

The wind farm is located off the island of Helgoland, covers an area of 24 square kilometers and has been fully operational since 2015. Its 48 wind turbines generate enough climate-friendly electricity to supply around 320,000 households. This makes Nordsee Ost one of the largest commercial wind power projects off the German coast.



Sun and wind – a good combination. Freudenberg favors both solar and wind power.





The array consists of roughly 38,000 individual solar panels – making it one of Freudenberg’s largest.

### Green electricity self-generation

At Freudenberg, when it comes to goals for tackling climate change and achieving CO<sub>2</sub> neutrality, renewable energy is a key driver. Along with the purchase of green electricity, self-generation is an important aspect that is becoming increasingly relevant. One example is the Freudenberg Filtration Technologies site in Shunde, China, where a photovoltaic array was commissioned in fall 2022.

At over 9,500 square meters, the array is one of the largest in the Freudenberg Group. Its generating capability will be of the order of 2 million kilowatt hours, thus saving more than 1,500 tonnes of CO<sub>2</sub> emissions. The array can meet up to 20 percent of the site’s electricity demand, and is Freudenberg Filtration Technologies’ largest as well as one of the Freudenberg Group’s largest in the world.

Planning for the array started in November 2021, and the project was officially launched four months later. Installation work began in early June 2022. Despite the restrictions imposed due to the COVID-19 pandemic as well as typhoons and extreme temperatures in the summer months, the array was commissioned in fall 2022. One of the biggest challenges was to meet all the operational requirements in terms of safety and reliability. Together with the insurance and construction companies, a great deal of work went into designing the construction and selecting the right materials.

Employees at the Shunde facility are proud to be contributing to greater sustainability at Freudenberg thanks to self-generated green electricity – in combination with energy efficiency measures.





Freudenberg and ZF Friedrichshafen are jointly developing a hybrid fuel cell/battery drive system.

### Clean drive systems use hydrogen instead of diesel

The transport industry is under intense pressure to meet binding targets for climate protection. Vehicle manufacturers and suppliers are pulling out all the stops to develop numerous innovative concepts for CO<sub>2</sub> emission-free road freight traffic.

The Freudenberg Group plays a key role in shaping the development of sustainable mobility. One example is the cooperation between the Freudenberg e-Power Systems Business Group and the global technology company ZF Friedrichshafen. The goal of this cooperation is to develop a hybrid fuel cell/battery drive system and the components that are critical for its functioning. In a first step, work focuses on developing these emission-free fuel cells to replace diesel drives in trucks and buses as well as for maritime

applications. The first prototype vehicles are expected to hit the road by 2023, with series production scheduled to start shortly thereafter.

This project is founded on Freudenberg's foresight approach. Group employees have been working on fuel cell technology for some 30 years and have built up expertise and a depth of value creation that is unique in the industry. Freudenberg manufactures essential fuel cell components such as gas diffusion layers, sealing materials and humidifiers. This has generated a complete technological understanding – from raw materials through to finished systems – and enables Freudenberg to design fuel cells for a long service life and the highest possible system efficiency.



### More sustainability in the innovation process

Circular economy – a term that is becoming ever more popular all over the world in view of dwindling resources. The principle: the more raw materials that are fed back into the economic cycle after use, the more efficient and sustainable that cycle will be.

Researchers at Freudenberg Home and Cleaning Solutions teamed up with experts from a sustainability consultancy firm to develop a unique approach to align the future product portfolio more closely to circularity. This approach centers on the DESIGNED-4-CIRCULARITY tool. It helps product developers to systematically evaluate products for

circularity on the basis of scientific principles. The evaluation algorithm functions on a sophisticated points system. A product is only classed as circular if it is awarded a minimum number of points in a circularity ranking.

Because technologies always evolve over time, experts at Freudenberg Home and Cleaning Solutions regularly review the tool to stay current and continuously develop it further. DESIGNED-FOR-CIRCULARITY has been an integral part of the Business Group's innovation process since spring 2022 and has already tested over sixty products.



Freudenberg Home and Cleaning Solutions is committed to the circular economy – the Business Group uses PET granulate from recycled materials (photo) as well as tools to evaluate product circularity.



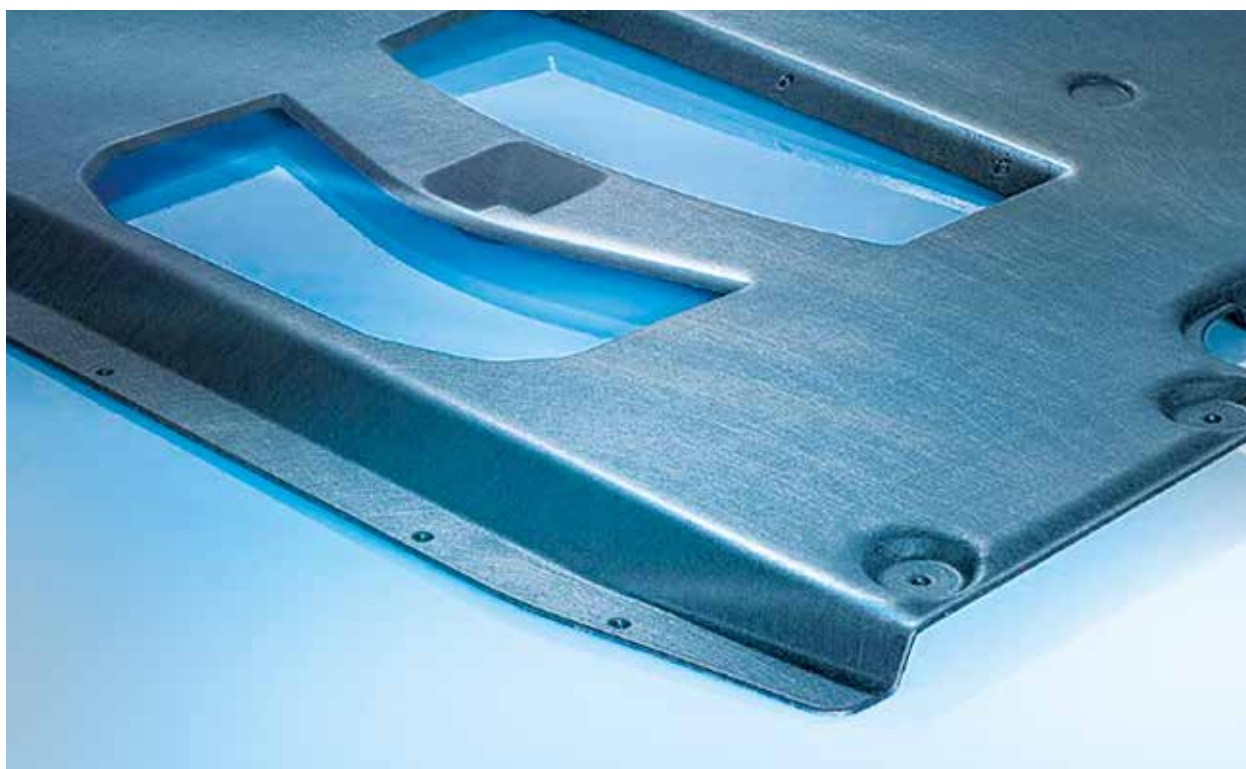
### Circular economy in the automotive industry: Sustainable innovation: underbody shield for automobiles

Cars are made up of about 30,000 components on average. This figure alone highlights just how complex and challenging circularity in the automotive industry is. The underbody shield from the Freudenberg Performance Materials Business Group is a sustainable innovation that protects cars from the many effects of the environment. The combination of staple fiber and spunbond nonwovens provides greater stiffness than competing products made of pure staple fibers, excellent acoustic absorption and greater water repellency through what is known as the lotus effect.

Freudenberg's underbody shield also has a low weight: it is up to 25 percent lighter than conventional underbody panels – that reduces vehicle

weight and thus saves energy and lowers CO<sub>2</sub> emissions during service life.

Furthermore, the entire process it is designed for sustainability – all the way from production to the end of service life. The staple fiber is already up to 50 percent recycled when it is made into underbody panels. The aim is to increase the content of recycled staple fiber further. In the future, 100 percent of the waste generated in production at Freudenberg Performance Materials and at customers is to be recycled. And if suitable conditions are established at the automotive manufacturers, it would even be possible to take back the underbody shield after end of life, i.e. after about 15 years of use in the vehicle, recycle it and use it for new applications.



Freudenberg automotive underbody shields promote sustainable mobility.



## Seals for the world's largest seawater desalination plant

Just a few kilometers south of Tel Aviv, something big is happening. With a total investment of almost half a billion euros, the world's largest seawater desalination plant, "Sorek II", is under construction there. Once built, the plant will desalinate an annual 100 billion liters of water and convert it into potable and industrial process water for over 1.5 million people, thus meeting 20 percent of Israel's water needs.

EagleBurgmann, a Freudenberg and EKK Group company, is supporting the project with sustainable sealing solutions, or – to be more specific – state-

of-the-art mechanical seals specially developed for extremely high pressures in water applications. Not only do they allow for a reliable and smooth operation but, thanks to their durability, they also help make the desalination plant more sustainable.

A reverse osmosis process is used to purify the water. This physical process to remove substances dissolved in liquids uses pressure to reverse the natural osmosis process. The new plant will be the largest and most advanced desalination plant in the world. And when it comes to saving energy and preventing pollution, it is a true game-changer.



EagleBurgmann is supplying seals for the world's largest seawater desalination plant.





### Air springs increase the range of electric vehicles

Electromobility is here to stay. The electrification of the drive train, no matter if fully or partly electric, also affects the comfort and ride experience of the passengers. Freudenberg's Vibracoustic Business Group develops new technologies to ensure comfortable, sustainable and safe travel in light and commercial battery electric vehicles. The Vibracoustic portfolio of innovative NVH (noise, vibration, harshness) solutions covers a raft of products; the Business Group's air springs are one concrete example offering several advantages for electric vehicles.

Air springs not only increase driving comfort, but they also allow the lowering of the car at high speeds to

improve the aerodynamics and thus further improve energy efficiency by increasing the vehicle's range.

Furthermore, air springs can optimize the airflow under the car for better passive battery cooling in electric vehicles. Unlike traditional springs, air springs have very flexible leveling adjustment capabilities – a further advantage. They protect the batteries in bad road conditions and always secure a minimum ground clearance. Furthermore, switchable air springs can provide different degrees of stiffness, allowing quick transition between a firm suspension for safe driving behavior, and a more comfortable setup for long road trips.



HANDprint

FOOTprint

### Saving energy in industry with Viledon

Companies aiming to reduce their energy consumption – and therefore their energy costs – need to look at the operation of their fans and HVAC systems. They account for a significant share of industrial energy consumption.

Filtration solutions from the Freudenberg Group can help to lower the energy costs of such systems by up to 30 percent. Numerous companies from various sectors of industry have already opted for energy-efficient filter solutions from Freudenberg and are now enjoying the benefits – from hospitals to airports and pharmaceutical firms.

Viledon air filters from Freudenberg combined with controlled fans guarantee the optimum energy-effi-

cient operation of HVAC systems and the necessary filter efficiency for good indoor air quality. Their high dust-loading capacity and low pressure drop make it possible to realize energy savings in industry.

In addition to energy-efficient filters, Freudenberg's Viledon filterCair Service offers energetic system inspections: Freudenberg's service technicians carry out customized analyses and services. Almost any ventilation system can be optimized in this way. The benefits are twofold: energy consumption is cut and CO<sub>2</sub> emissions are reduced.



HANDprint

FOOTprint

A photograph of two women in an office setting. The woman on the left has dark curly hair and is wearing a light-colored blazer over a white top. The woman on the right has long brown hair, wears glasses, and a white button-down shirt. They are both smiling and looking at a laptop screen held by the woman on the left. The background is a bright, modern office with blurred desks and windows.

Human Rights  
and Labor

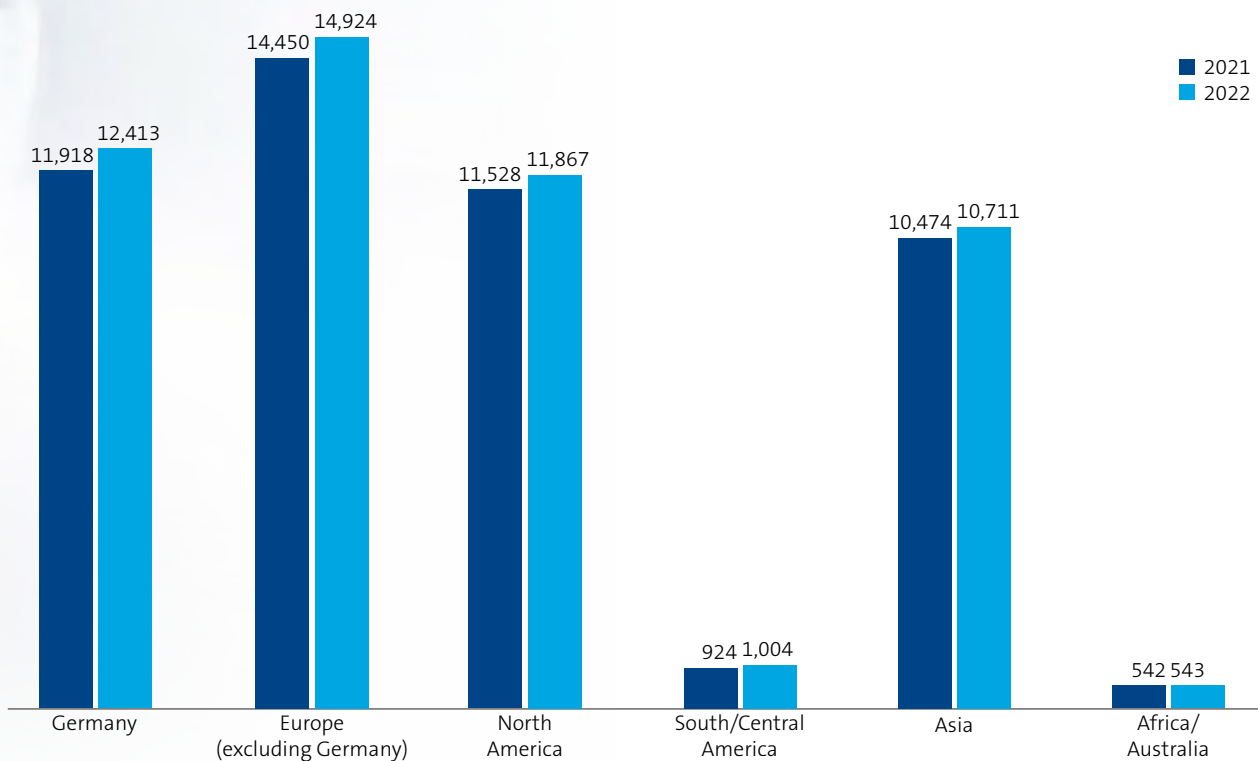
Together  
we are strong

Diverse teams drive innovation at Freudenberg. The best solutions and innovations occur 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 spirit unites them around the world.

# 51,462

staff were employed by Freudenberg as of December 31, 2022 (previous year: 49,836 employees).

## Freudenberg Group employees by region



In Germany, the employee headcount was 12,413 (previous year: 11,918), in Europe (excluding Germany) the number was 14,924 (previous year: 14,450), in North America 11,867 (previous year: 11,528), in Asia 10,711 (previous year: 10,474), in Africa/Australia 543 (previous year: 542) and in South America/Central America 1,004 (previous year: 924).

## **Strengthening the employer brand**

The employer brand made further progress in the year under review. Addressing target groups individually, and inspiring and attracting talent continues to be Freudenberg's goal. The activities led to a sharp rise both in the number of followers on social networks – especially LinkedIn, WeChat and Facebook – and in the number of visitors to the Freudenberg career website. Career fairs and in-house events as well as LinkedIn campaigns proved to be successful measures. These measures focused on offerings tailored to the regions.

## **Attractiveness**

Freudenberg provides numerous benefits that are constantly being expanded to become, and remain, attractive for existing employees and new hires alike. The benefits tend to vary from region to region and site to site, but in the main go well beyond the statutory minimum requirements for the respective countries.

Under the talent management program, Freudenberg supports the continuous further development of its employees through numerous vocational training, advanced training and professional development programs at all hierarchical levels. The Freudenberg Group also believes a good work-life balance is important in helping to preserve and improve the health and well-being of employees, especially during the COVID-19 pandemic. As part of an occupational health management program, the Group provides the best possible medical support and promotes a wide range of sport and fitness programs.

Freudenberg is repeatedly recognized with awards that confirm the Group is an attractive employer. In 2022, for example, Freudenberg-NOK Sealing Technologies in Detroit, USA, was honored for the fifth time in a row by the "Detroit Free Press" newspaper

as a "Top Place to Work". In Spain, Freudenberg Sealing Technologies was rated "Best Place to Work".

In order to remain an attractive employer in future, Freudenberg is exploring the working worlds of the future from various perspectives under a wide-ranging project. The project topics include future collaboration within the company, flexibilization of work and workplace design of the future. The project also addresses what is expected of Freudenberg management regarding remote leadership and communication.

## **Talent management**

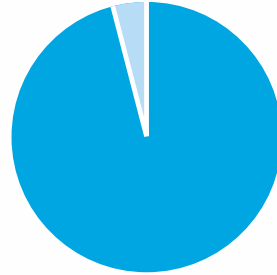
The goal of the talent management process is holistic and professional personnel development as well as the successful identification and advancement of high potentials. Under the process, employees are given balanced and calibrated feedback from their superiors, who also discuss the next development steps with them. As part of the talent management process, succession candidates for specialist and leadership functions are systematically identified to ensure the long-term stability of the leadership teams. Talent development across Business Groups continued to gain ground in 2022. Regional and functional talent conferences in particular are progressively leading to a shared understanding of key positions and high potentials in the organization, joint responsibility for talent advancement and optimal staffing decisions.

As a result of the recruiting module implemented under Workday, Freudenberg's global employee information system, employees can keep up-to-date on open positions and apply for vacant posts, thus taking a proactive part in their own development. Furthermore, supervisors receive regular training on how to conduct high-quality feedback discussions with their employees, thus supporting employees' personal and professional development.



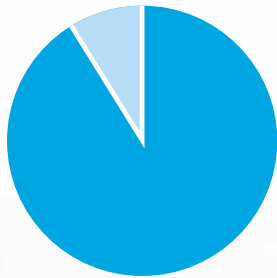
# Employment ratios

(as at December 31, 2022)



**4%** | **96%**  
Part-time | Full-time

There are country-specific requirements and regulations for part-time work.



**9%** | **91%**  
Fixed term | Open-end



## Labor shortage, fluctuation and recruiting

One of the greatest challenges for Freudenberg in 2022 was filling vacant posts in both direct and indirect areas. The labor market is clearly shifting from an employer to an employee market, above all in North America, but the shift is also becoming increasingly obvious in other regions as well. When coupled with higher fluctuation, this means that at times, vacant positions cannot be filled. The shortage of manpower results in extra work for the remaining employees, and that in turn drives fluctuation higher.

In 2021, some 8 percent of the workforce left Freudenberg at their own request: the fluctuation rate went up to 10 percent in 2022. There were regional differences, with higher numbers in North

America and lower figures in Germany. Fluctuation among production employees was greater than fluctuation in what are termed “indirect” areas. Where fluctuation rates are high, Freudenberg takes specific steps at local and regional level to remedy the causes and retain the workforce.

In all, Freudenberg was able to recruit 7,800 new employees in 2022. Recruiting activities focused on Europe as well as North America, China and India. Well over a year after the launch of the new electronic recruiting platform, the number of candidates has risen sharply. The Freudenberg Group received over 100,000 applications in the year under review.

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## Diversity and inclusion

Diversity is anchored in the Group’s Values and Principles and also clearly positioned within the brand. Freudenberg is convinced that teams made up of people of various ages and genders and with diverse cultural backgrounds are more successful. In 2022, people from 146 nations (previous year: 136) worked together at Freudenberg. The “Diversity and Inclusion Community” was established to strengthen activities in an inclusive work environment still further.

The 30 community members developed measures in five different areas, such as inclusion culture at Freudenberg. The goal of the various initiatives is to create a work environment in which every employee feels valued, respected and heard.

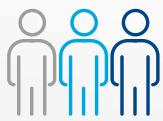
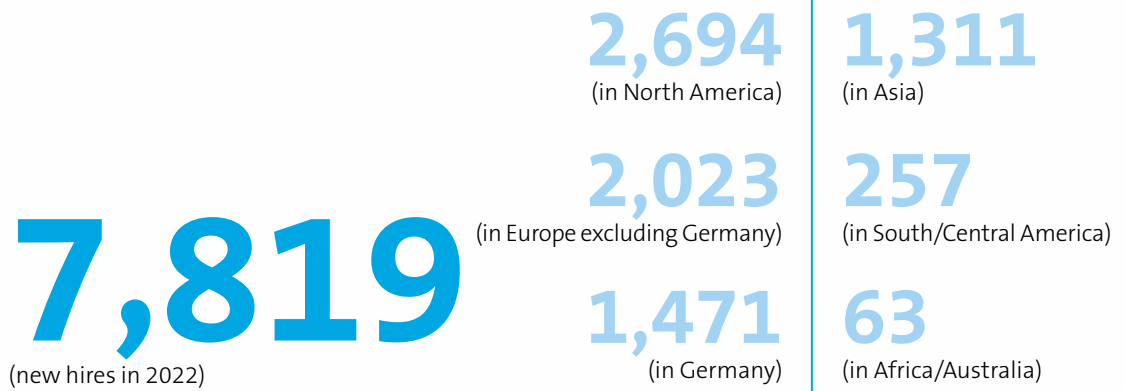
One particular focus for Freudenberg is balanced gender distribution, where special attention is paid to the hiring process, the early identification of female talent, the targeted career promotion of women into top leadership positions, and the targeted networking of women within the company. The share of female senior managers in the year under review was approx. 22 percent.

The Group defined several racial diversity measures in the USA in 2021 and these were implemented in 2022. One such measure was support from Freudenberg for various institutions and programs that are especially devoted to the advancement of minorities.

Freudenberg does not exclusively think of diversity in terms of gender, age or religion, but also plans to place a greater emphasis on geographic diversity going forward. Many of the company’s experts and managers are located in Europe, particularly Germany. In the medium term, there will be an even stronger effort to establish good local and regional leadership, both in production and administration. The goal is to balance know-how and expert knowledge across all regions. Project “Balance” was launched with this in mind in 2021. Its goal is to create a framework for strengthening local talent and succession planning for senior management positions in Asia and North America. Concrete measures for the USA and China were drawn up in 2022.



## New hires



## Diversity

Freudenberg does not exclusively think of diversity in terms of gender, age or religion, but also plans to place a greater emphasis on geographic diversity going forward.

**146**

(Freudenberg employees come from 146 nations)

**60**

(There are Freudenberg facilities in 60 countries)

**32%**

(female professionals and managers)



## Personnel development

In total, some 500 managers again participated in the various leadership development programs organized by Freudenberg in 2022.

Some training measures, in particular the leadership development programs, were again organized as in-person events as the pandemic measures were gradually eased.

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**In recent years, the Freudenberg Training Center has specialized in digitalization topics and is an acknowledged learning hotspot for both vocational training and continuing education.**

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## Training at Freudenberg

In 2022, 123 persons (previous year: 91) began training at Freudenberg companies in Germany. A total of 351 persons in Germany and 433 persons worldwide were enrolled in a training program as of December 31, 2022. 93 new vocational trainees began their training at Freudenberg in Weinheim in 2022, of which 49 came from Freudenberg and 44 from outside companies.

The quality of the training at Freudenberg is highly regarded by other companies. This is shown by the fact that well-respected companies in the region have repeatedly sent their young talent to be trained at Freudenberg in Weinheim. The training ranges from two-year technical programs to commercial courses and dual studies at cooperative state universities. In recent years, the Freudenberg Training Center has specialized in digitalization topics and is an

acknowledged learning hotspot for both vocational training and continuing education.

The Training Center in Weinheim is also known for its social engagement. Since 2016, under the “Training for Refugees” donation-funded project, refugees have been offered a technical internship with the prospect of starting vocational training at Freudenberg. So far, a total of 59 refugees have taken up this offer, and 36 have subsequently begun their training at Freudenberg. All of the 19 trainees who have already graduated have found jobs – eleven of them with Freudenberg and eight with outside companies. Six refugees from the preparatory internship joined the scheme in 2021/22, and Freudenberg enabled them to take part in vocational training to become machine and plant operators.





## Management development

**500**

(Participants in programs  
from all regions)



## Training

**433**

(Trainees at Freudenberg world  
wide as at December 31, 2022)

**351**

(Trainees at Freudenberg in Germany  
as of December 31, 2022)





Health, Safety and  
Environmental Protection

# Focus on people and the environment

The HSE (Health, Safety and Environment) Guideline includes the HSE principles and defines the Freudenberg Group's Values and Principles for HSE. The overarching goals are avoiding all accidents, preventive healthcare, and continuously reducing the negative impact of the Group's business on the environment.

Freudenberg is committed to the well-being of its employees and their personal development. Occupational safety and health are encouraged and practiced at all hierarchy levels within Freudenberg. Health, safety and environmental protection are an integral part of all processes.

This approach has enabled the Freudenberg Group to maintain the number of accidents at a low level relative to industry benchmarks. Existing measures are reinforced and enhanced with innovative approaches to ensure continuous improvement. Success in occupational safety serves as a benchmark for other areas where Freudenberg also engages in continuous improvement. In addition to reducing environmental impacts, this is particularly relevant with regard to health protection.

The safety of employees in the workplace has top priority at Freudenberg. An HSE week is held each year, during which all Freudenberg Group sites are called on to implement HSE initiatives that go beyond daily routines. Aside from various occupational safety and fire prevention training programs, measures in 2022 also focused on aspects of sustainability, such as saving energy and avoiding waste, as well as on the positive benefits of ergonomic factors for a healthy working environment – including remote working. Furthermore, communication played a role in the context of practical emergency and crisis management training.

Internal and external audit processes and standardized HSE assessments at sites operated by all Business Groups monitor the implementation of internal standards and programs to improve occupational health, safety and environmental protection, as well as fire prevention. The findings from such audits are systematically evaluated and remedial measures implemented.



## Management systems

The roll-out of management systems for occupational health and safety (OHSAS 18001 and conversion to ISO 45001) and environmental protection (ISO 14001) continued in the 2022 financial year.

Many sites have introduced energy management systems in accordance with DIN EN ISO 50001 or EN 16246 to improve energy consumption, thereby reducing the impact of industrial activities on the environment.

## Investment

The proportion of direct investment in environmental protection, occupational health and safety in overall investment in tangible assets, intangible assets and investment properties was 12.2 percent (previous year: 10.1 percent). A new category of sustainability-related investment was introduced in 2021. Here, the main focus is on the reduction of energy consumption and carbon dioxide emissions. In 2022, the proportion of investment devoted to sustainability was 2.7 percent.

## Environmental protection

Freudenberg is committed to protecting the environment and assumes responsibility for making its activities as environmentally-compatible as possible.

The goal is to continuously reduce the negative environmental impact along the entire value chain by using natural resources more efficiently, reducing emissions, saving energy, water and other consumables, and by optimizing transport processes. Many sites conduct analyses to identify energy-saving potential and implement the findings.

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**Freudenberg strives to make its activities as environmentally compatible as possible. One example of these endeavors is a project at the Freudenberg Home and Cleaning Solutions site in Salo, Finland. All waste generated at the site is fully recycled.**

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One example of Freudenberg's endeavors in the field of environmental protection is a project at the Freudenberg Home and Cleaning Solutions site in Salo, Finland. All waste generated at the site is fully recycled. This goal has been achieved in various ways, for example through process optimization measures such as reducing scrap. Furthermore, used mops are collected from end users, recycled and returned to the production cycle.

Another example from the year under review comes from SurTec Germany, where waste water was reduced by up to 20 percent through process optimization and intelligent process combination.



SurTec Germany was able to reduce waste water by up to 20 percent through intelligent process combination.

## Events

In 2022, the Freudenberg Group recorded 55 (previous year: 46) environmental and crisis management events.

There was a major fire at the Freudenberg Performance Materials site in Suzhou, China, in March, and another one at the Freudenberg Sealing Technologies site in Kufstein, Austria, in December. There were also minor fires at various sites, and operations were interrupted on several occasions as a result of power outages or process-related shutdowns. No employees were injured in any of these events. There were also various environmental events involving substance release, none of which resulted in environmental damage.

There was a string of natural disasters in 2022. A severe tornado wreaked extensive damage to buildings and materials at the Japan Vilene Company site in Paderborn, Germany, and operations were interrupted. The Freudenberg Sealing Technologies site in Hamburg, Germany, also suffered storm damage. There were two incidents of heavy rainfall in Weinheim and at the Freudenberg Performance Materials site in Hückelhoven, during which water penetrated buildings. Operations at Hückelhoven were interrupted as a result. There were site closures in Australia due to flooding.

## Resource consumption

Freudenberg used 2,583 gigawatt hours of energy in 2022 (previous year: 2,600 gigawatt hours). Consumption breakdown by energy sources is as follows:

- Energy purchased from external sources (electricity, steam and district heat; 1,647 gigawatt hours)
- Gas (859 gigawatt hours)
- Heating oil (14 gigawatt hours)
- Self-generated renewable energy (3 gigawatt hours)

The 2,583 gigawatt hours incurred costs totaling some 284 million euros. Energy costs accounted for 2.4 percent of total sales (previous year: 2.6 percent).

## Contaminated sites

Provisions for contaminated sites were some 3.5 percent lower than the previous year.

Work on the rehabilitation plan for the former Freudenberg Sealing Technologies site in Pinerolo, Italy, continued, as did work on the ongoing groundwater monitoring programs at locations such as the Klüber Lubrication site in São Paulo, Brazil, and the Freudenberg Sealing Technologies site in Montrond, France.

Monitoring requirements specified by the authorities were implemented at the Weinheim site and at Freudenberg Sealing Technologies in Bristol, USA and Chem-Trend in Howell, USA.

## Preventive healthcare

The impact of the COVID-19 pandemic and the associated restrictions lost much of their intensity in 2022. Nevertheless, issues such as hygiene concepts, dealing with cases of infection, the comprehensive Corona vaccination program or the continued wide-scale use of remote working were still of relevance.

All over the world, there has been an increase in the number of mental health problems as a result of the pandemic. Freudenberg employees are unfortunately among those affected. That is why a comprehensive mental health initiative was launched at several sites in 2022, addressing topics such as how to deal with stressful situations or illness. In Weinheim, for example, numerous employees benefited from the support offered by presentations, workshops and consultations organized in cooperation with an industrial psychologist.

Once again, a large number of excellent projects focusing on the needs of employees were submitted in 2022 under the Freudenberg-wide “We all take care” initiative. Team solidarity was the subject of some of these projects aimed at strengthening psychosocial factors such as how to manage an increased workload or communication between colleagues through team interaction.

The winning project in Group 1 “Occupational Health Management” was an entry from Freudenberg Sealing Technologies in Weinheim. The “BIONIC@Components” project took an innovative approach to ergonomics. Body sensors were used to record movements while performing tasks and these motion sequences were then digitized and transferred to an avatar. The data can be used to assess occupational safety and identify stress patterns or for training or redesigning workplaces.



Occupational health and safety have top priority at Freudenberg

### Occupational safety

Freudenberg's internal reporting uses the LDIFR (Lost Day Incident Frequency Rate). The metric serves as a non-financial key performance indicator for the Freudenberg Group. All workplace accidents with at least one day of work lost per million hours are measured. In 2022, the LDIFR climbed to 1.8 (previous year: 1.3). This corresponds to a global figure of 186 accidents at work (previous year: 133).

There were five serious accidents in 2022. In three cases, employees suffered permanent damage to fingers or hands. In two cases, the injured employees were hospitalized for more than seven days, but did not suffer permanent damage.

Occupational safety focuses on measures aimed at raising awareness of safe conduct among all employees as well as the design of safe working systems. This is illustrated by successful "We all take care" ideas such as that submitted by first-time contributor Japan Vilene Company for the prevention of cut-

ting injuries. The "We all take care" jury also praised Vibracoustic's Turkish site in Bursa for its submission of numerous project ideas over the last years. In 2022, the site came up with an idea on how to prevent work accidents involving industrial robots.

The internal Safety Boost initiative continued in 2022 with the focus on different issues. Attention centered on work instructions and hidden routines as well as hazard assessment of critical tasks. Critical-event communication was intensified. Unsafe situations, workplace accidents, environmental incidents and high-risk fires are investigated and reported Freudenberg-wide.

With regard to safety culture, the safety culture assessment tool was developed further. The regular internal review of the safety culture at sites is increasingly becoming a mandatory element of the Safety Boost program in the Business Groups.



Corporate Citizenship

# Helping

where help is needed

At Freudenberg, corporate citizenship goes beyond the value chain. The Group wants to be recognized as a good neighbor in the communities where it operates, which is why it supports a whole raft of social projects – from small local initiatives to complex international programs. All the campaigns are tailored to local requirements, and Freudenberg employees often participate in their free time.



## Global program for education and environmental protection

Since the founding of the company, Freudenberg has been committed to serving the community. Corporate citizenship was strengthened with the launch of the e<sup>2</sup> (education and environment) program in 2015. The program's goal is to provide people with access to education and employment and to support environmental protection. The e<sup>2</sup> program supports projects on the basis of a catalog of defined criteria and complements existing individual initiatives. In 2021, Freudenberg decided to provide e<sup>2</sup> with a further four million euros in funds, bringing total funding to 18 million euros.



Landmark project: The 150<sup>th</sup> e<sup>2</sup> project helps children from financially disadvantaged households to a good education.

## Examples of e<sup>2</sup> projects

So far, the e<sup>2</sup> initiative has supported some 170 projects worldwide. They all show that commitment can make a difference. Here are some examples:

### Help for orphans in Vietnam

Many children in Vietnam suffer from the effects of harsh social and economic conditions. Abandoned by family members or orphaned, they are often left to fend for themselves. The SOS Children's Villages in Vietnam take care of such children. In 2022, Klüber Lubrication employees in Vietnam supported the work of the SOS Children's Villages in Ben Tre and Da Lat, southern Vietnam. The program included joint activities such as gardening, self-defense training and the teaching of life skills.

### Cooperation with an elementary school in the USA

Children need a good education and the feeling that someone believes in them. Thanks to financial support from e<sup>2</sup> and the personal commitment of EagleBurgmann employees, the children at Kirk Elementary School in Houston, Texas, now have both, giving them much better chances for the future. This is the 150<sup>th</sup> project supported by e<sup>2</sup>.

### Bird-proof glass in the Czech Republic and Slovakia

Glass facades and windows pose a major threat to birds. They do not recognize the glass as an obstacle and often die from the impact. Teams from Freudenberg Home and Cleaning Solutions in the Czech Republic and Slovakia are helping to prevent such bird strikes. Together with their project partners, they stick small stickers on the glass facades of houses and bus stops. In addition, the employees visit schools and inform children and young people about the life of native birds.

Freudenberg's aim is to provide long-term support for projects in the two key areas of education and the environment. However, in exceptional situations the company takes a flexible approach to its funding rules, and also provides spontaneous assistance.

In response to the Corona pandemic, the company supported food banks worldwide and distributed face masks to protect people. In the year under review, Freudenberg also responded just as swiftly and decisively to Russia's invasion of Ukraine. The company donated €3 million as immediate humanitarian aid for those affected by the war in Ukraine. Further donations were forthcoming from employees and Partners. Many of them were also actively engaged in providing support.

After arranging for the immediate aid which was so important right at the start of the war, Freudenberg focused more heavily on organizations dedicated to the long-term support and integration of refugees. So far, some 40 organizations in Ukraine and other European countries have received assistance.

One of these is the Ukrainian Friends Foundation which builds container villages. 20 houses in the container village near Lviv were built with donations from Freudenberg. The company has also provided funds for maintenance. A container houses up to four people, with preference given to families with children. Each container is connected to the sewage network and contains a small kitchen and dining table, in addition to four beds.



20 containers in the container village near Lviv were financed through donations from Freudenberg employees and Partners.

**Here are some examples of the Freudenberg Group's long-term orientation on local aid projects:**

**Training center in India**

Since 2009, Freudenberg has offered young people the opportunity to qualify as electricians, welders, plumbers, motor mechanics, and machinists under dual training programs at a non-profit training center in Nagapattinam, India in the province of Tamil Nadu, south of Chennai. So far, around 800 young people have had a successful start to their careers. Most have found a job in the large, well-known organizations located in and around Chennai. The Nagapattinam region is poor, populated mainly by farmers and fishers, and suffered enormously from the 2004 tsunami.

**School project in China**

A primary school in the Chinese village of Haijin in Sichuan Province devastated by an earthquake in May 2008 was rebuilt with support from Freudenberg and reopened in 2009. The building has space for up to 300 schoolchildren and can give them a good start to their education. Freudenberg employees visit the school every year and organize various activities such as the summer camp, extra tuition and a Christmas party.

**“Service Day” in North America**

Every year, more than 60 Freudenberg sites in North America take part in a range of corporate citizenship activities. A large number of employees again came together for the 2022 “Service Day” to plant trees, clean up parks and install water towers.

**Freudenberg Foundation**

Since 1984, the Freudenberg Foundation has been helping to bring about real, long-term change by promoting inclusion, education and democracy. As a non-profit company, the Foundation is a Partner of Freudenberg & Co. KG. The main focus of all its projects is the social, linguistic, educational and professional integration of children and young people.

A person in a blue shirt is working on a laptop. The image has a blue tint and features a futuristic digital overlay with white lines and a grid. The text 'Compliance' is written in white, sans-serif font above the main title.

Compliance

# Abiding by laws and regulations

As early as 1887, when his sons joined the company, founder Carl Johann Freudenberg drafted his first principles of business conduct. The document forms the basis for the Freudenberg Group's 10 Business Principles with which Partners and employees identify. One principle stipulates that success has to come from performance; Freudenberg shall not engage in any illegal or unethical business practices.

### Business Principles and Guiding Principles

The Guiding Principles derived from the Freudenberg Group's Business Principles define the values shaping conduct towards employees, business partners, stakeholders and third parties.

At the holding level, the focus is on compliance issues of critical importance throughout the Business Groups and in an international context that could pose a threat to Freudenberg, especially in terms of the company's reputation.

Given the Freudenberg Group's global presence and its product and market diversity, anti-corruption and anti-trust legislation are seen as potential risk areas.

Freudenberg's ambition is to continuously improve its compliance organization, documentation and processes. A corporate function at the holding level coordinates Freudenberg-wide compliance measures, thereby strengthening and expanding collaboration between Group-level units and compliance managers in the Business Groups. Among other benefits, this promotes the implementation of Freudenberg compliance standards, best practice exchange and the further development of compliance programs.

An updated version of the training program on various compliance issues was rolled out online in 2022. E-learning courses are available for many individual topics, giving employees from defined fields and areas of responsibility the opportunity to raise their awareness of specific compliance topics.



### Compliance structure

Freudenberg is a company whose Business Groups are entrepreneurially-driven and operate with a large degree of independence. Along with the holding company, these Business Groups are therefore responsible for conduct that complies with laws and regulations. Both the Board of Management of Freudenberg SE and the top management of the individual Business Groups clearly subscribe to this.

## Code of Conduct

The Code of Conduct is derived from the Business Principles and Guiding Principles, in particular the “Responsibility” Guiding Principle. It covers standards of conduct that are valid worldwide. It is designed to ensure that law-abiding and responsible behavior remains the cornerstone of business conduct.

The Code of Conduct is available to employees worldwide in 26 languages. It has been communicated and explained to all employees across the globe. The Business Groups have made use of the available communication channels in many ways. This consistent, continuous communication, which is also mandatory for new employees, and the binding nature of the Code of Conduct (for example, as an attachment to employment contracts) underscore the unequivocal requirement to adhere to these standards of behavior. The globally standardized e-learning tool on the Freudenberg Code of Conduct is an appropriate instrument for all employees to become familiar with the Code’s contents. The tool makes it possible to monitor participation and success, and invites feedback from employees.

Freudenberg plans to strengthen and further develop the role of the Code of Conduct as a cornerstone of corporate culture and to expand help and support for employees and their supervisors. In these efforts, Freudenberg focuses in particular on regular ex-

change with Business Group Compliance managers and on active collaboration with the Ethics Offices and their staff.

The Code of Conduct was revised in 2022 to adequately reflect changes in legislation and significant developments with regard to compliance standards. The new features refer in particular to more precise details governing essential issues in the fields of human rights and climate protection as well as taking into account new aspects such as matters concerning cooperation with business partners or prohibition of money laundering. It is planned to roll out an update of the e-learning tool to include these changes in 2023.

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**The Freudenberg Code of Conduct is available in 26 languages. The globally standardized e-learning tool on the Freudenberg Code of Conduct is an appropriate instrument for all employees to become familiar with the contents.**

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### **Ethics Offices**

The Ethics Offices are an important element of Freudenberg's Compliance Management System. They serve as a confidential point of contact for all employees and third parties (i.e., persons outside the Freudenberg Group, such as suppliers or customers) wishing to report an actual or potential infringement of laws or Freudenberg's Business Principles or Guiding Principles. The option to report compliance violations via a channel that guarantees confidentiality or to give warning of imminent offenses is designed to foster the culture of trust and protect Freudenberg's Values and Principles even more effectively.

### **Corporate Audit and Risk Management**

Aside from the main objective of reviewing the effectiveness of the internal control system in place, the work of Corporate Audit in 2022 also focused on identifying other potential risks and/or asset misappropriation.

## UN Global Compact Communication on Progress

The UN Global Compact is the world's largest and most important initiative promoting responsible corporate governance. Since signing the Global Compact in 2014, Freudenberg has made a voluntary commitment to ensuring its business is values-based and sustainable.

Freudenberg regularly reports on how the company is implementing the ten principles of the Global Compact and its contribution to achieving the UN Sustainable Development Goals in what is known as the UN Global Compact Communication on Progress (CoP). To date, this Communication on Progress comprised the section of the Freudenberg Annual Report entitled "Responsibility for Society" with its chapters on "Sustainability", "Health, Safety and

Environmental Protection", "Corporate Citizenship", "Compliance" and "Human Rights and Labor".

The UN Global Compact has, however, changed the format of the Communication on Progress. Starting in 2023, all participants – and that includes Freudenberg – must complete a standardized questionnaire containing some 70 questions – mostly multiple choice – in sections on Governance, Human Rights, Labor, Environment and Climate, and Anti-Corruption. The completed questionnaires will be available during the course of 2023 from the UN Global Compact website at <https://www.unglobalcompact.org>.







The 2022 report on responsibility at  
Freudenberg is available online at  
<https://www.freudenberg.com/responsibilityreport>



# CONSOLIDATED FINANCIAL STATEMENTS OF FREUDENBERG SE

## CONTENTS

Consolidated Statement of Financial Position	130
Consolidated Statement of Profit or Loss	132
Consolidated Statement of Comprehensive Income	133
Consolidated Statement of Cash Flows	134
Consolidated Statement of Changes in Equity	135
Notes to the Consolidated Financial Statements	136
Shareholdings	187

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## ASSETS

[€ million]	Note	Dec. 31,2021	Dec. 31,2022
<b>ASSETS</b>			
Intangible assets	(1)	2,846.3	2,743.7
Tangible assets	(2)	2,769.5	2,878.3
Investment properties	(3)	13.9	12.2
Investments in joint ventures	(4)	233.7	243.1
Investments in associated companies	(5)	962.9	944.2
Other financial assets		137.3	125.3
Financial assets		1,333.9	1,312.6
Other non-current assets	(7)	105.4	61.2
Deferred taxes	(26)	332.3	291.0
<b>Non-current assets</b>		<b>7,401.3</b>	<b>7,299.0</b>
Inventories	(6)	1,523.4	1,835.2
Trade receivables		1,527.3	1,810.7
Other current assets		208.8	261.1
Current receivables	(7)	1,736.1	2,071.8
Current tax assets		73.5	117.0
Cash and cash equivalents	(8)	2,186.8	1,827.9
<b>Current assets</b>		<b>5,519.8</b>	<b>5,851.9</b>
		<b>12,921.1</b>	<b>13,150.9</b>

## EQUITY AND LIABILITIES

[€ million]	Note	Dec. 31,2021	Dec. 31,2022
<b>EQUITY AND LIABILITIES</b>			
Subscribed capital		450.0	450.0
Capital reserves		50.2	50.2
Retained earnings		5,618.3	6,258.5
<b>Equity without non-controlling interests</b>		<b>6,118.5</b>	<b>6,758.7</b>
Non-controlling interests		372.0	349.3
<b>Equity</b>	<b>(10)</b>	<b>6,490.5</b>	<b>7,108.0</b>
Provisions for pensions and similar obligations	(11)	808.8	604.9
Other long-term provisions	(12)	121.6	146.4
Long-term provisions		930.4	751.3
Financial debt		1,593.4	1,346.5
Other non-current liabilities		185.0	165.6
Liabilities	(13)	1,778.4	1,512.1
Deferred taxes	(26)	330.7	295.1
<b>Non-current liabilities</b>		<b>3,039.5</b>	<b>2,558.5</b>
Other current provisions	(12)	801.7	763.0
Current tax liabilities		149.2	121.1
Financial debt		1,077.3	1,047.4
Trade payables		1,025.7	1,203.4
Other current liabilities		337.2	349.5
Liabilities	(13)	2,440.2	2,600.3
<b>Current liabilities</b>		<b>3,391.1</b>	<b>3,484.4</b>
		<b>12,921.1</b>	<b>13,150.9</b>

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS

[€ million]	Note	2021	2022
Sales	(14)	10,038.7	11,753.1
Cost of sales	(15)	-6,904.7	-8,259.5
<b>Gross profit</b>		<b>3,134.0</b>	<b>3,493.6</b>
Selling expenses	(16)	-1,369.2	-1,535.7
Administrative expenses	(17)	-637.2	-702.5
Research and development expenses	(18)	-428.4	-506.6
Other income	(19)	116.2	147.6
Other expenses	(20)	-77.7	-96.0
Income from investments in joint ventures	(4),(21)	26.0	23.3
<b>Profit from operations</b>		<b>763.7</b>	<b>823.7</b>
Income from investments in associated companies	(5),(22)	41.1	43.2
Other investment result	(23)	14.4	27.3
Other interest and similar income	(24)	16.6	24.5
Interest and similar expenses	(25)	-57.6	-61.7
<b>Financial result</b>		<b>14.5</b>	<b>33.3</b>
<b>Profit before income taxes</b>		<b>778.2</b>	<b>857.0</b>
Income taxes	(26)	-191.1	-217.4
<b>Consolidated profit</b>		<b>587.1</b>	<b>639.6</b>
Of which: attributable to Freudenberg		558.1	626.5
Of which: attributable to non-controlling interests	(27)	29.0	13.1

## CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

[€ million]	Note	2021	2022
<b>Consolidated profit</b>		<b>587.1</b>	<b>639.6</b>
<b>Other comprehensive income:</b>			
Remeasurement of defined benefit plans	(11)	85.8	184.3
Changes in value of securities		-0.3	-3.3
Income tax relating to items that will not be reclassified to profit or loss	(10)	-23.8	-53.9
Share in other comprehensive income of joint ventures	(4)	0.1	0.0
Share in other comprehensive income of associated companies	(5)	42.3	-8.7
<b>Items that will not be reclassified to profit or loss</b>		<b>104.1</b>	<b>118.4</b>
Exchange rate differences	(10)	213.4	-38.6
Changes in value of derivative financial instruments	(10)	-0.2	-0.1
Miscellaneous comprehensive income		-1.0	1.1
Income tax relating to items that will be reclassified subsequently to profit or loss when specific conditions are met	(10)	-7.5	-4.1
Share in other comprehensive income of joint ventures	(4)	-1.1	0.6
Share in other comprehensive income of associated companies	(5)	31.9	38.5
<b>Items that will be reclassified subsequently to profit or loss when specific conditions are met</b>		<b>235.5</b>	<b>-2.6</b>
<b>Other comprehensive income for the year</b>		<b>339.6</b>	<b>115.8</b>
<b>Total comprehensive income for the year</b>		<b>926.7</b>	<b>755.4</b>
Of which: attributable to Freudenberg		881.1	734.3
Of which: attributable to non-controlling interests		45.6	21.1

# CONSOLIDATED STATEMENT OF CASH FLOWS

€ million	Note	2021	2022
Profit before taxes		778.2	857.0
Depreciation, amortization and impairment losses on intangible assets, tangible assets, investment properties and financial assets less write-ups		510.2	554.9
Income from investments and interest income		-39.1	-59.5
Income taxes paid		-205.2	-343.1
Profit or loss on disposal of intangible assets, tangible assets, investment properties and financial assets		-10.6	20.5
Dividends received		32.2	63.4
Other expenditure and income not affecting payments		35.6	12.1
Changes in inventories, trade receivables and other assets		-426.2	-587.3
Changes in trade payables and other liabilities		128.1	179.1
Changes in provisions		98.7	-50.1
Interest paid		-51.9	-58.5
Interest received		11.8	19.2
<b>Cash flow from operating activities</b>	<b>(28)</b>	<b>861.8</b>	<b>607.7</b>
Cash inflow from disposals of intangible assets, tangible assets and investment properties		44.0	14.0
Cash outflow from acquisitions of intangible assets, tangible assets and investment properties		-304.8	-401.5
Cash inflow from disposals of financial assets		7.5	7.0
Cash outflow from acquisitions of financial assets		-20.6	-4.1
Cash inflow in connection with the disposal of consolidated companies or other business units less cash disposed of		18.5	0.7
Cash outflows in connection with the acquisition of consolidated companies or other business units less cash acquired		-278.1	-50.3
<b>Cash flow from investing activities</b>		<b>-533.5</b>	<b>-434.2</b>
Dividend payments to shareholders/non-controlling interests	(29)	-138.7	-137.3
Payments from transactions with non-controlling interests		4.0	-2.2
Cash inflow from the take-up of financial debts		412.6	196.1
Cash outflow from the repayment of financial debts		-470.9	-575.7
Cash inflow from disposals of loans and securities held as non-current assets		2.7	9.7
Cash outflow from acquisitions of loans and securities held as non-current assets		-7.2	-12.8
<b>Cash flow from financing activities</b>		<b>-197.5</b>	<b>-522.2</b>
<b>Changes in cash and cash equivalents with effect on payments</b>	<b>(31)</b>	<b>130.8</b>	<b>-348.7</b>
Changes in cash and cash equivalents from changes in consolidated group		0.0	0.0
Changes in cash and cash equivalents from exchange rate differences		34.6	-10.2
<b>Cash and cash equivalents at beginning of year</b>		<b>2,021.4</b>	<b>2,186.8</b>
<b>Cash and cash equivalents at end of year</b>		<b>2,186.8</b>	<b>1,827.9</b>



## 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, 2021</b>	<b>450.0</b>	<b>50.2</b>	<b>-296.3</b>	<b>-456.3</b>	<b>13.5</b>	<b>75.9</b>
Changes in consolidated group						
Consolidated profit						
Appropriation of profit						
Other comprehensive income			189.2	81.2	-1.3	70.2
<b>Status Dec. 31, 2021</b>	<b>450.0</b>	<b>50.2</b>	<b>-107.1</b>	<b>-375.1</b>	<b>12.2</b>	<b>146.1</b>
<b>Status Jan. 1, 2022</b>	<b>450.0</b>	<b>50.2</b>	<b>-107.1</b>	<b>-375.1</b>	<b>12.2</b>	<b>146.1</b>
Changes in consolidated group						
Consolidated profit						
Appropriation of profit						
Other comprehensive income			-46.5	184.1	-3.4	19.4
<b>Status Dec. 31, 2022</b>	<b>450.0</b>	<b>50.2</b>	<b>-153.6</b>	<b>-191.0</b>	<b>8.8</b>	<b>165.5</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, 2021</b>	<b>129.1</b>	<b>5,373.5</b>	<b>4,839.4</b>	<b>5,339.6</b>	<b>356.5</b>	<b>5,696.1</b>
Changes in consolidated group		-0.7	-0.7	-0.7	7.1	6.4
Consolidated profit		558.1	558.1	558.1	29.0	587.1
Appropriation of profit		-101.5	-101.5	-101.5	-37.2	-138.7
Other comprehensive income	-30.6	14.3	323.0	323.0	16.6	339.6
<b>Status Dec. 31, 2021</b>	<b>98.5</b>	<b>5,843.7</b>	<b>5,618.3</b>	<b>6,118.5</b>	<b>372.0</b>	<b>6,490.5</b>
<b>Status Jan. 1, 2022</b>	<b>98.5</b>	<b>5,843.7</b>	<b>5,618.3</b>	<b>6,118.5</b>	<b>372.0</b>	<b>6,490.5</b>
Changes in consolidated group		-0.6	-0.6	-0.6	0.0	-0.6
Consolidated profit		626.5	626.5	626.5	13.1	639.6
Appropriation of profit		-93.5	-93.5	-93.5	-43.8	-137.3
Other comprehensive income	-58.9	13.1	107.8	107.8	8.0	115.8
<b>Status Dec. 31, 2022</b>	<b>39.6</b>	<b>6,389.2</b>	<b>6,258.5</b>	<b>6,758.7</b>	<b>349.3</b>	<b>7,108.0</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, and construction 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 2022 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, 2022). Freudenberg SE, Weinheim, Germany, is included in the consolidated financial statements of Freudenberg & Co. Kommanditgesellschaft, Weinheim, Germany, which are published in the “Unternehmensregister” (Business Register).

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 applied for the first time in the reporting year

In the 2022 financial year, the application of the following amended and new standards was binding for the first time:

Standards/Amendments	Designation	Impact
IAS 16	Amendments to IAS 16 – Property, Plant and Equipment: Proceeds before Intended Use	No material impact
IAS 37	Amendments to IAS 37 – Onerous Contracts: Cost of Fulfilling a Contract	No material impact
IFRS 3	Amendments to IFRS 3 – Reference to the Conceptual Framework	No material impact
Various standards	Annual Improvements to IFRS Standards 2018–2020	No material impact

### Accounting standards published but not yet applied

The following 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
IAS 1	Amendments to IAS 1 – Classification of Liabilities as Current or Non-current	January 1, 2024	No	No material impact
IAS 1	Amendments to IAS 1 – Non-current Liabilities with Covenants	January 1, 2024	No	No material impact
IAS 8	Amendments to IAS 8 – Definition of Accounting Estimates	January 1, 2023	Yes	No material impact
IAS 12	Amendments to IAS 12 – Deferred Tax related to Assets and Liabilities arising from a Single Transaction	January 1, 2023	Yes	No material impact
IFRS 16	Amendments to IFRS 16 – Lease Liability in a Sale and Leaseback	January 1, 2024	No	No material impact
IFRS 17	Insurance Contracts, including Amendments to IFRS 17	January 1, 2023	Yes	No material impact
IFRS 17	Amendments to IFRS 17 – Initial Application of IFRS 17 and IFRS 9: Comparative Information	January 1, 2023	Yes	No material impact
Various standards	Amendments to IAS 1 and IFRS Practice Statement 2 – Disclosure of Accounting Policies	January 1, 2023	Yes	No material impact

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

## Consolidated group

Apart from Freudenberg SE, 57 German (previous year: 61) and 346 foreign (previous year: 359) **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, Wolf-ratshausen, 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, 1 German (previous year: 1) and 12 foreign (previous year: 12) **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: 9) **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, 4 companies were included in the consolidated financial statements as fully consolidated affiliated companies for the first time. 21 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 is 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

In December 2022, SurTec International GmbH, Bensheim, Germany, acquired all the shares in omniTECHNIK Mikroverkapselungs GmbH, Munich, Germany ("omniTECHNIK"). The transaction also includes the acquisition of all the shares in Precote USA LLC., East Lansing, Michigan, USA, by SurTec Inc., Upper Arlington, Ohio, USA. SurTec is a division of the Freudenberg Chemical Specialities Business Group. omniTECHNIK is a globally active specialist in the field of reactive and non-reactive coatings for fasteners. The company is fully consolidated as part of the Freudenberg Group. From the Group point of view, this acquisition was not material. As the acquisition took place late in the financial year, the purchase price allocation is still provisional.

The consideration transferred for all acquisitions which were not material from the Group point of view ran into the mid-double-digit range in millions of euros. In 2022, assets totaling about €31.4 million were acquired as a result of all the acquisitions classed as not material. The resulting goodwill is classed as of secondary importance. As a result of the dates of the acquisitions, the acquisitions, which were not material from the Group point of view, had no material effect on Group sales.

The purchase price allocations for the acquisition of PPA Holdings Inc, Indianapolis, Indiana, USA, and R.P.S. Products, Inc., Hampshire, Illinois, USA, which had not been finalized as at December 31, 2021, were reviewed in the year under review. There were no material changes.

### 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, 2022. 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	10 to 12 years on average
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 of disposal and the value in use of the group of cash-generating units.

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 five years. The fair value less costs of disposal is determined using an appropriate measurement model. This is based on measurement multipliers, discounted cash flow measurement models, prices quoted on exchanges or other indicators of fair value which are available. The discount rates used for the determination of the fair value 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 installation, 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. 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.

On first recognition, receivables and other financial assets are measured at fair value. Fair value normally corresponds to the consideration to be received for goods or services transferred to the customer. Subsequent measurements of such assets are effected at amortized

cost using the effective interest method. Long-term receivables are only discounted if the amount of such discount is significant. A loss allowance is recognized on the basis of the expected loss model. Further information on the expected loss model is given in note (13).

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 on contract assets, 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 for 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 disclosed and measured in accordance with IFRS 9 except where another more specific standard is applicable. Liabilities are normally measured at fair value less transaction costs. Subsequent measurements of financial liabilities are normally effected in accordance with IFRS 9 at amortized cost using the effective interest method.

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. The remeasurement depends on exchange rate changes, adjustments to corporate planning assumptions and the discount rate. 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. Control of an asset refers to the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset.

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 control 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 normally no

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 obligations 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. In the consolidated statement of cash flows, interest paid and interest received are allocated to cash flow from operating activities.

### **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 guarantees and warranties, restructuring, environmental risks 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 three 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 normally 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.

As a result of the assessment that Argentina is a hyperinflation country, our activities in Argentina have been reported in accordance with IAS 29 since January 1, 2018. Such reporting had no material impact on the net assets, financial position or results of operations of the Group as at December 31, 2022.

In addition to Argentina, Turkey has been classed as a hyperinflation country since the second quarter of 2022. The principles of IAS 29 have therefore also been applied to Group companies in Turkey for the first time with effect from the beginning of the 2022 financial year. Inflation adjustments were determined on the basis of the consumer price index published by the Turkish Statistical Institute (TURKSTAT). As at December 31, 2022, this index had reached the value of 1,128.45 (previous year: 686.95). From the point of view of the Group, neither first-time application nor current inflation adjustments on the basis of historic acquisition and production costs had a material impact on the net assets, financial position or results of operations of the Group as at December 31, 2022.

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. 31,2021	Dec. 31,2022	2021	2022
Brazil	BRL		6.3101	5.6386	6.3786	5.4051
China	CNY		7.1947	7.3582	7.6069	7.0744
United Kingdom	GBP		0.8403	0.8869	0.8584	0.8548
India	INR		84.2292	88.1710	87.3135	82.7154
Japan	JPY		130.3800	140.6600	130.3200	138.1390
Mexico	MXN		23.1438	20.8560	24.0516	21.0536
USA	USD		1.1326	1.0666	1.1816	1.0500

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, 2021:

[€ 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, 2021</b>	<b>4.1</b>	<b>1,968.3</b>	<b>1,886.8</b>	<b>1.8</b>	<b>3.5</b>	<b>3,864.5</b>
Changes in consolidated group	0.0	58.4	180.9	0.0	0.0	239.3
Exchange rate differences	0.4	34.9	47.7	0.0	-0.1	82.9
Additions	0.1	6.3	0.0	1.1	3.5	11.0
Disposals	0.0	-7.6	-1.2	0.0	0.0	-8.8
Reclassifications <sup>2</sup>	-0.1	2.6	0.0	-0.3	-1.2	1.0
<b>Status Dec. 31, 2021</b>	<b>4.5</b>	<b>2,062.9</b>	<b>2,114.2</b>	<b>2.6</b>	<b>5.7</b>	<b>4,189.9</b>
<b>AMORTIZATION</b>						
<b>Status Jan. 1, 2021</b>	<b>3.4</b>	<b>982.5</b>	<b>212.8</b>	<b>0.0</b>	<b>0.0</b>	<b>1,198.7</b>
Changes in consolidated group	0.0	-1.0	0.0	0.0	0.0	-1.0
Exchange rate differences	0.3	23.8	8.6	0.0	0.0	32.7
Additions - systematic	0.1	108.8	0.0	0.0	0.0	108.9
Impairment losses	0.0	14.8	0.0	0.0	0.0	14.8
Disposals	0.0	-7.4	-1.1	0.0	0.0	-8.5
<b>Status Dec. 31, 2021</b>	<b>3.8</b>	<b>1,119.5</b>	<b>220.3</b>	<b>0.0</b>	<b>0.0</b>	<b>1,343.6</b>
<b>Book value Dec. 31, 2021</b>	<b>0.7</b>	<b>943.4</b>	<b>1,893.9</b>	<b>2.6</b>	<b>5.7</b>	<b>2,846.3</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 items in the statement of financial position.

Changes in intangible assets from January 1 to December 31, 2022:

[€ 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, 2022</b>	<b>4.5</b>	<b>2,062.9</b>	<b>2,114.2</b>	<b>2.6</b>	<b>5.7</b>	<b>4,189.9</b>
Changes in consolidated group	0.0	17.2	9.8	0.1	0.0	27.1
Exchange rate differences	0.2	3.2	9.2	0.0	-0.1	12.5
Additions	0.1	8.1	0.0	1.3	2.8	12.3
Disposals	0.0	-17.8	0.0	0.0	-0.2	-18.0
Reclassifications <sup>2</sup>	0.0	8.5	0.0	-1.6	-6.4	0.5
<b>Status Dec. 31, 2022</b>	<b>4.8</b>	<b>2,082.1</b>	<b>2,133.2</b>	<b>2.4</b>	<b>1.8</b>	<b>4,224.3</b>
<b>AMORTIZATION</b>						
<b>Status Jan. 1, 2022</b>	<b>3.8</b>	<b>1,119.5</b>	<b>220.3</b>	<b>0.0</b>	<b>0.0</b>	<b>1,343.6</b>
Changes in consolidated group	0.0	-0.4	0.0	0.0	0.0	-0.4
Exchange rate differences	0.2	2.9	-0.9	0.0	0.0	2.2
Additions – systematic	0.1	110.5	0.0	0.0	0.0	110.6
Impairment losses	0.0	24.3	17.4	0.0	0.0	41.7
Disposals	0.0	-17.1	0.0	0.0	0.0	-17.1
<b>Status Dec. 31, 2022</b>	<b>4.1</b>	<b>1,239.7</b>	<b>236.8</b>	<b>0.0</b>	<b>0.0</b>	<b>1,480.6</b>
<b>Book value Dec. 31, 2022</b>	<b>0.7</b>	<b>842.4</b>	<b>1,896.4</b>	<b>2.4</b>	<b>1.8</b>	<b>2,743.7</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 items in the statement of financial position.

The impairment losses with respect to concessions, licenses and others recognized in the year under review chiefly concern technologies. They are the result of a revised assessment of the future usefulness of these assets.

Goodwill was subjected to an impairment test in the 2022 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 ranging from 0.5 to 2.0 percent (previous year: 0.5 to 2.0 percent) and pre-tax WACCs ranging from 7.2 percent to 15.6 percent (previous year: ranging from 6.3 percent to 10.0 percent). On this basis, it was not necessary to recognize any impairment of goodwill,

except in the case of the group of cash-generating units of Freudenberg e-Power Systems. This impairment was the result of lower expectations concerning medium-term earnings and a challenging market environment. On the basis of a WACC of 15.6 percent and the growth rate mentioned above, an impairment loss of €23.1 million was recognized.

The three significant goodwill items are assigned to the groups of cash-generating units Vibracoustic, Freudenberg Filtration Technologies and Freudenberg Sealing Technologies. The WACCs used for the impairment test were 10.6 percent (previous year: 7.3 percent) for Vibracoustic, 10.5 percent for Freudenberg Filtration Technologies (previous year: 8.1 percent) and 11.5 percent (previous year: 10.0 percent) for Freudenberg Sealing Technologies. The assumed sustainable

growth rate for all three groups of cash-generating units 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. 31,2021	Dec. 31,2022
Vibracoustic	835.9	835.9
Freudenberg Filtration Technologies	256.0	259.6
Freudenberg Sealing Technologies	218.7	183.8

The sales of Vibracoustic rose in 2022 compared with the previous year. It is expected that global light vehicle production will increase in 2023 compared with the previous year. This figure will still be below the production level recorded in the pre-crisis year of 2019. The operational planning for Vibracoustic assumes growth in sales in 2023.

Freudenberg Filtration Technologies benefited from growth in industrial and automotive business in 2022. The “Residential & Commercial” division, newly established in 2021 with the acquisition of two manufacturers of residential and filters in the USA also contributed to the growth in sales in 2022. To date, the post-merger integration project has proceeded to schedule. The company’s plans for 2023 assume growth in the sales of Freudenberg Filtration Technologies.

Despite significant disruptions in purchasing markets and global supply chains, Freudenberg Sealing Technologies completed the 2022 financial year with organic growth in sales above the pre-crisis level. In April 2023, the former Battery and Fuel Cell Systems division of Freudenberg Sealing Technologies together with the appropriate goodwill was hived off into an independent Business Group under the name of Freudenberg e-Power Systems. Although the raw materials and energy supply situation had stabilized at the end of 2022/beginning of 2023, the resulting challenges and especially high inflation will remain the determining factors for business in 2023. The demand for high-quality sealing solutions is developing positively and in overall terms a slight growth in business volume is expected in 2023.

In the case of a variation in the WACC of up to +1.0 percentage points or a variation in the sustainable growth rate of up to -1.0 percentage points, it would have been necessary to recognize further impairments of all remaining goodwill in the amount of €20.1 million for the group of cash-generating units of Japan Vilene Company and €23.1 million for the group of cash-generating units of Freudenberg e-Power Systems. There would have been no need for impairment with respect to other goodwill items.



## (2) Tangible assets

Changes in tangible assets from January 1 to December 31, 2021:

[€ 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, 2021</b>	<b>2,123.2</b>	<b>3,953.5</b>	<b>963.3</b>	<b>34.8</b>	<b>153.1</b>	<b>7,227.9</b>
Changes in consolidated group	22.3	10.3	2.3	0.0	0.7	35.6
Exchange rate differences	64.0	107.8	13.9	1.1	6.2	193.0
Additions	60.1	62.5	66.2	34.3	151.3	374.4
Disposals	-53.8	-90.3	-66.3	-3.7	-4.7	-218.8
Reclassifications <sup>1</sup>	56.4	103.8	19.7	-29.8	-153.1	-3.0
<b>Status Dec. 31, 2021</b>	<b>2,272.2</b>	<b>4,147.6</b>	<b>999.1</b>	<b>36.7</b>	<b>153.5</b>	<b>7,609.1</b>
<b>DEPRECIATION</b>						
<b>Status Jan. 1, 2021</b>	<b>917.4</b>	<b>2,865.6</b>	<b>722.9</b>	<b>0.1</b>	<b>2.5</b>	<b>4,508.5</b>
Changes in consolidated group	1.1	5.0	1.0	0.0	0.0	7.1
Exchange rate differences	23.7	69.3	10.5	0.0	0.2	103.7
Addition – systematic	113.7	181.4	83.8	0.0	0.0	378.9
Addition - impairment	2.9	3.2	0.5	0.0	3.6	10.2
Write-ups	-0.7	-0.9	-0.1	-0.1	0.0	-1.8
Disposals	-26.9	-76.8	-60.9	0.0	-0.1	-164.7
Reclassifications <sup>1</sup>	-2.0	-0.1	-0.2	0.0	0.0	-2.3
<b>Status Dec. 31, 2021</b>	<b>1,029.2</b>	<b>3,046.7</b>	<b>757.5</b>	<b>0.0</b>	<b>6.2</b>	<b>4,839.6</b>
<b>Book value Dec. 31, 2021</b>	<b>1,243.0</b>	<b>1,100.9</b>	<b>241.6</b>	<b>36.7</b>	<b>147.3</b>	<b>2,769.5</b>

<sup>1</sup> The transfers also include reclassifications to other items in the statement of financial position.

Changes in tangible assets from January 1 to December 31, 2022:

[€ 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, 2022</b>	<b>2,272.2</b>	<b>4,147.6</b>	<b>999.1</b>	<b>36.7</b>	<b>153.5</b>	<b>7,609.1</b>
Changes in consolidated group	-3.5	0.2	0.4	0.0	-0.2	-3.1
Exchange rate differences	12.5	25.9	4.5	0.2	1.5	44.6
Additions	111.5	93.8	73.8	41.5	196.8	517.4
Disposals	-46.4	-117.9	-69.9	-1.1	-1.2	-236.5
Reclassifications <sup>1</sup>	13.9	118.1	18.1	-19.5	-130.6	0.0
<b>Status Dec. 31, 2022</b>	<b>2,360.2</b>	<b>4,267.7</b>	<b>1,026.0</b>	<b>57.8</b>	<b>219.8</b>	<b>7,931.5</b>
<b>DEPRECIATION</b>						
<b>Status Jan. 1, 2022</b>	<b>1,029.2</b>	<b>3,046.7</b>	<b>757.5</b>	<b>0.0</b>	<b>6.2</b>	<b>4,839.6</b>
Changes in consolidated group	-1.9	-0.2	-0.3	0.0	0.0	-2.4
Exchange rate differences	5.8	13.8	3.9	0.0	0.1	23.6
Addition – systematic	120.1	189.9	85.6	0.0	0.0	395.6
Addition - impairment	0.3	5.6	0.1	0.0	0.1	6.1
Write-ups	0.0	-0.7	-0.1	0.0	0.0	-0.8
Disposals	-32.8	-109.7	-65.2	0.0	-0.6	-208.3
Reclassifications <sup>1</sup>	0.0	0.6	-0.8	0.0	0.0	-0.2
<b>Status Dec. 31, 2022</b>	<b>1,120.7</b>	<b>3,146.0</b>	<b>780.7</b>	<b>0.0</b>	<b>5.8</b>	<b>5,053.2</b>
<b>Book value Dec. 31, 2022</b>	<b>1,239.5</b>	<b>1,121.7</b>	<b>245.3</b>	<b>57.8</b>	<b>214.0</b>	<b>2,878.3</b>

<sup>1</sup> The transfers also include reclassifications to other items in the statement of financial position.

For impairments of tangible assets, Freudenberg received compensation totaling €7.6 million (previous year: €0.1 million) in the year under review. The impairments were largely due to natural catastrophes.

During the year under review, Freudenberg received government grants in the amount of €0.2 million (previous year: €3.3 million).

### Additional disclosures on leased assets – right-of-use assets

As a result of the application of IFRS 16, Freudenberg recognizes right-of-use assets in respect of leased assets. The following amounts are recognized in the statement 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	438.1	74.5	30.1	9.2	551.9
Of which: additions	51.2	20.8	7.1	1.4	80.5
Depreciation	159.2	40.6	14.0	4.8	218.6
<b>Book Value Dec. 31, 2021</b>	<b>278.9</b>	<b>33.9</b>	<b>16.1</b>	<b>4.4</b>	<b>333.3</b>

[€ million]	Land and buildings	Passenger cars	Forklift trucks	IT infrastructure	Total
Acquisition/Production cost	524.6	76.9	33.6	10.3	645.4
Of which: additions	97.9	22.0	5.5	2.5	127.9
Depreciation	212.2	44.2	18.9	5.7	281.0
<b>Book Value Dec. 31, 2022</b>	<b>312.4</b>	<b>32.7</b>	<b>14.7</b>	<b>4.6</b>	<b>364.4</b>

In the 2022 financial year, the interest expense for leased assets amounted to €6.2 million (previous year: €6.9 million). In addition, expenses for leased assets of low value and short-term leases were recognized in the statement of profit or loss in the amount of €19.3 million (previous year: €19.2 million). The total cash outflow for leasing in 2022 was €127.0 million (previous year: €118.6 million).

### (3) Investment properties

Details of land and buildings held by Freudenberg as investment properties are shown in the table below:

[€ million]	2021	2022
Rent income	5.3	5.3

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.

There were no significant direct operating expenses in the year under review or in the previous year.

Changes in investment properties from January 1 to December 31:

[€ million]	2021	2022
<b>ACQUISITION/PRODUCTION COST</b>		
<b>Status Jan. 1</b>	<b>56.6</b>	<b>55.2</b>
Exchange rate differences	0.1	0.0
Additions	0.1	0.0
Disposals	-1.6	0.0
<b>Status Dec. 31</b>	<b>55.2</b>	<b>55.2</b>
<b>DEPRECIATION</b>		
<b>Status Jan. 1</b>	<b>39.9</b>	<b>41.3</b>
Additions - systematic	1.7	1.7
Disposals	-0.3	0.0
<b>Status Dec. 31</b>	<b>41.3</b>	<b>43.0</b>
<b>Book value Dec. 31</b>	<b>13.9</b>	<b>12.2</b>

The fair value of investment properties was €31.6 million (previous year: €43.4 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

servicing 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, 2021	Dec. 31, 2022
Current assets	326.5	326.8
Of which: cash and cash equivalents	111.3	126.4
Non-current assets	279.5	283.4
Current liabilities	146.3	131.3
Of which: current financial liabilities	14.3	12.5
Non-current liabilities	14.8	16.6
<b>Equity without non-controlling interests</b>	<b>444.9</b>	<b>462.3</b>
Freudenberg share	50.0 %	50.0 %
Pro-rata share in equity	222.4	231.2
<b>At-equity measurement</b>	<b>222.4</b>	<b>231.2</b>

	2021	2022
<b>Sales</b>	<b>522.3</b>	<b>529.6</b>
Profit or loss from continuing operations	50.8	45.1
Other comprehensive income	29.1	-6.6
<b>Total comprehensive income</b>	<b>79.9</b>	<b>38.5</b>
Of which: depreciation and amortization	-26.7	-29.6
Of which: interest income	0.8	1.7
Of which: interest expenses	-1.4	-1.1
Of which: income tax expense or income	-19.7	-18.5

Freudenberg received a dividend amounting to €8.4 million (previous year: €0.0 million) from NOK-Freudenberg Singapore Pte. Ltd

The total carrying amount of interests in all individual joint ventures which are not material was €11.9 million (previous year: €11.3 million).

The pro-rata share of the profit or loss from continuing operations of all individual joint ventures classed as not material was €0.8 million (previous year: €0.6 million) and the pro-rata share in other comprehensive income was €0.2 million (previous year: €0.3 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 provided the following figures in its consolidated interim financial statements as at December 31:

[€ million]	NOK Corporation	
	Dec. 31, 2021	Dec. 31, 2022
Current assets	2,965.9	2,916.5
Non-current assets	3,403.4	3,159.2
Current liabilities	1,511.1	1,374.6
Non-current liabilities	802.6	738.7
Treasury shares	-1.8	-17.5
Non-controlling interests	377.5	378.6
<b>Equity without treasury shares and non-controlling interests</b>	<b>3,679.9</b>	<b>3,601.3</b>
Freudenberg share	25.1%	25.1%
Pro-rata share in equity	923.7	903.9
Goodwill	7.1	7.1
<b>At-equity measurement</b>	<b>930.8</b>	<b>911.0</b>

	2021	2022
<b>Sales</b>	<b>5,118.3</b>	<b>5,186.6</b>
Profit or loss from continuing operations	179.4	179.4
Other comprehensive income	316.0	135.4
<b>Total comprehensive income</b>	<b>495.4</b>	<b>314.8</b>

The fall in the other comprehensive income of NOK Corporation is chiefly due to the negative developments in securities.

Freudenberg received dividends in the amount of €18.1 million (previous year: €12.6 million) from NOK Corporation.

As at December 31, 2022, the market value of the shareholding in NOK Corporation was €362.7 million (¥51,019.1 million) (previous year: €417.3 million; ¥54,408.8 million).

The total carrying amount of interests in all associated companies classed as not material was €33.2 million (previous year: €32.1 million).

The pro-rata share in the profit or loss from continuing operations of all individual associated companies classed as not material was €6.0 million (previous year: €4.6 million) and the pro-rata share in the other comprehensive income of these companies was €-0.7 million (previous year: €1.1 million). The pro-rata share in the total comprehensive income was therefore €5.3 million (previous year: €5.7 million).

**(6) Inventories**

Inventories break down as follows:

[€ million]	Dec. 31,2021	Dec. 31,2022
Raw materials and consumables	507.9	653.5
Work in progress	193.1	225.1
Finished goods and merchandise	736.8	878.1
Customer-specific tools in construction	80.2	72.7
Payments made on account	5.4	5.8
	<b>1,523.4</b>	<b>1,835.2</b>

Inventories rose by €311.8 million compared with the previous year. After eliminating the effects of changes in the consolidated group and exchange rate effects, inventories increased by about 19 percent.

Write-downs of inventories totaling €57.6 million (previous year: €34.6 million) were recognized as expenses in the reporting year.

Write-ups totaling €27.4 million (previous year: €25.7 million) were recognized as the reason for the impairment losses concerned no longer existed in accordance with the requirement to reverse write-downs.

The inventories shown are not subject to any significant restrictions on title or disposal.

**(7) Receivables**

[€ million]	Dec. 31,2021	Dec. 31,2022
<b>Trade receivables</b>	<b>1,527.3</b>	<b>1,810.7</b>
Of which: Residual term up to 1 year	1,527.3	1,810.7
<b>Other assets</b>	<b>314.2</b>	<b>322.3</b>
Of which: Residual term up to 1 year	208.8	261.1
Of which: Residual term more than 1 year	105.4	61.2

After adjustment for effects resulting from changes in the consolidated group and exchange rate effects, trade receivables rose by about 18 percent.

Contract assets have not been disclosed as a separate item but under other assets in the statement of financial position, because the amount concerned was not material. As at December 31, 2022, contract assets amounted to €8.6 million (previous year: €9.0 million). Changes in contract assets are mainly the result of the satisfaction of performance obligations laid down in contracts with customers. Contract assets are normally a result of contracts meeting the requirements for the realization of sales over time.

The other assets include pension plan assets in excess of the corresponding pension obligations amounting to €7.8 million (previous year: €25.6 million).

The other assets also include other tax receivables in the amount of €100.2 million (previous year: €86.4 million) and liability insurance claims totaling €4.4 million (previous year: €4.6 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) Cash and cash equivalents

[€ million]	Dec. 31,2021	Dec. 31,2022
Securities	180.6	161.1
Checks and cash in hand	1.5	2.1
Cash at banks	2,004.7	1,664.7
	<b>2,186.8</b>	<b>1,827.9</b>

Liquidity was reduced slightly, especially as a result of the repayment of certificates of indebtedness and the financing of acquisitions.

### (9) Assets and groups of assets held for sale

As at December 31, 2022 (as in the previous year), no assets or liabilities were classified as held for sale.



## (10) Equity

The subscribed capital in an 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. 31,2021	Dec. 31,2022
Capital reserves	50.2	50.2
Retained earnings	5,618.3	6,258.5
	<b>5,668.5</b>	<b>6,308.7</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 €93.5 million (previous year: €101.5 million). This corresponded to a profit per share of €0.21 (previous year: €0.23).

The Board of Management proposes that the 2021 net retained profit in the amount of €3,551.1 million (previous year: €3,090.7 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. 31,2021	Dec. 31,2022
Exchange rate differences	-0.5	5.3
	<b>-0.5</b>	<b>5.3</b>

In the 2022 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. 31,2021	Dec. 31,2022
Remeasurement of defined benefit plans	-24.5	-53.2
Securities and other items	-6.8	-4.1
	<b>-31.3</b>	<b>-57.3</b>

## Non-controlling interests

The change in non-controlling interests in the equity of consolidated affiliated companies from €372.0 million to €349.3 million was mainly the result of dividends paid. These were offset by the allocation of profit for the year and exchange rate differences.

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, Wilmington, Delaware, USA	Dec. 31,2021	Dec. 31,2022
Profit (+)/loss (-) attributable to non-controlling interests	14.0	20.0
Total amount of non-controlling interests	135.5	159.7

This affiliated company is included in the consolidated financial statements with the following values:

[€ million]		
Freudenberg-NOK General Partnership, Wilmington, Delaware, USA	Dec. 31,2021	Dec. 31,2022
Current assets	381.7	520.3
Non-current assets	293.8	306.5
Current liabilities	115.1	127.5
Non-current liabilities	32.2	32.2

	2021	2022
Sales	629.0	810.2
Profit (+)/loss (-)	56.2	127.5
Total comprehensive income	95.5	159.1

Freudenberg-NOK General Partnership, Wilmington, Delaware, USA, paid dividends in the amount of €5.0 million (previous year: €3.9 million) to the holder of the non-controlling interests.

Other non-controlling interests especially concern the EagleBurgmann Business Group, where they arise 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 the 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 €83.9 million in 2022 (previous year: €76.1 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, 2021	Dec. 31, 2022
Germany	1.10 %	3.70 %
Japan	0.55 %	1.51 %
United Kingdom	1.93 %	4.80 %

In the case of the other foreign companies, the discount rates ranged from 1.5 to 10.2 percent (previous year: 0.1 to 2.6 percent).

The Heubeck 2018 G actuarial tables were used in the case of the German companies. A uniform trend in salaries and pensions of 2.5 percent was defined for the relevant pension plans. 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. 31,2021	Dec. 31,2022
Provisions for pensions and similar obligations	808.8	604.9
Other assets	25.6	7.8
	<b>783.2</b>	<b>597.1</b>

Net obligations are calculated as follows:

[€ million]	Dec. 31,2021	Dec. 31,2022
Present value of funded obligations	514.5	345.9
Fair value of plan assets	-515.7	-346.8
<b>Surplus (-)/deficit (+)</b>	<b>-1.2</b>	<b>-0.9</b>
Present value of unfunded obligations	784.4	598.0
	<b>783.2</b>	<b>597.1</b>

Defined benefit obligations developed as follows:

[€ million]	Germany	Japan	United Kingdom	Miscellaneous	2021
<b>Present value of defined benefit obligations, Jan. 1, 2021</b>	<b>785.4</b>	<b>129.0</b>	<b>330.3</b>	<b>112.8</b>	<b>1,357.5</b>
Current service cost	16.6	3.8	0.0	5.2	25.6
Interest cost	6.4	0.6	4.3	1.5	12.8
Gains (-) and losses (+) from remeasurement of defined benefit obligations	-59.8	-1.0	-13.5	-3.0	-77.3
Gains (-) and losses (+) on settlements	0.0	0.0	0.0	-0.1	-0.1
Past service cost	0.0	0.0	0.0	0.0	0.0
Contributions by plan participants	0.0	0.0	0.0	0.4	0.4
Liabilities extinguished on settlements	0.0	0.0	0.0	-0.2	-0.2
Benefits paid	-20.3	-4.9	-12.3	-6.0	-43.5
Changes in consolidated group	0.0	0.0	0.0	-2.2	-2.2
Other changes	0.5	0.0	0.0	2.9	3.4
Exchange rate differences	0.0	-3.8	23.1	3.2	22.5
<b>Present value of defined benefit obligations, Dec. 31, 2021</b>	<b>728.8</b>	<b>123.7</b>	<b>331.9</b>	<b>114.5</b>	<b>1,298.9</b>

[€ million]	Germany	Japan	United Kingdom	Miscellaneous	2022
<b>Present value of defined benefit obligations, Jan. 1, 2022</b>	<b>728.8</b>	<b>123.7</b>	<b>331.9</b>	<b>114.5</b>	<b>1,298.9</b>
Current service cost	15.9	3.6	0.0	5.2	24.7
Interest cost	7.2	0.6	5.6	2.2	15.6
Gains (-) and losses (+) from remeasurement of defined benefit obligations	-196.0	-9.2	-99.4	-15.0	-319.6
Gains (-) and losses (+) on settlements	0.0	0.0	0.0	0.0	0.0
Past service cost	0.1	0.0	0.0	2.0	2.1
Contributions by plan participants	0.0	0.0	0.0	0.5	0.5
Liabilities extinguished on settlements	0.0	0.0	0.0	-0.1	-0.1
Benefits paid	-20.9	-4.8	-14.0	-12.2	-51.9
Changes in consolidated group	0.0	0.0	0.0	-2.0	-2.0
Other changes	0.0	0.0	0.0	-0.8	-0.8
Exchange rate differences	0.0	-9.0	-17.5	3.0	-23.5
<b>Present value of defined benefit obligations, Dec. 31, 2022</b>	<b>535.1</b>	<b>104.9</b>	<b>206.6</b>	<b>97.3</b>	<b>943.9</b>

The plan assets of funded pension plans developed as follows:

[€ million]	Japan	United Kingdom	Miscellaneous	2021
<b>Fair value of plan assets, Jan. 1, 2021</b>	<b>114.1</b>	<b>333.5</b>	<b>37.6</b>	<b>485.2</b>
Interest income	0.5	4.4	0.4	5.3
Gains (-) and losses (+) from remeasurement of plan assets	8.7	-1.3	1.1	8.5
Contributions by employer	6.1	4.3	2.2	12.6
Contributions by plan participants	0.0	0.0	0.4	0.4
Liabilities extinguished on settlements	0.0	0.0	-0.1	-0.1
Benefits paid	-4.7	-12.3	-2.1	-19.1
General plan administration costs	0.0	-0.1	-0.2	-0.3
Changes in consolidated group	0.0	0.0	0.0	0.0
Other changes	0.0	0.0	1.4	1.4
Exchange rate differences	-3.4	23.3	1.9	21.8
<b>Fair value of plan assets, Dec. 31, 2021</b>	<b>121.3</b>	<b>351.8</b>	<b>42.6</b>	<b>515.7</b>

[€ million]	Japan	United Kingdom	Miscellaneous	2022
<b>Fair value of plan assets, Jan. 1, 2022</b>	<b>121.3</b>	<b>351.8</b>	<b>42.6</b>	<b>515.7</b>
Interest income	0.0	6.0	0.3	6.3
Gains (-) and losses (+) from remeasurement of plan assets	-15.4	-118.1	-1.7	-135.2
Contributions by employer	0.9	4.6	3.1	8.6
Contributions by plan participants	0.0	0.0	0.5	0.5
Liabilities extinguished on settlements	0.0	0.0	0.0	0.0
Benefits paid	-0.3	-14.0	-6.4	-20.7
General plan administration costs	0.0	-0.2	0.0	-0.2
Changes in consolidated group	0.0	0.0	-1.8	-1.8
Other changes	0.5	0.0	-0.6	-0.1
Exchange rate differences	-8.9	-18.5	1.1	-26.3
<b>Fair value of plan assets, Dec. 31, 2022</b>	<b>98.1</b>	<b>211.6</b>	<b>37.1</b>	<b>346.8</b>

The fair value of plan assets with quoted prices in active markets was as follows:

[€ million]	Dec. 31,2021	Dec. 31,2022
Equity instruments	86.5	37.3
Interest-bearing securities	293.3	70.8
Other assets	106.5	216.7
	<b>486.3</b>	<b>324.8</b>

The fair value of plan assets without quoted prices in active markets was as follows:

[€ million]	Dec. 31,2021	Dec. 31,2022
Interest-bearing securities	1.8	0.3
Other assets	27.6	21.7
	<b>29.4</b>	<b>22.0</b>

In the following year, contributions in the amount of €12.4 million (previous year: €14.9 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 13.3 years (previous year: 16.6 years).

As at the end of the financial year, expected discounted pension payments as a function of the due date were as follows.

[€ million]	Dec. 31,2022
2023	48.0
2024-2027	150.8
2028-2032	219.6

In the reporting year, gains and losses from the re-measurement of the defined benefit obligations and plan assets recognized in retained earnings developed as follows:

[€ million]	2021	2022
<b>Gains (+) and losses (-) from remeasurement, Jan. 1</b>	<b>-444.5</b>	<b>-363.0</b>
Gains (+) and losses (-) from remeasurement of defined benefit obligations	77.3	319.6
Of which: as a result of changed financial assumptions	75.3	340.1
Of which: as a result of changed demographic assumptions	-1.9	2.9
Of which: as a result of experience-based adjustments	3.9	-23.4
Gains (+) and losses (-) from remeasurement of plan assets	8.5	-135.3
Reclassifications/other changes	0.1	-16.9
Exchange rate differences	-4.4	21.8
<b>Gains (+) and losses (-) from remeasurement, Dec. 31</b>	<b>-363.0</b>	<b>-173.8</b>

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 €50.6 million (previous year: €120.5 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 €62.4 million (previous year: €82.8 million) lower.

## (12) Other provisions

[€ million]	Personnel obligations	Warranties and guarantees	Restructuring	Miscellaneous	Total
<b>Status Jan. 1, 2022</b>	<b>468.1</b>	<b>104.8</b>	<b>50.0</b>	<b>300.4</b>	<b>923.3</b>
Increases	330.5	38.9	5.6	175.2	550.2
Unwinding of discount and effect of change in discount rate	-0.1	0.0	0.0	-1.4	-1.5
Amounts used	-309.0	-14.3	-14.5	-107.4	-445.2
Reversal	-25.7	-35.1	-8.7	-60.9	-130.4
Exchange rate differences	3.9	1.1	0.9	4.7	10.6
Changes in consolidated group	0.4	0.0	-0.7	-0.1	-0.4
Other changes	-4.3	0.1	0.0	7.0	2.8
<b>Status Dec. 31, 2022</b>	<b>463.8</b>	<b>95.5</b>	<b>32.6</b>	<b>317.5</b>	<b>909.4</b>
Of which: long-term	86.5	14.3	4.2	41.4	146.4
Of which: short-term	377.3	81.2	28.4	276.1	763.0
Reimbursement claims connected with provisions and shown in the statement of financial position under other assets	0.2	0.0	0.0	0.0	0.2

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 partial early retirement and provisions for termination benefits.

The provisions for guarantees and warranties concern products supplied and services rendered. Provisions for restructuring are recognized if a detailed, formal restructuring plan has been prepared and communicated to the parties concerned. The provisions cover expenditure directly connected with the measures adopted.

The miscellaneous provisions include the following items:

[€ million]	Dec. 31, 2021	Dec. 31, 2022
Commissions	34.5	38.8
Onerous contracts	42.5	28.9
Legal action	30.3	28.1
Other	193.1	221.7
<b>Total</b>	<b>300.4</b>	<b>317.5</b>



**(13) Liabilities**

[€ million]	Residual term		Dec. 31,2021	Residual term		Dec. 31,2022
	Short-term	Long-term		Short-term	Long-term	
Liabilities to banks (= financial debt)	189.3	582.6	771.9	120.3	367.5	487.8
Cash pool liabilities	125.6	0.0	125.6	114.7	0.0	114.7
Other financial debt	53.2	113.5	166.7	90.6	62.6	153.2
Lease liabilities	88.7	255.0	343.7	94.2	269.1	363.3
Shareholder's loans	402.0	300.0	702.0	412.0	300.0	712.0
Accounts of Freudenberg & Co. KG Partners	218.5	342.3	560.8	215.6	347.3	562.9
<b>Financial debt</b>	<b>1,077.3</b>	<b>1,593.4</b>	<b>2,670.7</b>	<b>1,047.4</b>	<b>1,346.5</b>	<b>2,393.9</b>
<b>Trade payables</b>	<b>1,025.7</b>	<b>0.0</b>	<b>1,025.7</b>	<b>1,203.4</b>	<b>0.0</b>	<b>1,203.4</b>
Contract liabilities	64.6	0.0	64.6	59.7	0.0	59.7
Miscellaneous liabilities	272.6	185.0	457.6	289.8	165.6	455.4
<b>Other liabilities</b>	<b>337.2</b>	<b>185.0</b>	<b>522.2</b>	<b>349.5</b>	<b>165.6</b>	<b>515.1</b>
	<b>2,440.2</b>	<b>1,778.4</b>	<b>4,218.6</b>	<b>2,600.3</b>	<b>1,512.1</b>	<b>4,112.4</b>

The average interest rate on long-term liabilities to banks is 1.03 percent (previous year: 1.03 percent). The other financial debt includes loans by third parties with an interest rate between 0.50 and 6.57 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 2023 to 2027:

[€ million]	Book value	Cash flows		
		Dec. 31,2022	2023	2024
Certificates of indebtedness	354.0	65.8	5.1	303.6

The cash pool liabilities are towards the parent company and its affiliates not included in the consolidated group of Freudenberg SE and are of a short-term nature.

Lease liabilities have been recognized since 2019 as a result of the application of IFRS 16. As at December 31, 2022, possible future cash outflows in the amount of €36.0 million (previous year: €38.5 million) were not included in lease liabilities because a lease had been concluded but not yet incepted 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 cash flows for the leasing liabilities shown in the statement of financial position break down as follows:

[€ million]	Dec. 31,2022
2023	96.8
2024-2027	208.1
2028 ff.	106.6

The loans granted by the shareholder were extended during the reporting year. Interest is payable on these loans at rates between 2.34 and 3.83 percent (previous year: between 0.75 and 3.35 percent). The long-term portion of these loans consists of two tranches of the same amount, one with a term of four years and one with a term of five years.

The interest rates applicable to deposits in accounts of Freudenberg & Co. KG Partners as at the date of the

statement of financial position vary between 0.50 and 4.20 percent depending on the individual agreements (previous year: between 0.50 and 3.00 percent). The long-term portion of these accounts has a term of between one year and five years.

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. 31,2021	Dec. 31,2022
<b>CONTINGENT LIABILITIES</b>		
Guarantees	14.9	14.6
Warranty agreements	1.4	0.6
Miscellaneous	3.9	2.6
	<b>20.2</b>	<b>17.8</b>
<b>OTHER FINANCIAL COMMITMENTS</b>		
Purchase commitments in connection with the delivery of goods and services	195.5	157.3
Purchase commitments in connection with tangible assets	72.6	85.4
Purchase commitments in connection with intangible assets	0.4	0.1
Miscellaneous	9.6	4.5
	<b>278.1</b>	<b>247.3</b>

In addition, the following contingent liabilities and other financial commitments concern joint ventures:

[€ million]	Dec. 31,2021	Dec. 31,2022
<b>CONTINGENT LIABILITIES</b>		
Warranty agreements	14.2	13.6
	<b>14.2</b>	<b>13.6</b>
<b>OTHER FINANCIAL COMMITMENTS</b>		
Purchase commitments in connection with the delivery of goods and services	0.3	1.2
	<b>0.3</b>	<b>1.2</b>

## NOTES TO THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS

### (14) Sales

[€ million]	2021	2022
Sales from sales of goods	9,807.0	11,500.9
Sales from research and development / research and development licenses	106.9	116.1
Sales from services	9.6	16.9
Sales from production-related licenses	1.3	2.3
Other sales	113.9	116.9
	<b>10,038.7</b>	<b>11,753.1</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. At Freudenberg, long-term performance obligations arise under rental and lease agreements. Further details are given in note (3).

The breakdown of sales by sectors is given below:

[€ million]	2021	2022
Automotive OEMs	3,897.0	4,593.6
Final users	1,182.9	1,439.8
Mechanical and plant engineering	1,095.0	1,162.0
Construction	628.4	739.4
Spare parts business	545.6	585.5
Textile and apparel	463.0	582.1
Medicine and pharmaceuticals	411.1	506.5
Energy and water	410.0	483.1
Chemical	254.8	270.9
Other industry sectors	1,150.9	1,390.2
	<b>10,038.7</b>	<b>11,753.1</b>

In the 2022 financial year, sales in the amount of €27.4 million (previous year: €27.4 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 €8,259.5 million (previous year: €6,904.7 million), indicates the cost of goods and services sold. Apart from individual directly attributable costs, such as personnel expenses and material expenses, overheads including depreciation/amortization as well as development expenses for customer-specific development projects are also shown under cost of sales.

### (16) Selling expenses

Selling expenses, amounting to €1,535.7 million (previous year: €1,369.2 million), include all expenses incurred in the sales area, for example personnel, advertising, carriage and packaging expenses.

### (17) Administrative expenses

In 2022, administrative expenses amounted to €702.5 million (previous year: €637.2 million). 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]	Dec. 31,2021	Dec. 31,2022
Income from recharges	21.2	20.8
Income from disposals of long term assets	21.0	7.1
Currency and exchange gains <sup>1</sup>	4.7	4.8
Income from other secondary business	1.6	2.2
Miscellaneous income	67.7	112.7
	<b>116.2</b>	<b>147.6</b>

<sup>1</sup> After offsetting of exchange rate losses.

The rise in other income is mainly due to an increase in a large number of miscellaneous income items. These chiefly include subsidies and grants (€19.1 million). Effects from the measurement of option rights, insurance reimbursements for damage which occurred in the year under review and fees are also recognized as miscellaneous income. In addition to these elements, miscellaneous other income includes a large number of individual items with low amounts such as reimbursements and rental income.

### (20) Other expenses

[€ million]	Dec. 31,2021	Dec. 31,2022
Losses resulting from disposals of non-current assets	10.4	27.6
Miscellaneous expenses	67.3	68.4
	<b>77.7</b>	<b>96.0</b>

The increase in other expenses was chiefly a result of the higher losses resulting from the disposal of intangible assets and financial assets compared with the previous year.

### (21) Income from investments in joint ventures

The income from investments in joint ventures amounted to €23.3 million (previous year: €26.0 million).

### (22) Income from investments in associated companies

The increase in income from investments in associated companies from €41.1 million to €43.2 million is a result of the higher pro rata profit of the associated company NOK Corporation, Tokyo, Japan.

### (23) Other investment result

The rise in other investment result from €14.4 million to €27.3 million was chiefly a result of the increase in investment income from shares in partnerships.

### (24) Other interest and similar income

Other interest and similar income amounted to €24.5 million (previous year: €16.6 million).

### (25) Interest and similar expenses

In 2022, interest expenses amounted to €61.7 million (previous year: €57.6 million). This item chiefly includes interest on shareholder's loans in the amount of €13.8 million (previous year: €12.4 million) and interest payable to the Partners of Freudenberg & Co. KG in the amount of €13.5 million (previous year: €10.5 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]	2021	2022
Current taxes related to the reporting period	-251.3	-269.8
Current taxes related to prior periods	-6.5	-2.3
Deferred taxes	66.7	54.7
	<b>-191.1</b>	<b>-217.4</b>

The deferred tax income related to changes in tax rates was €0.4 million (previous year: deferred tax income of €0.1 million). Deferred tax income includes income in the amount of €67.4 million (previous year: €68.0 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 €21.6 million (previous year: €13.2 million).

In the reporting year, deferred taxes related to transactions recognized directly in equity resulted in a decrease in equity of €-58.0 million (previous year: decrease in equity €-31.3 million).

As of December 31, 2022, tax losses carried forward amounted to €943.3 million (previous year: €888.8 million). Deferred tax assets were recognized in respect of tax losses carried forward totaling €161.1 million (previous year: €85.4 million). Deferred tax assets were not recognized in respect of tax losses carried forward with a total amount of €782.2 million (previous year: €803.4 million) as it is not expected that these losses will be usable. Of the tax losses carried forward, €11.4 million (previous year: €23.6 million) will be forfeited in the period up to 2032 if they are not used.

In the reporting year, tax losses carried forward totaling €13.6 million (previous year: €24.3 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. 31,2021	Deferred tax liabilities Dec. 31,2021	Deferred tax assets Dec. 31,2022	Deferred tax liabilities Dec. 31,2022
Intangible assets	30.1	252.9	36.8	235.4
Tangible assets	18.5	190.3	23.0	160.6
Financial assets	0.8	1.4	1.6	1.3
Inventories	64.0	1.5	67.1	1.8
Receivables	17.4	16.5	22.7	26.7
Other assets	2.9	2.3	7.0	2.8
Provisions for pensions and similar obligations	138.4	1.9	76.9	7.3
Other provisions	92.6	2.5	85.0	3.0
Liabilities	117.9	24.1	115.4	24.0
Other liabilities	0.8	4.9	0.4	7.0
Tax losses carried forward	16.5	0.0	29.9	0.0
	<b>499.9</b>	<b>498.3</b>	<b>465.8</b>	<b>469.9</b>
Offsetting	-167.6	-167.6	-174.8	-174.8
<b>Recognized in statement of financial position</b>	<b>332.3</b>	<b>330.7</b>	<b>291.0</b>	<b>295.1</b>

No deferred tax items were set up on temporary differences arising from shareholdings totaling €42.0 million (previous year: €43.5 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 €2,875.0 million (previous year: €2,816.0 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. 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. In the year under review, the other tax effects chiefly included a positive effect from the reassessment of the usability of tax losses carried forward.

[€ million]	2021	2022
Profit before income taxes	778.2	857.0
<b>Expected income tax expense (-)/ income (+)</b>	<b>-233.5</b>	<b>-257.1</b>
Different tax rates:		
In Germany	-0.1	-0.2
In other countries	50.9	57.2
Tax portion of:		
Non-taxable income	43.3	49.8
Non-deductible expenses	-42.5	-59.1
Current taxes related to prior periods	-9.5	-6.5
Tax portion of new tax losses carried forward for which no deferred tax assets were recognized	-22.0	-16.1
Tax portion of tax losses carried forward and used for which no deferred tax assets were recognized	3.4	4.0
Other taxation effects	18.9	10.6
<b>Actual income tax expense</b>	<b>-191.1</b>	<b>-217.4</b>
Effective tax rate (percent)	24.6	25.4

**(27) Profit or loss attributable to non-controlling interests**

[€ million]	2021	2022
Profit	59.0	74.5
Loss	-30.0	-61.4
	<b>29.0</b>	<b>13.1</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 €8.7 million (previous year: €0.4 million) and dividends received from associated companies totaling €22.3 million (previous year: €16.8 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]	2021	With effect on payments	Without effect on payments				2022
			Addition	Acquisitions / Disposals	Exchange rate effects	Others	
Liabilities to banks	771.9	-275.5	0.0	0.0	-8.6	0.0	487.8
Liabilities from cash pool	125.6	-10.2	0.0	0.0	0.0	-0.7	114.7
Leasing liabilities	343.7	-100.8	116.3	0.9	3.6	-0.4	363.3
Other financial debt	166.7	-5.2	0.0	0.0	-7.2	-1.1	153.2
Shareholder's loans	702.0	10.0	0.0	0.0	0.0	0.0	712.0
Accounts of Freudenberg & Co. KG Partners	560.8	2.1	0.0	0.0	0.0	0.0	562.9
<b>Financial debt</b>	<b>2,670.7</b>	<b>-379.6</b>	<b>116.3</b>	<b>0.9</b>	<b>-12.2</b>	<b>-2.2</b>	<b>2,393.9</b>

Cash inflows from interest received and cash outflows from interest paid are included in cash flow from operating activities and are shown separately in the consolidated statement of cash flows.



**(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 €40.1 million (previous year: €1.0 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]	2021	2022
Raw materials, consumables and merchandise purchased	4,201.3	5,363.1
Services purchased	315.2	285.3
	<b>4,516.5</b>	<b>5,648.4</b>

### Workforce and personnel expenses

In the year under review, an average of 50,598 (previous year: 48,787) persons were employed in the following functions:

2022	Germany	Other countries	Total
Production	6,688	26,649	33,337
Sales	2,123	6,747	8,870
Research and development	1,927	1,900	3,827
Administration	1,391	3,173	4,564
	<b>12,129</b>	<b>38,469</b>	<b>50,598</b>

[€ million]	2021	2022
Wages and salaries	2,255.2	2,452.3
Social security contributions and costs of pensions and assistance	545.8	583.0
<b>Personnel expenses</b>	<b>2,801.0</b>	<b>3,035.3</b>

### Research and development

In the year under review, research and development activities amounting to €576.8 million (previous year: €500.2 million) were performed. The research and development activities also include development expenses for customer-specific development projects included in the cost of sales in the consolidated statement of profit or loss. Sales from research and development and research and development licenses amounted to €116.1 million (previous year: €106.9 million). In the reporting year, government grants for research and development projects totaling €15.9 million (previous year: €8.6 million) were received.

## 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 assets 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 consist 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.

In accordance with IFRS 9, financial liabilities are, as a general principle, measured at amortized cost. In such cases, the liabilities concerned are initially recognized at fair value less transaction costs. In accordance with IFRS 9, subsequent measurements are effected at amortized cost using the effective interest method. Only liabilities held for trading purposes are measured at fair value through profit or loss.

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 financial assets and liabilities.

[€ million]	At amortized cost	At fair value through other comprehensive income	At fair value through profit or loss	Book value Dec. 31, 2021
<b>ASSETS</b>				
Other financial assets	8.5	42.2	86.6	137.3
Trade receivables	1,527.3			1,527.3
Other assets	111.0		35.6	146.6
Securities and cash at bank and in hand	2,186.8			2,186.8
	<b>3,833.6</b>	<b>42.2</b>	<b>122.2</b>	<b>3,998.0</b>

<b>LIABILITIES</b>				
Financial debts <sup>1</sup>	2,670.7			2,670.7
Trade payables	1,025.7			1,025.7
Other liabilities	305.0		1.2	306.2
	<b>4,001.4</b>		<b>1.2</b>	<b>4,002.6</b>

[€ million]	At amortized cost	At fair value through other comprehensive income	At fair value through profit or loss	Book value Dec. 31, 2022
<b>ASSETS</b>				
Other financial assets	3.7	40.6	81.0	125.3
Trade receivables	1,810.7			1,810.7
Other assets	123.1		30.0	153.1
Securities and cash at bank and in hand	1,827.9			1,827.9
	<b>3,765.4</b>	<b>40.6</b>	<b>111.0</b>	<b>3,917.0</b>

<b>LIABILITIES</b>				
Financial debts <sup>1</sup>	2,393.9			2,393.9
Trade payables	1,203.4			1,203.4
Other liabilities	301.9		1.7	303.6
	<b>3,899.2</b>		<b>1.7</b>	<b>3,900.9</b>

<sup>1</sup>The financial debts include lease liabilities in the amount of €363.3 million (previous year: €343.7 million) although these are not included in the scope of IFRS9.

Certain other assets and other liabilities are shown on the statement of financial position but are not included in the table concerning financial instruments because they cannot be categorized as financial instruments in accordance with IFRS 9 or are subject to the special recognition and measurement principles applicable to hedge accounting (see information on hedging transactions). The other current and non-current assets shown in the statement of financial

position, amounting to €169.2 million (previous year: €167.6 million), mainly concern reimbursement claims with respect to other taxes, advance payments made and plan assets in excess of the corresponding pension obligations. Further details are given in note (7). The other current and non-current liabilities shown in the statement of financial position in the amount of €211.5 million (previous year: €216.0 million) chiefly concern liabilities with respect to other

taxes, contract liabilities and liabilities in connection with social security. Further details are given in note (13). Loans, receivables and debts are measured at amortized cost. The cash flows arising from these financial assets consist solely of principal and interest payments. These loans, receivables and debts 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 €35.0 million (previous year: €38.7 million) were measured on the basis of active markets for identical assets (level 1 inputs). For the remaining equity instruments, in the amount of €5.6 million (previous year: €3.5 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 year, the total amount of other financial assets recognized in other comprehensive income was €-3.2 million (previous €0.1 million). This amount recognized in other comprehensive income in the year under review does not include any effects resulting from disposals of financial instruments in this category.

The other financial instruments measured at fair value through profit or loss are debt instruments with an amount of €2.7 million (previous year: €3.2 million) with cash flows not consisting solely of principal and interest payments. In addition, these financial instruments include investments that do not meet the requirements for measurement at fair value through other comprehensive income and with cash flows not consisting solely of principal and interest payments in the amount of €11.5 million (previous year: €11.5 million). The other financial assets also include shares in partnerships with an amount of €66.8 million (previous year: €71.9 million). These shares are measured on the basis of observed input factors for similar assets or liabilities in active markets or for identical assets or liabilities in markets that are not active (level 2 inputs).

The other financial instruments measured at fair value through profit or loss are measured on the basis of values observed on active markets for identical assets (level 1 inputs). In the reporting year, the total effect of the re-measurement of such financial instruments on the statement of profit or loss was insignificant. 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 €27.5 million (previous year: €34.7 million). The change in the value of these option rights, amounting to €-7.2 million, is recognized in the statement of profit or loss with an effect on net income. The fair value of these assets is measured on the basis of developed, unobservable inputs (level 3 inputs). The fair value determined would rise or fall depending on the development of future corporate planning data of the companies concerned. The other assets and other liabilities include derivative financial instruments used for hedging currency risks that do not meet the requirements for hedge accounting. Such derivatives are measured at fair value through profit or loss (see information on hedging transactions). The other liabilities also include put options granted to holders of non-controlling interests for the sale of their shares in the amount of €160.2 million (previous year: €166.8 million), which are recognized as forward purchases.

Freudenberg does not hold any financial assets or liabilities for short-term trading purposes.

Offsetting of financial assets and financial liabilities is not effected to any material extent in the statement of financial position and there is no potential for offsetting.

## 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 (see information on hedging transactions).

The risks arising in connection with financial instruments 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 1.0 percentage points higher or lower, on average, as of December 31, 2022, 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, 2022, the profit before income taxes would have been €8.9 million (previous year: €14.3 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, 2022, the profit before income taxes would have been €10.9 million (previous year: €17.5 million) higher.

### Liquidity risk:

Risks connected with cash flow fluctuations are identified by the cash flow planning system already existing. As a result of the good rating ("A3") of Freudenberg SE and the credit lines granted by banks on a binding basis, Freudenberg can access ample sources of funds at all times. Further information is given in the Report on Opportunities and Risks (section: Financial risks) in the Combined Management Report.

### Credit risk:

A credit risk is the risk that Freudenberg will incur a financial loss as a result of the other party to a financial instrument failing to discharge its obligation. Credit risks may be of a variety of types. For example they may be a result of the investment of liquid funds or the granting of payment deadlines in connection with the supply of goods and services. As a general principle, credit risks arise in connection with all agreements which need to be fulfilled by the counterparty in the future.

In accordance with IFRS 9, expected credit losses are the key factor in calculating loss allowances using the expected loss model. 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 for these assets as at the date of the statement of financial position was €1.6 million (previous year: €1.6 million).

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, trade receivables 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 as well 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, 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 full 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 €1.2 million (previous year: €2.4 million) were still subject to enforcement activity.

In the year under review and the comparison period, loss allowances for financial assets other than those mentioned above were not material. This is also a result of the risk management system implemented by Freudenberg, which aims, inter alia, to minimize the 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.

The risk profile of trade receivables is summarized in the table below:

[€ million]	Gross carrying amount Dec. 31, 2021	Weighted average loss rate <sup>1</sup>	Loss allowance
Current (not past due)	1,327.9	0%	5.0
1 – 60 days past due	172.1	3%	4.4
61 – 180 days past due	32.5	21%	6.7
181 – 360 days past due	10.4	24%	2.5
More than 360 days past due	12.9	77%	9.9

<sup>1</sup> The weighted average loss rate was rounded to full percentage values.

[€ million]	Gross carrying amount Dec. 31, 2022	Weighted average loss rate <sup>1</sup>	Loss allowance
Current (not past due)	1,542.5	0%	4.2
1 – 60 days past due	229.9	2%	5.6
61 – 180 days past due	44.5	22%	9.9
181 – 360 days past due	13.0	36%	4.7
More than 360 days past due	15.4	66%	10.2

<sup>1</sup> The weighted average loss rate was rounded to full percentage values.

The loss allowance for trade receivables developed as follows:

[€ million]	2021	2022
<b>Loss allowance Jan. 1</b>	<b>30.4</b>	<b>28.5</b>
Changes in consolidated group	0.1	0.2
Exchange rate differences	0.5	0.3
Additions (expenses for loss allowance)	10.0	15.9
Amounts used	-3.0	-2.9
Reversals (write-ups)	-9.5	-7.4
<b>Loss allowance Dec. 31</b>	<b>28.5</b>	<b>34.6</b>

As at the statement of financial position date, the loss allowance for other assets amounted to €0.5 million (previous year: €0.9 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 operates 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. 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. 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 (see information on risks in connection with financial instruments). 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, 2022.

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.

Derivatives not covered by hedge accounting, are measured at fair value through profit or loss.

As at December 31, 2022, the Group held the following currency futures:

[€ million]	Dec. 31, 2021	Dec. 31, 2022
<b>DERIVATIVE FINANCIAL INSTRUMENTS - CASH FLOW HEDGES</b>		
Other assets - book value (assets)	0.2	0.0
Other liabilities - book value (liabilities)	0.0	0.2
Notional amount	4.9	6.6
Maturity date	1/2022-11/2022	1/2023-9/2023
Hedge ratio	1:1	1:1
Change in exchange rate of outstanding hedging instruments	0.2	-0.2

<b>DERIVATIVE FINANCIAL INSTRUMENTS WITHOUT HEDGE ACCOUNTING</b>		
Other assets - book value (assets)	0.9	2.5
Other liabilities - book value (liabilities)	1.3	1.7
Notional amount	162.3	211.6
Maturity date	1/2022-12/2022	1/2023-4/2024

As at the date of the statement of financial position, Freudenberg, as in the previous year, did not hold any fair value hedges.

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: €-0.2 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). As a result of the very high effectiveness of the hedges, the fluctuations in the values of cash flows from the hedged underlying transactions correspond to the fluctuations in the value of the hedges.

Derivatives to hedge currency risks in connection with the US dollar represent a large part of the notional amount.

[€ million]	Dec. 31, 2021	Dec. 31, 2022
Notional amount currency pair USD/EUR	78.4	110.2
Weighted average hedged rate for the year USD/EUR	1.13	1.06

**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 are effected at normal market conditions and were as follows:

[€ million]	Sales 2021	Receivables			Payables <sup>1</sup>		
		Residual term up to 1 year	Residual term more than 1 year	Dec. 31,2021	Residual term up to 1 year	Residual term more than 1 year	Dec. 31,2021
Parent company	3.0	10.2	0.0	10.2	499.9	300.0	799.9
Joint ventures	55.1	25.2	0.0	25.2	5.9	5.8	11.7
Associated companies	17.8	4.3	0.0	4.3	8.6	0.0	8.6
Other related parties	3.5	1.1	0.0	1.1	48.6	0.0	48.6
	<b>79.4</b>	<b>40.8</b>	<b>0.0</b>	<b>40.8</b>	<b>563.0</b>	<b>305.8</b>	<b>868.8</b>

[€ million]	Sales 2022	Receivables			Payables <sup>1</sup>		
		Residual term up to 1 year	Residual term more than 1 year	Dec. 31,2022	Residual term up to 1 year	Residual term more than 1 year	Dec. 31,2022
Parent company	3.3	2.4	0.0	2.4	497.9	300.0	797.9
Joint ventures	50.0	20.8	0.0	20.8	6.0	4.0	10.0
Associated companies	17.2	5.9	0.0	5.9	7.9	0.0	7.9
Other related parties	3.6	1.8	0.0	1.8	50.6	0.0	50.6
	<b>74.1</b>	<b>30.9</b>	<b>0.0</b>	<b>30.9</b>	<b>562.4</b>	<b>304.0</b>	<b>866.4</b>

<sup>1</sup> Details of liabilities to the parent company are presented in the information on liabilities in note (13).

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 €9.9 million (previous year: €9.2 million).

Expenses of €2.1 million (previous year: €2.0 million) were incurred for defined-benefit and defined-contribution pension commitments with respect to company pensions for Board of Management members.

An amount of €20.4 million (previous year: €31.5 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, PriceWaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, Germany, performed the following services in the 2022 financial year:

[€ million]	2022
Auditing services	2.3
Tax services	0.3
Other assurance services	0.1
Other services	0.2
	<b>2.9</b>

### Major events after the date of the statement of financial position

The remaining ownership interest in XALT Energy, LLC, Wilmington, Delaware, USA, was acquired by contract of January 3, 2023. Freudenberg had already held a 50.1 percent stake in XALT and had included XALT in the consolidated financial statements as a fully consolidated company since 2019.

Apart from this matter, there were no events of major significance for the net assets, financial position and results of operation of the group of companies up to March 14, 2023, the date when these consolidated financial statements were approved for publication by the Supervisory Board.

Weinheim, March 14, 2023

Freudenberg SE

The Board of Management

# SHAREHOLDINGS

AS AT DECEMBER 31, 2022

Company	Location	Country/Region	Share of capital [%]
Freudenberg SE	Weinheim	Germany	-

## I. AFFILIATED COMPANIES

### Germany

Blaesus Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG	Mainz	Germany	88,12
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	Germany	100,00
Corteco GmbH¹	Weinheim	Germany	100,00
CT Beteiligungs-GmbH¹	Munich	Germany	100,00
EagleBurgmann Atlantic GmbH	Wolfratshausen	Germany	75,00
EagleBurgmann Espey GmbH¹	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
FHP Export GmbH¹	Weinheim	Germany	100,00
Freudenberg Chemical Specialities GmbH¹	Weinheim	Germany	100,00
Freudenberg Filtration Technologies GmbH & Co. KG¹	Weinheim	Germany	100,00
Freudenberg FST GmbH¹	Weinheim	Germany	100,00
Freudenberg FT GmbH¹	Weinheim	Germany	100,00
Freudenberg Fuel Cell e-Power Systems GmbH¹	Munich	Germany	100,00
Freudenberg Haushaltsprodukte Augsburg GmbH¹	Augsburg	Germany	100,00
Freudenberg Home and Cleaning Solutions GmbH¹	Weinheim	Germany	100,00
Freudenberg Industrial Services GmbH¹	Hamburg	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 SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Performance Materials Service GmbH¹	Weinheim	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 Technology Innovation SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Verwaltungs- und Beteiligungs-GmbH¹	Weinheim	Germany	100,00
Freudenberg Wohnbauhilfe GmbH	Weinheim	Germany	100,00
Hanns Glass GmbH & Co. KG¹	Meuselwitz	Germany	75,00
Hanns Glass Immobilienverwaltung GmbH & Co. KG¹	Paderborn	Germany	75,00
Hemoteq AG¹	Würselen	Germany	93,74

Company	Location	Country/Region	Share of capital [%]
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 GmbH & Co. KG <sup>1</sup>	Munich	Germany	100,00
Klüber Lubrication GmbH <sup>1</sup>	Weinheim	Germany	100,00
Klüber Lubrication München GmbH & Co. KG <sup>1</sup>	Munich	Germany	100,00
Lederer GmbH <sup>1</sup>	Öhringen	Germany	100,00
Low & Bonar Production GmbH <sup>1</sup>	Erlenbach am Main	Germany	100,00
Mehler Texnologies GmbH <sup>1</sup>	Fulda	Germany	100,00
Mehler Texnologies Logistics GmbH <sup>1</sup>	Fulda	Germany	100,00
OKS Spezialschmierstoffe GmbH <sup>1</sup>	Maisach	Germany	100,00
omniTECHNIK Mikroverkapselungs GmbH <sup>1</sup>	Munich	Germany	100,00
PTFE Compounds Germany GmbH <sup>1</sup>	Bördeland	Germany	100,00
SurTec Deutschland GmbH <sup>1</sup>	Zwingenberg	Germany	100,00
SurTec International GmbH <sup>1</sup>	Bensheim	Germany	100,00
Vibracoustic Aftermarket GmbH <sup>1</sup>	Darmstadt	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
Vibracoustic SE & Co. KG <sup>1</sup>	Darmstadt	Germany	100,00
Vibracoustic SE <sup>1</sup>	Weinheim	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
EagleBurgmann Australasia Pty. Ltd.	Ingleburn	Australia	25,00
Freudenberg Filtration Technologies (Aust) Pty. Ltd.	Braeside	Australia	100,00
Freudenberg Home and Cleaning Solutions Pty. Ltd.	Broadmeadows	Australia	100,00
Freudenberg Sealing Technologies Pty. Ltd.	Brendale	Australia	100,00
Klüber Lubrication Australia Pty. Ltd.	Thomastown	Australia	100,00
EagleBurgmann Belgium BV	Sint-Job-in-'t-Goor	Belgium	75,03
FHP Vileda SComm.	Barchon	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.	Macuco Valinhos	Brazil	75,00
Freudenberg Nao-Tecidos Ltda.	São José dos Campos	Brazil	100,00
Freudenberg-NOK-Componentes Brasil Ltda.	São Paulo	Brazil	75,00
Klüber Lubrication Lubrificantes Especiais Ltda.	Barueri	Brazil	100,00
SurTec do Brasil Ltda.	Valinhos	Brazil	100,00
Vibracoustic South America Ltda.	Taubaté	Brazil	100,00
Freudenberg Productos del Hogar Ltda.	Santiago de Chile	Chile	100,00
Klüber Lubrication Chile Ltda.	Santiago de Chile	Chile	100,00
Bonar High Performance Materials (Changzhou) Co. Ltd.	Changzhou	China	100,00
Changchun Integral Accumulator Co., Ltd.	Changchun	China	100,00

Company	Location	Country/Region	Share of capital [%]
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 Dalian Co. Ltd.	Dalian	China	40,00
EagleBurgmann Shanghai Co., Ltd.	Shanghai	China	40,00
EagleBurgmann Technology (Shanghai) Co., Ltd.	Shanghai	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 Home and Cleaning Solutions (Shanghai) Co., Ltd.	Shanghai	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 Politec 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
Low & Bonar (Shanghai) Trading Co. Ltd.	Shanghai	China	100,00
SurTec Metal Surface Treatment Technology Co. Ltd.	Hangzhou	China	100,00
Tianjin VIAM Co., Ltd.	Tianjin	China	75,00
Traxit (Huzhou) Lubrication Co. Ltd.	Huzhou	China	100,00
Traxit (Tianjin) Chemical Co. Ltd.	Tianjin	China	100,00
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
SurTec Scandinavia ApS	Copenhagen	Denmark	100,00
Freudenberg Sealing Technologies OÜ	Mullutu	Estonia	100,00
Freudenberg Filtration Technologies Finland Oy	Tampere	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
EagleBurgmann France S.A.S.	Neuville sur Oise	France	75,00
FHP Vileda S.A.S.	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 Plats SAS	Chamborêt	France	100,00
Freudenberg Performance Materials S.A.S.	Colmar	France	100,00
Freudenberg Sealing Technologies SAS	Langres	France	100,00

Company	Location	Country/Region	Share of capital [%]
Klüber Lubrication France S.A.S.	Valence	France	100,00
Low & Bonar Paris SARL	Paris	France	100,00
Mehler Texnologies France SARL	Francheville	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
Bonar International Holdings Limited	Edinburgh	United Kingdom	100,00
Bonar Rotaform Limited	Leicester	United Kingdom	100,00
Bonar Silver Limited	Leicester	United Kingdom	100,00
Capol (U.K.) Limited	Huddersfield	United Kingdom	100,00
Chem-Trend (UK) Ltd.	Huddersfield	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	Leicester	United Kingdom	100,00
Freudenberg Technical Products Pension Trust Company 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
Low & Bonar Euro Holdings Limited	Leicester	United Kingdom	100,00
Low & Bonar Limited	Edinburgh	United Kingdom	100,00
Low & Bonar Pension Trustees Limited	Edinburgh	United Kingdom	100,00
Mehler Texnologies Ltd.	Leicester	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
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



Company	Location	Country/Region	Share of capital [%]
Klüber Lubrication India Pvt. Ltd.	Bangalore	India	89,99
Low & Bonar India Private Limited	New Delhi	India	100,00
SurTec Chemicals India Pvt. Ltd.	Bangalore	India	100,00
Traxit Engineers Private Limited	Mumbai	India	70,00
Vibracoustic India Pvt. Ltd.	Mohali	India	100,00
PT EagleBurgmann Indonesia	Cikarang Selatan	Indonesia	24,98
PT Klüber Lubrication Indonesia	Jakarta	Indonesia	100,00
Cambus Teoranta	Spiddal	Ireland	94,91
VistaMed Ltd.	Carrick-on Shannon	Ireland	90,00
Chem-Trend Italy S.a.s. di Externa Holding S.r.l.	Milan	Italy	100,00
Corteco S.r.l. (a socio unico)	Pinerolo	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.r.l.	Milan	Italy	100,00
Freudenberg Performance Materials Apparel S.a.s. di Externa Holding S.r.l.	Milan	Italy	100,00
Freudenberg S.r.l.	Milan	Italy	100,00
Freudenberg Sealing Technologies S.a.s. di Externa Italia S.r.l.u.	Pinerolo	Italy	100,00
Freudenberg Tecnologie 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 Externa Holding S.r.l.	Milan	Italy	100,00
Mehler Technologies S.r.l.	Settimo Milanese	Italy	100,00
Politex S.a.s. di Freudenberg Politex s.r.l.	Milan	Italy	100,00
SurTec Italia SAS di Externa Holding Srl	Milan	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
Vilene Create Co., Ltd.	Tokyo	Japan	75,00
VIS Co., Ltd.	Koga	Japan	75,00
Freudenberg Vileda Jordan Ltd.	Amman	Jordan	51,00
Capol Inc.	Saint-Hubert	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
EagleBurgmann Colombia, S.A.S.	Bogotá	Colombia	75,00
Low & Bonar Latvia s.i.a.	Riga	Latvia	100,00
Bonar International Sarl	Luxembourg	Luxembourg	100,00
EagleBurgmann (Malaysia) SDN. BHD.	Shah Alam	Malaysia	25,00

Company	Location	Country/Region	Share of capital [%]
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
United Lubricants Industries (S.E.A) Sdn. Bhd.	Cheras	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	75,00
EagleBurgmann Mexico S.A. de C.V.	Querétaro	Mexico	75,00
Freudenberg Filtration Technologies, S.A. de C.V.	Silao	Mexico	100,00
Freudenberg Productos del Hogar, S.A. de C.V.	Tultitlan	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 Toluca, S.A. de C.V.	Toluca	Mexico	100,00
Vitechmex Nonwovens S.A. de C.V.	Aguascalientes	Mexico	75,00
EagleBurgmann Netherlands B.V.	Veenendaal	Netherlands	75,00
Freudenberg Household Products B.V.	Arnhem	Netherlands	100,00
Freudenberg Industrial Services B.V.	Zwolle	Netherlands	100,00
Freudenberg Performance Materials B.V.	Arnhem	Netherlands	100,00
Low & Bonar Technical Textiles Holdings B.V.	Arnhem	Netherlands	100,00
SurTec Benelux B.V.	Reuver	Netherlands	100,00
EagleBurgmann Norway AS	Gardermoen	Norway	75,00
Freudenberg Home and Cleaning Solutions AS	Gardermoen	Norway	100,00
Freudenberg Oil & Gas Technologies AS	Sandnes	Norway	100,00
Deurowood GmbH	Hard	Austria	100,00
EagleBurgmann Austria 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
EagleBurgmann Philippines, Inc.	Dasmarias, 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
Mehler Texnologies Sp. z.o.o.	Sosnowiec	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 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
Mehler Texnologies Romania S.R.L.	Stefanestii de Jos	Romania	100,00

Company	Location	Country/Region	Share of capital [%]
SurTec Romania s.r.l.	Sibiu	Romania	100,00
Vibracoustic Romania SRL	Dej	Romania	100,00
EagleBurgmann OOO	Moscow	Russian Federation	75,00
Freudenberg Household Products Eastern Europe OOO	St. Petersburg	Russian Federation	70,00
Freudenberg Politex OOO	Zavolzhye	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
EagleBurgmann Sweden AB	Norrköping	Sweden	75,00
Freudenberg Home and Cleaning Solutions AB	Norrköping	Sweden	100,00
Freudenberg Sealing Technologies AB	Landskrona	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
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	100,00
Freudenberg Immobilienmanagement Slovakia, s.r.o.	Potvorice	Slovakia	100,00
Klüber Lubrication Slovensko s.r.o.	Vráble	Slovakia	100,00
Low & Bonar Slovakia a.s.	Ivanka pri Nitre	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
SurTec Adria d.o.o.	Ljubljana	Slovenia	100,00
EagleBurgmann Ibérica S.A.	Villaviciosa de Odón	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 Apparel 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

Company	Location	Country/Region	Share of capital [%]
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 Vilene Filtration Technologies Korea Co., Ltd.	Pyeongtaek-si	South Korea	87,50
Korea Vilene Co., Ltd.	Pyeongtaek-si	South Korea	87,50
EagleBurgmann Taiwan Co., Ltd.	Kaohsiung	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
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	100,00
Chem-Trend CZ s.r.o.	Prague	Czech Republic	100,00
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
Klüber Lubrication CZ, s.r.o.	Prague	Czech Republic	100,00
Mehler Texnologies s.r.o.	Lomnice nad Popelkou	Czech Republic	100,00
SurTec CR s.r.o.	Prague	Czech Republic	100,00
TPE správni 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	Türkiye	100,00
Eagle Burgmann Endüstriyel Sızdırmazlık Sanayi ve Ticaret Limited Şirketi	Istanbul	Türkiye	75,00
Freudenberg Household Products Evici Kullanım Araçları Sanayi ve Ticaret A.S.	Istanbul	Türkiye	100,00
Freudenberg Sealing Technologies Sanayi ve Ticaret A.S.	Bursa	Türkiye	100,00
Freudenberg Vilene Tela Sanayi ve Ticaret A.S.	Istanbul	Türkiye	100,00
Klüber Lubrication Yağlama Ürünleri Sanayi ve Ticaret A.S.	Istanbul	Türkiye	100,00
Mehler Texnologies Teknik Tekstil Ticaret Limited Şirketi	Istanbul	Türkiye	100,00
Vibracoustic Çerkezköy Oto Parçaları Dış Ticaret A.S.	Çerkezköy	Türkiye	100,00
Vibracoustic Çerkezköy Otomotiv Sanayi ve Ticaret A.S.	Çerkezköy	Türkiye	100,00
Vibracoustic CV Air Springs Otomotiv Sanayi ve Ticaret A.S.	Gemlik	Türkiye	65,07
Vibracoustic CVAS Turkey Trading Otomotiv A.S.	Bursa	Türkiye	65,07
EagleBurgmann Hungaria Kft.	Budapest	Hungary	75,00
Freudenberg Háztartási Cikkek Kereskedelmi BT	Budapest	Hungary	100,00
Freudenberg Sealing Technologies Kft.	Kecskemét	Hungary	100,00
Klüber Lubrication Hungaria Kft.	Budapest	Hungary	100,00
Vibracoustic CV Air Springs Magyarországi Kft.	Nyíregyháza	Hungary	65,07
Capol LLC	Wilmington	USA	100,00
Chem-Trend Limited Partnership	East Lansing	USA	100,00
CTM Enterprises, Inc.	Carson City	USA	100,00
EagleBurgmann Industries Inc.	Wilmington	USA	75,00
EagleBurgmann Industries LP	Wilmington	USA	75,00

Company	Location	Country/Region	Share of capital [%]
Filters Now, LLC	Wilmington	USA	100,00
Freudenberg Battery Power Systems, LLC	Wilmington	USA	50,10
Freudenberg Filtration Technologies LP	Wilmington	USA	100,00
Freudenberg Fuel Cell e-Power Systems Inc.	Wilmington	USA	100,00
Freudenberg Household Products Inc.	Wilmington	USA	100,00
Freudenberg Household Products LP	Wilmington	USA	100,00
Freudenberg Medical, LLC	Wilmington	USA	100,00
Freudenberg North America Limited Partnership	Wilmington	USA	100,00
Freudenberg Oil & Gas, LLC	Wilmington	USA	100,00
Freudenberg Performance Materials LP	Wilmington	USA	100,00
Freudenberg Real Estate LP	Wilmington	USA	100,00
Freudenberg Texbond L.P.	Peachtree Corners	USA	100,00
Freudenberg-NOK General Partnership	Wilmington	USA	75,00
Freudenberg-NOK Holdings, Inc.	Wilmington	USA	75,00
Intpacor Inc.	Wilmington	USA	100,00
Klüber Lubrication NA LP	Wilmington	USA	100,00
Low & Bonar Inc.	Wilmington	USA	100,00
Mehler Technologies Inc.	Richmond	USA	100,00
Pellon Corporation	Carson City	USA	100,00
PPA Holdings, Inc.	Indianapolis	USA	100,00
PPA Industries, Inc.	Indianapolis	USA	100,00
Precote USA LLC	East Lansing	USA	100,00
Protect Plus Holdings Corp.	Indianapolis	USA	100,00
SurTec, Inc.	Upper Arlington	USA	100,00
Tobul Accumulator Incorporated	West Columbia	USA	100,00
Traxit North America, LLC	Wilmington	USA	100,00
Upper Bristol Ramp, LLC	Wilmington	USA	75,00
VIAM Holding, Inc.	Sacramento	USA	75,00
VIAM Manufacturing, Inc.	Nashville	USA	75,00
Vibracoustic CV Air Springs USA, Inc.	Wilmington	USA	65,07
Vibracoustic North America Holdings, Inc.	Wilmington	USA	100,00
Vibracoustic North America LP	Wilmington	USA	100,00
Vibracoustic USA, Inc.	East Lansing	USA	100,00
VICAM Inc.	Nashville	USA	75,00
VITECH Manufacturing L.P.	Wilmington	USA	75,00
VITECH Manufacturing, Inc.	Wilmington	USA	75,00
Walflor Industries Inc.	Tumwater	USA	100,00
XALT Energy MI, LLC	Wilmington	USA	50,10
XALT Energy, LLC	Wilmington	USA	50,10
EagleBurgmann Gulf Mechanical LLC	Abu Dhabi	UAE	29,40
EagleBurgmann Middle East FZE	Dubai	UAE	60,00
Freudenberg Oil and Gas FZE	Dubai	UAE	100,00
Mehler Technologies Middle East Trading L.L.C.	Dubai	UAE	100,00
Chem-Trend Vietnam Company Limited	Ho Chi Minh City	Vietnam	100,00
EagleBurgmann Vietnam Company Limited	Ho Chi Minh City	Vietnam	25,00
Freudenberg & Vilene International Vietnam Co. Ltd.	Ho Chi Minh City	Vietnam	87,50
SurTec Viet Nam Co., Ltd.	Ho Chi Minh City	Vietnam	100,00

Company	Location	Country/Region	Share of capital [%]
<b>II. INVESTMENTS IN JOINT VENTURES (CONSOLIDATED BY EQUITY METHOD)</b>			
<b>Germany</b>			
CPW GmbH	Wuppertal	Germany	50,00
<b>Other countries</b>			
Corfina s.r.l.	Pinerolo	Italy	50,00
NOK-Freudenberg Singapore Pte. Ltd. <sup>2</sup>	Singapore	Singapore	50,00
TTKKE Holdings, LLC	Dover	USA	30,00

### III. INVESTMENTS IN ASSOCIATED COMPANIES (CONSOLIDATED BY EQUITY METHOD)

<b>Other countries</b>			
Yihua Bonar Yarns & Fabric Co. Ltd.	Yangzhou	China	60,00
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	Plymouth	USA	45,00
SurTec Middle East (L.L.C.)	Sharjah	UAE	35,00
EagleBurgmann Venezuela, C.A.	Caracas	Venezuela	41,25

<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  
 Freudenberg-NOK Pvt. Ltd., Chennai, 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

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# INDEPENDENT AUDITOR’S REPORT

To Freudenberg SE, Weinheim

## Audit 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 2022, and the consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of cash flows and consolidated statement of changes in equity for the financial year from 1 January to 31 December 2022, 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, which is combined with the Company’s management report, for the financial year from 1 January to 31 December 2022.

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 § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2022, and of its financial performance for the financial year from 1 January to 31 December 2022, 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 § 322 Abs. 3 Satz [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 Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB 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 audit opinions on the consolidated financial statements and on the group management report.

## Other Information

The executive directors are responsible for the other information.

The other information comprises the annual report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor’s report.

Our audit 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 audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information mentioned above and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report disclosures audited in terms of content or with 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 § 315e Abs. 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 (i.e., fraudulent financial reporting and misappropriation of assets) 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 audit 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 § 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 audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures



(systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit 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 audit 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 § 315e Abs. 1 HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit 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 audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by 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 audit 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.

Frankfurt am Main, 14 March 2023

PricewaterhouseCoopers GmbH

Wirtschaftsprüfungsgesellschaft

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Wirtschaftsprüfer

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#### PHOTOS:

Agnormark – stock.adobe.com (p. 87)  
anjali04 – stock.adobe.com (p. 92)  
BalanceFormCreative/shutterstock (p. 113)  
baona/istock (p. 77)  
Blue Planet Studio – stock.adobe.com (p. 88)  
r.classen/shutterstock (title)  
everything possible/shutterstock (p. 86, 87)  
Rise Feng (p. 98)  
fizkes – stock.adobe.com (p. 123)  
Freudenberg-Gruppe (p. 82)  
Jeanette Virginia Goh/shutterstock (p. 118)  
Gorodenkoff – stock.adobe.com (p. 78)  
Tomomi Hirose (p. 50)  
Martin Joppen (p. 2, 3, 6, 8)  
kmiragaya – stock.adobe.com (p. 115)  
Fritz Kopetzky (p. 32)  
Luciano – stock.adobe.com (p. 102)  
Marco Moog Photography (p. 2: 1st row, 3rd from left)  
María Márquez Maldonado (p. 41)  
Marissa Martinez in HR EBUS (p. 119)

maru54 – stock.adobe.com (p. 126)  
Milano Medien (p. 99)  
Yoko Morita (p. 96)  
NDABCREATIVITY – stock.adobe.com (p. 104)  
Ngampol – stock.adobe.com (p. 125)  
Kyle Pearce (p. 44)  
Andreas Pohlmann (p. 55)  
PRASANNAPIX – stock.adobe.com (p. 83)  
Privat: (p. 2: 1st row, 4th from left)  
RWE (p. 97)  
scharfsinn86 – stock.adobe.com (p. 91)  
Gerald Schilling (p. 38, 58, 79, 85)  
Marco Schilling (p. 21)  
Alexander Sejero (p. 36)  
Song\_about\_summer – stock.adobe.com (p. 122)  
Supamotionstock/shutterstock (p. 84)  
Thirawatana – stock.adobe.com (p. 112)  
Dave Trott with Blue Sky Photography, Inc (p. 35)  
Ukrainian Friends Foundation (p. 120)  
Johannes Vogt (p. 47, 52, 100, 101)

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To improve the readability of this Annual Report, the language forms male, female, diverse (m/f/d) are not used simultaneously. All references to persons apply equally to all genders.

Registered trademarks are omitted in the Annual Report, also to improve readability.

