Annual Report 2021

Leadership in Filtration

MANN+HUMMEL

MANN+HUMMEL at a glance[1]

Sales

4.2

billion euros

EBIT

191

million euros

EBIT margin

4.6%

Locations

80+

on 6 continents

Total assets

4.3

billion euros

Investments in R&D

113

million euros

Employees

23,211

worldwide

1 All figures are rounded. This may lead to minor discrepancies when totaling sums and when determining percentages.

Key figures

In EUR million	2021	2020
Sales	**4,200**	3,839
Operating profit or loss (EBIT)	**191**	165
As % of sales	4.6%	4.3%
Net profit before interest, taxes, depreciation, amortization (EBITDA)	**419**	404
As % of sales	10.0%	10.5%
Net profit or loss before income tax and changes in capital economically attributable to the shareholders	**154**	80
As % of sales	3.7%	2.1%
Consolidated net income	**17**	5
As % of sales	0.4%	0.1%
Free Cashflow	**135**	265
As % of sales	3.2%	6.9%
Total assets	**4,347**	3,855
Investments in tangible assets	**180**	126
Depreciation of tangible assets	**154**	153
Value added per employee in EUR thousand	**80**	81
Average number of employees	**23,211**	21,480

1 All figures are rounded. This may lead to minor discrepancies when totaling sums and when determining percentages.

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Foreword by the Management Board

Filtration makes the future. We develop both.

Dear Ladies and Gentlemen,
Dear Business Partners,

In 2021, only one thing seemed constant: Change.

With the ongoing impacts of COVID-19, global supply chain challenges, and inflationary pressures, MANN+HUMMEL has taken swift and straightforward action to protect employees, support our customers and ensure our financial stability. By introducing new routines and processes and through hard work, we have managed to achieve these fundamental and necessary goals.

The years 2020 and 2021 were marked by these necessities. But what makes us particularly proud is that the entire MANN+HUMMEL team went far beyond expectations. Each individual acted and went the extra mile, driven by the conviction: Filtration makes the future. Whether in the fight against the COVID pandemic, in shaping the future of mobility, or in the efforts for cleaner air and water around the globe: **We at MANN+HUMMEL are convinced that filtration is a key technology for mastering the challenges facing humanity.** There will always be a need for filtration, and this need is constantly growing!

As one of the largest filtration companies in the world, we have a unique opportunity and challenge to expand our position in global markets further. For the past decade, we have worked tenaciously to diversify our business and portfolio into further growth areas in addition to our traditional and core businesses. As a reliable partner and supplier of filtration solutions for the automotive and heavy-duty industries for more than 80 years, we have developed two additional business areas to shape and grow: Air Filtration and Water & Fluid Solutions. Expanding into these growing market areas does not mean losing our focus. **On the contrary, diversifying our solutions portfolio, extending our activities to adjacent markets, and identifying and developing new ones will bring us closer to our vision of "Leadership in Filtration".** It will help us continue building a sustainable business in times of change while focusing on what we do best: FILTRATION.

Along this journey, we acquired a stake in Pamlico Air in 2021, converted a majority stake in Seccua into a 100% acquisition, and strengthened our molecular filtration business by integrating helsa functional coating's solutions and processes into the MANN+HUMMEL Group, which we acquired at the end of 2020.

These activities are beneficial in three ways:
- They help us grow our business,
- They help us develop and transform approaches to contributing to a cleaner and more sustainable world,
- They allow us to remain a trusted and attractive employer.

Our dual transformation

As the mobility sector shifts toward new and alternative propulsion solutions, we understand our responsibility to drive innovation and shape the future of mobility together with our customers. No matter which type of drive will prevail in the near future: We are the right partner to support our customers. With outstanding results as our benchmark, we strive for leadership in what we do. And so, we will also master the ongoing transformation with excellence.

Entering new business areas with our Life Sciences & Environment business perfectly complemented our traditional business, considering the added value we can create. It was the beginning of our second transformation, which is still ongoing.

For example, "fine dust pollution": We tackle this challenge holistically – with cabin air filters and smart systems to keep passengers safe inside their vehicle, with brake dust particle filters and integrated front end or underfloor filters to collect fine dust while driving or during charging periods, with our Filter Cubes, our outside air purifiers, installed along roads to protect residents and pedestrians and with our highly efficient filtrations solutions for safer indoor air in residential or commercial buildings and on shop floors. By the way: Reducing fine dust pollution also means less groundwater pollution. However, also for water pollution we have the right technologies in our portfolio to use this scarce and valuable resource more sustainably.

Rest assured: We take our responsibility seriously. For us, sustainability is not an empty phrase with which we make MANN+HUMMEL appear "greener". **We offer technologies whose natural component is sustainability by developing and providing state-of-the-art filtration and separation solutions.** As a company, we act responsibly and contribute to sustainability. Moreover, we enable our customers to be more sustainable with our filtration solutions.

Our values and purpose drive us every day.

We will continue on this path to achieve our vision of Leadership in Filtration – because we are convinced: Filtration makes the difference towards a cleaner future.

Ludwigsburg, May 2022

MANN+HUMMEL International GmbH & Co. KG

The Management Board

Kurk Wilks CEO	Emese Weissenbacher EVP & CFO

Report of the Supervisory Board

"Made by MANN+HUMMEL"

Do you know? 3.5 million German companies form a unique community that is unparalleled globally. We at MANN+HUMMEL are proud to be part of this community: The German "Mittelstand". It is medium-sized companies like MANN+HUMMEL – **based in Germany, at home in the world's markets** – that drove the "Made in Germany" label to become renowned worldwide.

Recent political events have again shown how important it is to work together with our clients and partners, in diverse teams, and in exciting projects for common goals.

Our international and diverse MANN+HUMMEL teams from China to Brazil have a great spirit. We may still be a family-owned hidden Mittelstand champion with German roots; however, we set ambitious goals and targets for us as a company, our employees, our technologies, and our products. We aim for nothing less than Leadership in Filtration.

We have been doing so quite sustainably – for more than 80 years and hopefully many decades to come, with more than 21,000 employees in over 80 locations worldwide. And our cutting-edge filtration solutions play a vital role in enabling our customers to be more sustainable and provide cleaner mobility, cleaner air, and cleaner water.

2021 was characterized by the enormous challenge of navigating successfully through a global crisis. A crisis that has brought to light our significant weaknesses as a global community has also brought forth our biggest strengths for us as a company. Our capabilities, courage, adaptability, confidence, perseverance, and trust shaped the year. Trust in our employees, our customers, and our company and technology: Filtration.

We filter with passion and commitment as we are convinced that our biggest challenge – preserving our planet and its precious resources for a cleaner tomorrow and future generations – can only be solved through a joint effort. **This challenge is not "Mine" or "Yours" but "Ours". The world we live in, the air we breathe, the water we drink, and the ground we walk upon has always been common ground.**

In light of a global pandemic, raising awareness of air and water pollution, and the increasing wish for cleaner mobility, more and more people understand the importance of filtration. Filtration is no longer "just protecting" a piece of equipment, an asset, or a process. Our filtration solutions help the environment and people by filtering fine dust, viruses, or multi-resistant germs to benefit this one world.

Suddenly, the hidden champion, MANN+HUMMEL, and the often invisible technology champion, filtration, are becoming prominent heroes. We always knew this and continue saying with pride: Filtration is a key technology of the 21st century.

MANN+HUMMEL looks forward to a bright future as one of the leading filtration companies in the world. We are inspired to do everything in our power to further develop and grow our company into a more impactful global player, built upon our foundation: Our unwavering belief that filtration is one of the most powerful technologies the world has ever seen – **made by MANN+HUMMEL**.

The Supervisory Board of MANN+HUMMEL Verwaltungs GmbH met twice in the year under review. The meetings focused on current and future business developments. In addition, we continued our discussions on the impact of global economic developments. Additionally, the topics of investment and personnel policies, the quality situation, and the strategic alignment of the company and the Group were examined in depth. Issues with a negative impact on the company were also discussed and examined constructively and critically. In the 2021 fiscal year, the Supervisory Board once again continuously supported the Management Board by examining and discussing the verbal and written reports of the Management Board in detail at the Supervisory Board meetings. The Chairman of the Supervisory Board also maintained constant contact with the Management Board.

The Supervisory Board was satisfied with the legality, appropriateness, and regularity of the activities of the Management Board at all times. The audit of MANN+HUMMEL International GmbH & Co. KG’s annual financial statements and the Group status report of the MANN+HUMMEL Group were audited by Ernst & Young GmbH, Wirtschaftsprüfungsgesellschaft, Flughafenstraße 61, 70629 Stuttgart. All documents were issued with an unqualified audit opinion. The Supervisory Board examined the annual financial statements, the proposal for the appropriation of earnings, consolidated financial statements, and Group status report in detail and was provided with a comprehensive report by the auditors regarding the results of their audits. The Supervisory Board approves the audit results without any reservations.

The Supervisory Board would like to thank Nic Zerbst for his commitment to the company. Mr. Zerbst decided to leave the company by the end of 2021. Furthermore, the Supervisory Board and the Shareholders thank all employees of the MANN+HUMMEL Group, the Executive Board, and the employee representatives for their successful efforts in the past fiscal year.

Ludwigsburg, May 2022

MANN+HUMMEL International GmbH & Co. KG

Thomas Fischer
Chairman of the Supervisory Board

Do you know?

FILTRATION IS SUSTAINABILITY

Many companies are making their production and products more sustainable or are looking for other ways to add a more sustainable touch to their business.

Not only is sustainability a key driver for MANN+HUMMEL, but we also act according to our convictions. While unsustainable business and behavior came partly with industrialization, this means that technology must be one of the solutions for challenges like climate change, water scarcity, or air pollution today. Along with behavioral changes in dealing with scarce resources and a fundamental rethink regarding the lifecycle of our products, technology must also be one of the keys to acting and living more sustainably or even reversing the damage.

Read more →

Do you know?

DIGITALIZATION IS A KEY ELEMENT OF OUR SUSTAINABILITY STRATEGY

As an international manufacturer with over 80 years of company history, more than 80 locations, and over 50 production sites worldwide, we continuously work to accelerate our digital transformation. Our Industrial Internet of Things (IIoT) measures are comprehensive. Our sustainability strategy is also taken into account with the digitalization of our products and processes.

Read more →

The right partners are the key to success

DO YOU KNOW?

In an increasingly interconnected world, it is crucial to connect with the right partners to jointly set the course for the future. Partnerships can be customer relationships, strategic investments, acquisitions, or simply working with like-minded people to solve more complex challenges.

Transformation is a mammoth task. In particular, medium-sized family businesses know that this transformation cannot succeed alone in a closed system with the required efficiency. Conscious integration into ecosystems is the consistent path to success.

Read more →

Our employees make the difference

DO YOU KNOW?

Everyone has talent. Everyone. In the year under review, MANN+HUMMEL implemented this guiding principle in a new talent management concept. It aims to enable all employees to achieve their best individual performance, increase their motivation, and make working together a fulfilling experience.

This concept can only work if the management culture in the company is aligned with it. Therefore, MANN+HUMMEL has set up an accompanying coaching concept for existing managers – the MANN+HUMMEL Leadership Principles. Along these lines, our leaders are also evaluated annually by their leadership performance.

The new tools are being introduced successively and evaluated with a pilot group. A first milestone was the introduction of the talent pool.

Read more →

Cleaner Mobility

Do you know?

INSIDE THE VEHICLE, AIR IS AT ITS BEST

MANN+HUMMEL cabin air filters and systems reliably protect drivers and passengers from harmful pollution and particulates and ensure energy-efficient driving. The intelligent control system measures both the ambient air quality and the air composition in the vehicle's interior. It adjusts the filter functions fully automatically to the respective situations.

Read more →

Do you know?

BATTERY. HYDROGEN. HYBRID.
THE FUTURE IS DIVERSE, AND SO ARE WE!

For MANN+HUMMEL, openness to technology is not a buzzword – it is daily business. With our customers, we develop filtration solutions for vehicles with battery-electric drives, hydrogen technology, and hybrid applications.

The future is a technologically open space that is not only shaped by scientific progress but is also influenced by energy policy and geostrategic considerations. MANN+HUMMEL is therefore open to technology and focused on a future that is as sustainable as possible.

Read more →

Fine dust is not only produced by combustion engines

DO YOU KNOW?

In exhaust gas purification, it is now possible to reduce particulate matter significantly. However, the largest source of particulate matter pollution is not the engine itself; it is tire and brake abrasion.

This also clarifies that switching to electrically powered vehicles does not solve the particulate matter problem – these vehicles also produce tire abrasion and brake dust.

MANN+HUMMEL has taken up this challenge as part of its holistic strategy for cleaner air and the environment. We have developed various solutions to improve the fine dust balance of vehicles.

Read more →

Do you know?

CLEAN THE FILTER? IT DOES THAT ITSELF

Construction and agricultural machinery must function reliably in dusty environments. To function properly, filtration of the supplied air is necessary. However, due to the areas of application, the filters are exposed to high amounts of dust and can become clogged. Manual cleaning, which is not recommended, is associated with health risks. In addition, frequent replacement of the filters is cost-intensive and causes avoidable waste.

Therefore, MANN+HUMMEL has developed the ENTARON XR. This filter, uniquely designed with a new filter medium, cleans itself, and it does so very effectively.

Read more →

Cleaner Air

Do you know?

OUTDOOR AIR PURIFIERS BRING CLEANER AIR TO METROPOLITAN AREAS

Many metropolises around the world suffer from high levels of air pollution. The World Health Organization records 4.2 million deaths annually due to air pollution. The main cause is particulate matter, which can penetrate deep into the lungs and trigger disease. Nitrogen dioxide in polluted air aggravates allergies, damages the respiratory system, and can contribute to heart disease.

Our mission is to separate the useful from the harmful, and in this spirit, we have been developing solutions to remove pollutants from the air for over 80 years.

What could be more natural than to bring this expertise to the hearts of polluted urban areas and thus decisively and directly improve quality of life?

Read more →

Our molecular filters protect valuable art

DO YOU KNOW?

Have you ever wondered why photographs, books, statues, fine paintings and their frames or other works of art that decorate our living rooms at home often tarnish after a while or otherwise change their appearance?

The reason for this is that, as a rule, we do not control and monitor our room temperature, humidity, or the concentration of certain gases or odors at home according to defined parameters. However, for works of art, this is particularly important to preserve them in the long term.

Read more →

Cleaner Water

Do you know?

ONLY 1.2 % OF THE WORLD'S WATER IS USABLE FOR LIFE

97.5 % of the water on our home planet is saltwater; in fact, it is the oceans that make the earth appear so blue from space. But even the remaining 2.5 % of freshwater is not entirely available for our daily lives.

MANN+HUMMEL Water & Fluid Solutions is the division that is responsible for the careful and sustainable use of this vital resource for humanity.

Read more →

Do you know?

MEDICINES AND CONTRACEPTIVE PILLS ARE A BLESSING – BUT NOT FOR RIVERS

Municipal wastewater treatment must master many challenges. One of the biggest is the contamination with medicines or other microbacteriological or microbiological residues in wastewater. Conventional sewage treatment plants remove these inadequately from the wastewater.

MANN+HUMMEL counters this pollution of the wastewater with membrane bioreactor processes and by adding activated carbon.

Read more →

Only one liter of maple syrup is made from 40 liters of maple sap

DO YOU KNOW?

Maple syrup is a popular natural sweetener because it contains over 65 antioxidants.

Traditional production, i.e., transforming the sap into syrup, is time-consuming and energy-intensive because of the large quantities of water that must be removed. This is done conventionally using a multi-stage evaporation plant with large stainless-steel pans arranged in a row.

Reverse osmosis is faster and requires less energy to remove the water.

Read more →

Combined management report of MANN+HUMMEL International GmbH & Co. KG, Ludwigsburg, and the Group for the 2021 financial year[1]

1 All figures are rounded. This may lead to minor discrepancies when totaling sums and when determining percentages.

1. Business model of the Group

MANN+HUMMEL is a leading global expert in filtration technology. The Group, headquartered in Ludwigsburg, Germany, has more than 80 locations on six continents. MANN+HUMMEL offers filtration solutions on the international markets in the business-to-business sector.

The current business model is divided into two business segments: **Transportation and Life Sciences & Environment.** These business segments are structured as follows:

- **Transportation** comprises the **Original Equipment** (OE) and **Aftermarket** (AA) business units.
- We serve the automotive industry (Automotive Solutions) with air filter systems, intake systems, liquid filter systems, and technical plastic parts. Construction and agricultural machinery manufacturers, rail vehicles, ships, and energy technology also rely on MANN+HUMMEL technologies.
- **Life Sciences & Environment (LS&E)** is divided into the **Air Filtration** and **Water & Fluid Solutions** divisions.
- In LS&E, we develop pioneering solutions for air and water filtration. These include filters for indoor and outdoor spaces, clean rooms, and industrial applications, as well as stationary and mobile air purifiers with HEPA filters for the safe separation of viruses, bacteria and other microorganisms. Some of the cabin air filters have anti-allergenic and anti-microbial functionality.
- MANN+HUMMEL solutions can be found in offices, schools, commercial and industrial buildings, and explosive zones such as offshore oil platforms. Stationary systems for the filtration of fine dust and nitrogen dioxide and improving outdoor air quality are also part of our product portfolio.

Our water filtration systems are used for water and wastewater treatment in municipal and industrial applications. In this way, scarce freshwater resources are efficiently utilized and recycled. Special applications in the food sector, biotechnology, or other ultra-pure water areas such as microelectronics are further areas of application.

Digital services and intelligent solutions tailored to the customers' individual needs are increasingly complementing the portfolio: For example, the connection of products via the Internet of Things (IoT), the analysis of data in the cloud, specifically developed algorithms, and user-friendly apps.

The Transportation business field accounts for about 91% of our revenue, and the LS&E business field for about 9%. Strategically, both business fields serve the growing demand for innovative filtration products.

MANN+HUMMEL focuses not only on profitable growth but also on increasing competitiveness and employee and customer satisfaction.

Accordingly, MANN+HUMMEL standardizes selected processes and combines them in Global Business & Technology Solutions. This reduces costs on the one hand and establishes a strong service culture on the other. Because here, too, customer orientation is at the center of all activities. In addition, the **standardization of business processes** is also an important prerequisite for the **digitalization** of these processes.

In addition to the business units and Global Business & Technology Solutions, operations at MANN+HUMMEL is also bundled organizationally. A Group-wide control system leads to faster decisions and increases the dynamics in the company. In this way, we will continue to use global synergies and best practices to work more efficiently and serve our current and future markets even better.

2. Research and development

The earth's population is growing, but the planet and its resources are not. Therefore, it is all the more important to conserve resources, process them, and **separate the useful from the harmful**.

Our company is responding to this steadily growing demand for filtration solutions. As one of the leading filtration suppliers, we have a responsibility to a world worth living in by supporting it with cleaner, filtered resources.

We also bear responsibility for our employees, customers, and business partners. Therefore, we are expanding our service portfolios and service offerings in a market-oriented manner.

This forward-looking, expansion-oriented focus on strongly growing markets supports the continuous further development in our traditional business areas. We take a holistic approach with our customers and develop sensors, actuators, and controls for components, complete systems, and new drive solutions. Thus, we create added value from digitalization solutions and integrate networked systems with artificial intelligence (also via the cloud) to predict and avoid functional limitations and improve product performance or extend their service life.

Considerable effort is required to extend this lead in numerous filtration technology product categories. Around 800 employees of the MANN+HUMMEL Group work in research and development; in 2021 alone, the company spent **EUR 113.3 million** (2.7% of sales revenue).

The **79 patents** applied for in the reporting year added to the more than **4,500 existing patents**. They formed a legally secure basis for our unique solutions.

This dynamic pursuit of technological advancement is structured in the centers of competence with directive competence. It is implemented in regional clusters (engineering centers) and supported by local research and development centers (application centers).

Since 2016, we have had an Internet of Things Lab (IoT Lab) at our site in Singapore. Here, our digital specialists primarily develop digital solutions and services and thus strengthen the holistically-oriented networked filtration competence.

Transportation

In 2021, MANN+HUMMEL focused very strongly on the digitalization of product development and the increasing importance of alternative electric and hydrogen drives. The goal was (and still is) to shorten development times until market maturity while at the same time reducing costs in the development area. Significant progress was made on this path of digital transformation as well as in the area of research and development. A new digital platform in the laboratory areas and test centers standardizes and digitalizes the entire testing and inspection process. This transfers all data from part and component testing into a database and makes it accessible for **data analyses**, which can then be used, for example, as input into **improved simulations** and **digital twins**.

Sales of electric vehicles increased again in 2021. MANN+HUMMEL is taking this development into account by expanding its product portfolio in battery-electric drives and fuel cells. These include water separators, pressure equalization elements, particle filters for liquid circuits, e-axle oil filters and modules, and flat membrane humidifiers. Research into nanofibers as a filter material for cabin air filters in vehicles led to a patent in the reporting period that was directly incorporated into new series orders. Nano filter technologies filter up to 95% of the so-called PM1 particles (very fine particles with a diameter of less than 1 µm) from the air.

With further solutions in the area of fine dust filtration, the positive cleaning effect benefits not only the vehicle occupants themselves (as with classic cabin filters) but, above all, the environment. In 2021, the development of the second generation of fine dust filter boxes was completed**. "PureAir"** is mounted on the vehicle roof and actively reduces fine dust particles from the environment by filtering the ambient air – even when the vehicle is stationary. Thus significantly reducing the fine dust pollution in the surrounding area.

Fine dust filter systems integrated into the vehicle, such as those fitted to the Mercedes-Benz SUSTAINEER concept car, have a similarly positive effect on the environment. The moving vehicle "collects" fine dust, thus ensuring a less polluted environment.

For several years, brake dust has been one of the main focus areas of MANN+HUMMEL's research activities. Significant progress led to the first series production order for **brake dust particle filters** in 2021 – a milestone on the way to environmentally friendly transport technologies.

In the heavy-duty sector, new oil filters for hydraulic systems as well as new fuel pre-filters were developed. MANN+HUMMEL completed the development of self-cleaning air filters with their successful market launch of the high-performance air filter ENTARON XR.

In the area of material development, supply chains were secured by defining, validating, and approving alternative materials for a wide range of product groups. This contributes to securing the supply chains even in the case of pandemic-related restricted global supply scenarios.

Life Sciences & Environment

Air Filtration

2021 was marked by the optimization of existing solutions and expanding expertise into related application areas.

Further areas of application were identified and evaluated for the existing Filter Cubes and OurAir SQ2500 product lines.

After acquiring the helsa Functional Coating division from helsa GmbH & Co. KG in 2020, molecular filtration for building and process technology became an integral part of the MANN+HUMMEL solution portfolio in the year under review.

The further development of our filter media and impregnations has expanded the possible applications of our products. For example, an odor filter was developed especially for indoor air cleaners, which removes organic odors and thus improves the quality of living and working indoors.

Energy consumption is another aspect of our molecular and air filtration solutions that is relevant to the environment and costs. In 2021, for example, we succeeded in optimizing one of the air filtration solutions for building services so that the **annual energy consumption is reduced by more than 15%**. In the face of rising energy prices, this innovation gives the product line a significant advantage.

For the Asian markets, we have successfully developed a full range of air purification solutions covering various requirements. A new air purifier series was certified for the Chinese market for use in hospitals.

In 2021, a customized industrial air purifier with a two-stage filter system was developed. We also localized one of our existing technologies for industrial oil separators from the US market.

Pulse-Jet cartridge filters were added to the product portfolio for filtration solutions in power generation. Customized development projects also successfully concluded in 2021, with the first batch of a HEPA air filter element for commercial air cleaners using expanded polytetrafluoroethylene (ePTFE) membrane technology. Research into nanofibers as a filter material for cabin air filters led to a patent in the reporting year that secures the economically valuable competitive edge: These filtration solutions filter virus-laden aerosols almost entirely out of the ambient air and thus significantly reduce the spread of infections via the air.

Water & Fluid Solutions

A growing challenge worldwide is wastewater contamination with microplastics, multi-resistant germs, and micropollutants. MANN+HUMMEL has developed the **BIO-CEL® activated carbon process** to separate these various risky substances. A pilot plant using this technology was built in the year under review for the municipal sewage treatment plant in Wiesbaden, Germany, and successfully went into operation. In addition, further research cooperation with important German water and wastewater associations were underway: In addition to Entsorgungsbetriebe der Landeshauptstadt Wiesbaden (ELW) also with the Emschergenossenschaft-Lippe-Verband (North Rhine-Westphalia) and the Berliner Wasserbetriebe. The respective projects were funded by the Deutsche Bundesstiftung Umwelt (Wiesbaden), the Ministry for the Environment, Agriculture, Nature Conservation and Consumer Protection of the State of North Rhine-Westphalia, and the Federal Ministry of Education and Research.

The technology is also suitable for retrofitting existing wastewater treatment plants; a project in Germany and a project in Switzerland were awarded contracts in 2021 for this solution to optimize treatment performance.

The BIO-CEL® process is scalable and will be further developed accordingly. A first development step is the application of the technology also for smaller institutions such as hotels and recreational facilities. MANN+HUMMEL presented the **BIO-CEL® EASY** module at the Aquatech trade fair in Amsterdam in November 2021.

In 2021, the **PureULTRA** hollow fiber module was launched; it is an ideal pre-treatment step for reverse osmosis.

Also in 2021, the China Health Commission approved a drinking water filtration element for volume sales.

Corporate Ventures

We continued and intensified our participation in forward-looking companies in 2021.

The company's declared goal is to also support the development of a more sustainable future through strategic investments in start-ups that develop new, sustainable technologies.

In 2021, MANN+HUMMEL, therefore, invested in two companies that can meaningfully complement and expand the core business in Transportation and LS&E through ecologically oriented innovations.

Both investments open up opportunities to replace processes that currently tend to pollute the environment with sustainable processes. The existing investments continued to develop positively in 2021.

3. Macroeconomic and sectoral framework conditions

Global economic development in 2021

The global economy grew in the first quarter of 2021. This growth was mainly driven by a strong US economy supported by an extensive stimulus program.

The global rise in COVID cases, bottlenecks, and supply chain disruptions slowed the recovery and prevented further expansion in global industrial production. Rising inflation was another factor.

The forecast for world output growth (measured at purchasing power parity) was revised to 5.7% in 2021 and 4.5% in 2022, a downward revision of the previous forecasts by 0.2 and 0.5 percentage points for 2021 and 2022, respectively.

GDP in Germany grew by 2.7% in 2021, and GDP in the euro area grew by 2.2% in the same year, despite the ongoing pandemic and supply shortages.

In the United States, economic expansion remained strong, and GDP was expected to increase by 5.6% in 2021. China recorded a 7.8% increase in GDP in 2021, despite a real estate crisis and significant challenges related to the COVID pandemic. Russia and Brazil also recorded GDP growth of 3.7% and 5%, respectively, in 2021.

Automobile market: Volatile

The year 2021 was turbulent, especially for the international automotive markets. There were some significant increases in the first half of the year (due to the low year-on-year comparison and catch-up effects); however, in the second half of the year, the trend was negative. The shortage of semiconductors, faltering supply chains, and shortages of other preliminary products and raw materials restricted production. Rising prices for energy and logistics reduced profitability.

In the European passenger car market, just under 11.8 million new vehicles were registered in 2021, around 2% fewer than in the previous year. The five largest individual markets developed differently in the past year: In Italy, a significant plus was realized (+6%). In France, Spain and the United Kingdom the increases were lower (+1%). In Germany, even fewer passenger cars were registered than in the previous year (–10%).

In the US, light-vehicle sales (cars and light trucks) grew by 3% to 14.9 million vehicles in 2021 but remained well below the pre-crisis level of around 17.0 million vehicles in 2019.

The Brazilian light vehicle market ended 2021 just above the previous year's weak level. Around 2.0 million newly registered vehicles represented an increase of 1%.

The Chinese passenger car market ended 2021 with a market volume of 21.1 million newly registered vehicles and thus grew by 7%. The annual balance was therefore also better than in the pre-Corona year 2019. In India (+27%), Japan (–4%), and Russia (+4%), demand developed very differently.

Air Filtration market (non-automotive): Growth

LS&E operates in several sectors of the air filtration market, of which the commercial heating, ventilation and air conditioning (HVAC) segment is the most important today.

The global market growth in this sector was 3.8% in 2021.

Asia is the fastest growing region, with growth in the HVAC segment of 5.1% compared to 2020, while the European and North American HVAC markets are growing at 2.8% and 3.2%, respectively.

Other air filtration markets in which MANN+HUMMEL is active include power generation, molecular filtration, and operating room filtration.

With the strategic investment in Pamlico Air in 2021, MANN+HUMMEL entered the residential air filtration segment. This segment grew by 4.2% worldwide in 2021.

Increased awareness of the need for the highest possible air quality, heightened by the COVID-19 pandemic, is a strong driver for LS&E's air filtration markets. This is because governments are also imposing increasingly stringent air quality regulations. Another growth driver is the demand for more energy-efficient filters.

Membrane market: Growth

The global market for reverse osmosis, ultrafiltration, and microfiltration membrane elements, most of which are attributable to the MANN+HUMMEL Water & Fluid Solutions division, grew by 4.4% in 2021. Africa was the strongest growth region with an increase of 6.7%, although it only accounted for 4.3% of the total market.

Asia was also dynamic (+5.6%); the continent had a 52.1% share of the total market.

The largest market segment, with 29.2%, is seawater desalination. With an increase of 5.8%, desalination was also the fastest-growing segment. Dynamic segments also include water, mining, and chemicals.

A key growth driver for the membrane filtration market is increasing consumer awareness of clean water and the resulting demand. Independent of this consumer interest, governments are also enacting stricter regulations on water quality.

4. Business performance

Global challenges in the automotive industry also marked 2021: the COVID-19 pandemic, supply chain disruptions, and rising raw material costs had a restrictive impact on sales.

Transportation | Original Equipment

In Europe, challenges led to lower volumes for original equipment manufacturers. Volumes remained at the previous year's low level in the US, while emerging markets were less affected and recorded growth.

EUROPE
Volumes in Europe in 2021 were around the same level as in 2020. Due to the semiconductor shortage, the passenger car business was weaker than the previous year. Heavy-duty on-road and heavy-duty off-road segments recorded encouraging growth. **MANN+HUMMEL was able to win new orders in all areas; the Heavy-Duty segment was particularly successful**. Several customers in this area have awarded product developments from our company with innovation prizes. Filtration solutions for e-axles also attracted great interest. These axes reduce the complexity of electric drives by combining motor, gearbox, and power electronics in one compact unit, thus significantly increasing efficiency. Transmission oil filters are essential for the proper operation of e-axles.

THE AMERICAS
In North, Central, and South America, business volume grew by 4% compared to 2020; the Heavy-Duty segment showed particularly high growth, both on-road and off-road. Significant orders were won in all areas, for example, for filtration solutions to protect fuel cell stacks.

To ensure further diversification of the business, we launched a cabin filter system with a new customer and new filtration programs.

In addition, General Motors awarded us **"Supplier of the Year"** for the 26th time.

CHINA
MANN+HUMMEL sales in China were slightly down in 2021, despite growth in the heavy-duty off-road sector. With various filtration solutions, many new orders were acquired for passenger car applications and heavy-duty manufacturers (off-road).

A new, highly efficient production line for cabin filters went into operation to meet the increased demand.

ASIA EXCEPT CHINA
Since 2021, MANN+HUMMEL has been looking at the Asian markets outside China separately from the economic development in China to **focus more on additional business development**. Business development in this region was characterized by strong growth in all areas: **+21% compared to 2020**. New business was also recorded in filtration solutions for fuel cells for passenger cars and in the heavy-duty sector.

Transportation | Aftermarket

For MANN+HUMMEL, the global aftermarket developed predominantly positively in 2021, with **global sales growth of over 10% compared to 2020**. Increased inquiries for cabin air filter systems on a scale of more than 30 new projects in 2021 speak for themselves.

EUROPE

The strong growth in the original equipment aftermarket (OES), which started in 2019, continued significantly in 2021. In particular, the sub-segment of innovative cabin air filters showed good double-digit sales growth compared to 2020. In addition, there were significant orders for liquid filters in the heavy-duty segment.

Sales of filter elements under MANN+HUMMEL Aftermarket Brands (MANN-FILTER, Filtron, Wix Filters) in the independent aftermarket also showed double-digit growth. We were able to place numerous new products in this market and thus offer a market coverage of 97% for passenger cars and vans.

For the promising market of electric-powered vehicles (fully electric or plug-in hybrids), we can already offer solutions for 1,200 different models.

AMERICAS

Strong demand, including in the US, was stable in 2021; in the independent aftermarket (IAM), we achieved significant sales growth compared to 2020. Growth was particularly strong in the key markets of Brazil, Mexico, Argentina, and Colombia.

The roll-out of the **SENZIT smart sensor technology** continues to progress in the North and Central American markets. SENZIT is a digital predictive maintenance platform for commercial vehicles – from trucks to construction and agricultural machinery, mining applications, and more.

CHINA

Thanks to the rapid introduction of new products in the Chinese market through a comprehensive localization strategy, we achieved double-digit growth there.

With partnerships in e-commerce, sales in this area grew by over 40% compared to the previous year. New marketing and sales concepts targeted customers across the Chinese market.

ASIA EXCLUDING CHINA

The aftermarket in Asia excluding China grew by 15% compared to 2020, despite pandemic-related sales contraction in the first half of 2021. The primary reason for this success was close customer loyalty.

MANN+HUMMEL used the pandemic period to secure the achievement of its ambitious targets in the Asia region through structural optimizations.

The successful expansion of the distribution lines for the IAM product brands MANN-FILTER, WIX Filters, and Filtron in India, Southeast Asia, the Middle East, and Africa led to record growth compared to 2020.

TURKEY

Strong double-digit sales growth was realized through the successful expansion of the local Filtron activities.

Life Sciences & Environment

Air Filtration

The air filtration business also faced challenging global economic conditions in the year under review, including disrupted supply chains and raw material shortages. Nevertheless, it held up well. New projects in power generation in Germany and the Middle East were won, and sales in Japan and Korea developed positively.

EUROPE

In Munich and Ludwigsburg, MANN+HUMMEL installed new **Filter Cube systems** to clean the outside air on particularly polluted streets; in Eastern Europe, there are also new growth opportunities. A first pilot project for air purification in underground stations has also been implemented, opening new areas of application. In the Operating Theater segment, we received an order for the Erlangen Surgery Centre project, currently one of the largest hospital projects in Germany.

The area of **filtration solutions for household appliance applications (Home Appliances)** has developed positively and shows significant growth potential for the future.

In Heating Ventilation and Air Conditioning (HVAC) Technology, growth was 14% compared to the previous year, despite the well-known challenges around raw material shortages and cost increases. Strong demand for High Efficiency Particulate Air (HEPA) filtration for various indoor air applications was a key contributor.

OurAir, the MANN+HUMMEL business for professional indoor air purification (including viruses), recorded strong growth compared to the previous year. A large number of units were sold on the German market in particular. **The areas of application are diverse: schools, commerce, medical institutions, events, and restaurants are being equipped with the effective HEPA filter solutions in times of pandemic to minimize the risk of infection.**

AMERICAS

Sales also increased in the American markets, driven primarily by strong demand in the HVAC sector. Tri-Kleen HEPA air purifiers for schools and workplaces also contributed greatly.

MANN+HUMMEL expanded local production capacities to meet the increasing demand in Canada. For a new production facility of one of the largest car manufacturers, the company received an order to equip it with comprehensive air purification solutions.

MANN+HUMMEL further strengthened its presence in the North American market by acquiring a majority stake in CleanAire, LLC (Pamlico Air), a company that distributes high-quality air filtration solutions – including for domestic use – through multi-level trade.

ASIA

In Asia, we delivered our first air filters for power generation and recorded our first order for electrostatic oil mist separators for kitchen applications; a leading e-commerce platform ordered large quantities of air filters for its data and computer centers.

Water & Fluid Solutions

The change of name from MICRODYN-NADIR to MANN+HUMMEL Water & Fluid Solutions was completed in 2021. The focus of activities was on accelerating growth in the key markets of Europe, China, and the USA.

In the drinking water sector, MANN+HUMMEL acquired 100% of the company Seccua in 2021.

In the wastewater sector, sales of the membrane bioreactor product line initially declined due to the pandemic but recovered by the end of 2021. However, promising projects launched in 2021 suggest that a strong order intake can be expected in 2022. The focus of activities continued to be on large municipal wastewater treatment projects, which led to a large order intake in these areas.

Due to the increasing demand for vaccines, the need for membrane solutions to produce highly purified water rose strongly in 2021.

Sales of hollow fiber membranes for ultrafiltration, which were already stable in China and India, recorded strong growth in other key markets in America and Europe during the reporting year. A large retrofit project in China and new business in the USA for the wastewater treatment of an oil field played a decisive role in this.

Also, in China, the first major sales for drinking water treatment plants started after the localization of the product line for the Chinese market. The local government in Kunshan granted state approval for the discharge of treated wastewater from the production plant; this was the final step in completing MANN+HUMMEL Water & Fluid Solutions' operations at the Kunshan site.

Our digital solution for optimal operation and predictive maintenance of wastewater treatment plants with membrane bioreactor technology, STREAMETRIC, was in high demand in 2021. Sales doubled compared to the previous year and a new wastewater treatment plant in Oklahoma, USA, is showing interest in the digital technology by nominating STREAMETRIC for its project. The technology enables users to take various sustainability aspects into account. This is because optimizing wastewater treatment plants in operation can also achieve important energy optimizations.

5. Net assets, financial position, and results of operations

Profit situation of the MANN+HUMMEL Group

The sales revenue of the MANN+HUMMEL Group increased by 9.4% or by EUR 361.2 million to EUR 4,199.9 million (previous year: EUR 3,838.7 million) in the past fiscal year. However, the growth in sales revenue was influenced by negative exchange rate effects. Adjusted for these negative exchange rate effects in the amount of EUR 70.1 million, the growth in sales revenue was 11.2% and thus significantly above the previous year. However, it must be considered that the previous fiscal year 2020 was significantly influenced by the Corona crisis. The MANN+HUMMEL Group was thus able to almost reach the pre-crisis level again in 2021. However, 2021 was still affected by the effects of the COVID pandemic, particularly in the Transportation division. Supply chain disruptions and rising raw material costs were major factors influencing business development in this area.

In the traditional automotive business (Transportation), sales revenues in 2021 were 8.0% above the previous year. We were able to achieve growth in both the original equipment business and the spare parts business compared to the previous crisis year 2020. Thus, we compensated for negative exchange rate effects of –1.8%, so the actual growth was 9.8%.

The MANN+HUMMEL Group achieved significant growth in sales revenue in the **Life Sciences & Environment** business field, consisting of the Air Filtration (previous year: air) and Water & Fluid Solutions (previous year: water) divisions. Here, sales revenues increased by 26.5%. **MANN+HUMMEL thus achieved 9.0% (previous year: 7.8%) of group sales and thus consistently strengthened its activities in this area.** Among other things, this was demonstrated by the acquisition of a further investment: In March 2021, the MANN+HUMMEL Group acquired a majority stake in US-based CleanAire, LLC (Pamlico Air), a manufacturer and supplier of high quality air filter products, thus strengthening its existing air filter portfolio. In the past financial year, CleanAire, LLC (Pamlico Air) contributed sales of EUR 40.5 million to the business segment's sales revenue in the ten months it belonged to the group.

After the 2020 financial year was strongly influenced by the COVID crisis and the measures initiated to restructure the global network of locations, MANN+HUMMEL was confronted with new challenges in 2021. Various factors led to interruptions in the logistics and supply chains. Among other things, this was associated with temporary plant closures of customers, especially in the area of passenger car manufacturers. At the same time, freight and transport costs rose to historic highs. In addition, the general increase in the price of input materials, such as steel and synthetic resins as well as higher electricity and gas prices had a lasting effect on the operating margin of the entire MANN+HUMMEL Group. Not all cost increases could be passed on to the respective markets sufficiently. This development is also reflected in the percentage development of the cost of sales. While these were still at 74.9% in relation to sales revenue in 2020, they rose to 76.6% in the 2021 financial year. As a result, the gross margin, the gross profit in relation to sales revenue, decreased from 25.1% to 23.4%. In absolute terms, the gross profit rose to EUR 984.3 million (previous year: EUR 964.0 million) and thus by 2.1% compared to the 2020 financial year.

EBIT – earnings before interest and taxes – was higher in the 2021 financial year than in the previous year, despite the difficult conditions already described, and rose by EUR 26.0 million or 15.8% to EUR 191.1 million (previous year: EUR 165.1 million). The operating margin (EBIT in relation to sales revenue) was 4.6% (previous year: 4.3%). However, the previous financial year was still affected by significant negative effects from restructuring measures and unscheduled depreciation. Special effects also influenced the 2021 business year. As in the previous year, the Group implemented far-reaching measures to improve structures and processes. This essentially related to the sites in Europe and North America. In this context, the MANN+HUMMEL Group incurred restructuring expenses of EUR 13.4 million (previous year: EUR 69.8 million). In the previous year, the Group had already reported on the closure of the site in Wolverhampton, UK. The MANN+HUMMEL Group realized an income of EUR 9.2 million from the sale of the properties at this location in the 2021 financial year. In contrast to the previous fiscal year, the impairment test of the cash-generating units did not lead to an additional need for devaluation.

As a result, extraordinary expenses of EUR 4.2 million (previous year: EUR 77.3 million) were incurred in the 2021 financial year. Adjusted for these expenses, the operating result was EUR 195.3 million (previous year: EUR 242.4 million). The operating adjusted EBIT margin was 4.7% (previous year: 6.3%). Compared to the previous year, the decline was due to the significant cost increases described above, and it was impossible to compensate for them in the market entirely. The growth in sales revenue was thus in line with expectations and corresponded to the annual forecast made in the previous year. There, we had assumed a significant growth in turnover. The moderate increase in earnings and the improvement in operating margin quality forecast in the previous year were also achieved in 2021.

In addition to EBIT, ROCE (return on capital employed) serves as an important Group control parameter. ROCE is the return on capital employed to generate the reported EBIT. **The return on capital employed was 10.0% in the reporting year (previous year: 8.3%).**

In both the past and the previous business year, it was affected by special effects. ROCE thus increased compared to the previous year but was below the forecast of 12% defined for 2021. Adjusted for the above-mentioned special effects, ROCE was 10.2% (previous year: 11.9%).

The open order backlog is approximately EUR 2,339 million (previous year: EUR 1,440 million), which is EUR 899 million or 62.4% above the previous year.

Research and development costs amounted to EUR 113.3 million in the reporting year (previous year: EUR 108.1 million). In relation to sales, they decreased slightly from 2.8% in 2020 to 2.7% in 2021. This means that the MANN+HUMMEL Group's expenditure on research and development is almost at the same high level. **This demonstrates the importance of investments in new technologies and the associated strategic orientation of our company in the existing and especially in new business areas.**

Selling expenses rose to EUR 460.2 million in the business year (previous year: EUR 400.2 million). The strong increase of 15.0% is because in the 2020 financial year, in connection with the COVID crisis, marketing expenses, among other things, were reduced to a minimum level and have now been increased to normal levels in 2021 in line with the renewed growth in sales. The main reason for the increase in marketing costs is the sharp rise in logistics and freight costs. On the one hand, this is due to the increased sales revenue; on the other hand, we had to cope with significantly rising freight costs in the reporting year. In addition, necessary special freight and costs for external logistics service providers also led to rising costs. Thus, the share of selling expenses in relation to sales revenue rose from 10.4% in the previous year to 11.0% in the past business year.

General administrative expenses also rose by EUR 36.5 million or 24.2%, from EUR 151.0 million to EUR 187.5 million. In relation to sales revenue, this is an increase from 3.9% to 4.5%. This is mainly due to higher personnel costs, external service and consulting costs, as well as higher insurance costs.

Other operating income developed positively. This rose to EUR 148.9 million in 2021 (previous year: EUR 98.1 million). This was due to increased income from currency translation. In addition, MANN+HUMMEL generated income from the disposal of fixed assets, whereby this is essentially a result of the sale of the building in the context of the closure of the plant in Wolverhampton, UK, as already explained. In addition, MANN+HUMMEL realized income from a VAT receivable from previous fiscal years in Brazil in the amount of EUR 10.5 million and the reflection of inflation effects in Argentina. The reduction in other operating expenses was also positive. These fell by EUR 56.6 million to EUR 181.1 million. However, the previous year was significantly influenced by restructuring expenses of EUR 69.8 million in connection with the ongoing global reorganization and transformation.

In the 2021 financial year, restructuring costs of EUR 13.4 million were incurred. Expenses from currency translation increased significantly by EUR 14.3 million compared to the previous year. They are not offset against the income from currency translation. Other operating expenses also include legal disputes in Brazil amounting to EUR 10.6 million. In addition, warranty expenses in the 2021 financial year were around EUR 11.8 million lower than in the previous financial year (previous year: EUR 14.3 million).

The financial result developed positively. It improved by EUR 47.4 million to EUR –37.5 million (previous year: EUR –84.9 million). This is mainly due to realized income from securities amounting to EUR 23.4 million. The positive development of the stock markets and effective fund management contributed to this. In addition, the interest expenses and income included in the financial result improved by a combined EUR 21.1 million. This is due to the repayment of loans taken out by MANN+HUMMEL and credit lines utilized. In addition, the financial result includes expenses and income from hedging transactions and factoring and leasing transactions, as well as expenses due to inflation effects in connection with MANN+HUMMEL's activities in Argentina.

Tax expenses as of December 31, 2021 increased from EUR 28.0 million in the previous year to EUR 39.8 million. This results, among other things, from the revaluation of transfer price risks in the annual financial statements as of December 31, 2021 and effects from value adjustments and reversals of deferred tax assets.

Financial position of the MANN+HUMMEL Group

The equity ratio of MANN+HUMMEL, considering the capital economically attributable to the shareholders, improved from 20.7% to 23.5% in the 2021 financial year. **The economic equity (sum of equity and capital economically attributable to the shareholders) increased from EUR 797.4 million to EUR 1,020.2 million.**

To ensure sufficient liquidity, the MANN+HUMMEL Group has short-term credit lines of EUR 845.9 million (previous year: EUR 842.8 million) available at banks. On the balance sheet date, EUR 39.6 million (previous year: EUR 33.7 million) of these credit lines had been drawn down and were therefore shown as liabilities to banks. The majority of the credit lines amounting to EUR 806.3 million (previous year: EUR 809.1 million) were not utilized.

The Group issued an **ESG-linked green promissory note for EUR 150 million in 2021.** The proceeds from the transaction were used to repay existing promissory note loans. In addition, the Group repaid maturing obligations from promissory notes and bilateral loans. Overall, a net reduction in financial liabilities to banks of EUR 63.2 million (previous year: EUR 183.2 million) was achieved.

In addition, lease liabilities of EUR 39.0 million (previous year: EUR 34.7 million) were paid.

The MANN+HUMMEL Group continues to act conservatively with financial instruments with long term and essentially fixed interest rates. The loans taken out are predominantly in the euro currency. In addition, we have also taken out foreign currency loans in US dollars.

The maturities of these financings are mainly spread over the next five years. Our registered bond (NSV) and individual tranches of our green promissory notes have maturities up to 2034. The associated interest rates are mostly fixed.

The balance sheet of the MANN+HUMMEL Group shows the maturity structure of liabilities to banks separated into non-current and current liabilities. The loan repayments due in 2021 were reclassified from non-current to current liabilities in these financial statements. Due to the planned higher repayment in 2021, this led to a reduction in non-current and an increase in current financial liabilities, among other things, in the balance sheet as of December 31, 2021.

The off-balance sheet obligations and contingencies have increased significantly compared to the previous year. This is due to an increase in purchase commitments and guarantees issued. The obligations from leasing transactions are to be recognized in the balance sheet due to the application of IFRS 16 "Leasing". The individual items of contingent liabilities and other financial obligations are presented in the notes to the consolidated financial statements under Articles 34 and 35.

Investments in property, plant, and equipment amounted to EUR 179.7 million in the past financial year (previous year: EUR 126.3 million) and were thus EUR 53.4 million or 42.3% above the previous year. The Group invested 4.3% (previous year: 3.3%) in property, plant, and equipment in relation to sales revenue. The investments include EUR 59.5 million (previous year: EUR 18.8 million) in additions from the conclusion of new leases.

A new distribution platform was built in Las Vegas/USA on the West Coast for optimized parts supply to the American aftermarket. Further investment projects, especially in the Life Sciences & Environment Division, will form the basis for further growth in the various business areas of the MANN+HUMMEL Group and strategically strengthen the company for the upcoming transformation processes.

Sufficient liquidity was available for our investments in new customer projects in the reporting year. As in previous years, we financed these through the operating cash flow.

Cash flow from operating activities deteriorated from EUR 384.7 million in the previous year to EUR 276.1 million. A significant change resulted from the increases and decreases in long-term provisions. In the previous year, the MANN+HUMMEL Group had allocated significant amounts (EUR 56.0 million) to provisions for restructuring measures as part of the Group-wide measures introduced to optimize production structures. This year, these provisions were partially used in the amount of EUR 9.7 million. As already described, a provision for a legal dispute in Brazil was recognized in the financial statements. This led to an opposite effect of EUR 10.3 million in the operating cash flow.

Due to the operational challenges in 2021 in relation to the worldwide disruptions or interruptions in the supply chains and the growing demand in the spare parts business, MANN+HUMMEL had to build up inventories to a not inconsiderable extent in order to ensure sufficient delivery capacity. This led to a reduction in cash and cash equivalents of EUR 107.3 million (previous year: EUR 10.0 million). In addition, the cash-relevant increase in trade receivables amounted to EUR 140.7 million (previous year: EUR 25.5 million). This is due to the growing business volume. The cash inflows from the decrease in other assets of EUR 3.3 million include items such as VAT receivables, bills receivable, and receivables from forward exchange transactions. The increase in trade payables of EUR 137.5 million (previous year: EUR 18.8 million) and other liabilities also had a significant impact. This increase is due to the growing business volume and ongoing operational efforts to optimize net working capital further. The changes in other liabilities include items such as liabilities from customer rebates, liabilities from sales taxes and other taxes, and liabilities from performance-based remuneration. However, the total cash flow from these items remained almost unchanged compared to the previous year.

Cash flow from investing activities was EUR –140.9 million, EUR 21.4 million below the previous year (EUR –119.5 million). Among other things, investments in property, plant, and equipment were higher than in the previous year at EUR 120.3 million (previous year: EUR 107.3 million). This increase is due to the company's investments to strengthen the strategically important new business areas further. Concerning investments in property, plant, and equipment, this does not include the conclusion of new leasing contracts in the cash flow from investing activities. The payments for non-current assets of EUR 6.7 million (previous year: EUR 8.0 million) are **investments in venture capital for smaller and flexible start-up companies. These investments serve to develop new business areas and new product areas in the field of filtration for the MANN+HUMMEL Group.** In addition, in September, MANN+HUMMEL acquired the entire shares in Seccua Holding AG, Steingaden/Germany. In addition to the investments in strengthening the investments, further loans to non-consolidated subsidiaries, including Seccua, amounting to EUR 8.2 million (previous year: EUR 4.5 million) were also made in the previous financial year.

A key factor for the MANN+HUMMEL Group was the **acquisition of a strategic interest in CleanAire, LLC (Pamlico Air), a US manufacturer and supplier of high-quality air filter products.** CleanAire, LLC (Pamlico Air) focuses on wholesale and retail. The acquisition of 55% of the shares took place in February of the 2021 financial year. The related cash outflows amounted to EUR 45.9 million.

Cash flow from financing activities amounted to EUR –161.3 million in 2021 (previous year: EUR –279.3 million). The cash flow from financing activities includes dividend payments to shareholders of EUR 5.7 million (previous year: EUR 4.4 million). In addition, MANN+HUMMEL took out loans amounting to EUR 204.9 million (previous year: EUR 569.0 million). This includes the now successful third placement of a green bond in the amount of EUR 150 million. **This means that the topic of "sustainability", inherent in the business activity, was also further considered in the bank's financing.** 60% of the volume offered was raised with longer maturities of seven to ten years. In contrast, repayments of EUR 282.6 million (previous year: EUR 752.2 million) were made in the 2021 financial year.

As MANN+HUMMEL has stable, sufficient liquidity, no liquidity bottlenecks occurred in the reporting year. In addition, the Group has – as already described – an adequate number of credit lines available to meet financial obligations in full at the time they fall due.

There are no early repayment obligations. These would only arise in the event of a breach of applicable contractual provisions, so that no risk arises for MANN+HUMMEL.

From our point of view, there are currently no restrictions about the availability of capital.

For additional information, please refer to our disclosures in the notes.

Net asset position of the MANN+HUMMEL Group

The balance sheet total increased by 12.8% or by EUR 491.6 million to EUR 4,346.6 million (previous year: EUR 3,855.0 million). Due to the acquisition of CleanAire, LLC (Pamlico Air), the balance sheet in the 2021 financial year was significantly influenced by exchange rate effects, which also lengthened the balance sheet.

Intangible assets increased by EUR 20.3 million from EUR 885.9 million at the end of the previous financial year to EUR 906.2 million. This includes the additions from the CleanAire, LLC (Pamlico Air) acquisition. Based on the purchase price allocation, the MANN+HUMMEL Group received goodwill of EUR 34.8 million and intangible assets of EUR 15.1 million from this acquisition. In addition, EUR 1.2 million (previous year: EUR 2.9 million) was invested in intangible assets such as licenses, software, and similar rights and development costs. In contrast, intangible assets of EUR 74.2 million (previous year: EUR 73.8 million) were amortized. This amortization is due to the acquisition of intangible assets from company acquisitions such as WIX-Filtron in 2016, Tri-Dim Filter Corporation in the 2018 financial year and CleanAire, LLC (Pamlico Air). In addition, significant fluctuations in exchange rates of EUR 41.9 million led to an increase in this balance sheet item.

Property, plant, and equipment increased by EUR 69.3 million to EUR 1,040.1 million. The total investment volume in property, plant, and equipment included in this figure was EUR 179.7 million (previous year: EUR 126.3 million).

Working capital is an important performance indicator at MANN+HUMMEL and results from the difference between current assets and current liabilities. Overall, working capital increased by EUR 151.5 million or 27.1% to EUR 709.8 million compared to the previous year. In relation to sales revenue, working capital amounts to 16.9% (previous year: 14.5%). The increase was mainly caused by a rise in inventories to EUR 650.5 million (previous year: EUR 503.7 million). The interruptions in global supply chains and the growing demand, especially in the spare parts business, led to this necessary increase in inventories. There was a significant build-up of inventories, especially at the American locations. Furthermore, the first-time inclusion of CleanAire, LLC (Pamlico Air) in the amount of EUR 22.9 million led to additional inventories. Within the framework of consistent inventory management, one of the prioritized goals for the 2022 business year is to further adjust and optimize the level of inventory assets without restricting the ability to deliver to our customers. In addition to inventories, current trade receivables increased to EUR 823.2 million (previous year: EUR 649.9 million) as well as current liabilities to suppliers to EUR 763.9 million (previous year: EUR 595.2 million). Both increases are mainly due to the growth in business volume and only led to a small increase in net working capital of EUR 4.6 million. We ensure that the receivables due on the respective reporting dates are paid as far as possible through effective debtor management.

The MANN+HUMMEL Group's cash and cash equivalents amounted to EUR 192.0 million in 2021 (previous year: EUR 213.6 million). This was EUR 21.6 million less than in the previous year. Current investments, payments to company owners, company acquisitions and loan repayments were financed from the current cash flow.

In connection with the closure of the Ludwigsburg plant, the associated land and buildings will be sold in the 2022 financial year. For this reason, these were reported in a separate balance sheet item in the amount of EUR 13.1 million (previous year: EUR 12.8 million).

With effect from January 1, 2016, MANN+HUMMEL International GmbH & Co. KG became the ultimate parent company of the MANN+HUMMEL Group. Under German commercial law, the shareholders of this company have non-excludable rights of termination, which do not fulfill the requirements for reporting as equity in accordance with International Financial Reporting Standards (IFRS). Accordingly, as in the previous year, this item is reported in liabilities under "Capital economically attributable to shareholders".

In the reporting year, the equity shown in the balance sheet includes the shares of other shareholders of MANN+HUMMEL International GmbH & Co. KG. These hold 16.67% of the shares in MANN+HUMMEL Holding GmbH directly but without voting rights. This also includes the non-controlling shares of CHANGCHUN MANN+HUMMEL FAWER FILTER CO. LTD., Changchun/PR China, CleanAire, LLC, Washington NC/USA, and the US shareholders totaling EUR 170.5 million (previous year: EUR 123.4 million).

Non-current and current financial liabilities increased by EUR 60.4 million compared to the previous year to EUR 1,497.1 million (previous year: EUR 1,436.7 million). The agreed repayments were made to the banks. In contrast, short-term credit lines were used, which led to an increase in financial liabilities to banks. In addition, liabilities from leases increased by more than EUR 100 million in the context of the application of IFRS 16 (Leases) and from obligations to customers. With regard to the leasing contracts, we refer to our comments on the Group's investments. The increase in obligations to customers is due to the rise in revenue. The valuation of derivative financial instruments on the balance sheet date also led to an increase of EUR 15.9 million compared to the previous year.

The general interest rate level on the financial markets remained low in 2021. However, accelerating inflation led to a slight increase in interest rates and thus also to a moderate increase in the discount factor for determining pension provisions from 0.70% to 1.10%. Due to the higher discounting, this leads to a reduction in the amount of the provision. The pension obligations thus decreased by EUR 34.3 million from EUR 498.3 million to EUR 464.0 million.

Other current and non-current provisions increased by EUR 17.7 million to EUR 231.1 million. This is due, among other things, to a provision of EUR 10.6 million for a legal dispute in Brazil. Furthermore, in the course of increases in material prices, freight, and production costs, the expected losses for individual products also rose, which had to be taken into account through additional provisions. In contrast, provisions for personnel costs, which were significantly influenced by deferred restructuring measures and bonus payments last year, decreased. Provisions for warranty risks remained almost at the previous year's level.

Non-current and current other liabilities decreased from EUR 224.2 million to EUR 214.3 million, mainly due to the reduction in VAT liabilities.

Provisions for existing transfer pricing risks were revalued in the annual financial statement as of December 31, 2021 and taken into account accordingly.

Group balance sheet structure

Overall, the MANN+HUMMEL Group has a stable balance sheet structure. The existing short-term financing obligations can be serviced with the existing liquid funds and the available lines. The group's equity ratio is 23.5% (previous year: 20.7%). In addition to a further improvement of the operating margin, the focus in the coming business years will be increasingly on a further reduction of net working capital, further optimization of cash flows, and at the same time on further strengthening of the equity ratio.

Overall statement on business performance

Despite the wide-ranging challenges related to the global pandemic, supply chain disruption, and intensifying inflation, the 2021 financial year continued to perform positively compared to the previous financial year. The operating result is above that of the previous year, 2020, both in absolute terms and in relation to sales revenue. Sustainable cost-saving measures, which were already implemented in the previous financial years, were able to contribute significantly to this. In addition, the consistent monitoring of economic developments in the global markets made a positive contribution.

Although the Life Sciences & Environment business unit still generates less than 10% of total Group sales revenue, the unit is still in a growth phase and is developing positively. We also expect a sustainable improvement in margins and results with further growth. In particular, the acquisition of CleanAire, LLC (Pamlico Air) will bring us a significant step forward in the American market. Even though could not fully achieve the forecast targets, MANN+HUMMEL can look back on a satisfactory 2021 financial year.

Development and position of MANN+HUMMEL International GmbH & Co. KG

All the following figures refer to the individual financial statement of MANN+HUMMEL International GmbH & Co. KG in accordance with the accounting regulations of the German Commercial Code (HGB).

MANN+HUMMEL International GmbH & Co. KG is the parent company of the MANN+HUMMEL Group. The company has its registered office in Ludwigsburg. MANN+HUMMEL International GmbH & Co. KG had an average of 111 employees in 2021 (previous year: 115). These are essentially the group administration areas of Legal, Treasury, Reporting, Finance, Human Resources, and Communications.

The company's main income results from its function as the parent company of the MANN+HUMMEL Group. The services plus an appropriate profit margin are charged to the domestic affiliated companies within the framework of a business, service, and management agreement. Furthermore, a profit and loss transfer agreement exists with MANN+HUMMEL East European Holding GmbH.

In the 2021 financial year, MANN+HUMMEL International GmbH & Co. KG generated sales revenue of EUR 36.4 million (previous year: EUR 34.8 million), which resulted primarily from the charging of intra-group services.

The company generated profits of EUR 43.0 million (previous year: EUR –25.9 million) through profit and loss transfer agreements with its Group subsidiaries. Other operating expenses totaling EUR 15.7 million (previous year: EUR 15.9 million) mainly include costs for services provided by affiliated companies, corporate and legal consultancy costs, and IT expenses.

Personnel expenses increased by EUR 0.8 million compared to the previous year to EUR 18.1 million (previous year: EUR 17.3 million).

The net interest result was EUR –0.2 million (previous year: EUR –0.2 million) and includes the reduction of the discount rate for pensions as well as interest income for IC loans.

Considering taxes on income of EUR 1.2 million (previous year: EUR 0.4 million), MANN+HUMMEL International GmbH & Co. KG had a net profit of EUR 44.3 million in the 2021 financial year (previous year: net loss of EUR 24.1 million).

Of this, a profit amount of EUR 43.0 million was taken into account in the special reserves (previous year: reduction of special reserves by EUR 25.9 million).

The balance sheet total was EUR 531.8 million (previous year: EUR 493.8 million). This is due to the increase in special reserves to EUR 206.0 million (previous year: EUR 169.0 million) and relates to the profit transfer of MANN+HUMMEL East European Holding GmbH.

Receivables from affiliated companies rose by EUR 32.5 million to EUR 46.6 million (previous year: EUR 14.1 million). The main components are cash pooling credit balances with MANN+HUMMEL Holding GmbH and trade receivables from MANN+HUMMEL GmbH. Other assets amount to EUR 12.1 million (previous year: EUR 6.6 million) and mainly include input tax refunds.

Equity amounts to EUR 472.4 million (previous year: EUR 435.1 million).

Provisions amount to EUR 13.1 million (previous year: EUR 20.7 million). Provisions for pensions and similar obligations amounted to EUR 8.0 million (previous year: EUR 13.9 million). The reduction in the pension provision of EUR 6.5 million was due to the takeover of the pension obligation from MANN+HUMMEL Holding GmbH for contracts of former and active managing directors of MANN+HUMMEL Verwaltungs GmbH. The adjustment of the interest rate for pension provisions from 2.30% to 1.87% led to an increase of EUR 1.14 million. Other provisions amount to EUR 4.3 million (previous year: EUR 5.9 million) and mainly include the use of provisions for performance-related additional payments and severance payments.

Liabilities to affiliated companies amount to EUR 43.9 million (previous year: EUR 34.5 million) and mainly include the liability from the profit and loss transfer of MANN+HUMMEL East European Holding GmbH, VAT liabilities for taxable entities, and intra-group charging of services and costs.

In summary, sales revenue increased by 4% in the past business year. This was in line with our expectations. Due to the increased sales revenue and the slightly lower other operating expenses, the result before financial results and taxes increased slightly. **The financial result improved significantly – as we expected – due to the profit transfers from the subsidiaries.**

For the 2022 financial year, we are currently assuming a slight increase in sales revenue compared to the previous year for MANN+HUMMEL International GmbH & Co. KG as the ultimate parent company of the MANN+HUMMEL Group, and thus also in EBIT.

6. Opportunity and risk report

The past business year was influenced and shaped by strongly fluctuating markets, structural changes, massive economic effects of the COVID pandemic, and the chip shortage, which will continue in 2021.

In addition, the strained trade relations between the USA and China continue to pose a considerable risk, as these affect more than just the parties mentioned. After all, the increased tariffs on both sides have a negative impact on the entire global economy.

Especially internationally interwoven companies with complex supply and production chains suffer from such a development. **For this reason, every entrepreneurial decision at MANN+HUMMEL is made against the background of the associated risks and opportunities.**

In order to take account of risks, we at MANN+HUMMEL consider risks in our internal risk reporting as possible future events that could lead to our forecast (financial) targets not being achieved. Mirroring this, we define opportunities as possible events or developments that can be expected to positively effect on our planned (financial) goals.

As a globally operating company, we counter these risks on the one hand through **diversification**, i. e., a diverse product range, and on the other hand, through the **continuous improvement of our products and processes**.

We create opportunities by continuously increasing our competitiveness: We continually develop our products, expand our development competencies and drive the development and expansion of new markets. Pioneering technologies and media and vertical integration, digital and intelligent business models, and various service solutions also open up new opportunities for us.

We create synergy effects and new market access through acquisitions, such as in the Life Sciences & Environment (LS&E) segment. We are thus well equipped for this promising future market.

A key driver of our business is sustainability. With our core competence in filtration, we contribute to cleaner air, cleaner water, and cleaner mobility. We have developed a strategic approach to sustainable corporate action and published it in our Corporate Responsibility Report in 2021. This sustainability report clarifies that we are already strengthening our vision, "Leadership in Filtration" and our mission, "Separating the useful from the harmful" today and will continue to do so in the future through applications in the LS&E segment.

In the course of the future orientation towards alternative drives, there are numerous opportunities and risks for MANN+HUMMEL. We are preparing for this with various scenarios and precautions.

Our product portfolio in the Transportation division has focused mainly on the drive train of the combustion engine. As alternative drives are now displacing these engines, there is, of course, a risk of losing sales and market share. That is why we are investing in developing innovative filtration solutions for the new forms of drive.

This opens up opportunities to offer new products for future technologies and to develop this market. In addition, increased environmental awareness also creates opportunities to offer new products outside the Powertrain division. For example, these include all products grouped under the generic term “fine dust eaters”: Brake dust particle filters, fine dust filters for vehicle interiors, or stationary fine dust and nitrogen oxide filter columns. These innovative products should open up new market segments for us and new customers.

Risk and opportunity management thus represents an integral part of MANN+HUMMEL’s planning and control processes to sustainably support the achievement of corporate goals and strengthen and ensure risk awareness within the company.

Risk Management

MANN+HUMMEL Risk Management aims to regularly and continuously identify all significant risks for the corporate group at an early stage, assess them, estimate their consequences (including countermeasures), and the adequate documentation of the risk management process and its results. **To comprehensively address the rapidly changing market conditions and corporate changes (e.g., the expansion of the plants and the addition of the LS&E division), the project set up in 2019 to further develop the existing Risk Management System was continued.** In 2020, it was optimized and adjusted, taking into account the prevailing conditions/ Corona crisis. In 2021, we operationalized the risk management process. In order to increase the precision of the risk measure, we have expanded the process so that risk officers can report or record concrete risk measure values as required. Our Risk Management System is based on common standards such as COSO and ISO and is precisely adapted to MANN+HUMMEL’s conditions.

Risk Management is integrated into the existing MANN+HUMMEL organization and covers all organizational units, functions, and processes. It optimally supports all those responsible through a company-wide planning, reporting, and controlling system and precisely defines responsibilities as well as goals and processes. The risk officers are responsible for identifying, assessing, controlling, reporting, and reassessing their risk situation annually and reporting their risk portfolio to Group Risk Management.

The organizational framework of our Risk Management is provided by the Group Treasury & Risk Management function. It reports directly to the Group Chief Financial Officer.

Based on the reported information, the Group Risk Management determines the current risk portfolio of the group, which is made available to the Management Board and the Supervisory Board annually in a report with detailed explanations. This also includes the mathematical aggregation of risks at the group level. In this process, similar risks are aggregated, and their group-wide dependency or impact is taken into account to ensure that overarching risks are identified and managed with overarching measures. In addition, significant changes in the assessment of already known risks as well as new significant risks are reported at any time and reported ad hoc to the Executive Board.

Potential risks are classified according to two criteria: **Probability of occurrence and extent of risk**. The extent of the risk is, in turn, divided into five categories – classified according to possible effects on the business result within two years:

- **going-concern risk** (possible costs of more than EUR 40 million)
- **significant risk** (possible costs of between EUR 25 million and up to EUR 40 million)
- **high risk** (discernible effect on business activity, possible costs of between EUR 15 million and up to EUR 25 million)
- **moderate/medium risk** (possible costs between 5 million EUR and up to 15 million EUR)
- **low risk** (possible costs of up to EUR 5 million)

Due to the still tense economic situation, we have kept the intervals of probability of occurrence at the previous year's level so that the principle of prudence is taken into account.

Likewise, risk-limiting measures (mitigation measures) are reported and evaluated. The effectiveness and planned implementation of these measures over time are monitored by Central Risk Management.

The remaining risk after implementation of the measures is presented in the internal risk report as net risk.

With regard to the potential negative effects, a lower value limit of EUR 5 million has been set for the reporting of risks in the standard process and a lower value limit of EUR 25 million for the ad hoc process. Risks below these value limits are managed independently by the divisions. The relevant time frame for internal risk reporting is a maximum of 2 years. In addition, the effects of the risks presented in the risk and opportunity report are presented as annual values.

The assessment of the risks presented relates to November 30, 2021. However, current geopolitical and trade policy developments may bring uncertainties for the further business development of the MANN+HUMMEL Group and thus necessitate a change in the presentation of the Group's risk situation. In particular, a further escalation of the Russia-Ukraine war and, in the worst case, an expansion to other countries could lead to far-reaching consequences. So far, we are trying to keep the impact on our locations in the crisis regions within reasonable bounds and keep it as low as possible. We have also initiated suitable measures to safeguard the continued existence of MANN+HUMMEL's assets and, if necessary, to counteract the threat of expropriation. However, significant impairments are not yet to be expected at the moment. Otherwise, the risk structure of our company has not changed significantly compared to the previous year, except the risks already mentioned.

We have succeeded in counteracting and mitigating sustainable risks from the current COVID pandemic by implementing far-reaching measures.

Due to the full effectiveness of these measures, we currently see no further risks from the Corona pandemic that could have a lasting and significant impact on the development of the company in the future. We currently expect a recovery in 2022.

The Internal Audit department regularly checks the functionality of the internal risk management processes and, at the same time, the information transfer of relevant risks from the operative business units to the Group Risk Management.

Financial risks

For our group of companies, exchange rate fluctuations and interest rate changes belong to the narrower circle of financial risks. **For this reason, these currency risks are continuously and regularly monitored, assessed, and hedged through derivative financial instruments, taking into account a risk limit.** We generally use derivative financial instruments to hedge risk-bearing underlying transactions from the Group's operating activities. We also continuously review the interest rate risk and minimize it by keeping the proportion of financial liabilities with long-term fixed interest rates as high as possible.

This limitation of financing and liquidity risks is the responsibility of the MANN+HUMMEL Group's Treasury department. The external financing necessary for our business activities naturally involves the risk that we will have to pay higher interest expenses for future loans. However, in the short to medium term, we do not expect any significant interest rate adjustment risk on the market side.

In addition to currency and interest rate risks, we also regularly review the default risks of financial partners and initiate appropriate measures.

Sufficient financial resources form the basis on which MANN+HUMMEL can drive forward its future strategic orientation.

We keep financial risks low through solid financing, a stable liquidity position, and sufficient reserve liquidity. As far as our liquidity is concerned, consistent monitoring of cash and cash equivalents is an effective instrument for minimizing risk. We continuously and regularly monitor receivables, liabilities. and inventory assets and can thus implement necessary measures to avoid risks, even at short notice.

Part of our reserve liquidity is invested in a master fund with several segments (four sub-funds and one overlay). In this way, the defined return and risk parameters can always be adhered to accordingly.

The investment guidelines stipulate that the sub-funds are equipped with a risk limitation system. Accordingly, one fund has a fixed lower value limit of –5%, and another has risk controlling without a fixed lower limit. The two remaining funds are absolute return funds, which may not fall below a performance of –10% through an appropriate risk overlay.

We continuously monitor the tied-up current assets and adjust them to turnover development if necessary.

We counterbalance sheet-relevant risks, such as the valuation of our fixed assets, the assessment, and recording of facts relevant to provisions in the individual business units, with regular and close coordination between the responsible central divisions and the individual business units, as well as a forecasting process closely coordinated with the business units and the management. Meaningful key figures round off the process.

In this way, we ensure that relevant issues are identified at an early stage and mapped correctly.

Operational opportunities and risks

Market environment

To react quickly to a further weakening of the economic development in relevant markets, we have defined possible scenarios in advance. From these scenarios, we derive measures to adjust the cost level as far as possible to declining sales revenues.

We take into account the increased competition, such as the introduction of new products or aggressive pricing policies by competitors, with our strong innovative power and competence in filtration as well as high quality.

In addition, we continuously validate our markets and competitive behavior to recognize such developments at an early stage and counteract them with suitable, if necessary, market-specific measures.

In connection with the progressive sensitization of society to the topic of sustainability, our focus on product development is on cleaner mobility, cleaner air, and cleaner water. Therefore, in the Transportation division, we are increasingly working on filtration solutions for fuel cells and electric vehicles. At the same time, we are making an important contribution to reducing particulate matter with our brake dust particle and front-end filters. In addition, our filtration and separation solutions in the Life Sciences & Environment sectors round off our product portfolio and thus make an active, positive contribution to protecting our environment.

The historically grown and still high dependence on the automotive industry also harbors its risks. Especially as a TIER 1 supplier, we feel the cost pressure in the series production business strongly. This is also due to the advance of alternative drives such as electric motors. This is also associated with the risk of a production stoppage at the car manufacturer due to the failure of individual automotive suppliers (due to undercapacity) also in connection with the war in Ukraine and the associated negative influences on their production processes as well as on purchasing and logistics processes or due to start-up difficulties with the new technologies (incl. overcapacity) with negative effects on sales at MANN+HUMMEL. There is also a risk that the Ukraine conflict will have a negative impact on sales development in the region, especially in the spare parts business. However, at the moment it can be assumed that this will not have a significant effect on the business development of the MANN+HUMMEL Group.

In addition, we are positioning ourselves for the imminent phasing out of the combustion engine by transferring our core competencies to new business areas and drive technologies, thereby diversifying our product range. At the same time, we are opening up new markets in this way.

The focus here is on competition-compliant behavior. This is ensured, for example, by internal processes to check any third-party rights or by management processes to ensure compliant behavior.

The rapid and far-reaching changes and the constant transformation that the digital age brings, challenge everyone equally: MANN+HUMMEL as a company, our management staff, and each and every one of our employees.

For example, the digital transformation of the economy and society as well as the growing demands for sustainable business are presenting us with new challenges.

However, these changes also open up a multitude of new opportunities for us, and we see change as a chance to grow and open up new markets. Our internal processes are geared towards recognizing and seizing opportunities. Here, we rely on standardized change management processes that ensure the early involvement of the relevant divisions and stakeholders.

Our core competence in filtration from over 80 years of experience is a competitive advantage for developing innovative products in new business areas. The best example of this is the Life Sciences & Environment business unit.

Here, greater diversification also enables us to become more independent of the automotive sector and, in addition, we are opening our company further to new technologies and innovations.

Attracting and retaining skilled workers is an integral part of our corporate philosophy. With measures such as employee surveys regarding satisfaction and improvement opportunities as well as a talent development program, our human resources management has always remained close to the employees and has been able to support them individually.

Purchasing

In our procurement markets, price fluctuations for raw materials and supplies are the main risks we have to consider. We try to minimize the risk of cost increases as far as possible through long-term contracts. In addition, we work with globally active and strategically broadly positioned suppliers as part of our group-wide commodity group management. We are constantly confronted with supply bottlenecks. Due to the COVID pandemic and the current Russia-Ukraine war, we are exposed to an increased risk of supply chain disruptions and thus possible production interruptions as well as bottlenecks in energy supply. At the moment, however, we do not see any direct influence on the supply of our plants. However, a change in the situation is possible at any time. Here, our central purchasing controlling, in particular, contributes to transparency, control, and risk minimization. One instrument of risk minimization is permanent monitoring (using performance and logistical key figures) and control, as well as close, ongoing coordination with our suppliers, especially those relevant to the system. In material development, we also succeeded in securing the supply chains by defining, validating, and approving alternative materials for various product groups.

MANN+HUMMEL must face up to the demands of sustainability in procurement. This sustainability is not only demanded by legislators, stakeholders, and society, but is also one of our primary corporate goals.

For us, sustainability does not end with our products but begins with the responsible and sustainable procurement of materials throughout the entire supply chain. A non-transparent supply chain represents a risk. For this reason, we conduct regular supplier audits and oblige our suppliers to comply with or improve sustainable actions.

In addition to the risks associated with the supply of materials or pre-products in production, MANN+HUMMEL is increasingly exposed to the risk of rising energy and freight costs. We are trying to counter this with targeted programs to save energy and reduce freight costs.

Quality

High-quality products and the satisfaction of our customers are central goals of our company. That is why quality problems and the resulting customer complaints and warranty claims would represent a considerable risk. This would have an impact on our reputation and the financial situation of our company.

To counteract this, high quality standards apply within the framework of the IATF 16949 certified MANN+HUMMEL Management System – both for product and process development as well as for production in all plants. However, we use the greatest opportunity for error detection and prevention in advance through balanced and conscientious planning.

In addition, customer quality and warranty teams collaborate closely with our customers, the development divisions, and the production plants. In this way, we ensure the quality of the products and can react quickly in the event of quality incidents.

We also adequately cover warranty risks financially through provisions. In addition, we have appropriate insurances for possible damages due to recalls as well as for product liability cases.

However, we see the high quality of our products above all as an opportunity, because it means a decisive competitive advantage over other manufacturers.

Information technology

The worldwide digital networking of our organization forms the basis for the global presence of our group of companies. Fast and secure data traffic offers opportunities to continuously optimize processes and improve cooperation with customers and suppliers. However, the constant availability of secure data that this requires also places high demands on the information technology in our company. That is why we have a secondary data center in Ludwigsburg in addition to the primary one. In this way, we exclude the high risks of an interruption in the data supply.

The constantly increasing threat of cybercrime and the spread of malware give rise to risks that can affect the availability and confidentiality of information and IT systems. The current conflict between Russia and Ukraine has further increased the potential danger of cybercrime. Despite extensive precautions, this can lead to a temporary interruption of IT-supported business processes in the worst-case scenario.

For this reason, we started a three-year IT security project in April 2019. The first phase's goal is to establish a Security Operation Centre (SOC) in Bangalore, India, which continued in 2021. The global firewall and antivirus operations were consolidated and transferred to the SOC in a standardized manner. A team manages all related security processes and operational tasks in shifts, resolving potential problems or threats directly.

In addition, we regularly conduct preventive training sessions with employees to sensitize them and create the necessary awareness. In addition, emergency plans are drawn up and regularly updated to remain able to act in the event of a threat. At the same time, we continuously conduct IT security audits and penetration tests to identify and close any security gaps. In addition, organizational instances have been implemented to ensure and continuously monitor the implementation of the defined measures. The protection of the IT system at MANN+HUMMEL is continuously being expanded. Should a system failure, a loss of data, or a comparable case of damage nevertheless occur, a corresponding insurance policy covers us up to a certain amount of damage.

MANN+HUMMEL introduced an Identity and Access Management (IAM) system in another project. Compromised login data and access authorizations are often weak points in corporate networks. With the IAM, the roles, access authorizations and requirements of individual users are managed, thus supporting data protection.

Fraud and Code of Conduct Violation

In many countries, investigations are increasingly being conducted by antitrust authorities. Penalties may be incurred for competition violations or other illegal behavior. To counter this, our corporate policies, together with our Code of Conduct, govern the correct approach to antitrust issues, export control, corruption and other violations of the law. We also raise awareness of these issues among all employees worldwide through sustained training. We cannot altogether avoid the risk through these trainings, but we can reduce it considerably.

Furthermore, process controls and corresponding guidelines serve to reduce compliance violations (both internal and external) to a minimum. Through our whistleblowing system, every employee has the appropriate platform to address compliance suspicions and risks at any time.

Performance risks

Performance risks include potential damage from business interruptions and loss of property, plant, and equipment.

Natural disasters, acts of terrorism, or other disruptions in the production facilities or within the supply chains – both at customers and suppliers – can cause significant damage and losses, as in 2020. To mitigate these risks, we have taken out insurance policies in commercially reasonable amounts.

The COVID pandemic continues to cause significant uncertainty in companies, even if the situation is increasingly easing due to widespread immunization and the resulting lower burden on the healthcare system. **To keep the risk for MANN+HUMMEL as low as possible, the measures initiated for this purpose will be continued and adapted as required.** Despite the existing measures, the further development of the situation is difficult to assess and may have further negative influences on the company.

Taxes

As an internationally active group, MANN+HUMMEL operates in many different country-specific tax systems. This represents a high level of complexity within the Group. Additionally commissioned local tax advisors ensure compliance with the respective tax regulations in the individual companies. In addition, the Group is optimizing its internal tax control systems across the Group, for example, in indirect taxes and cross-border relationships. Optimizing tax processes and adjusting ongoing controls are critical points in identifying and mitigating any tax risks at an early stage. Group-wide established guidelines – for example on the transfer pricing system – are therefore continuously updated and transparently communicated to our employees worldwide. In addition, the Group follows a uniform approach to transfer pricing documentation in order to meet the increased requirements of the tax authorities worldwide.

Failure of important customers

As a Tier 1 supplier and in the spare parts business, our company focuses on long-term cooperation with its customers. We constantly monitor our risks and dynamically adjust our credit limits to our customers' payment behavior and creditworthiness. **The default of one of our major customers would probably slow down the development of our Group but would not endanger its continued existence.**

We currently reduce such dependencies through diversification strategies and the broad spectrum of products in many different filtration markets.

Overall statement on the opportunity and risk situation

We continuously monitor opportunities and risks. Risks are continuously assessed in an iterative process. This enables us to identify opportunities and minimize risks at an early stage. Despite the current difficult geopolitical situation, there are currently no discernible risks that could jeopardize the continued existence of the group of companies.

7. Forecast report

MANN+HUMMEL almost achieved its targets in the 2021 financial year. Both sales revenue, operating result (EBIT), and ROCE were increased compared to the previous year.

However, current assumptions regarding our markets' overall economic conditions and development are associated with a high degree of uncertainty. The risk and opportunity report explains these risks and their influence on MANN+HUMMEL. Neither our planning nor the premises for our forecast include the effects of the Russia-Ukraine war. The war in Ukraine could have significant consequences for the international and German economies. It is to be feared that, in addition to a significant increase in procurement prices for raw materials, energy, and freight services, supply chains could break down, or deliveries to certain markets could not be made at all for a certain period of time. In particular, the duration, effect and scope of the sanctions decided in all regions of the world cannot currently be reliably estimated. We are also observing these developments very closely and are trying to safeguard ourselves in all directions. For this reason, we have temporarily suspended deliveries to Russia.

So far, we have assumed growth in all business areas of the MANN+HUMMEL Group for 2022. In this context, the current development in the markets for raw materials and energy supply and the possibility of passing on such price increases will be of decisive importance for the company's future profitability. We expect disproportionate growth rates in our newest business segment, Life Sciences & Environment. Here, our recent acquisition in the USA will make a decisive contribution. So far, we expect the sales revenues of the entire Group to be more than 5% above the previous year's level. This means that we also expect moderate growth rates in the automotive business. Based on this, we anticipate a moderate increase in earnings in 2022 and, at the same time, an improvement in the quality of the operating margin compared to the previous year. Our goal is to consolidate the operating margin in the mid-single-digit range. The cost-saving and restructuring measures introduced in previous years will have a positive effect. In addition, we will continuously review and critically examine our location strategy and our product portfolio. If necessary, we will initiate necessary measures as quickly as possible.

The effects described above will also positively impact the development of earnings in relation to capital employed (ROCE). The ROCE for the 2021 financial year was approx. 10% and will improve to approx. 13% as expected.

Ludwigsburg, April 8, 2022

MANN+HUMMEL International GmbH & Co. KG

The Management Board

Kurk Wilks	Emese Weissenbacher
CEO	EVP & CFO

MANN+HUMMEL consolidated financial statements in accordance with IFRS[1]

1 All figures are rounded. This may lead to minor discrepancies when totaling sums and when determining percentages.

Consolidated profit and loss statement January 1 to December 31, 2021

In EUR million	Notes	2021	2020
Sales	(10)	4,199.9	3,838.7
Cost of sales	(11)	3,215.6	2,874.8
Gross margin on sales		**984.3**	**964.0**
Research and development costs	(11)	113.3	108.1
Selling expenses	(11)	460.2	400.2
General administrative expenses	(11)	187.5	151.0
Other operating income	(12)	148.9	98.1
Other operating expenses	(13)	181.1	237.7
Operating profit or loss (EBIT)		**191.1**	**165.1**
Share in the result from associates	(14)	0.6	0.2
Financial expenses	(14)	110.8	185.4
Financial income	(14)	72.7	100.3
Net financial result		**–37.5**	**–84.9**
Net profit or loss before income tax and changes in capital economically attributable to the shareholders		**153.6**	**80.2**
Income taxes	(15)	39.8	28.0
		113.8	52.2
Changes in capital economically attributable to the shareholders		**96.5**	**47.0**
Consolidated net income		17.3	5.2
Result attributable to non-controlling interests		17.3	5.2

Consolidated statement of comprehensive income January 1 to December 31, 2021

In EUR million	Notes	2021	2020
Consolidated net income		**17.3**	**5.2**
thereof attributable to non-controlling interests		17.3	5.2
Items that may be reclassified to profit/loss			
Exchange rate differences from the conversion of foreign business operations			
Exchange rate differences occurring during the fiscal year		60.0	–116.1
Equity and borrowing instruments			
Changes in fair value of financial assets available for sale		1.6	0.5
Reclassifications to profit and loss		–3.0	1.4
Cash flow hedge (currency hedging)			
Gains/losses recorded during the fiscal year		4.4	–0.1
Income taxes attributable to these components		–1.1	–0.5
Items that will not be reclassified to profit/loss			
Revaluation of defined benefit obligations and similar commitments		28.6	6.3
Income taxes attributable to these components		11.0	4.3
Equity and borrowing instruments			
Changes in fair value of financial assets available for sale		2.5	–2.7
Income taxes attributable to these components		–1.4	0.4
Changes in other income attributable to shareholders		–82.9	87.4
Other income		**19.8**	**–19.1**
Total consolidated comprehensive income		**37.1**	**–13.9**
thereof attributable to non-controlling interests		37.1	–13.9

Consolidated balance sheet as of December 31, 2021

In EUR million	Notes	12/31/2021	12/31/2020
Assets			
Non-current assets			
Intangible assets	(17)	906.2	885.9
Tangible assets	(19)	1,040.1	970.8
Investments in associates	(20)	2.6	8.0
Financial assets	(21)	35.6	29.6
Income tax receivables		0.1	0.2
Other assets	(22)	16.9	17.1
Deferred tax assets	(15)	182.5	103.5
		2,184.0	**2,015.1**
Current assets			
Inventories	(23)	650.5	503.7
Trade receivables	(24)	823.2	649.9
Financial assets	(25)	343.0	339.7
Income tax receivables		24.0	10.6
Other assets	(22)	116.8	109.7
Cash		192.0	213.6
		2,149.5	**1,827.0**
Non-current assets held for sale	(19)	13.1	12.8
		4,346.6	**3,855.0**

In EUR million	Notes	12/31/2021	12/31/2020
Liabilities			
Equity			
Non-controlling interests	(26)	170.5	123.4
		170.5	**123.4**
Non-current liabilities			
Capital economically attributable to the shareholders	(26)	849.7	673.9
Financial liabilities	(28)	1,038.3	1,112.1
Provisions for pensions	(32)	464.0	498.3
Other provisions	(31)	85.9	85.7
Other liabilities	(30)	9.3	9.0
Income tax liabilities		4.2	10.8
Deferred tax liabilities	(15)	80.4	44.6
		2,531.8	**2,434.4**
Current liabilities			
Financial liabilities	(28)	458.7	324.6
Trade payables	(29)	763.9	595.2
Other liabilities	(30)	205.0	215.3
Other provisions	(31)	145.2	127.8
Income tax liabilities		71.5	34.2
		1,644.3	**1,297.1**
		4,346.6	**3,855.0**

Consolidated cash flow statement January 1 to December 31, 2021

In EUR million	Notes	2021	2020
1. Cash flow from operating activities			
Consolidated net income		17.3	5.2
Changes in capital economically attributable to the shareholders		96.5	47.0
Income taxes		39.8	28.0
Net profit or loss before income tax and changes in capital economically attributable to the shareholders		153.6	80.2
Paid (–)/refunded (+) taxes on income		–52.1	–68.3
Depreciation (+) of fixed assets		228.1	238.7
Increase (+)/reduction (–) in long-term provisions		–5.9	57.9
Other expenditure (+)/income (–) not affecting payments		–11.1	10.4
Financial expenses (+)/financial income (–)		37.5	84.9
Increase (+)/reduction (–) in short-term provisions		13.6	–18.6
Profit (–)/loss (+) from disposal of assets		–9.9	3.9
Increase (–)/reduction (+) in inventories, trade debtors and other assets		–244.8	–52.6
Increase (+)/reduction (–) in trade creditors and other liabilities		167.1	48.1
Cash flow from operating activities	(33)	**276.1**	**384.7**
2. Cash flow from investment activities			
Receipts (+) from the disposal of tangible assets		27.9	13.0
Payments (–) for investment in tangible assets		–120.3	–107.3
Receipts (+) from the disposal of intangible assets		0.0	0.1
Payments (–) for investment in intangible assets		–1.3	–2.9
Receipts (+) from the disposal of non-current financial assets		4.7	0.0
Payments (–) for investment in non-current financial assets		–6.7	–8.0
Payments (–) for the acquisition of consolidated companies, less cash and cash equivalents acquired		–45.9	–18.4
Receipts (+) from loans granted		2.4	0.0
Payments for loans granted (–)		–8.2	–4.5
Interest received (+)		6.5	8.6
Cash flow from investment activities	(33)	**–140.9**	**–119.5**
Free cash flow		**135.2**	**265.2**

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Consolidated cash flow statement January 1 to December 31, 2021 (continued)

In EUR million	Notes	2021	2020
3. Cash flow from financing activities			
Payments (–) to company shareholders		–8.5	–10.5
Receipts (+) from acceptance of (financial) credits and sale of monetary financial assets		211.7	574.5
Repayment (–) of (financial) credits and payments to acquire monetary financial assets		–284.2	–758.8
Payments (–) from the repayment of leasing liabilities		–39.0	–34.7
Interest paid		–41.3	–49.8
Cash flow from financing activities	(33)	**–161.3**	**–279.3**
4. Cash funds at end of period			
Payment-effective change to cash funds (subtotal 1–3)		–26.1	–14.1
Changes in cash funds from exchange rate movements, valuation differences and changes in Group structure		4.5	–17.6
Cash funds at the beginning of period		213.6	245.3
Cash funds at end of period		**192.0**	**213.6**
5. Composition of cash funds			
Cash	(33)	192.0	213.6
Composition of cash funds		**192.0**	**213.6**

Consolidated changes in equity January 1 to December 31, 2021

	Parent Company							Non-controlling interests	Total equity
	Revenue reserves	Total other shareholders' equity					Total equity of the partners of M+H International GmbH & Co. KG		Total
In EUR million		Financial assets available for sale	Equity and borrowing instruments	Fair value measurement of cash flow hedges	Actuarial gains and losses	Difference from foreign currency translation			
As of 12/31/2019								**140.5**	**140.5**
Changes in capital economically attributable to the shareholders	41.0		0.9	–0.1	9.2	–95.8	–46.6		–46.6
Reclassification to borrowed capital	–41.0		–0.9	0.1	–9.2	95.8	46.6		46.6
Other comprehensive income								–19.1	–19.1
Consolidated net income								5.2	5.2
Total consolidated comprehensive income								**–13.9**	**–13.9**
Paid dividends								–3.7	–3.7
Changes to the consolidated Group								0.0	0.0
Other								0.5	0.5
As of 12/31/2020								**123.4**	**123.4**
Changes in capital economically attributable to the shareholders	92.7		0.1	2.4	33.3	47.1	175.6		175.6
Reclassification to borrowed capital	–92.7		–0.1	–2.4	–33.3	–47.1	–175.6		–175.6
Other income								19.8	19.8
Consolidated net income								17.3	17.3
Total consolidated comprehensive income								**37.1**	**37.1**
Paid dividends								0.0	0.0
Changes to the consolidated Group								9.1	9.1
Other								0.9	0.9
As of 12/31/2021								**170.5**	**170.5**

Notes to the consolidated financial statements of MANN+HUMMEL International GmbH & Co. KG 2021

Fundamental principles

1. Corporate structure

MANN+HUMMEL International GmbH & Co. KG (hereinafter also referred to as the "Company", "Parent Company" or "MH International Holding") is organized in the legal form of a partnership. The Company has its registered office at Schwieberdinger Straße 126, 71636 Ludwigsburg, Germany, and is entered in the Commercial Register of the Stuttgart Local Court under the Commercial Register number HRA 730217. The Company has been the ultimate parent company of the MANN+HUMMEL Group (hereinafter also referred to as the "Group", "MANN+HUMMEL" or "MANN+HUMMEL Group") since January 1, 2016.

The product portfolio includes filtration solutions for automotive and industrial applications, clean indoor and outdoor air, and the sustainable use of water. The MANN+HUMMEL Group's products include air filter systems, intake systems, liquid filter systems, technical plastic parts, filter media, cabin air filters, and industrial filters. In process engineering, industrial applications, and water filtration, the portfolio is supplemented by high-performance membranes, membrane bioreactors, and reverse osmosis technologies. Stationary and mobile systems for the filtration of fine dust and nitrogen dioxide also expand the product range for improving outdoor air quality. The Group increasingly offers digital services and intelligent solutions that meet customers' individual needs. The MANN+HUMMEL Group has more than 80 locations on six continents.

2. General information

The items of the consolidated profit and loss statement, the consolidated statement of comprehensive income, the consolidated balance sheet, the consolidated cash flow statement, and the consolidated statement of changes in equity are broken down or explained in the notes to the consolidated financial statements.

The financial year of MANN+HUMMEL corresponds to the calendar year. The Group currency is the euro. Unless otherwise stated, all amounts are shown in millions of euros (Mio. EUR).

The company's management released the consolidated financial statements for distribution to the Supervisory Board on April 27, 2022.

The consolidated financial statements prepared as of December 31, 2021, and the Group status report are published in the Federal Gazette.

The consolidated balance sheet is structured in accordance with terms. Balance sheet items are divided into non-current and current assets or liabilities if they have a remaining term of more than one year or up to one year.

Assets and liabilities that belong to a disposal group classified as held for sale or assets held for sale are reported separately from the other assets and liabilities on the balance sheet.

Assets and liabilities are recognized according to the historical cost principle. This does not apply to derivative financial instruments, securities, and shares in investments, which are recognized at fair value if they can be reliably determined.

3. Application of IFRS

As a non-capital market-oriented company, the Company uses the option pursuant to § 315e (3) of the German Commercial Code (HGB) to prepare the consolidated financial statements according to IFRS.

The consolidated financial statements are in accordance with the standards and interpretations of the International Accounting Standards Board (IASB), London, as applicable in the European Union (IFRS), and the supplementary provisions of commercial law applicable in accordance with section 315e (1) of the German Commercial Code (HGB).

4. Adjustment of the accounting methods as well as new standards and interpretations

The accounting and valuation methods applied are the same as those applied in the previous year, with the following exceptions. In the current financial year, the following new or amended standards were applied for the first time, which had no effect on the consolidated financial statements.

- Amendments to IFRS 4 Insurance Contracts: Application of IFRS 9
- Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4, and IFRS 16: Reform of Reference Rates
- Amendments to IFRS 16: COVID-19-Related Lease Concessions

The following new or revised standards and interpretations were issued but were not yet effective for the financial year beginning January 1, 2021 and have not been early adopted:

IFRS 17[2]	Insurance contracts
Amendments to IFRS 3, IAS 16, IAS 37 and Improvements to International Financial Reporting Standards 2018–2020[1]	Business combinations: Reference to the framework Property, plant and equipment: generation of revenue before an asset is in its working condition Provisions, contingent liabilities, contingent assets: onerous contracts – costs of fulfilling a contract
Amendment to IAS1[2,3]	Classification of liabilities as current or non-current; disclosure requirements for accounting policies
Amendment to IAS 8[2,3]	Amendment to the definition of accounting estimates
Amendment to IAS 12[2,3]	Amendment to deferred taxes relating to assets and liabilities arising from a single transaction

1 Applicable for financial years beginning on or after January 1, 2022.
2 To be applied for financial years beginning on or after January 1, 2023.
3 An EU endorsement is still pending.

MANN+HUMMEL has not early adopted standards and interpretations that have already been issued but are not yet effective. The Group will apply the new or amended standards and interpretations at the latest when their application becomes mandatory following their adoption by the EU. The new standards and interpretations expect no or only insignificant effects on the MANN+HUMMEL Group.

5. Consolidated group

As part of the reorganization of the Group structure, MANN+HUMMEL International GmbH & Co. KG was founded as the managing holding company on January 1, 2016. This company holds 83.3% of the shares in MANN+HUMMEL Holding GmbH, Ludwigsburg, and, as the ultimate parent company, prepares the consolidated financial statements for the MANN+HUMMEL Group.

The consolidated financial statements include 20 (previous year 20) domestic and 70 (previous year 71) foreign group companies. In addition to the parent company, the scope of consolidation includes all domestic and foreign companies that the parent company directly or indirectly controls or over which it has a significant influence. Subsidiaries are companies in which the parent company, due to the actual or a de facto majority of voting rights, has control over the business and financial policies to benefit from their activities and thus has the possibility of control. In addition, the parent is exposed to and can affect variable returns from its involvement with investees. Associates are entities in which the parent has significant influence over operating or financial policies, but which are neither subsidiaries nor joint ventures.

	01/01/2021	Initial consolidations	End consolidations	12/31/2021
Consolidated companies	91	1	-2	90
thereof domestic	20	0	0	20
thereof abroad	71	1	-2	70
Associated companies	2	0	-1	1

	01/01/2020	Initial consolidations	End consolidations	12/31/2020
Consolidated companies	91	2	-2	91
thereof domestic	19	1	0	20
thereof abroad	72	1	-2	71
Associated companies	2	0	0	2

CHANGES TO THE CONSOLIDATED GROUP

COMPANY FOUNDATIONS AND FIRST-TIME CONSOLIDATION

COMPANY ACQUISITIONS

On March 2, 2021, 55% of the shares in CleanAire, LLC, Washington, were acquired for EUR 45.9 million.

The purchase price was paid in cash.

With the acquisition of CleanAire, LLC, the MANN+HUMMEL Group intends to accelerate growth in the market for room air filtration, one of the largest and fastest-growing filtration segments.

The calculation of goodwill based on the final purchase price allocation is presented below:

Net assets acquired of CleanAire, LLC:

All figures in EUR million	Carrying amount before purchase	Adjustment	Fair value
Intangible assets	0	14.9	14.9
Property, plant and equipment	25.5	1,4	26.9
Current assets	14.5	-0.2	14.3
Cash and cash equivalents	0.1		0.1
Provisions	0.0	0.0	0.0
Other liabilities	-34.4	-0.7	-35.1
Deferred tax liability	0.0	-0.8	-0.8
Net assets	5.7	14.6	20.3
Non-controlling interests			9.2
Purchase price			45.9
Acquired goodwill	0.0	34.8	34.8

Based on the purchase price allocation, goodwill of EUR 34.8 million and net assets of EUR 20.3 million were acquired. Hidden reserves of EUR 14.9 million were identified in the intangible assets, including the acquisition of the existing customer base and the brand. Property, plant and equipment, and liabilities increased mainly due to the accounting of leases in accordance with IFRS 16.

Goodwill cannot be claimed for tax purposes. MANN+HUMMEL expects that the goodwill acquired will consist of the expected synergy potential and the employees' know-how. The following pro forma key financial figures represent the consolidated turnover and the consolidated earnings before interest and income taxes of the MANN+HUMMEL Group as if CleanAire, LLC had already been acquired at the beginning of the 2021 financial year.

In EUR million	2021
Pro forma sales (Group)	4,205.6
Pro forma consolidated operating profit or loss	188.3

In fact, the acquired CleanAire, LLC contributed to Group sales and earnings in 2021 as follows:

In EUR million	2021
Revenue (Group) since acquisition date	40.5
Earnings before interest and income taxes since the acquisition date	-21.1

DECONSOLIDATIONS

MICRODYN-NADIR (Xiamen) Co., Ltd., Xiamen/PR China was deconsolidated in the current financial year. These deconsolidations resulted in a profit of EUR 0.0 million.

Furthermore, MANN+HUMMEL MEXICO SERVICIOS S.A. d. C.V., Santiago de Querétaro/Mexico was merged within the Group.

6. Principles of consolidation

The capital consolidation is carried out according to the purchase method. The subsidiaries are fully consolidated from the date of acquisition, i.e., from the date the parent company acquires a controlling influence. Inclusion in the consolidated financial statements ends as soon as control by the parent company no longer exists. At the time control is obtained, the revalued assets and liabilities of the subsidiary and contingent liabilities, insofar as they do not depend on a future event, are offset against the fair value of the consideration paid for the shares. Contingent purchase price payments are recognized at fair value.

Subsequent adjustments to contingent consideration are recognized in profit or loss. Incidental costs incurred in connection with the acquisition are expensed as incurred.

Any difference on the assets side remaining after capital consolidation is capitalized as goodwill and reported under intangible assets. Goodwill is tested for impairment on the balance sheet date. A test is carried out during the year if there are indications of impairment. Negative differences arising from capital consolidation are recognized in the consolidated income statement under other income, provided that the reassessment of the carrying amounts does not lead to a different result.

If not, all shares are acquired as part of the business combination. The non-controlling interests may be recognized at the proportionate share of the revalued net assets or at their proportionate share of the total enterprise value, including their goodwill. The option can be exercised anew for each company acquisition. The non-controlling interests were mainly recognized at the proportionate net assets (partial goodwill approach) and only in one case at the fair value of the shares (full goodwill approach).

In the case of a successive share acquisition, existing shares in the company to be consolidated are revalued at the fair value when control is obtained. The difference to the carrying amount of the investment is recognized in profit or loss.

The acquisition of additional shares in already fully consolidated subsidiaries is accounted for as an equity transaction. The difference between the acquisition cost of the shares and the carrying amount of the non-controlling interest is offset against retained earnings. The effects of share disposals that do not lead to a loss of control of a subsidiary are recognized directly in equity by offsetting the gain or loss on disposal against retained earnings and increasing the non-controlling interests in the amount of the proportionate net assets.

The deconsolidation of subsidiaries occurs at the time of loss of control or at the time of liquidation. The result of the deconsolidation is reported in the financial result. The remaining shares are capitalized at fair value under shares in investments.

Receivables, liabilities, provisions, sales revenue, and other income and expenses between the companies included in the consolidated financial statements are consolidated. Intercompany profits from intra-Group transactions that were not realized by sale to third parties outside the Group are eliminated. Intra-group sureties and guarantees are eliminated.

7. Foreign currency conversion

The financial statements of the consolidated Group companies prepared in foreign currencies are translated into euros based on the functional currency concept using the modified closing rate method. Since the subsidiaries conduct their business independently in financial, economic, and organizational terms, the functional currency is basically identical to the respective national currency of the company. In the consolidated financial statements, expenses and income from the financial statements of subsidiaries prepared in foreign currencies are translated at the average exchange rate. In contrast, assets and liabilities are translated at the closing rate. The currency difference resulting from the translation of equity at historical rates and the translation differences resulting from the translation of the income statement at the average rate is recognized directly in accumulated other equity.

In the individual financial statements, foreign currency receivables and liabilities are initially valued at the exchange rate valid on the transaction date. The exchange rate on the balance sheet date is used for subsequent valuation. Currency gains and losses from the reporting date valuation of trade receivables and payables are included in other income and expenses. Other financial income and expenses are recognized as currency gains and losses attributable to financial assets and liabilities. The exchange rates used for currency translation with a significant impact on the consolidated financial statements have changed in relation to the euro as follows:

	Spot rate on reporting date		Annual average rate of exchange	
	12/31/2021	12/31/2020	2021	2020
Argentine peso [ARS]	116.27907	103.51967	112.86682	81.03728
Brazilian real [BRL]	6.30730	6.37674	6.36487	5.95662
Renminbi yuan [CNY]	7.18930	8.02697	7.60126	7.89214
Czech koruna [CZK]	24.85065	26.24500	25.64569	26.47849
Pound sterling [GBP]	0.84021	0.89870	0.85823	0.88871
Indian rupee [INR]	84.18784	89.68610	87.29431	84.78744
Japanese [JPY]	130.32712	126.42225	130.26261	121.74040
South Korean won [KRW]	1,345.67768	1,333.33333	1,355.41760	1,348.30855
Mexican peso [MXN]	23.14970	23.86561	24.05355	24.43578
Russian ruble [RUB]	85.16799	90.68238	87.26689	83.27435
Singapore dollar [SGD]	1.52894	1.62232	1.58622	1.57768
Thai baht [THB]	37.55996	36.87234	37.86559	35.86453
US dollar [USD]	1.13235	1.22730	1.18092	1.14479

8. Accounting policies

The companies' financial statements included in the consolidated financial statements are prepared as of December 31 of each financial year in accordance with uniform Group accounting and valuation principles in accordance with IFRS.

RECOGNITION OF INCOME AND EXPENSE

Revenue is recognized when control of identifiable goods or services is transferred to the customer, i.e., when the customer can direct the use of the transferred goods or services and substantially obtains all the remaining benefits from them. The prerequisite for this is that a contract with enforceable rights and obligations exists and, among other things, the receipt of the consideration – considering the customer's creditworthiness – is probable. Revenue corresponds to the transaction price to which the Group is expected to be entitled. Variable consideration is included in the transaction price when it is highly probable that there will not be a significant revenue reversal once the uncertainty associated with the variable consideration no longer exists. The amount of variable consideration is determined using either the expected value method or the most likely amount, depending on which value most accurately estimates the variable consideration. Suppose the period between the transfer of the goods or services and the payment date exceeds twelve months and a significant benefit from the financing results for the customer or the MANN+HUMMEL Group. In that case, the consideration is adjusted by the time value of money. If a contract includes multiple separable goods or services, the transaction price is allocated to the performance obligations based on the relative individual selling prices. If standalone selling prices are not directly observable, the Group estimates selling prices reasonably. For each performance obligation, revenue is recognized either at a specific point in time or over a specific period.

Revenue from the sale of goods is recognized when control is transferred to the buyer, usually upon delivery of goods. Invoices are issued at this time; the payment terms usually provide for payment within 30 days of issuance of the invoice.

For license agreements that grant the customer the right to use the intellectual property of the MANN+HUMMEL Group, invoices are issued in accordance with the contractual terms; the payment terms usually provide for payment within 30 days of invoicing.

Revenue from the provision of services is recognized on a straight-line basis over a period of time. Invoices are issued in accordance with the terms of the contract; the payment terms usually provide for payment within 30 days of invoicing.

The **cost of sales** includes the manufacturing costs of the products sold as well as the purchase costs of the merchandise sold. In addition to the directly attributable material and production costs, they also include the indirect, production-related overheads, including depreciation on the property, plant and equipment, and intangible assets used. Cost of sales also includes expenses from the write-down of inventories to the lower net realizable value.

Research and non-capitalizable **development** costs are expensed as incurred.

Borrowing costs that are directly attributable to the acquisition or construction of an asset that takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the asset's cost. All other borrowing costs are recognized immediately as an expense.

Interest income is recognized in the income statement as it accrues.

Dividend income is recognized when the legal claim to payment arises.

INCOME TAXES

Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authority. The amount calculated is based on the tax rates and tax laws applicable at the balance sheet date.

Deferred tax assets and liabilities are recognized on temporary differences between the tax bases and the IFRS carrying amounts. Deferred tax assets also include tax reduction claims resulting from the expected use of existing loss carryforwards and tax credits in subsequent years. Deferred taxes are calculated based on the tax rates that apply or are expected with sufficient probability to apply under the current legal situation in the individual countries at the time of realization.

Deferred tax assets on temporary differences and on tax loss carryforwards are only recognized if it is sufficiently probable that the resulting tax reductions will occur in the future.

The carrying amount of deferred tax assets is reviewed at each balance sheet date. It is reduced to the extent that it is no longer probable that sufficient taxable profit will be available against which the deferred tax asset can be at least partially utilized. Unrecognized deferred tax assets are reviewed at each balance sheet date and recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.

In addition, deferred tax assets and liabilities are not recognized if they result from the initial recognition of goodwill, an asset, or a liability in a transaction that is not a business combination and if neither the accounting profit before income taxes nor the taxable profit is affected by this initial recognition.

Deferred taxes relating to items recognized directly in equity are also recognized in equity and not in the consolidated income statement.

Deferred tax assets and deferred tax liabilities are offset against each other if the MANN+HUMMEL Group has a legally enforceable right to set off current tax assets against current tax liabilities. These relate to income taxes levied by the same taxation authority on the same taxable entity.

INTANGIBLE ASSETS

Acquired and internally generated intangible assets are capitalized if it is probable that future economic benefits associated with the use of the asset will flow to the entity, and the cost of the asset can be measured reliably.

Regarding the accounting and valuation of **goodwill**, reference is made to explaining the consolidation principles and impairment tests.

The intangible assets identified as part of the significant business acquisitions mainly include customer relationships and brand names. The fair values of the customer lists/relationships were determined using the residual value method based on corporate planning with a useful life of 6 to 15 years.

Tooling subsidies paid to suppliers are capitalized if they represent a right granted by the supplier or payment for a service yet to be rendered by the supplier. Tooling subsidies are amortized over a period of one to six years.

Development costs are capitalized at production costs under the conditions of IAS 38 if, among other criteria, technical feasibility and marketability are assured. Furthermore, the development activity must generate a future economic benefit with sufficient probability. Capitalized development costs include all costs directly attributable to the development process. Capitalized development costs are amortized over an expected product life cycle of five years from the start of production.

Other intangible assets are recognized at cost and, as in the previous year, are amortized on a straight-line basis over the following useful lives:

	In years
Independently developed software	4
Software – general (individual licenses)	4
Software – version change, e.g., product data management (PDM) and CAD (CATIA, ProEngineer, NX, etc.)	8
Patents	10

Intangible assets with indefinite useful lives exist only in the form of goodwill as of the balance sheet date.

TANGIBLE ASSETS

All **tangible fixed assets** are subject to operational use and are valued at acquisition or production cost less scheduled depreciation based on usage. Depreciation on property, plant, and equipment is calculated using the straight-line method. As in the previous year, scheduled depreciation is based on the following useful lives throughout the Group:

	In years
Buildings	20 to 40
Components	20 to 25
Building parts	15 to 33
Outdoor facilities	20 to 33
Machines	8 to 20
Operating equipment	12 to 20
Vehicles	6 to 10
Tools	5
Machines/devices general	8 to 15
Tools and equipment	6 to 10

For machines used in multi-shift operations, shift surcharges increase depreciation accordingly.

The assets' residual values, depreciation methods, and useful lives are reviewed annually and adjusted if necessary.

GOVERNMENT GRANTS

Government grants are recognized only when there is reasonable assurance that the conditions attached to them will be complied with and that the grants will be received. Investment grants are deducted from fixed assets in the period they are incurred. Expense grants are recognized as income in the same period in which the expenses they were granted to compensate are incurred.

Interest rates customary in the market are used for the valuation of non-interest-bearing and low-interest-bearing public-sector loans. The difference between the discounted and repayment amounts is deferred and reported under other receivables. The deferred amount is amortized over the term of the loan agreement, which is substantially the same as the useful life of the asset and is included in interest expense.

INVESTMENTS IN ASSOCIATES AND JOINT VENTURES

Investments in associates and joint ventures are generally accounted for using the equity method of accounting and are initially recognized at cost, including transaction costs. An impairment test is carried out if there are objective indications of an impairment of the shares as of the balance sheet date. The Group's share in the profit or loss of the associated companies or joint ventures is reported separately in the consolidated income statement as part of the financial result. Income and expenses recognized directly in the equity of the associated company or joint venture are also recognized directly in equity in the MANN+HUMMEL Group and presented separately in the statement of comprehensive income. The cumulative changes after the acquisition date increase or decrease the carrying amount of the investment in the associate/joint venture accordingly. Gains and losses from transactions between the MANN+HUMMEL Group and associates/joint ventures are eliminated in proportion to the share held.

IMPAIRMENT TESTS

In the case of **shares in associated companies and joint ventures**, **intangible assets** already in use, and **property, plant, and equipment**, a review is carried out on the balance sheet date to determine any indications of possible impairment. If such indications exist, the value is reviewed (impairment test). Intangible assets not yet ready for use and intangible assets with indefinite useful lives are subject to an annual impairment test.

The impairment test determines the recoverable amount. This is the higher of the asset's fair value or the smallest cash-generating unit less any costs to sell and its value in use. Cash-generating units are defined as the smallest units whose cash flows are forecast as part of corporate planning.

The fair value is the amount obtainable from the sale of an asset in an arm's length transaction less the disposal costs.

The value in use was determined as the present value of future cash flows. The future cash flows were derived from the Group's planning. The calculation of the current value of estimated future cash flows is based primarily on assumptions about future sales prices or volumes and costs, considering changes in economic conditions where applicable. Beyond the detailed planning period, net cash inflows are determined using individual growth rates derived from respective market information based on long-term business expectations. The planning for the business units is based on a detailed planning period for the financial years 2022 to 2026.

An impairment loss is recognized if the recoverable amount is less than the carrying amount of the asset or cash-generating unit.

The carrying amount of each business unit is determined by allocating the assets and liabilities, including attributable goodwill and intangible assets. An impairment loss is recognized whenever the recoverable amount of an operation is less than its carrying amount.

If the reason for a previously recognized impairment loss no longer exists, the impairment loss is reversed, but not to more than amortized costs. Impairment losses and reversals of impairment losses on intangible assets and property, plant, and equipment are allocated to the functional areas of the consolidated income statement.

Goodwill from business combinations is allocated to the groups of cash-generating units that derive the benefit from the combinations.

In accordance with IAS 36, goodwill is not amortized over its useful life but is tested for impairment at least annually at the end of the year using the methods described above, which may lead to a write-down (impairment-only approach).

Impairment losses on goodwill are recognized if the recoverable amount of the corresponding cash-generating unit is less than its carrying amount. Impairment losses on goodwill are recognized in other expenses. Goodwill is not written up.

In order to comply with the regulations of IFRS 3 in conjunction with IAS 36 and to determine any impairment of goodwill, cash-generating units are determined according to internal reporting. Goodwill is therefore allocated to the business units (= cash-generating units) Original Equipment, Aftermarket, Life Sciences & Environment – Air Filtration, and Water & Fluid Solutions. For impairment testing, the carrying amount of each division is determined by allocating the assets and liabilities, including attributable goodwill and intangible assets. An impairment loss is recognized whenever the recoverable amount of an operation is less than its carrying amount. The recoverable amount is determined as the higher of the fair value less costs to sell and the value in use of a cash-generating unit. The impairment tests to be performed determine the recoverable amount based on the value in use of the respective cash-generating unit.

FINANCIAL INSTRUMENTS

Under IFRS 9, financial assets are categorized into three measurement categories:
(1) financial assets measured at amortized cost (AC),
(2) financial assets at fair value through other comprehensive income (FVOCI), and
(3) financial assets at fair value through profit or loss (FVPL).

Financial assets are classified according to the underlying business model and the contractual cash flows of the financial assets. MANN+HUMMEL's basic business model is to hold financial assets to collect contractual cash flows. Regular purchases or sales of balance sheet assets are recognized on the settlement date.

Financial assets are measured at amortized cost (AC) if they correspond to the "hold" business model, and their contractual cash flows consist exclusively of interest and principal payments.

Financial assets whose cash flows do not consist exclusively of interest and redemption payments, such as shares in investment funds and derivatives, are measured at fair value through profit or loss (FVPL). At the MANN+HUMMEL Group, shares, investment funds, and derivatives not included in hedge accounting do not meet the cash flow criterion and are measured at fair value through profit or loss. Further information can be found in note 37 of the notes to the consolidated financial statements. For equity instruments, IFRS 9 optionally permits measurement at fair value through other comprehensive income (FVOCI). The MANN+HUMMEL Group applies this option to measure its investments at fair value through other comprehensive income.

The impairment model under IFRS 9 includes expectations about the future and is based on expected credit losses. The impairment model under IFRS 9 provides for three levels and applies to all financial assets (debt instruments) that are measured either at amortized cost or at fair value through other comprehensive income:

Level 1: includes all contracts without a significant increase in credit risk since addition. The impairment is measured based on the expected credit loss within the next twelve months.

Level 2: includes financial assets that have experienced an increase in credit risk but are not yet impaired. The impairment is measured based on the expected credit loss over the entire remaining term. The Group considers an increase in credit risk to be a deterioration in the rating by at least two rating grades compared to the forward rating and a rating that is no longer in the investment-grade range.

Level 3: includes financial assets that show objective evidence of impairment or are in default status. The expected credit losses over the entire term of the financial asset are recognized as an impairment and other qualitative information that indicates significant financial difficulties of the debtor.

The MANN+HUMMEL Group uses the simplified approach (loss rate approach) for trade receivables, i.e., these receivables are immediately allocated to level 2. A grouping or re-classification to level 3 occurs if the rating is no longer in the investment-grade range or if there are objective indications of an impairment of creditworthiness.

MANN+HUMMEL applies a uniform impairment model that considers the business partner's default probability or a group of comparable business partners.

The calculation is carried out using a credit risk parameter approach.

Accordingly, the expected credit loss (ECL) is determined by multiplying the credit risk parameters exposure at default (EAD), probability of default (PD), and loss given default (LGD). The parameters are determined so that they reflect relevant events in the past, the current situation, and forward-looking information. In principle, this can be done through an economic model that includes all the listed information or by adjusting existing parameters to reflect the current economic environment and forecasts of future changes. This information includes macroeconomic factors (e.g., GDP growth, unemployment rate) and forecasts of future economic conditions.

In the simplified approach for receivables, impairment is determined using external default probabilities by the customer group. In the general approach, the determination is based on credit ratings of the respective business partners.

A financial instrument is derecognized if a financial asset is not reasonably expected to be realizable in whole or in part, e.g., after the termination of insolvency proceedings or court decisions. Currently, non-significant modifications are only carried out to a small extent. In these cases, the contract adjustment does not lead to a derecognition of the asset. The difference between the gross carrying amount of the original contract and the present value of the modified contract is recognized in the income statement.

After initial recognition, financial liabilities are generally measured at amortized cost using the effective interest method. Gains or losses are recognized in profit or loss upon derecognition and amortization. Financial liabilities at fair value through profit or loss are measured at fair value after initial recognition. Gains or losses arising from changes in fair value are recognized in profit or loss.

HEDGE ACCOUNTING

Derivative financial instruments are used in the MANN+HUMMEL Group for hedging purposes to reduce currency and interest rate risks. According to IFRS 9, all derivative financial instruments are recognized at fair value.

Hedging relationships are shown in accordance with the regulations of hedge accounting. They are accounted for as cash flow hedges or fair value hedges.

Cash flow hedges are used to hedge against the risk of changes in the value of future cash flows. In the case of changes in the market value of derivative financial instruments used in cash flow hedges, the unrealized gains and losses in the amount of the effective portion are initially recognized directly in retained earnings. A transfer to the consolidated income statement is made at the same time as the hedged underlying transaction affects the result. The ineffective portion of changes in fair value is recognized directly in the consolidated income statement.

Fair value hedges are used to hedge against the risk of changes in the value of balance sheet items. If the criteria are met, the results from the market valuation of derivative financial instruments are recognized in profit or loss at the same time as the related underlying transactions.

Effects on profit or loss from hedging transactions entered into to hedge risks from changes in commodity prices are recognized in cost of sales. Gains and losses from currency hedging transactions are recognized in revenue or in the financial result or are recognized as part of the acquisition cost. Gains and losses from derivative financial instruments used to hedge interest rate risks and price risks from securities are reported in other financial results.

INVENTORIES

Raw materials, supplies, and wares are generally valued using the standard cost method: Considering lower net achievable values at the balance sheet date. Work in progress and finished goods are recognized at the lower cost or net realizable value, considering consumption at the balance sheet date. Production costs include all costs directly attributable to the production process and appropriate portions of production-related overheads. These include production-related depreciation, pro-rata administrative expenses, and pro-rata social security expenses.

LEASING

For lessees, IFRS 16 introduced a uniform approach for the accounting treatment of leases, according to which assets for the rights to use the leased assets and liabilities for the payment obligations entered into must be recognized in the balance sheet for all leases. The rights of use are included in land, land rights and buildings, in technical equipment and in other equipment, factory, and office equipment. The lease liability is shown in the financial liabilities to third parties.

The main leases relate to production, warehouse, office buildings, and land with terms of up to 30 years. Some contracts contain price adjustment clauses that provide for an annual fixed percentage increase. Some contracts include renewal options, termination options, automatic contract extensions, or purchase options.

Other leases relate to vehicle fleets, machinery, hardware and software, and other operating and office equipment with terms of up to five years. For some of these contracts, there are renewal options or automatic contract extensions and options to purchase the leased objects at market value at the end of the contract term. The leasing installments are partly linked to the service used.

For leased assets of low value (less than EUR 5,000) and for shortterm leases (less than 12 months), use is made of the application relief. Furthermore, the option to separate leasing and non-leasing components (service) is used. Non-lease components are not included in the right-of-use asset to be recognized.

Assets and liabilities from leases are initially recognized at present value. The lease liabilities correspond to the present value of the following lease payments not yet made for the right to use the underlying asset:

- Fixed payments, including de facto fixed (in substance fixed) payments, less any lease incentives to be received.
- Variable lease payments linked to an index or (interest) rate, initially measured at the index rate at the commitment date.
- Expected payments by the Group from the utilization of residual value guarantees.
- The exercise price of a call option or a renewal option that is reasonably certain to be exercised by the Group.
- Penalty payments in connection with the termination of a lease, provided that the term considers that the Group will exercise the relevant termination option.

The discount rate used is the interest rate implicit in the lease if it is readily determinable. Otherwise – and this is usually the case in the Group – discounting is carried out at the lessee's marginal borrowing rate, i.e., the interest rate that the respective lessee would have to pay if it had to borrow funds to a comparable extent for a comparable term with comparable security under comparable conditions.

The rights of use are measured at cost on the date of provision, which is as follows:

- The amount of the initial measurement of the lease liability.
- Any lease payments made at or before the date of commitment less any lease incentives received.
- Any initial direct costs incurred by the lessee.
- Estimated costs incurred by the lessee in dismantling or removing the underlying asset, restoring the site on which it is located or returning the underlying asset to the condition required by the lease agreement.

The subsequent measurement of the rights of use is at amortized cost. Depreciation is calculated on a straight-line basis over the shorter of the useful life and the underlying lease term. If the exercise of a purchase option is sufficiently specific from the Group's point of view, the asset is depreciated over the useful life of the underlying asset.

Leases for buildings and office space contain renewal and termination options. The measurement of the lease liability requires assessing whether the exercise of these options is considered reasonably certain. The Group considers all facts and circumstances that influence the exercise or non-exercise of these options.

For the presentation of leases in the balance sheet, we refer to our comments in notes 19, 28, and 35. In the income statement, expenses from leases are reported under depreciation and other interest expenses.

The Group is exposed to possible future increases in variable lease payments that may result from a change in an index or interest (rate). These potential changes in lease payments are not reflected in the lease liability until they become effective. However, when changes in an index or interest (rate) affect the lease payments, the lease liability is adjusted against the right of use. Lease payments are divided into principal and interest payments.

The MANN+HUMMEL Group does not act as lessor.

SALE AND LEASEBACK

In a sale and leaseback transaction, criteria from IFRS 15 must first be used to determine if transfer of an asset should be accounted for as a sale. Suppose the transfer of an asset does not meet the requirements for sale accounting set out in IFRS 15. In that case, the asset continues to be recognized and the proceeds received are recognized as a financial liability in accordance with IFRS 9. If the asset transfer constitutes a sale, the leased back assets are reflected in the consolidated financial statements in accordance with the lessee accounting principles outlined above. Accordingly, any gain or loss is recognized only to the extent that it relates to the rights transferred to the buyer/lessor.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash on hand, bank balances available at any time, and short-term overnight deposits.

ASSETS AND DISPOSAL GROUPS HELD FOR SALE

Assets and liabilities are reported as a disposal group if they are to be sold as a group in a transaction that is highly probable. Individual assets are shown as assets held for sale on the balance sheet. The assets and liabilities are presented separately on the balance sheet within current assets and liabilities as "assets of disposal groups held for sale" or "liabilities of disposal groups". The income and expenses of the assets and liabilities concerned are included in the result from continuing operations until disposal if they do not meet the definition of a discontinued operation.

When classified as a disposal group for the first time, it is initially measured in accordance with the relevant IFRS standards, after which the resulting carrying amount of the disposal group is compared with the fair value less costs to sell to determine the lower value to be recognized.

FINANCIAL AND OTHER LIABILITIES

The capital economically attributable to the shareholders is shown within the long-term liabilities. According to German commercial law, commercial partnerships such as MANN+HUMMEL International GmbH & Co. KG have non-excludable termination rights for the shareholders. However, according to IAS 32.16, equity capital only exists for the most subordinate class of shareholders to the extent that a company has neither an unconditional nor a conditional obligation to deliver money or other assets. Due to regulations in the articles of association regarding shareholders' compensation, the shares in MANN+HUMMEL International GmbH & Co. KG do not meet the requirements of IAS 32.16A for the reporting puttable shares as equity. To this extent, they are reported within the long-term liabilities as "capital attributable to shareholders". Insofar as IFRS requires the presentation of items in other comprehensive income, this also applies to partnerships that do not have equity according to IFRS. Therefore, such items are not shown in the period result for the MANN+HUMMEL Group either.

The valuation of the capital economically attributable to the shareholders is carried out at the fair value of the obligation. In the present case, this corresponds to the pro-rata book value of the respective shareholder in the IFRS group equity.

Financial liabilities and other liabilities are initially recognized at cost, which corresponds to the fair value of the consideration received. Transaction costs are also considered. Subsequently, liabilities are measured at amortized cost using the effective interest method. If the financial liabilities have not yet been utilized, the transaction costs are accrued within other assets. They are recognized in the income statement under other financial expenses. Financial liabilities and other liabilities are derecognized as soon as the underlying obligations are fulfilled, terminated, or expire.

For financial guarantees issued by the Group, the risk of utilization is assessed as best as possible, insofar as such guarantees exist on the balance sheet date. If the guarantee is probable to be called, a liability is recognized under financial liabilities in the amount of the expected cash outflow.

The MANN+HUMMEL Group generally does not apply the fair value option of classifying financial assets and liabilities as "at fair value through profit or loss" upon initial recognition.

TOOLING COST CONTRIBUTIONS RECEIVED

Tooling subsidies received represent consideration for rights granted or services yet to be rendered to the grantor. The grants are accrued as tooling cost subsidies received under other liabilities. They are released over the term of the project.

OTHER PROVISIONS

Other provisions are formed if an obligation to third parties exists due to a past event, the utilization of which is probable, and the probable amount of the necessary provision can be reliably estimated.

In the valuation of provisions from sales – especially for warranties and expected losses from pending transactions – all cost components are generally included that are also capitalized in inventories. The valuation is carried out at the amount of the best possible estimate of the expenses required to fulfill the obligation on the balance sheet date. Warranty provisions are measured based on actual warranty expenses incurred, considering warranty and goodwill periods and the sales development of the products concerned in the period to be considered.

The personnel-related obligations relate to restructuring measures, long-service awards, and partial retirement obligations. Provisions for long-service anniversaries are determined according to actuarial principles. The provisions for partial retirement obligations include the individually or collectively agreed top-up amounts for pension insurance and the remuneration payments to be made during the release phase. Accruals are made in installments from the beginning of the obligation.

The partial retirement obligations are secured against insolvency through a trust model. Shares in a special fund were assigned to a trustee for this purpose. The shares in the special fund are valued at fair value. The assets that serve exclusively to fulfill the partial retirement obligations and are not accessible to all other creditors are netted against the provisions (plan assets). If these exceed the value of the provisions, the excess amount is reported under non-current other financial receivables. The income from plan assets is netted with expenses from compounding provisions in the income statement.

Non-current provisions with a remaining term of more than one year are recognized at their settlement amount discounted to the balance sheet date. Discounting is carried out at an interest rate that corresponds to the risk and the term of the fulfillment, insofar as the interest effect is material.

PROVISIONS FOR PENSIONS

Provisions for pensions are recognized using the projected unit credit method. This method considers not only the pensions and vested rights known on the balance sheet date, but also expected future increases in pensions and current payments. The calculation is based on actuarial reports considering current biometric calculation principles. Actuarial gains and losses are recognized in full in other comprehensive income in the period in which they occur. The expenses from compounding and the expected income from the fund assets are netted and recognized in interest expenses. All other expenses from the funding of pension obligations are allocated to the relevant functional areas in the consolidated income statement.

9. Judgments and uncertainties in connection with estimates

The preparation of the consolidated financial statements requires assumptions and estimates to be made that affect the reported amounts of assets and liabilities, income and expenses, and contingent liabilities. Significant assumptions and estimates used in recognizing and measuring balance sheet items are explained below.

The **capitalization of development costs** (Note 17 to the consolidated financial statements) is based on management's assessment of the technical and commercial feasibility of the development projects. The measurement of capitalized development costs depends on assumptions about the amount and period of the expected future cash flows and the discount rates to be applied.

Some **leases** contain renewal, termination, or purchase options. The measurement of the lease liability requires an assessment of whether the exercise of these options is reasonably certain. If the interest rate underlying the lease cannot be determined, the marginal interest rate is used for discounting. This is derived for different terms from country-specific interest rate swaps and adjusted by a risk premium. Long-term leases are recognized for a maximum period of 15 years.

In accounting for other **intangible assets** and **property, plant, and equipment** (Notes 17 and 19), assumptions and estimates mainly relate to determining useful lives. Insofar as intangible assets are concerned that are recognized for the first time as part of a company acquisition (item 5 of the notes to the consolidated financial statements) (i.a., customer base), the fair value of these assets is determined as part of a purchase price allocation in accordance with IFRS 3. If a market price-oriented method cannot be applied, the Group generally determines the fair value of intangible assets using capital value-oriented methods. In this case, the value of an asset is the sum of the present values of the future cash flows at the valuation date. The forecast of the valuation-relevant cash flows and the derivation of the cost of capital rate reflecting the risk of the intangible asset in question significantly influences the valuation. The Group essentially applied the license price analogy method within the capital value-oriented method (i.a., for brand names) and the residual value method (i.a., for the customer base).

Intangible assets were identified during purchase price allocations. Regarding the newly acquired companies, these mainly include know-how and customer relationships. The determination of the fair values of the identified customer lists/relationships was made based on the residual value method and corporate planning with a useful life of 6 to 15 years. The brands were valued using the license price analogy method. Key assumptions here were the expected brand sales and the expected license rate. The useful life was set at 10 years.

Within the framework of the **impairment tests** (section 18 of the notes to the consolidated financial statements), assumptions and estimates are used to determine the expected future cash flows and the discount rates. Especially in intangible assets and liabilities, this can influence the respective value.

The assessment of the recoverability of **trade receivables** (Note 24 to the consolidated financial statements) is subject to discretionary decisions regarding the estimation of the future solvency of the debtors.

The fair values of **securities** (Note 37 to the consolidated financial statements), which are allocated to Level 3 of the fair value hierarchy, are determined based on inputs that are not observable in the market. The calculation, which is performed using the discounted cash flow method, is based on estimates regarding the expected cash flows and discount rates used.

The amount of impairment losses for **financial assets** (Note 37 to the consolidated financial statements) is influenced by discretionary decisions, e.g., regarding the assessment of whether the price losses are significant or prolonged and regarding the evaluation of the creditworthiness of the issuers.

The amounts related to **reverse factoring** agreements in the balance sheet and cash flow statement are not reclassified to financial liabilities and financial cash flow, respectively, based on judgment (Note 29 to the consolidated financial statements).

In accounting for **deferred tax assets** (Note 15 to the consolidated financial statements), assumptions and estimates essentially relate to the probability that the expected tax reductions will occur in the future.

The actuarial valuation of **provisions for pensions** (item 32 of the notes to the consolidated financial statements) is based on assumptions regarding discount rates, future pension trends, age shifts, and the general cost of living development.

The calculation of **warranty provisions** (Note 31 to the consolidated financial statements) is subject to assumptions and estimates that relate to the period between the delivery date and the occurrence of the warranty event, warranty and goodwill periods, and future warranty charges.

The determination of **long-term provisions for impending losses** (Note 31 to the consolidated financial statements) is subject to discretionary decisions regarding the interpretation of supply contracts. Significant decision-making criteria are the binding determination of the delivery period, quantities, and prices.

Provisions for **restructuring measures** (Note 31 to the consolidated financial statements) are recognized as soon as a formal plan is available and has been communicated to the affected parties or the plan's implementation has begun. In addition to the scope of the planned capacity adjustments, the valuation also considers country- and site-specific regulations and the corresponding remuneration level.

When **recognizing revenue**, assumptions and the exercise of discretion are applied when it is necessary to assess whether there is revenue related to a specific period or point in time. Furthermore, determining the amount of revenue for variable transaction prices is discretionary and subject to certain assumptions (Notes 10 and 22).

Provisions were made for **tax risks from ongoing tax audits** if the facts are sufficiently concrete and their occurrence is probable.

No other significant discretionary decisions and estimates were made.

In individual cases, the actual values may deviate from the assumptions and estimates made. Changes are recognized in profit or loss when better knowledge becomes available.

At the time of the preparation of the consolidated financial statements, the underlying estimates were not subject to any significant risks, so no material adjustment of the assets and liabilities reported in the consolidated balance sheet is to be expected in the following financial year.

HYPERINFLATION

Since July 1, 2018, Argentina has been classified as a hyperinflationary economy. Accordingly, the provisions of IAS 29 are relevant to our subsidiary in Argentina. Accordingly, the financial statements of an entity whose functional currency is that of a hyperinflationary economy, whether based on the historical cost concept or the current cost concept, must be expressed in terms of the measuring unit current at the balance sheet date. Certain procedures must be followed to restate the financial statements. Amounts in the balance sheet that are not yet expressed in terms of the measuring unit current at the balance sheet date are adjusted using a general price index. Monetary items are not adjusted because they are already expressed in terms of the monetary unit current at the balance sheet date.

Monetary items are funds held or items for which the entity pays or receives money. Receivables and payables that are contractually linked to price changes, such as index-linked bonds and loans, are contractually adjusted to determine the amount outstanding at the balance sheet date. These items are carried in the restated balance sheet at this adjusted amount. All other assets and liabilities are non-monetary. Some of these non-monetary items are carried at the amounts applicable at the balance sheet date, for example, net realizable value and fair value, and are therefore not restated. All other non-monetary assets and liabilities are adjusted. Most non-monetary items are carried at cost or amortized cost and are therefore stated at the amount applicable at the date of acquisition. The adjusted or amortized cost of each item is determined by applying to the historical cost and accumulated depreciation the change in a general price index that has occurred between the date of acquisition and the balance sheet date. Property, plant and equipment, inventories of raw materials and merchandise, goodwill, patents, trademarks, and similar assets are thus adjusted from their acquisition date. Inventories of semi-finished and finished goods are adjusted from the date on which the acquisition and production costs were incurred. The adjusted value of a non-monetary item is lowered if it exceeds the recoverable amount. For property, plant and equipment, goodwill, patents, and trademarks, the adjusted value is lowered to the recoverable amount in such cases and the net realizable value for inventories.

All items in the income statement shall be expressed in the measuring unit current at the balance sheet date. This means that all amounts are to be adjusted using the general price index, starting from the time when the respective income and expenses were first recognized in the financial statements.

Notes to the consolidated profit and loss statement

The consolidated income statement has been prepared using the cost of sales method.

10. Sales

In EUR million	2021	2020
Europe	1,986.4	1,830.5
America	1,585.8	1,445.6
Asia	581.3	516.1
Rest of the world	46.4	46.5
	4,199.9	**3,838.7**

Of the turnover, EUR 4,169.4 million (previous year EUR 3,799.8 million) was generated from the sale of goods and EUR 30.5 million (previous year EUR 38.9 million) from the provision of services. All turnover is revenue from contracts with customers.

11. Cost of sales and other costs

In EUR million	2021	2020
Materials expense	2,296.6	2,054.7
Personnel expenses	630.5	563.4
Amortization	158.2	153.5
Other operating expenses	130.3	103.2
	3,215.6	**2,874.8**

Research and development costs include expenses for the in-house research department and external research and development services and testing activities. The activities in this area serve to develop products for the generation of sales revenues. The financial year's research and development expenses amounted to EUR 113.3 million (previous year EUR 108.1 million).

Selling expenses mainly include expenses for outbound logistics, advertising, customer support, and commissions and licenses.

Administrative costs mainly include expenses for information technology, finance and controlling, taxes, legal, and human resources.

12. Other operating income

In EUR million	2021	2020
Income from foreign currency conversion	74.1	50.6
Income from the disposal of property, plant, and equipment	12.8	5.1
Other	62.0	42.4
	148.9	**98.1**

13. Other operating expenses

In EUR million	2021	2020
Expenses from restructuring	7.7	61.6
Expenses from foreign currency conversion	72.5	58.2
Expenses from the disposal of property, plant, and equipment	3.0	9.0
Warranty expenses	2.5	14.3
Other	95.4	94.6
	181.1	**237.7**

Other expenses include costs in connection with consulting services of EUR 29.8 million (previous year EUR 18.2 million), expenses for provisions for impending losses of EUR 9.3 million (previous year EUR 0.5 million), and expenses from the write-off or value adjustment of receivables of EUR 1.2 million (previous year EUR 5.0 million). In addition, unscheduled depreciation on tangible and intangible assets of EUR 0.3 million (previous year EUR 12.2 million) is included.

14. Net financial result

In EUR million	2021	2020
Share in the result from associates	**0.6**	**0.2**
Accrued interest of long-term items	4.0	5.9
Interest and similar expenses	75.5	90.2
Currency losses	24.3	63.2
Depreciations on lending, financial assets and securities	0.1	0.1
Losses from sale of financial assets, securities and hedging transactions	6.9	26.0
Financial expenses	**110.8**	**185.4**
Interest and similar income	11.4	27.9
Currency gains	31.3	50.7
Income from lending, financial assets and securities	26.8	18.2
Income from sale of financial assets, securities and hedging transactions	3.2	3.5
Financial income	**72.7**	**100.3**
Net financial result	**–37.5**	**–84.9**

The adjustment of the balance sheet and income statement of our subsidiary in Argentina, due to hyperinflation, resulted in an effect on earnings of EUR –4.6 million (previous year EUR –2.5 million) in the financial year, which was recognized in the financial result.

15. Income taxes

In EUR million	2021	2020
Current tax expenses	72.1	77.3
Deferred taxes from temporary differences	–6.4	–68.6
Deferred taxes from loss carryforwards and tax credits	–25.9	19.2
Total income tax expense	**39.8**	**28.0**
thereof tax revenues previous years	–17.8	–3.9
thereof tax expense previous years	47.9	15.2

A weighted Group tax rate was calculated for the MANN+HUMMEL Group based on the individual Group companies' profit amounts and tax rates. The group tax rate is 26.1% (previous year 22.9%). This income tax rate is used as the applicable tax rate for the tax reconciliation statement. The tax rates applied abroad in the financial year range between 10% and 36.9% (previous year 10% and 36.9%).

Deferred tax assets and liabilities result from the following balance sheet items:

In EUR million	12/31/2021		12/31/2020	
	Assets	Liabilities	Assets	Liabilities
Intangible assets	5.6	44.1	6.2	51.1
Tangible assets	3.2	72.1	2.0	60.7
Financial assets	5.7	0.9	1.5	8.2
Inventories	14.5	1.9	15.5	2.2
Trade receivables	4.8	0.6	2.7	0.7
Other current assets	8.1	12.8	13.8	10.1
Pension provisions	52.1	4.9	53.5	2.6
Other provisions	25.6	1.8	30.5	1.4
Short-term financial debts	31.3	1.5	49.2	32.0
Trade payables	6.0	0.3	3.1	0.7
Other liabilities	25.1	2.9	14.2	2.9
Deferred taxes related to shares in subsidiaries	0.0	2.3	0.0	3.8
Other	0.6	0.0	3.5	0.0
	182.6	**146.1**	**195.6**	**176.4**
Tax losses and tax credits carried forward	65.5	0.0	39.7	0.0
Offsetting	-65.7	-65.7	-131.8	-131.8
	182.4	**80.4**	**103.5**	**44.6**

Deferred tax liabilities of EUR 1.6 million (previous year EUR 1.2 million) from the market valuation of securities and EUR 1.6 million (previous year EUR 0.0 million) from cash flow hedges were recognized directly in equity as of the balance sheet date. The treatment of actuarial gains and losses for pension obligations with no effect on profit or loss resulted in deferred tax assets of EUR 28.9 million (previous year EUR 17.8 million).

In addition, all other changes, except for changes due to initial consolidations, were recognized in profit or loss.

The amount for temporary deductible differences and unused tax losses and tax credits for which no deferred tax assets were recognized in the balance sheet was EUR 190.2 million (previous year EUR 119.6 million). Of this amount, EUR 31.5 million (previous year EUR 26.2 million) relates to loss carryforwards that can be used for a limited period (between 5 and 20 years). Regarding the valuation of deferred tax assets, the expected future business development at the time of preparing the consolidated financial statements was basically based on the corporate planning for the following five financial years. As of the balance sheet date, deferred tax assets of EUR 28.0 million (previous year: EUR 10.1 million) were recognized for Group companies that had incurred losses in the reporting or previous period.

The retained earnings at subsidiaries of EUR 2,049.2 million (previous year EUR 1,858.3 million) are retained based on current planning. In the event of distribution, 5% of the profits would be subject to German taxation; if applicable, foreign withholding taxes would apply. In addition, if the profits of a foreign subsidiary were distributed to a foreign intermediate holding company, further income tax consequences might have to be considered. Distributions would, therefore, generally lead to an additional tax expense. Determining the deferred tax liabilities attributable to the temporary taxable differences would involve a disproportionately high effort.

Reconciliation from expected to reported income tax expense:

In EUR million	2021	2020
Net profit or loss before income tax and changes in capital economically attributable to the shareholders	153.6	80.2
Expected income tax expense	**40.1**	**18.4**
Tax effects due to different national tax rates and group taxation systems	2.2	-0.5
Effects of tax rate changes	-0.5	0.5
Tax effects due to the non-application and value correction due to deferred taxes or their reversal	-30.2	-9.9
Tax effects due to permanent differences	-1.5	8.4
Tax effects due to facts of past periods	30.0	11.3
Tax effects related to shares in subsidiaries	-0.4	-2.4
Deductible taxes	5.2	1.8
Other tax effects	-5.1	0.4
Recognized income tax expense	**39.8**	**28.0**

16. Other disclosures to the consolidated profit and loss statement

The consolidated income statement includes the following cost of materials:

In EUR million	2021	2020
Expenditure on raw materials, consumables, supplies and trading goods	2,287.3	2,057.9
Expenditure on purchased services	45.3	39.3
	2,332.6	**2,097.2**

Personnel expenses break down as follows:

In EUR million	2021	2020
Direct and indirect remuneration	879.1	794.4
Social duties and expenses for support	155.6	201.7
Expenses for provisions for pensions and similar commitments	19.1	24.4
	1,053.8	**1,020.5**

Personnel expenses include amounts for defined contribution plans of EUR 31.1 million (previous year EUR 32.4 million). The expenditures for state plans included in this amount of EUR 30.3 million (previous year EUR 30.9 million) essentially comprise employer contributions to pension insurance, which are included in social security contributions.

Scheduled and unscheduled depreciation on intangible assets and property, plant, and equipment are included in the following items of the consolidated income statement:

In EUR million	2021	2020
Cost of sales	158.2	153.5
Research and development costs	7.1	7.1
Selling expenses	9.3	9.3
Administrative expenses	49.4	51.5
Other operating expenses	4.2	17.3
	228.2	**238.7**

Notes to the consolidated balance sheet

17. Intangible assets

In EUR million	Goodwill	Patents, licenses, software and similar rights and values	Development costs	Down payments made	Total
Acquisition and manufacturing costs as of 01/01/2021	**691.4**	**682.0**	**17.4**	**0.0**	**1,390.8**
Exchange rate effects	28.0	28.3	1.1	0.0	57.4
Changes in consolidated Group	34.8	15.1	0.0	0.0	49.9
Additions	0.0	1.2	0.0	0.0	1.2
Transfer	0.0	1.5	0.0	0.0	1.5
Disposals	0.0	–4.2	0.0	0.0	–4.2
Acquisition and manufacturing costs as of 12/31/2021	**754.2**	**723.9**	**18.5**	**0.0**	**1,496.6**
Accumulated depreciation as of 01/01/2021	**57.9**	**441.5**	**5.5**	**0.0**	**504.9**
Exchange rate effects	0.5	14.6	0.4	0.0	15.5
Changes in consolidated Group	0.0	0.0	0.0	0.0	0.0
Additions	0.0	70.3	3.9	0.0	74.2
Impairment	0.0	0.0	0.0	0.0	0.0
Transfer	0.0	0.0	0.0	0.0	0.0
Disposals	0.0	–4.2	0.0	0.0	–4.2
Accumulated depreciation as of 12/31/2021	**58.4**	**522.2**	**9.8**	**0.0**	**590.4**
Carrying amount as of 12/31/2021	**695.8**	**201.7**	**8.7**	**0.0**	**906.2**

In EUR million	Goodwill	Patents, licenses, software and similar rights and values	Development costs	Down payments made	Total
Acquisition and manufacturing costs as of 01/01/2020	**739.2**	**713.5**	**6.6**	**0.0**	**1,459.3**
Exchange rate effects	–54.0	–47.2	–1.0	0.0	–102.2
Changes in consolidated Group	6.2	15.8	0.0	0.0	22.0
Additions	0.0	2.1	0.8	0.0	2.9
Transfer	0.0	1.1	12.7	0.0	13.8
Disposals	0.0	–3.3	–1.7	0.0	–5.0
Acquisition and manufacturing costs as of 12/31/2020	**691.4**	**682.0**	**17.4**	**0.0**	**1,390.8**
Accumulated depreciation as of 01/01/2020	**58.4**	**391.1**	**4.1**	**0.0**	**453.6**
Exchange rate effects	–0.5	–25.2	–0.4	0.0	–26.1
Changes in consolidated Group	0.0	0.2	0.0	0.0	0.2
Additions	0.0	70.4	3.4	0.0	73.8
Impairment	0.0	8.3	0.0	0.0	8.3
Transfer	0.0	0.0	0.0	0.0	0.0
Disposals	0.0	–3.3	–1.6	0.0	–4.9
Accumulated depreciation as of 12/31/2020	**57.9**	**441.5**	**5.5**	**0.0**	**504.9**
Carrying amount as of 12/31/2020	**633.5**	**240.5**	**11.9**	**0.0**	**885.9**

Intangible assets in patents, licenses, software, and similar rights and values include customer relationships amounting to EUR 145.1 million (previous year EUR 179.9 million), which have a remaining useful life of between 1 and 14 years.

In connection with the impairment tests carried out, the value of intangible assets acquired in company acquisitions, such as customer relationships, brands, and existing technology, was also assessed. This did not result in any need for impairment in the past financial year.

In EUR million	12/31/2021	12/31/2020
Original Equipment	0.0	0.0
Aftermarket	0.0	0.0
Life Sciences & Environment – Air Filtration	0.0	0.0
Life Sciences & Environment – Water & Fluid Solutions	0.0	–7.5
	0.0	**–7.5**

GOODWILL

The goodwill from company acquisitions is listed below:

In EUR million	12/31/2021	12/31/2020
Original Equipment	4.4	4.5
Aftermarket	569.7	550.7
Life Sciences & Environment – Air Filtration	121.7	78.3
Life Sciences & Environment – Water & Fluid Solutions	0.0	0.0
	695.8	**633.5**

In connection with the impairment tests carried out on the cash-generating units, no need for impairment of goodwill was identified in the past financial year or in the previous financial year.

18. Impairment tests

The goodwill included in the consolidated financial statements relates to the differences between the respective purchase prices and the revalued net assets of the acquired businesses arising from the business combinations.

Goodwill is allocated in full to the smallest cash-generating unit.

The respective recoverable amount is determined in all cases by calculating the value in use using the discounted cash flow method.

In performing the impairment test, the Group performed various sensitivity analyses for possible changes in the WACC or the planned revenue development.

Cash flows from the five-year plan (2022 to 2026) prepared by the responsible management for all business segments are used as a basis. For the calculation of the impairment tests, assumptions were made regarding the development of turnover, among other things. The average increases in turnover assumed in the detailed planning period were between 1.2% and 65.6% (previous year 1.5% and 44.8%).

Growth rates of 1.0% to 1.5% (previous year 1.0% to 1.3%) were used to measure the perpetual annuity. The calculated cash flows were discounted with weighted cost of capital rates after taxes of 8.0% to 8.9% (previous year 8.5% to 9.0%), before taxes 10.4% to 11.7% (previous year 10.9% to 12.3%). The weighting of equity and debt capital costs was carried out using a capital structure derived from a group of comparable companies. Capital market data and data from comparable companies were used to determine the cost of equity and debt capital.

In %	2021		2020	
	Weighted capital costs	Growth rate	Weighted capital costs	Growth rate
Original Equipment	8,6	1,3	8,8	1,0
Aftermarket	8,9	1,5	9,0	1,3
Life Sciences & Environment – Air Filtration	8,0	1,3	8,5	1,0
Life Sciences & Environment – Water & Fluid Solutions	8,3	1,0	9,0	1,0

As a result of the impairment test carried out, no goodwill allocated to the various cash-generating units had to be adjusted.

For the cash-generating unit Original Equipment, the value in use exceeds the carrying amount by EUR 139.8 million (previous year EUR 403.9 million). If the WACC increases by 2.7 percentage points or the sustainable EBIT margin decreases by 1.1 percentage points, the value in use corresponds to the carrying amount. As in the previous year, an increase in the WACC by 0.5 percentage points or a decrease in the sustainable EBIT margin by –0.5 percentage points would not require impairment.

For the cash-generating unit Aftermarket, the value in use exceeds the carrying amount by EUR 1,795.9 million (previous year: EUR 1,306.6 million). In the event of an increase in the WACC by 9.9 percentage points or a decrease in the sustainable EBIT margin by 8.2 percentage points, the value in use corresponds to the carrying amount. As in the previous year, an increase in the WACC by 0.5 percentage points or a decrease in the sustainable EBIT margin by –0.5 percentage points would not result in a need for impairment.

For the cash-generating unit Life Sciences & Environment – Air Filtration, the value in use exceeds the carrying amount by EUR 127.6 million (previous year EUR 114.7 million). If the WACC increases by 1.8 percentage points or the sustainable EBIT margin decreases by 1.8 percentage points, the value in use corresponds to the carrying amount. As in the previous year, an increase in the WACC by 0.5 percentage points or a decrease in the sustainable EBIT margin by –0.5 percentage points would not result in a need for impairment.

For the cash-generating unit Life Sciences & Environment – Water & Fluid Solutions, the value in use exceeds the carrying amount by EUR 35.3 million. In the previous year, the value in use corresponded to the book value. In the event of an increase in the WACC by 1.9 percentage points or a decrease in the sustainable EBIT margin by 2.0 percentage points, the value in use corresponds to the carrying amount. In the event of an increase in the WACC by 0.5 percentage points or a decrease in the sustainable EBIT margin by –0.5 percentage points, there would be no need for devaluation (previous year EUR 3.8 million and EUR 5.3 million, respectively).

The value in use for the cash-generating unit Original Equipment is EUR 531.3 million (previous year EUR 849.2 million) and for the cash-generating unit Aftermarket EUR 3,130.5 million (previous year EUR 2,658.0 million). The value in use for the cash-generating unit Life Sciences & Environment – Air Filtration is EUR 468.5 million (previous year: EUR 305.6 million) and for the cash-generating unit Life Sciences & Environment – Water & Fluid Solutions EUR 78.9 million (previous year: EUR 36.1 million).

19. Tangible fixed assets and leasing

In EUR million	Land and buildings	Technical equipment, plant and machinery	Other equipment, operational and office equipment	Advance payments and construction in progress	Total
Acquisition and manufacturing costs as of 01/01/2021	**620.7**	**1,484.7**	**249.0**	**80.6**	**2,435.0**
Exchange rate effects	24.0	47.1	5.9	4.5	81.5
Changes in consolidated Group	18.0	7.1	0.1	2.4	27.6
Additions	49.3	31.2	22.6	76.6	179.7
Transfers	9.9	48.6	6.4	-66.4	-1.5
Reclassification to assets held for sale	-0.2	-1.7	-0.9	0.0	-2.8
Disposals	-22.1	-42.9	-22.0	-0.1	-87.1
Acquisition and manufacturing costs as of 12/31/2021	**699.6**	**1,574.1**	**261.1**	**97.6**	**2,632.4**
Accumulated depreciation as of 01/01/2021	**257.3**	**1,032.6**	**173.5**	**0.8**	**1,464.2**
Exchange rate effects	8.8	30.9	4.0	0.1	43.8
Changes in consolidated Group	0.1	0.7	0.0	0.0	0.8
Additions	40.6	86.6	26.5	0.0	153.7
Impairment	0.2	0.1	0.0	0.0	0.3
Transfers	0.0	0.0	0.0	0.0	0.0
Reclassification to assets held for sale	-0.1	-1.5	-0.9	0.0	-2.5
Reversals of write-downs	0.0	-1.3	0.0	0.0	-1.3
Disposals	-9.5	-36.5	-20.7	0.0	-66.7
Accumulated depreciation as of 12/31/2021	**297.4**	**1,111.6**	**182.4**	**0.9**	**1,592.3**
Carrying amount as of 12/31/2021	**402.2**	**462.5**	**78.7**	**96.7**	**1,040.1**

In EUR million	Land and buildings	Technical equipment, plant and machinery	Other equipment, operational and office equipment	Advance payments and construction in progress	Total
Acquisition and manufacturing costs as of 01/01/2020	**670.0**	**1,482.0**	**250.2**	**120.9**	**2,523.1**
Exchange rate effects	-23.1	-59.8	-9.5	-6.7	-99.1
Changes in consolidated Group	3.0	5.8	1.2	0.0	10.0
Additions	16.0	33.8	13.0	63.5	126.3
Transfers	11.7	66.5	4.2	-96.2	-13.8
Reclassification to assets held for sale	-38.1	0.0	0.0	0.0	-38.1
Disposals	-18.8	-43.6	-10.1	-0.9	-73.4
Acquisition and manufacturing costs as of 12/31/2020	**620.7**	**1,484.7**	**249.0**	**80.6**	**2,435.0**
Accumulated depreciation as of 01/01/2020	**265.0**	**1,005.3**	**161.6**	**0.9**	**1,432.8**
Exchange rate effects	-8.4	-38.7	-6.1	-0.1	-53.3
Changes in consolidated Group	0.1	2.8	0.8	0.0	3.7
Additions	34.1	92.7	25.9	0.0	152.7
Impairments	0.5	3.2	0.2	0.0	3.9
Transfers	0.3	-0.3	0.0	0.0	0.0
Reclassification to assets held for sale	-25.3	0.0	0.0	0.0	-25.3
Reversals of write-downs	0.0	0.0	0.0	0.0	0.0
Disposals	-9.0	-32.4	-8.9	0.0	-50.3
Accumulated depreciation as of 12/31/2020	**257.3**	**1,032.6**	**173.5**	**0.8**	**1,464.2**
Carrying amount as of 12/31/2020	**363.4**	**452.1**	**75.5**	**79.8**	**970.8**

The non-current assets to be sold are buildings in Ludwigsburg.

As part of the new location orientation in Ludwigsburg, the above-mentioned buildings are to be sold. Discussions are already underway with interested parties. Parts of the buildings are to be rented back by the buyer on a transitional basis. No unscheduled depreciation had to be recorded in this context.

In the balance sheet, the following items are shown under tangible assets and financial liabilities in connection with leases:

In EUR million	12/31/2021	12/31/2020
Rights-of-use assets		
Land and buildings	136.6	95.2
Technical equipment, plant and machinery	2.2	2.1
Other equipment, operational and office equipment	17.0	12.9
	155.8	**110.2**

In EUR million	12/31/2021	12/31/2020
Lease liabilities		
Short term	31.0	26.7
Long term	141.0	98.8
	172.0	**125.5**

Additions to rights of use during the 2021 financial year amounted to EUR 59.5 million (previous year EUR 18.8 million).

The income statement contains the following amounts in connection with leases:

In EUR million	12/31/2021	12/31/2020
Amortization of rights-of-use assets		
Land and buildings	24.2	20.2
Technical equipment, plant and machinery	1.3	0.7
Other equipment, operational and office equipment	8.9	8.6
	34.4	**29.5**
Gains from sale and leaseback transactions	9.1	0.0
Interest expenses (included in finance expenses)	4.4	4.8

Payments for leases accounted for in accordance with IFRS 16 amounted to EUR 43.4 million in 2021 (previous year EUR 39.5 million). Of this, EUR 4.4 million (previous year EUR 4.8 million) was for interest and EUR 39.0 million (previous year EUR 34.7 million) for the repayment of financial liabilities.

SALE AND LEASEBACK

Gains of EUR 9.1 million (previous year EUR 0.0 million) realized in sale and leaseback transactions are fully attributable to land and buildings. The building was sold as part of a sale and leaseback transaction for reasons of short-term liquidity procurement and is now still being used as a production building. The term of the lease agreement is one year and four months. The Group's obligations under its leases are secured by the lessor's title to the leased asset. As of December 31, 2021, there are lease liabilities of EUR 0.6 million (previous year EUR 0.0 million) from the sale and leaseback transaction.

There were no significant sale and leaseback transactions in the previous year.

20. Investments in associates

The MANN+HUMMEL Group holds a 25.8% share in ABC S.A., Cordoba, Argentina. The proportionate net profit for the year attributable to the MANN+HUMMEL Group amounts to EUR 0.4 million (previous year EUR 0.2 million).

In November 2021, MANN+HUMMEL FRANCE SAS sold its shares in Thermal Control Systems Automotive, Changé, France. The sale resulted in a loss of EUR 0.9 million, which is shown in the financial result.

21. Non-current financial assets

In EUR million	12/31/2021	12/31/2020
Other holdings	24.6	15.2
Other financial assets	10.3	3.3
Derivative financial instruments	0.7	11.1
	35.6	**29.6**

The change in other investments results from the increase in non-consolidated investments amounting to EUR 7.2 million. At the same time, write-ups of the investments amounting to EUR 2.1 million were made.

The other financial assets reported as of December 31, 2021 were mainly other loans. The derivative financial instruments reported as of December 31, 2021 were mainly currency hedges.

22. Other assets

In EUR million	12/31/2021			12/31/2020		
	Total	Of which non-current	Of which current	Total	Of which non-current	Of which current
Other assets	99.1	4.2	94.9	93.2	4.0	89.2
Contractual assets	14.7	10.9	3.8	18.2	12.9	5.3
Deferred income	16.8	1.8	15.0	13.3	0.2	13.1
Other	3.1	0.0	3.1	2.1	0.0	2.1
	133.7	**16.9**	**116.8**	**126.8**	**17.1**	**109.7**

Other assets mainly include VAT refund claims and payments on account. The other assets do not contain any overdue amounts that are not impaired.

The MANN+HUMMEL Group has capitalized the following contract assets from contracts with customers in accordance with IFRS 15:

In EUR million			12/31/2021			12/31/2020
	Total	Of which non-current	Of which current	Total	Of which non-current	Of which current
Carrying amount as of 01/01	**18.2**	**12.9**	**5.3**	**23.0**	**18.0**	**5.0**
Exchange rate effects	0.7	0.5	0.2	–0.8	–0.6	–0.2
Additions	8.1	6.2	1.8	2.3	0.3	2.0
Consumption	–12.3	–8.9	–3.4	–6.3	–4.8	–1.5
Transfer	0.0	0.2	–0.2	0.0	0.0	0.0
Carrying amount as of 12/31	**14.7**	**10.9**	**3.8**	**18.2**	**12.9**	**5.3**

Sales that were realized in 2021 and based on performance obligations that were fulfilled in previous years did not exist in the financial year. As before, no costs from fulfilling or initiating contracts with customers were capitalized. There were still no adjustments to the consideration for the fair value of the financing component, as the period between the transfer of the goods and the payment date was less than 12 months. As before, there are no material repurchase obligations or guarantee obligations that exceed the statutory minimum period.

23. Inventories

In EUR million	12/31/2021	12/31/2020
Raw materials, consumables and supplies	217.7	160.8
Unfinished products	73.5	60.3
Finished products and goods	356.7	279.6
Down payments made	2.6	3.0
	650.5	**503.7**

In the 2021 financial year, total write-ups of inventories amounting to EUR 6.1 million were made and recognized (previous year write-down of EUR 5.2 million).

24. Trade receivables

Trade receivables amounted to EUR 823.2 million (previous year EUR 649.9 million).

The value adjustments on current and non-current trade receivables developed as follows:

In EUR million	2021	2020
Carrying amount as of 01/01	**14.6**	**12.9**
Exchange rate effects	0.8	–1.2
Changes in consolidated Group	–0.1	0.0
Additions	3.0	7.0
Consumption	–1.2	–1.7
Reversals	–0.7	–2.4
Carrying amount as of 12/31	**16.4**	**14.6**

In the financial year, there were reclassifications of trade receivables from Level 2 to Level 3 of the impairment model amounting to EUR 4.2 million (previous year EUR 20.6 million) and reclassifications from Level 3 to Level 2 amounting to EUR 8.8 million (previous year EUR 4.8 million).

There were no impaired financial assets for which enforcement proceedings were carried out.

25. Current financial assets

In EUR million	12/31/2021	12/31/2020
Derivative financial instruments	11.5	10.5
Receivables and loans	28.3	42.3
Securities	303.2	286.9
	343.0	**339.7**

The securities are shares, bonds, and fund units. For further information, see Note 37 to the consolidated financial statements.

The portfolio of financial receivables does not contain any overdue amounts that are not impaired.

26. Equity

Total other shareholders' equity

Accumulated other equity mainly includes the following components:

DIFFERENCE FROM CURRENCY CONVERSION

This item contains the differences arising from the currency conversion of the financial statements of foreign subsidiaries (non-euro area) from the date of first-time adoption of IFRS.

MARKET VALUATION OF SECURITIES AND CASH FLOW HEDGES

This item includes the effects from the valuation of financial instruments and cash flow hedges after tax, not recognized in profit or loss.

EQUITY INSTRUMENTS

This item includes the effects from the valuation of investments in non-consolidated companies after taxes, not recognized in the income statement.

ACTUARIAL GAINS AND LOSSES

This item contains the actuarial gains and losses from pension obligations recognized directly in equity after tax.

DEFERRED TAXES ON ITEMS RECOGNIZED DIRECTLY IN EQUITY

In EUR million			2021			2020
	Before income taxes	Income taxes	After taxes	Before income taxes	Income taxes	After taxes
Difference from foreign currency conversion	60.0	0.0	60.0	-116.1	0.0	-116.1
Equity and borrowing instruments	1.1	-1.0	0.1	-0.9	-0.1	-1.0
Fair value measurement of cash flow hedges	4.4	-1.5	2.9	-0.1	0.0	-0.1
Actuarial profits and losses	28.7	11.0	39.7	6.3	4.3	10.6
Other income	**94.2**	**8.5**	**102.7**	**-110.8**	**4.2**	**-106.6**

NON-CONTROLLING INTERESTS

Non-controlling interests in equity amount to EUR 170.5 million (previous year EUR 123.4 million).

CAPITAL ECONOMICALLY ATTRIBUTABLE TO SHAREHOLDERS

As the shares in MANN+HUMMEL International GmbH & Co. KG do not meet the requirements of IAS 32.16A for the presentation of puttable shares as equity due to regulations in the articles of association regarding the compensation of shareholders, they were presented as debt capital in "Capital economically attributable to shareholders". This item amounted to EUR 849.7 million at the end of the financial year (previous year EUR 673.9 million). The valuation of the capital economically attributable to the shareholders is carried out at the fair value of the obligation. In the present case, this corresponds to the respective shareholder's proportionate book value of the IFRS group equity.

In the annual financial statement of MANN+HUMMEL International GmbH & Co. KG, the equity capital of EUR 472.4 million (previous year EUR 435.1 million) is made up of capital shares of the limited partners and reserves.

27. Capital management disclosures

The primary objective of the Group's management is to ensure a stable capital base to support the continuation of business activities and to preserve the benefit of the shareholders. Economic equity is used to determine the total capital ratio economically attributable to shareholders and equity to total assets. This comprises the equity capital shown in the balance sheet and the capital economically attributable to the shareholders shown in the long-term liabilities.

	12/31/2021	12/31/2020
Capital economically attributable to the shareholders and equity in millions of euros	1,020.2	797.3
Capital economically attributable to the shareholders and equity relative to total assets	23.5%	20.7%

The MANN+HUMMEL Group is not subject to any statutory capital requirements but only to contractually fixed capital requirements (see note 28).

28. Financial liabilities

In EUR million	Carrying amount as of 12/31/2021			Carrying amount as of 12/31/2020		
	Total	Of which non-current	Of which current	Total	Of which non-current	Of which current
Liabilities to banks	999.8	795.2	204.5	1,063.0	914.2	148.8
Bonds	98.7	98.7	0.0	98.5	98.5	0.0
Payables from finance leasing	171.9	141.0	30.9	125.5	98.8	26.7
Derivative financial instruments	23.1	3.0	20.2	7.1	0.1	7.0
Other	203.5	0.4	203.1	142.5	0.5	142.1
	1,497.0	**1,038.3**	**458.7**	**1,436.7**	**1,112.1**	**324.6**

Other financial liabilities consist mainly of customer bonuses and notes payable.

The increase in other financial liabilities is mainly due to increased liabilities from customer bonuses.

Current financial liabilities include the repayment installments of long-term loans due within one year. Furthermore, liabilities serving short-term financing are included in this item. The country-specific interest rate for these short-term loans ranges between 0.00% (previous year 0.85%) and 27.00% (previous year 20.50%).

The country-specific interest rate on the loans reported under non-current financial liabilities ranges between 0.00% (previous year 0.00%) and 4.60% (previous year 5.75%). More than 86.8% (previous year 84.2%) of the loans have fixed interest rates. Most of the loans are due at the end of the term. Some of the loan agreements contain clauses for the calculation of financial ratios. One of these is the gearing ratio, which is defined as the ratio of the net financial position to EBITDA. A change in the debt-equity ratio has an influence on the annually determined risk premium for some of the loans.

No contractual repayment obligations result from the calculation of the financial ratios. In addition, some loan agreements contain a sustainability component. The interest rate for these loans may be adjusted if the ESG score calculated by the sustainability agency EcoVadis exceeds or falls below certain threshold values.

29. Trade payables

In Mio. EUR	12/31/2021	12/31/2020
Trade payables	763.9	595.2
Thereof occupied from reverse factoring	169.9	134.8

MANN+HUMMEL has concluded reverse factoring agreements for EUR 215.9 million (previous year EUR 181.1 million) of the trade payables. Under these programs, suppliers can assign their receivables from MANN+HUMMEL companies to the participating banks in return for a discount and thus receive the discounted invoice amount early on. The Group has not derecognized the reverse factoring liabilities, as neither a legal exemption was obtained, nor the liability was materially changed by entering into the agreement. The Group does not incur any additional interest for paying the suppliers' liabilities to the bank. Amounts factored by suppliers are included in trade payables as the nature and function of the liability are the same as other trade payables. Due to the relationship to the operating business, payments to the bank continue to be reported in cash flow from operating activities.

30. Other liabilities

In EUR million	Carrying amount as of 12/31/2021			Carrying amount as of 12/31/2020		
	Total	Of which non-current	Of which current	Total	Of which non-current	Of which current
Staff liabilities	100.3	0.0	100.3	100.5	0.0	100.5
Down payments received	10.9	0.0	10.9	11.7	0.0	11.7
Taxes	22.0	0.0	22.0	33.5	0.0	33.5
Other	81.1	9.3	71.8	78.7	9.0	69.6
	214.3	**9.3**	**205.0**	**224.4**	**9.0**	**215.3**

Tax liabilities mainly include VAT liabilities. Other liabilities include, among other things, outstanding debits, accrued liabilities and license, and commission liabilities.

31. Other provisions

In EUR million	Carrying amount as of 12/31/2021			Carrying amount as of 12/31/2020		
	Total	Of which non-current	Of which current	Total	Of which non-current	Of which current
Liabilities from the operating area	109.1	15.1	94.0	88.2	3.8	84.3
Liabilities from the staff area	87.1	67.5	19.6	104.2	79.1	25.1
Other liabilities	34.9	3.3	31.6	21.1	2.7	18.4
	231.1	**85.9**	**145.2**	**213.5**	**85.7**	**127.8**

In EUR million	01/01/2021	Exchange rate effects	Addition	Changes in consolidated Group	Accrued interest	Transfers	Offsetting plan assets	Utilization	Reversal	12/31/2021
Liabilities from the operating area	88.2	2.1	63.6	0.0	0.0	0.0	0.0	-37.6	-7.2	109.1
Liabilities from the staff area	104.2	1.3	27.6	0.0	0.0	0.0	-1.4	-40.6	-4.0	87.1
Other liabilities	21.1	0.8	25.0	0.0	0.0	0.0	0.0	-9.6	-2.4	34.9
	213.5	**4.2**	**116.2**	**0.0**	**0.0**	**0.0**	**-1.4**	**-87.8**	**-13.6**	**231.1**

In EUR million	01/01/2020	Exchange rate effects	Addition	Changes in consolidated Group	Accrued interest	Transfers	Offsetting plan assets	Utilization	Reversal	12/31/2020
Liabilities from the operating area	84.1	-2.6	53.4	0.1	0.0	0.1	0.0	-40.8	-6.2	88.2
Liabilities from the staff area	73.2	-1.3	88.8	0.0	0.1	0.0	-0.2	-54.1	-2.2	104.2
Other liabilities	24.2	-1.7	10.2	0.0	0.0	-0.1	0.0	-8.4	-3.1	21.1
	181.5	**-5.6**	**152.4**	**0.1**	**0.1**	**0.0**	**-0.2**	**-103.3**	**-11.5**	**213.5**

Provisions for operating obligations primarily include provisions for warranty obligations and for impending losses from delivery obligations, and, to a lesser extent, provisions for litigation risks.

Personnel-related obligations mainly include profit-sharing, restructuring measures, partial retirement agreements, and long-service awards. The provisions for restructuring measures mainly include expenses for severance payments that will be incurred in connection with site closures and relocations. In accordance with IAS 37.72 et seq., the conditions for forming a provision for restructuring costs (including the existence of a corresponding restructuring plan) are met.

Other obligations include other individual risks and uncertain obligations.

The short-term obligations are expected to be used up over the next 12 months.

32. Provisions for pensions

Provisions for pensions are formed for obligations arising from vested rights and current benefits to active and former employees of the MANN+HUMMEL Group and their surviving dependents. In accordance with the legal, economic, and tax circumstances of the respective country, there are different systems of old-age provision, which are generally based on the length of service and remuneration of the employees. In the case of company pension schemes, a distinction must be made between defined contributions and defined benefit plans.

In the case of defined contribution plans, the MANN+HUMMEL Group does not enter into any further obligations beyond the payment of contributions to earmarked funds or private pension insurance providers.

In the case of defined benefit plans, the MANN+HUMMEL Group must fulfill the promised benefits to active and former employees (defined benefit plans), whereby a distinction is made between provision-financed and fund-financed pension systems.

Approximately 97.9% (previous year 98.7%) of the defined benefit obligations of the MANN+HUMMEL Group are based on pension plans for active and former employees of the German locations. Direct pension commitments were, and are, made to active employees in various pension schemes. Depending on the type of pension scheme, the obligations provide for retirement, disability and widow's/orphan's pensions, the payment of a fixed capital benefit or benefits in the form of capital with an annuity option. The amount of the benefits depends on the employee's salary and length of service.

There are no legal or regulatory minimum funding requirements in Germany.

The main risks for the company lie in the actuarial parameters, particularly the interest rate level and pension trend, the longevity risk, and the development of the general cost of living (inflation).

The changes in the present value of the defined benefit obligation and the fair value of the fund assets can be based on actuarial gains and losses. Their causes may include, among other things, changes in the calculation parameters, changes in estimates regarding the risk experience of the pension obligations, and differences between the actual and expected return on plan assets.

The amount of the pension obligations (defined benefit obligation) was calculated using actuarial methods for which estimates are unavoidable. In addition to the assumptions on life expectancy and fluctuation, the following premises have a significant influence on the amount of the obligation:

In %	2021	2020
Discount factor	1.10	0.70
Pensions dynamics	1.48	1.58
Pay rises	3.00	3.00

The assumptions on life expectancy continue to be based on the "Mortality Tables 2018 G" by Prof. Dr. Heubeck.

The pension obligations resulting from the projected unit credit method are netted with the fund assets measured at fair value in the case of a funded pension scheme. If the pension obligations exceed the fund assets, this results in a liability item that is reported in the provisions for pensions.

The pension commitments have the following funded status:

In EUR million	12/31/2021	12/31/2020
Cash value of the provision-financed pension entitlements	457.5	483.0
Cash value of the fund-financed pension entitlements	52.3	56.8
Benefit cash value of the fund-financed pension entitlements	**509.8**	**539.8**
Fund assets	45.8	41.5
Net liabilities	**464.0**	**498.3**

The fund assets are composed as follows:

In EUR million	12/31/2021	12/31/2020
Cash	0.0	0.0
Securities	27.2	30.5
Equity instruments	0.0	0.0
Debt instruments	9.3	15.6
Fund shares	17.9	14.9
Other	18.6	11.0
	45.8	**41.5**

The securities are valued at prices quoted on active markets.

The development of the present value of the pension commitments and the fair value of the fund assets in the balance sheet is as follows:

In EUR million	12/31/2021	12/31/2020
Opening balance of defined benefit obligations (DBO)	**539.9**	**542.8**
+/– Exchange rate effects from abroad	0.9	-1.1
+ Company acquisitions	0.0	0.0
+ Current service costs	14.1	16.4
+ Past service costs to be calculated	-1.1	0.0
+ Interest expense	4.2	6.1
– Settlements/curtailments	0.0	0.0
–/+ Actuarial gains and losses from the change in demographic assumptions	0.0	-0.1
–/+ Actuarial gains and losses from the change in financial assumptions	-27.7	25.1
–/+ Actuarial gains and losses from experience-based adjustments	-0.9	-30.1
+ Contributions from the participants of the plan	0.0	0.0
– Pension payments made	-20.6	-20.2
+/– Other changes	1.0	0.9
Closing balance of defined benefit obligations (DBO) as of 12/31	**509.8**	**539.8**
Opening balance of fair value of fund assets	**41.5**	**39.7**
+/– Exchange rate effects from abroad	-0.1	-1.0
– Settlements/curtailments	0.0	0.0
+ Expected income from the fund assets	0.5	0.6
+/– Actuarial gains and losses from the change in financial assumptions	0.0	1.2
+/– Actuarial gains and losses from experience-based adjustments	0.0	0.0
+ Contributions made by the participants of the plan	0.0	0.0
+ Contributions made by the employer to the plan	3.4	2.7
– Pension payments made	-0.5	-1.8
+/– Other changes	1.0	0.1
Fair value of fund assets as of 12/31	**45.8**	**41.5**
Pension provisions as of 01/01	**498.3**	**503.1**
Pension provisions as of 12/31	**464.0**	**498.3**

Pension obligations result in expenses from pension obligations recognized in profit or loss of EUR 16.9 million (previous year EUR 22.5 million), which are made up of the following components:

In EUR million	2021	2020
Current service costs	14.2	16.4
Past service costs to be calculated	–1.1	0.0
Settlements and curtailments	0.0	0.0
Accrued interest of the net liabilities	3.8	6.1
	16.9	**22.5**

Apart from the interest components, all components of the pension expenses recognized in profit or loss are recognized in the functional areas.

The actuarial gains (previous year: profits) of EUR 28.6 million (previous year: EUR 6.3 million) are recognized directly in accumulated other comprehensive income.

The fund assets showed a profit of EUR 1.9 million (previous year EUR 2.4 million). The difference between the actual and expected return of the external pension funds is recognized in the actuarial gains and losses with no effect on profit or loss.

According to the best possible estimate, the contributions to external pension funds will amount to EUR 1.8 million in the following year. The estimate in the previous year for the 2021 financial year was EUR 1.2 million.

The pension payments for subsequent years are as follows:

In EUR million	2021	2020
Within the next fiscal year	17.1	18.0
Between 2 and 5 fiscal years	91.4	89.8
Between 5 and 10 fiscal years	149.0	148.3
Due after more than 10 years	1,278.3	1,301.4

In the calculation, the actual pension payments were presented, and not only the pension modules earned on the reporting date, i.e., pension modules to be allocated in the future have already been considered. Furthermore, it was assumed that the number of active employees would remain constant. For the other calculation assumptions, the same parameters were used that were used to determine the defined benefit obligation.

The average term of the defined benefit obligations ranges from 4 to 22 years.

The effect of a change in material assumptions on the defined benefit obligation is shown below:

	Change to pension entitlement cash value	
In Mio. EUR	**2021**	**2020**
Discount factor		
– 1.0%-points	68.8	94.0
+ 1.0%-points	–54.8	–73.8
Pensions dynamics		
– 0.5%-points	–1.4	–5.3
+ 0.5%-points	1.5	5.8
Life expectancy		
– 1 year	–17.9	–25.4
+ 1 year	18.2	26.2

For the sensitivity analysis, the pension obligations were recalculated. It was assumed that the other factors remain unchanged. In calculating the sensitivity of life expectancy, it was assumed that the average life expectancy of a 65-year-old person would be reduced or extended by one year.

Notes to the consolidated cash flow statement

33. General

In the year under review, the MANN+HUMMEL Group had credit lines of EUR 845.9 million (previous year EUR 842.8 million) at its disposal, of which EUR 806.3 million (previous year EUR 809.1 million) had not been used by the end of the financial year.

The cash and cash equivalents considered in the consolidated cash flow statement include all cash and cash equivalents shown in the consolidated balance sheet, i.e., cash in hand and bank balances, to the extent that the Group can freely dispose of them.

Dividends and interest received are allocated to cash flow from investing activities. Interest paid and transaction costs for taking on financial debt are shown in the cash flow from financing activities.

As part of the indirect calculation, the changes in balance sheet items considered in connection with current business activities are adjusted for effects from currency translation and from changes in the scope of consolidation. The changes in the relevant balance sheet items can therefore not be reconciled with the corresponding values based on the published consolidated balance sheet.

Other disclosures

34. Contingent liabilities

No provisions have been made for the following contingent liabilities, which are stated at nominal value, because their utilization is considered unlikely:

In EUR million	12/31/2021	12/31/2020
Guarantees	9.6	1.6
Other	4.5	2.9
	14.1	**4.5**

If called upon, the guarantees are due in full within one year. The other contingent liabilities mainly relate to potential obligations to tax authorities.

35. Other financial liabilities

In addition to liabilities, provisions, and contingent liabilities, there are other financial obligations arising from investment projects that have been started and procurement contracts.

In EUR million	12/31/2021	12/31/2020
Rental and lease obligations	14.6	12.7
Purchase obligations	25.5	12.3
	40.1	**25.0**

Lease agreements are accounted for in accordance with IFRS 16. Rental and lease obligations consist of expenses for short-term leases, expenses for leases of low-value assets, and expenses for variable lease payments. In the financial year, expenses of EUR 9.5 million (previous year: EUR 7.9 million) were incurred for short-term leases, EUR 4.1 million (previous year: EUR 2.8 million) for leases of low-value assets, and EUR 1.0 million (previous year: EUR 2.0 million) for variable lease payments.

Purchase commitments of EUR 24.0 million (previous year EUR 8.3 million) relate to property, plant, and equipment, EUR 0.1 million (previous year EUR 0.0 million) to intangible assets, and EUR 1.4 million (previous year EUR 4.0 million) to other services.

36. Legal disputes

During its ordinary business activities, the MANN+HUMMEL Group is confronted with lawsuits and court proceedings, mainly in the areas of labor law, product liability, and warranty law, tax law and in the area of intellectual property. Provisions are made for those cases in which it is probable that an obligation exists that arose from a past event, can be reliably estimated, and the settlement of which is likely to result in an outflow of resources embodying economic benefits. A provision of EUR 14.6 million (previous year EUR 3.4 million) was made for all legal disputes pending on December 31, 2021. The management of the MANN+HUMMEL Group believes that the outcome of all claims and lawsuits brought against the MANN+HUMMEL Group, both individually and collectively, will not have a material adverse effect on its business, financial position, results of operations, or cash flows. The results of currently pending or future proceedings are nevertheless unpredictable. Expenses may arise as a result of court or official decisions or through the agreement of settlements that are not covered or not fully covered by insurance benefits, and could have a material impact on the business of the MANN+HUMMEL Group or its results.

37. Disclosures on financial instruments

BOOK VALUES OF FINANCIAL INSTRUMENTS BY CATEGORY

The balance sheet items for financial instruments are divided into classes and categories. The parent company of the group is MANN+HUMMEL International GmbH & Co. KG. Insofar as the shares in this commercial partnership do not meet the requirements of IAS 32.16A, amounts reported in equity were reclassified to the item "Capital economically attributable to shareholders". This item was thus included in the disclosures on the book values of the financial instruments.

Under IFRS 9, financial assets and financial liabilities are categorized according to a uniform model in the following categories:

- Financial assets measured at amortized cost (AC),
- Financial assets at fair value through other comprehensive income (FVOCI), and
- Financial assets at fair value through profit or loss (FVPL).
- Financial liabilities measured at amortized cost (AC),
- Financial liabilities at fair value through profit or loss (FVPL).

The carrying amounts for each category are shown in the table below:

CARRYING AMOUNTS OF FINANCIAL ASSETS

12/31/2021 In EUR million	(Amortized) acquisition costs	Fair value recognized directly in equity with recycling (FVOCI)	Fair value recognized directly in equity without recycling (FVOCI)	Fair value recognized in income (FVPL)	Not in scope of IFRS 9
Cash and short-term deposits	192.0				
Trade receivables	823.2				
Other financial assets	38.6				
Securities					
of which debt instruments of the category FVOCI with recycling		128.7			
of which debt instruments of the category FVPL				81.3	
of which shareholders' equity instruments of the category FVPL				93.2	
Holdings			13.3		11.3
Derivative financial instruments					
Part of a hedging relationship				9.6	
Freestanding				2.6	

CARRYING AMOUNTS OF FINANCIAL LIABILITIES

12/31/2021 In EUR million	(Amortized) acquisition costs	Fair value recognized in income
Capital economically attributable to the shareholders	893.0	
Trade payables	763.9	
Liabilities to banks	999.8	
Other financial liabilities	302.1	
Liabilities from leasing	172.0	
Derivative financial instruments		
Part of a hedging relationship		22.7
Freestanding		0.4

CARRYING AMOUNTS OF FINANCIAL ASSETS

12/31/2020 In EUR million	(Amortized) acquisition costs	Fair value recognized directly in equity with recycling (FVOCI)	Fair value recognized directly in equity without recycling (FVOCI)	Fair value recognized in income (FVPL)	Not in scope of IFRS 9
Cash and short-term deposits	213.6				
Trade receivables	649.9				
Other financial assets	45.4				
Securities					
of which debt instruments of the category FVOCI with recycling		137.8			
of which debt instruments of the category FVPL				67.8	
of which shareholders' equity instruments of the category FVPL				81.3	
Holdings			11.2		4.0
Derivative financial instruments					
Part of a hedging relationship				19.2	
Freestanding				2.3	

CARRYING AMOUNTS OF FINANCIAL LIABILITIES

12/31/2020 In EUR million	(Amortized) acquisition costs	Fair value recognized in income
Capital economically attributable to the shareholders	673.9	
Trade payables	595.2	
Liabilities to banks	1,063.0	
Other financial liabilities	241.1	
Liabilities from leasing	125.5	
Derivative financial instruments		
Part of a hedging relationship		6.9
Freestanding		0.2

The MANN+HUMMEL Group generally holds its equity instruments for strategic reasons in order to complement its operating activities. The intention to generate significant short-term income from disposals is not in the foreground.

In the current financial year, the fair value of equity instruments whose changes are recognized in other comprehensive income amounted to EUR 13.3 million (previous year EUR 11.2 million). In the financial year, no dividends were distributed from these investments to MANN+HUMMEL companies. There were no reclassifications to other comprehensive income or dividend distributions from investments sold during the financial year.

The fair values of the financial assets and liabilities are allocated to the three levels of the fair value hierarchy depending on the input parameters used for the valuation. The classification and the need to reclassify are reviewed at each balance sheet date. Level 1 comprises those financial instruments for which quoted prices in active markets are available for identical assets and liabilities. Allocation to level 2 takes place if input parameters are used for the valuation of the financial instruments that are directly (e.g., prices) or indirectly (e.g., derived from prices) observable on the market. Financial instruments whose valuation is based on information that is not observable on the market are reported in level 3.

Due to the short-term maturities of cash and cash equivalents, trade receivables, and other current financial assets, their carrying amount generally approximates fair value at the end of the reporting period.

The fair values of non-current financial receivables, trade receivables, liabilities to banks, and other financial liabilities were calculated using the present value method. The future cash flows were discounted using the current risk-free interest rates with matching maturities plus a credit risk premium customary in the industry. The allocation is made to level 2.

Financial liabilities from finance leases are recognized using the contractually agreed interest rate. The fair value was determined considering the market interest rate (level 2).

The fair values of the financial instruments measured at fair value are allocated to the three levels of the fair value hierarchy as follows:

In EUR million				12/31/2021
	Level 1	Level 2	Level 3	Total
Assets				
Holdings	0.0	0.0	13.3	13.3
Securities				
Shares	93.2	0.0	0.0	93.2
Bonds	149.6	60.4	0.0	210.0
Fund shares	0.0	0.0	0.0	0.0
Derivative financial instruments	0.0	12.2	0.0	12.2
Liabilities				
Derivative financial instruments	0.0	23.1	0.0	23.1

In EUR million				12/31/2020
	Level 1	Level 2	Level 3	Total
Assets				
Holdings	0.0	0.0	11.2	11.2
Securities				
Shares	81.3	0.0	0.0	81.3
Bonds	129.9	25.1	0.0	155.0
Fund shares	0.0	50.6	0.0	50.6
Derivative financial instruments	0.0	21.5	0.0	21.5
Liabilities				
Derivative financial instruments	0.0	7.1	0.0	7.1

The fair values of the financial instruments measured at amortized cost are allocated to the three levels of the fair value hierarchy as follows:

In EUR million				12/31/2021
	Level 1	Level 2	Level 3	Total
Liabilities				
Liabilities to banks	0.0	1,009.7	0.0	1,009.7
Other financial liabilities	0.0	319.5	0.0	319.5
Leasing liabilites	0.0	172.0	0.0	172.0

In EUR million				12/31/2020
	Level 1	Level 2	Level 3	Total
Passiva				
Liabilities to banks	0.0	1,077.3	0.0	1,077.3
Other financial liabilities	0.0	241.6	0.0	241.6
Leasing liabilites	0.0	125.5	0.0	125.5

For level 1 securities, the fair value is the quoted market price in an active market at any time. An active market is either the stock exchange of the respective country or a comparable trading platform on which the liquidity and transparency of the underlying asset is given. An active market is characterized by the fact that largely homogeneous assets are traded at publicly accessible prices and, as a rule, willing buyers and sellers can be found at any time, for example, securities or commodity exchanges.

Financial instruments whose prices can be derived or modeled from parameters observable on the market are classified in level 2. Examples are observable interest rates, exchange rates, or comparable instruments. Interest-bearing securities with moderately delayed direct price quotation are also included in level 2.

Level 3 securities in the previous year relate to variable-interest bonds and derivatives whose liquidity on the public market was not given on the reporting date and which were therefore allocated to level 3. In addition to this, the investments were already included in the fair value hierarchy in the previous business year. The fair values from level 3 were determined on the basis of currently available information from the fund managers and internally performed valuation procedures. A significant change in the interest rate level and the associated change in market prices would impact the fair values of the securities. A sale of the investments classified in Level 3 is not planned in the short term.

The development of the securities, derivatives, and investments classified in Level 3 of the fair value hierarchy is shown in the following table:

In EUR million	2021	2020
Balance at 01/01	**11.2**	**16.2**
Fair value changes recognized directly in equity	2.6	–3.1
Purchases	4.4	3.1
Sales	0.0	–2.0
Reclassification	–4.9	0.0
Restructuring in level 3	0.0	–3.0
Balance at 12/31	**13.3**	**11.2**

The corresponding financial assets were reclassified from Level 3 due to the higher number of price quotations in active markets.

Other gains and losses are included in other financial income and expenses.

Derivative financial instruments in Level 1 relate to tradable derivatives such as futures. Their fair value corresponds to the value on the traded futures exchange.

Level 2 derivative financial instruments relate to non-tradable derivatives. The fair values are determined based on price determinations (exchange rates, interest rates, and commodity price indices) of authorized exchanges discounted to the remaining term.

NET GAINS AND LOSSES BY MEASUREMENT CATEGORY

In Mio. EUR	Total net profits and losses
2021	
Assets at (amortized) acquisition costs	–17.3
Liabilities (amortized) acquisition costs	–34.9
Shareholders' equity instruments of the category FVOCI without recycling	0.0
Shareholders' equity instruments of the category FVPL	20.7
FVOCI debt instruments with recycling	0.5
Debt instruments FVPL	4.1
Derivative financial assets with hedge relationships (FVPL)	7.0
Derivative financial liabilities with hedge relationships (FVPL)	–35.4
	–55.3

In Mio. EUR	Total net profits and losses
2020	
Assets at (amortized) acquisition costs	–38.5
Liabilities (amortized) acquisition costs	–22.7
Shareholders' equity instruments of the category FVOCI without recycling	0.0
Shareholders' equity instruments of the category FVPL	2.3
FVOCI debt instruments with recycling	1.4
Debt instruments FVPL	0.0
Derivative financial assets with hedge relationships (FVPL)	–1.7
Derivative financial liabilities with hedge relationships (FVPL)	0.2
	–59.0

The other net gains and losses of “Assets (amortized) cost” and “Liabilities (amortized) cost” essentially include currency gains and losses from foreign currency receivables, expenses due to value adjustments on trade receivables, and interest expenses.

The other net gains and losses in the measurement category “debt instruments of the category FVOCI with recycling” are the balance of the realized gains and losses from the disposal of such assets, reduced by the unrealized changes already recognized in equity for this purpose in the previous year, and the unrealized gains or losses of the existing assets recognized in equity in the current financial year. Furthermore, currency gains and losses are also included.

The other net gains and losses in the valuation category “Investments FVOCI without recycling” essentially comprise the value adjustments of the investees to the fair value within equity.

OFFSETTING OF FINANCIAL ASSETS AND LIABILITIES

The following are the financial assets and liabilities that are subject to offsetting agreements, enforceable master netting arrangements, and similar agreements:

In EUR million			12/31/2021
	Gross amount	Offsetting	Net amount
Trade receivables	825.7	2.5	823.2
Trade payables	761.4	2.5	763.9

In EUR million			12/31/2020
	Gross amount	Offsetting	Net amount
Trade receivables	649.9	0.0	649.9
Trade payables	595.2	0.0	595.2

The framework agreements for financial futures concluded with our banks stipulate, among other things, that in the event of insolvency of a contractual partner, the existing contracts must be terminated and settled at the respective market value. If several transactions are settled with one contractual partner, positive and negative market values are netted, and only the remaining peak is settled. As of December 31, 2021, the following offsetable amounts exist:

In EUR million			12/31/2021
	Balance sheet value	Offsetting	Net amount
Derivative assets	12.2	3.8	8.4
Derivative liabilities	23.1	3.8	19.3

In EUR million			12/31/2020
	Balance sheet value	Offsetting	Net amount
Derivative assets	21.5	2.8	18.7
Derivative liabilities	7.1	2.8	4.3

38. Risks from financial instruments

MANAGEMENT OF FINANCIAL RISKS

The MANN+HUMMEL Group's risk management system covers, among other things, counterparty and default risks with customers, banks, and suppliers, liquidity, commodity and interest rate risks, and currency risks.

The measurement of the price risk from securities and the currency risk is based on a value-at-risk analysis. The value-at-risk exclusively indicates the potential risk of loss that will not be exceeded with a given probability within a specified period of time (holding period). However, the method does not provide information on the time of occurrence or expected loss amount if the value-at-risk is exceeded. Consequently, the actual development may deviate from the result of the value-at-risk analysis.

The companies of the MANN+HUMMEL Group hedge their interest rate and currency risks at market conditions either through the cash management of the MANN+HUMMEL Group or directly with banks. Original transactions such as loans with long fixed interest rates are usually used, but – especially in the currency area – also derivative financial instruments with plain vanilla character. These are concluded exclusively to hedge existing underlying transactions or planned transactions.

The risk positions of cash management are hedged externally with banks of impeccable credit standing, considering specified risk limits. Hedging transactions are concluded in accordance with uniform Group guidelines and in compliance with the regulations applicable to banks for conducting trading transactions.

DEFAULT AND COUNTERPARTY RISK

The default risk is the risk that counterparties in the area of cash investments, financial receivables, and trade receivables will not meet their payment obligations.

To reduce the counterparty risk in the case of financial investments, all financial transactions are only carried out with banks of first-class credit standing within the framework of defined limits.

In the event of counterparty default, the Group's financial assets are exposed to a maximum default risk equal to the carrying amount of the corresponding balance sheet items without considering collateral received (plus the maximum utilization for any financial guarantees and credit commitments to third parties).

To mitigate the default risk, the creditworthiness of customers with whom transactions are concluded on a credit basis, as well as our receivables portfolio, are subject to ongoing monitoring. Selectively, default risks are reduced with appropriate hedging instruments, such as trade credit insurance. The carrying amount of trade receivables covered by trade credit insurance is EUR 51.1 million (previous year EUR 11.2 million).

The value adjustments on cash and short-term deposits developed as follows in the business year:

In EUR million	2021	2020
Carrying amount as of 01/01	**0.3**	**0.3**
Reversals	–0.2	0.0
Carrying amount as of 12/31	**0.1**	**0.3**

The following table provides information on the credit quality of the Group's financial assets by credit rating:

In Mio. EUR	Gross carrying amount (on-balance) as of 12/31/2021		
Rating	Level 1 impairment model (EL)	Level 2 impairment model (LEL)	Level 3 impairment model (LEL)
Investment grade	194.1	798.0	0.0
Non-investment grade	0.0	5.6	39.5

In Mio. EUR	Gross carrying amount (on-balance) as of 12/31/2020		
Rating	Level 1 impairment model (EL)	Level 2 impairment model (LEL)	Level 3 impairment model (LEL)
Investment grade	374.2	654.1	0.0
Non-investment grade	0.0	24.6	41.9

LIQUIDITY RISK

Liquidity risk describes the danger that a company will not be able to meet its financial obligations when they fall due. At MANN+HUMMEL, significant liquidity issues and developments are regularly discussed in liquidity planning. The subsidiaries are included in the central financing of the group. For all possible fluctuations, the company maintains reserve liquidity and credit lines of several hundred million EUR, which are also available to cover M&A activities.

The maturity structure of principal and interest payments for the financial liabilities and trade payables are shown in the following table:

In EUR million	Carrying amount as of 12/31/2021			Cash outflows
	Total	2022	2023 to 2026	2027 et seq.
Liabilities to banks	999.8	251.1	661.9	147.3
Lease liabilities	172.0	40.5	95.0	53.5
Derivative financial instruments	23.1	429.0	116.0	0.0
Other financial liabilities	302.2	207.2	13.0	126.0
Trade payables	763.9	763.2	0.8	0.0
	2,261.0	**1,691.0**	**886.7**	**326.8**

In EUR million	Carrying amount as of 12/31/2020			Cash outflows
	Total	2021	2022 to 2025	2026 et seq.
Liabilities to banks	1,063.0	186.4	837.5	117.9
Lease liabilities	125.5	32.0	73.4	37.3
Derivative financial instruments	7.1	40.3	130.3	18.1
Other financial liabilities	241.1	145.4	13.2	129.3
Trade payables	595.2	595.3	0.0	0.0
	2,031.9	**999.4**	**1,054.4**	**302.6**

We have reallocated the annual categories (from a period of 5 years to 4 years) for a more precise presentation of the maturities. As a result, we have moved an amount of EUR 99.7 million for 2026 onwards.

PRICE RISK FROM SECURITIES

The price risk is the risk that the fair value of securities will fall.

Investments in securities are essentially investments in interest-bearing securities, shares, and fund units. This diversification reduces risk, which is a prerequisite for a continuous increase in value with as little fluctuation as possible.

The final decision on strategic asset allocation, as well as the control of all investment results and risk budgets are made for the special funds by a specially created committee (investment committee). The basis for the investment decisions of the external portfolio managers are the investment guidelines defined by the investor. In formulating these guidelines, attention is paid to, among other things, a solid issuer credit rating (minimum rating requirement), high marketability of the securities, and a broad sector diversification in order to achieve a further risk reduction.

The company receives monthly reports on the development of the current market values and the performance of the individual asset classes. The performance is assessed based on comparative values, key risk figures, and attribution and allocation analyses by the portfolio managers, among other things.

In addition to qualitative management instruments for risk minimization, such as diversification of investments in different asset classes, risk-oriented design of investment guidelines, analysis of investment results, and evaluation of changes in the capital markets, quantitative management methods and investment styles are preferably used.

Based on a value-at-risk calculation, it can be assumed that with a probability of 99% for a holding period of 10 days, the reduction in market value in the master fund, which bundles the funds with the various fund providers, will not exceed EUR 6.2 million (previous year EUR 14.4 million). The calculations were made assuming the asset allocation does not change, and no additions are made during the year, which would then have to be reallocated. The historical correlations of the respective funds and securities were considered.

The financial investments "at fair value through profit or loss" include investments in the amount of EUR 24.6 million (previous year EUR 15.2 million). The valuation is based on the multiplier method. The proportional enterprise value is determined based on sales multiples. Uncertainties regarding the determination of the fair value of these investments arise mainly from the change in the multiples used, as there is no quoted price on an active market. If the multiples used were to increase by 10.0 percent, the fair value of these investments would increase by EUR 1.7 million (previous year EUR 0.1 million). A decrease would result in a corresponding reduction of EUR 1.7 million (previous year EUR 0.1 million).

CURRENCY RISK

Due to its international orientation, the MANN+HUMMEL Group carries out transactions in different currencies. Currency risk is the risk that changes in exchange rates will affect the fair values or future cash flows of monetary items.

In the MANN+HUMMEL Group, hedging measures for planned foreign currency cash flows are carried out within defined maximum limits. The hedging ratio is 60% for cash flow hedges (previous year 50%) and 100% for fair value hedges. The net principle applies to exchange rate hedging, i.e., hedges are carried out for the net positions from opposing cash flows. Exchange rate hedges are mainly carried out through forward exchange transactions. In the financial year, the currencies USD, EUR, SGD, RUB, and CZK accounted for more than 50% of the hedging volume.

To finance the Affinia acquisition, an interest rate/currency swap of USD 400 million was concluded in 2015. This had a nominal amount of EUR 159.1 million (previous year EUR 194.4 million) as of the reporting date and is designated as a fair value hedge with a fair value as of December 31, 2021 of EUR –3.0 million (previous year EUR 11.0 million).

To determine the exposure to be hedged, a cash flow plan for the following financial year is prepared annually. Based on this planning, exposures within the approved risk limit are then hedged by forward exchange transactions.

In the MANN+HUMMEL Group, the value-at-risk is determined unchanged from the previous year based on the variance-covariance method assuming a confidence level of 95% with a holding period of 12 months.

As of the balance sheet date, with a one-sided confidence level of 95%, a potential risk of loss of EUR 14.1 million (previous year EUR 13.1 million), based on the next 12 months, is not exceeded. The calculation was based on an average price volatility of 7.7% (previous year 8.1%).

The maximum risk of loss is calculated from the average exchange rate volatility of the last twelve months in relation to the open foreign currency position from the operating business. This results from the stock of cash and cash equivalents and loans in foreign currency on the reporting date, which are managed via cash flow management, and the net incoming and outgoing payments expected in the following twelve months based on the current corporate planning, considering the hedged stock.

As of 12/31/2021, the following hedging instruments are in the portfolio:

In EUR million						Maturity
Nominal amounts of hedging instruments	**Total**	**Up to 3 months**	**Over 3 months to 1 year**	**Over 1 year to 2 years**	**Over 2 years to 5 years**	**over 5 years**
Currency hedging	696.4	390.5	297.0	8.7	0.2	0.0
Interest rate/currency hedging	159.1	0.0	0.0	0.0	0.0	159.1
	855.5					

12/31/2020:

In EUR million						Maturity
Nominal amounts of hedging instruments	**Total**	**Up to 3 months**	**Over 3 months to 1 year**	**Over 1 year to 2 years**	**Over 2 years to 5 years**	**over 5 years**
Currency hedging	507.9	236.6	242.3	20.8	8.2	0.0
Interest rate/currency hedging	194.4	0.0	0.0	0.0	0.0	194.4
	702.3					

The hedges at the end of the year mainly concern the currencies USD, CZK, and SGD. The average hedging rates for these currencies were as follows:

Average rate of exchange	
EUR/USD	1,1660
EUR/CZK	26,1089
EUR/SGD	1,5533

Average exchange rates 2020:

Average rate of exchange	
EUR/USD	1,1773
EUR/CZK	26,5437
EUR/SGD	1,6157

CASH FLOW HEDGES

2021:

In EUR million		Fair value of hedging instruments		Change in fair value	Balance sheet item for hedging transactions
Cash flow hedges	Nominal amount	Assets	Liabilities		
Currency hedging	237.3	6.7	-4.5	2.9	Financial assets/ financial liabilities

2020:

In EUR million		Fair value of hedging instruments		Change in fair value	Balance sheet item for hedging transactions
Cash flow hedges	Nominal amount	Assets	Liabilities		
Currency hedging	178.1	1.9	-1.6	1.0	Financial assets/ financial liabilities

In the MANN+HUMMEL Group, the spot-to-spot method is used for designation. The effectiveness measurement is carried out cumulatively.

The following amounts were reclassified:

2021:

In EUR million	Reclassified/recycled amount of OCI in profit and loss statement			
Cash flow hedges	**From prematurely terminated underlying transactions**	**Expired underlying transactions**	**Profit and loss statement item for reclassified amounts**	**Profits/losses from hedges of net positions**
Currency hedging	0.0	3.7	Sales, net financial result	

2020:

In EUR million	Reclassified/recycled amount of OCI in profit and loss statement			
Cash flow hedges	**From prematurely terminated underlying transactions**	**Expired underlying transactions**	**Profit and loss statement item for reclassified amounts**	**Profits/losses from hedges of net positions**
Currency hedging	0.0	–6.9	Sales, net financial result	

Ineffectiveness amounts to EUR 0.0 million (previous year EUR 0.0 million) due to the spot-to-spot method applied.

2021:

In EUR million

Cash flow hedges	Change in fair value (for effectiveness calculation) of underlying transaction	Cash flow hedge reserve
Currency hedging	–2.9	2.9

2020:

In EUR million

Cash flow hedges	Change in fair value (for effectiveness calculation) of underlying transaction	Cash flow hedge reserve
Currency hedging	–1.0	1.0

2021:

In EUR million	Hedging costs total	Of which costs of hedging – fair value	Of which cost of hedging – forward component	Of which costs of hedging – cross currency basis spread	Cash flow hedge reserve – internal values	Spot com-ponent – FX derivatives	Interest rate swaps	Other result (OCI) total (cash flow hedge reserve and costs of hedging)
Other result (OCI) as of 01/01/2021	**–0.4**	**0.0**	**–0.3**	**–0.1**	**0.0**	**0.4**	**0.0**	**–0.1**
Additions	–1.8	0.0	–2.6	0.8	0.0	2.3	0.0	0.5
Basis adjustments	2.6	0.0	2.5	0.1	0.0	1.1	0.0	3.7
Reclassification to profit and loss statement	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Other result (OCI) as of 12/31/2021	**0.4**	**0.0**	**–0.4**	**0.8**	**0.0**	**4.0**	**0.0**	**4.4**

2020:

In EUR million	Hedging costs total	Of which costs of hedging – fair value	Of which cost of hedging – forward component	Of which costs of hedging – cross currency basis spread	Cash flow hedge reserve – internal values	Spot com-ponent – FX derivatives	Interest rate swaps	Other result (OCI) total (cash flow hedge reserve and costs of hedging)
Other result (OCI) as of 01/01/2020	**–0.1**	**0.0**	**–0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**
Additions	–2.2	0.0	–2.1	–0.1	0.0	9.0	0.0	6.8
Basis adjustments	1.8	0.0	1.8	0.0	0.0	–8.6	0.0	–6.9
Reclassification to profit and loss statement	0.1	0.0	0.1	0.0	0.0	–0.1	0.0	0.0
Other result (OCI) as of 12/31/2020	**–0.4**	**0.0**	**–0.3**	**–0.1**	**0.0**	**0.4**	**0.0**	**–0.1**

FAIR VALUE HEDGES

2021:

In EUR million		Fair value of hedging instruments		Change in fair value of hedging instruments	Balance sheet item for hedging transactions	Ineffectiveness (result) in profit and loss statement	Item profit and loss statement for hedge accounting
Fair value hedges	**Nominal amounts**	**Assets**	**Liabilities**				
Currency hedging	459.1	2.0	-13.6	-11.6	Financial assets/ financial liabilities	0.0	Financial expenses/ financial income
Interest rate/ currency hedging	159.1	0.0	-3.0	-3.0	Financial assets	0.0	Financial expenses/ financial income

2020:

In EUR million		Fair value of hedging instruments		Change in fair value of hedging instruments	Balance sheet item for hedging transactions	Ineffectiveness (result) in profit and loss statement	Item profit and loss statement for hedge accounting
Fair value hedges	**Nominal amounts**	**Assets**	**Liabilities**				
Currency hedging	329.8	6.3	-4.4	1.9	Financial assets/ financial liabilities	0.0	Financial expenses/ financial income
Interest rate/ currency hedging	194.4	11.0	0.0	11.0	Financial assets	0.0	Financial expenses/ financial income

MANN+HUMMEL makes use of the exception pursuant to IFRS 9.6.3.5 and designates the intercompany loan receivables as underlying transactions within the scope of hedge accounting. Gains and losses from currency translation are not fully eliminated at Group level, as the intercompany loans are settled between two group companies with different functional currencies. The fair value changes of hedged items were essentially the same as the fair value changes of hedging instruments.

INTEREST RATE RISK

Interest rate risk is the risk that financial instruments' fair value or future cash flows will fluctuate due to changes in market interest rates.

MANN+HUMMEL monitors the interest rate risk monthly and measures it against a predefined loss limit as a basis for any hedging measures.

An increase/decrease of 50 basis points in the average interest rate on variable-interest financial liabilities would influence earnings before income taxes of EUR +/– 0.3 million (previous year EUR +/– 1.0 million).

An increase in the average interest rate on variable-interest financial assets by 50 basis points would change the result before income taxes by EUR +/– 0.08 million (previous year EUR +/– 0.06 million).

The company is only marginally affected by the IBOR reform. For those currencies for which IBOR interest rates will no longer be published from 2022 onwards, new reference interest rates have been agreed upon in the corresponding financing contracts. The adjustment of an existing credit line of the company with reference to USD-LIBOR is still pending. As this reference interest rate will continue to apply for some terms until June 30, 2023, the credit line agreement in question must be adjusted or replaced by this date. This does not result in any risk for the company, as it may continue to draw in USD-LIBOR based on the existing credit agreement.

The IBOR reform does not affect existing hedging relationships with interest rate swaps or interest rate currency swaps.

RAW MATERIAL PRICE RISK

During the reporting period, no hedging transactions were carried out in the MANN+HUMMEL Group. In principle, MANN+HUMMEL minimizes the existing risks through long-term contracts, a selection of strategic, globally positioned suppliers, and monitoring exchange rates.

39. Government grants

In the business year EUR 3.4 million (previous year EUR 2.0 million) in government grants were received. These are broken down as follows:

In EUR million	2021	2020
Grants for investments	0.7	0.0
Cost subsidies	2.7	2.0
	3.4	**2.0**

The expense grants mainly comprise government grants for the compensation of COVID-19.

The conditions attached to the granting of the investment subsidies in the previous year were fulfilled.

40. Related party disclosures

According to IAS 24, persons or companies that control or are controlled by the MANN+HUMMEL Group must be disclosed if they are not already included in the consolidated financial statements as a consolidated company. Control exists if a shareholder holds more than half of the voting rights or has the power to govern the financial and operating policies of management by virtue of a provision in the articles of association or a contractual agreement. In addition, the disclosure obligation according to IAS 24 extends to transactions with associated companies and affiliated companies in which the MANN+HUMMEL Group holds at least 20%, as well as transactions with persons who exercise a significant influence on the financial and business policy, including close family members or intermediary companies. Significant influence over the financial and operating policies may be based on a shareholding in the parent company of 20% or more, a seat on the management or Supervisory Board of the parent company, or another key management position. Accordingly, only the members of the Supervisory Board and the Executive Board are considered related parties. There are no other related parties.

Mann Familien-Beteiligungsgesellschaft mbH & Co. KG and Hummel Familien-Beteiligungsgesellschaft mbH & Co. KG, which together hold 83.3% of MANN+HUMMEL International GmbH & Co KG, exercise significant influence as related parties. There were no transactions with these shareholders. The other shareholders received dividends of EUR 3.7 million in the previous year. In the financial year, withdrawals of EUR 8.5 million (previous year EUR 6.8 million) were made by the shareholders.

The transactions with related parties and the receivables and liabilities existing as of the balance sheet date essentially result from ordinary business activities and are as follows:

In Mio. EUR	Joint venture	Associates	Other investees
2021			
Deliveries made and services provided			
Sale of goods	0.0	5.3	5.6
Services	0.0	0.0	0.2
Other services	0.0	0.0	0.2
Deliveries received and services procured			
Sale of goods	0.0	0.0	1.6
Services	0.0	0.0	1.5
Other services	0.0	0.0	2.6
Receivables	0.0	0.9	0.1
Liabilities	0.0	0.0	0.5

In Mio. EUR	Joint venture	Associates	Other investees
2020			
Deliveries made and services provided			
Sale of goods	0.0	9.3	0.0
Services	0.0	0.0	0.0
Other services	0.0	0.6	0.0
Deliveries received and services procured			
Sale of goods	0.0	0.0	0.0
Services	0.0	0.0	0.3
Other services	2.4	0.2	0.4
Receivables	0.0	2.1	0.0
Liabilities	0.1	0.0	0.0

41. Remunerations of the Management and Supervisory Boards

MANAGEMENT BOARD

Emese Weissenbacher, Bietigheim-Bissingen

Nicolaas Zerbst, Stuttgart (until 12/31/2021)

Kurk Wilks, Portage, MI, USA

SUPERVISORY BOARD OF THE MANN+HUMMEL VERWALTUNGS GMBH

Thomas Fischer, Schalksmühle
Chairman

Helga Huber, Taufkirchen/Vils
Vice Chairwoman
Works Council Chairwoman MANN+HUMMEL Marklkofen

Ralph Kraut, Kirchheim am Neckar
Works Council Chairman MANN+HUMMEL
Ludwigsburg

Susanne Thomas, Ludwigsburg
Trade Union Secretary IG Metall,
Ludwigsburg office

Gerhard Weis, Römerberg
Works Council Chairman MANN+HUMMEL Speyer

Dr. Klaus Peter Fouquet, Vaihingen/Enz

Robert Grashei, Altdorf
1st authorized representative of IG Metall, Landshut

Jens Michael Hummel, Stuttgart

Bernhard Wimmer, Rimbach
Chief HR Officer

Johannes Winklhofer, München
Managing Partner
iwis Group

Dr. Karin Exner-Wöhrer, Wien
Chairwoman of the Board of Directors
Salzburg Aluminium AG

Dr. Rolf Heintzeler, München
Insurance company executive

Markus Kolczyk, Mundelsheim
Head of Development Original Equipment

The current short-term remuneration of active members of the Executive Board for the 2021 financial year amounts to EUR 2.8 million (previous year EUR 3.3 million). Expenses for pension entitlements earned in the current financial year by active members of the Executive Board amount to EUR 0.0 million (previous year EUR 0.3 million).

The pension provision for former members of the Executive Board and their surviving dependents amounts to EUR 9.0 million (previous year EUR 10.3 million).

The short-term remuneration of the Supervisory Board for the 2021 financial year amounts to EUR 0.6 million (previous year EUR 0.5 million).

Beyond this, companies of the MANN+HUMMEL Group have not carried out any reportable transactions with members of the Management or Supervisory Board of the MANN+HUMMEL Group or other members of management in key positions or with companies in whose management or supervisory bodies these persons are represented. This also applies to close family members of these persons.

42. Staff

The average number of employees in the MANN+HUMMEL Group during the year was 23,211 (previous year 21,480), of which 7,120 (previous year 7,098) were salaried employees and 16,091 (previous year 14,382) were wage earners.

43. Auditor's fees

The fees of the Group auditors Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, recognized in the consolidated profit and loss account amount to EUR 1.8 million (previous year EUR 2.0 million) and are divided into auditing services of EUR 0.6 million (previous year EUR 0.7 million) and tax consulting services of EUR 1.2 million (previous year EUR 1.3 million).

44. Indication of section 264 (3) and section 264b item 3 HGB

The companies MANN+HUMMEL East European GmbH & Co. KG, Ludwigsburg/Germany, MANN+HUMMEL East European Holding GmbH; Ludwigsburg/Germany, MANN+HUMMEL Filtration GmbH, Ludwigsburg/Germany, MANN+HUMMEL Beteiligungs- und Verwaltungsgesellschaft mbH, Ludwigsburg/Germany, MANN+HUMMEL Vokes Air GmbH & Co. OHG, Sprockhövel, MANN+HUMMEL Innenraumfilter GmbH & Co. KG, Himmelkron/Germany, MANN+HUMMEL Automotive GmbH, Bad Harzburg/Germany, MANN+HUMMEL Water & Fluid Solutions GmbH, Wiesbaden/Germany and helsatech GmbH, Gefrees/Germany, make use of the exemption regulations according to § 264 (3) and § 264b HGB.

45. Events after the balance sheet date

On January 28, 2022, MANN+HUMMEL LS+E HOLDINGS, INC. acquired the remaining 45% shares in CleanAire, LLC and completed the full takeover. This investment is intended to strengthen the North American market in-room air filtration.

The increased risks as a result of the Russia-Ukraine war are described in the risk and opportunity report. Increased country risks mainly include potential impairments of trade receivables as well as property, plant, and equipment and inventories. A potential expropriation of assets of the Russian subsidiary would exacerbate the existing risks. Risks from the Russia-Ukraine war are monitored continuously; possible scenarios are constantly adjusted to the current geopolitical situation and analyzed.

46. List of shareholdings

Company name and domicile	Consolidation status[1]	Equity interest %
1. Subsidiaries		
Germany		
MANN+HUMMEL Holding GmbH, Ludwigsburg	F	83.3
MANN+HUMMEL Verwaltungs GmbH, Ludwigsburg	F	83.3
MANN+HUMMEL Beteiligungs- und Verwaltungsgesellschaft mbH, Ludwigsburg	F	83.3
MANN+HUMMEL Filtration GmbH, Ludwigsburg	F	83.3
MANN+HUMMEL GmbH, Ludwigsburg	F	83.3
MANN+HUMMEL AUTOMOTIVE GmbH, Bad Harzburg	F	83.3
MANN+HUMMEL Innenraumfilter GmbH & Co. KG, Himmelkron	F	83.3
MANN+HUMMEL Innenraumfilter Verwaltungs GmbH, Himmelkron	F	83.3
MANN+HUMMEL Komplementär GmbH, Ludwigsburg	F	83.3
MANN+HUMMEL East European Holding GmbH, Ludwigsburg	F	83.3
MANN+HUMMEL East European GmbH & Co. KG, Ludwigsburg	F	83.3
MANN+HUMMEL East European Verwaltungs GmbH, Ludwigsburg	F	83.3
MANN+HUMMEL Vokes Air GmbH & Co. OHG, Sprockhövel	F	83.3
MANN+HUMMEL MRH Filter Beteiligungsgesellschaft mbH, Sprockhövel	F	83.3
MANN+HUMMEL Atex Filter Verwaltungsgesellschaft mbH, Sprockhövel	F	83.3
MN Beteiligungsgesellschaft mbH, Wiesbaden	F	83.3
MANN+HUMMEL Water & Fluids GmbH, Wiesbaden	F	83.3
i2M GmbH, Ludwigsburg	N	83.3

1 F: Consolidated group; E: Accounted for at equity;
N: No inclusion due to irrelevance in accordance with Section 296(2) HGB or Section 311(2) HGB

Company name and domicile	Consolidation status[1]	Equity interest %
MANN+HUMMEL Molecular GmbH, Gefrees	F	83.3
helsacomp GmbH, Gefrees	N	66.7
Seccua Holding AG, Steingaden Weilheim	N	83.3
Seccua Distribution GmbH, Gundelfingen a.d. Donau	N	83.3
Seccua GmbH, Steingaden	N	83.3
Seccua Medical GmbH, Gundelfingen a.d. Donau	N	83.3
Europe		
MANN+HUMMEL (UK) LTD., Wolverhampton/UK	F	83.3
INDUSTRIAL FILTERS LTD., Wolverhampton/UK	F	83.3
MANN+HUMMEL HYDROMATION N.V., Hasselt/Belgium	F	83.3
MANN+HUMMEL (CZ) v.o.s., Nová Ves/Czech Republic	F	83.3
MANN+HUMMEL Service s.r.o., Nová Ves/Czech Republic	F	83.3
MANN+HUMMEL Innenraumfilter s.r.o., Uherský Brod/Czech Republic	F	83.3
MANN+HUMMEL IBERICA S.A.U., Saragossa/Spain	F	83.3
MANN+HUMMEL FRANCE SAS, Laval/France	F	83.3
MANN+HUMMEL ITALIA S.r.l., Turin/Italy	F	83.3
MANN+HUMMEL OOO, Moskau/Russian Federation	F	83.3
MANN+HUMMEL Filtration Technology Ukraine Ltd., Krasiliv/Ukraine	F	83.3
MANN+HUMMEL BA J.S.C., Tesanj/Bosnia-Herzegovina	F	97.2
MANN VE HUMMEL FİLTRE SANAYİ VE TİCARET LİMİTED ŞİRKETİ, Istanbul/Turkey	F	83.3
MANN+HUMMEL Vokes Air Treatment Holdings Ltd., Burnley/UK	F	83.3
MANN+HUMMEL Vokes-Air Limited, Burnley/UK	F	83.3
MANN+HUMMEL Vokes Air Filtration Ltd, Burnley, UK	F	83.3
MANN+HUMMEL Wheway Plc, Burnley, UK	F	83.3
MANN+HUMMEL Vokes Air BV, Ijsselstein/Netherlands	F	83.3
MANN+HUMMEL Vokes Air AS, Hvidovre/Denmark	F	83.3
MANN+HUMMEL Vokes Air AG, Uster/Switzerland	F	83.3
MANN+HUMMEL Vokes Air GmbH, Vösendorf/Austria	F	83.3
MANN+HUMMEL Vokes Air Holding AB, Svenljunga/Sweden	F	83.3
MANN+HUMMEL Vokes Air AB, Svenljunga/Sweden	F	83.3
MANN+HUMMEL FT Poland Spolka z Ograniczona Odpowiedzialnoscia sp.k., Gostyn/Poland	F	83.3
MANN+HUMMEL FT Poland Spolka z Ograniczona Odpowiedzialnoscia, Gostyn/Poland	F	83.3
Jack Filter Lufttechnik GmbH/Steindorf, Austria	F	83.3
Jack Filter Hungaria Kft./Polgárdi, Hungary	F	83.3
JFI Service Kft./Polgárdi, Hungary	F	83.3
MICRODYN-NADIR Oltremare S.p.A.	F	83.3

1 F: Consolidated group; E: Accounted for at equity;
N: No inclusion due to irrelevance in accordance with Section 296(2) HGB or Section 311(2) HGB

Company name and domicile	Consolidation status[1]	Equity interest %
America		
MANN+HUMMEL INC., Wilmington, DE/USA	F	83.3
MANN+HUMMEL USA, INC., Portage, MI/USA	F	83.3
MANN+HUMMEL Purolator Filters LLC, Fayetteville/USA	F	83.3
I2M LLC, Raleigh NC, USA	N	83.3
MICRODYN TECHNOLOGIES INC., Raleigh, NC/USA	F	83.3
MANN+HUMMEL Filtration Technology US LLC, Gastonia, NC/USA	F	83.3
MANN+HUMMEL Filtration Technology Products Corp LLC, Gastonia, NC/USA	F	83.3
MANN+HUMMEL Filtration Technology Southern Holdings LLC, Gastonia, NC/USA	F	83.3
MANN+HUMMEL Filtration Technology International Inc., Gastonia, NC/USA	F	83.3
MANN+HUMMEL Filtration Technology Canada ULC, Ayr, Ontario/Canada	F	83.3
MANN+HUMMEL MEXICO S.A. d. C.V., Santiago de Querétaro/Mexiko	F	83.3
MANN+HUMMEL MEXICO SERVICIOS S.A. d. C.V., Santiago de Querétaro/Mexico	F	83.3
MANN+HUMMEL Filtration Technology Mexico S. de R.L.de C.V., Ramos Arizpe/Mexico	F	83.3
MANN+HUMMEL Filtration Technology Distribution Mexico S.A. de C.V., Ramos Arizpe/Mexico	F	83.3
MANN+HUMMEL BRASIL LTDA., Indaiatuba/Brazil	F	83.3
MANN+HUMMEL ARGENTINA S.A., Buenos Aires/Argentina	F	83.3
MANN+HUMMEL Filtration Technology Venezuela C.A., Maracay/Venezuela	N	83.3
MANN+HUMMEL Filtration Technology Distribution Venezuela C.A., Maracay/Venezuela	N	83.3
MANN+HUMMEL Filtration Technology Commercial Distribution C.A., Maracay/Venezuela	N	83.3
MANN+HUMMEL COLOMBIA S.A.S., Bogotá, D.C./Columbia	F	83.3
MANN+HUMMEL LS+E HOLDING INC, Wilmington, DE/USA	F	83.3
Tri-Dim Filter Corporation, Louisa, VA/USA	F	83.3
Tri-Dim Canada Inc., Saint John, New Brunswick/Canada	F	83.3
Hardy Filtration Inc., Trois Rivières Quebec/Canada	F	83.3
CleanAire, LLC, USA	F	55.0
Seccua America LLC/USA	N	83.3
Asia		
MANN+HUMMEL WATER SOLUTIONS HOLDING PTE. LTD., Singapore/Singapore	F	83.3
MANN+HUMMEL FILTER TECHNOLOGY (S.E.A.) PTE. LTD., Singapore/Singapore	F	83.3
MICRODYN-NADIR Singapore Pte. Ltd., Singapore/Singapore	F	83.3
MANN+HUMMEL Middle East FZE, Dubai/United Arab Emirates	F	83.3
MANN and HUMMEL Thailand Ltd., Bangkok/Thailand	F	83.3
MANN+HUMMEL KOREA CO. LTD., Wonju/South Korea	F	83.3
MANN+HUMMEL JAPAN LTD., Shin-Yokohama/Japan	F	83.3
MANN AND HUMMEL FILTER PRIVATE LTD., Bangalore/India	F	83.3

1 F: Consolidated group; E: Accounted for at equity;
N: No inclusion due to irrelevance in accordance with Section 296(2) HGB or Section 311(2) HGB

Company name and domicile	Consolidation status[1]	Equity interest %
CHANGCHUN MANN+HUMMEL FAWER FILTER CO. LTD., Changchun/VR China	F	50.0
MANN+HUMMEL Filter (CHONGQING) CO., LTD., Chongqing/VR China	F	83.3
MANN+HUMMEL FILTER (SHANGHAI) CO. LTD., Shanghai/VR China	F	83.3
MANN+HUMMEL FILTER TRADING (SHANGHAI) CO. LTD., Shanghai/VR China	F	83.3
MANN+HUMMEL (CHINA) CO. LTD., Shanghai/VR China	F	83.3
MANN+HUMMEL FILTER (JINAN) CO. LTD., Jinan/VR China	F	83.3
MANN+HUMMEL Haoye Filter (Bengbu) Co., Ltd., Bengbu/VR China	F	83.3
MANN+HUMMEL Filtration (Longkou) Co., Ltd., Longkou City/VR China	F	83.3
MANN+HUMMEL Ventures Pte. Ltd., Singapore/Singapore	F	83.3
MANN+HUMMEL (CHINA) LIFE SCIENCE AND ENVIRONMENTAL CO., LTD., Kunshan, China	F	83.3
Australia		
MANN AND HUMMEL AUSTRALIA (PTY) LTD., Arndell Park NSW/Australia	F	83.3
Africa		
MANN AND HUMMEL Filters South Africa (Pty) Ltd., Boksburg/South Africa	F	83.3
MANN AND HUMMEL FILTERS MOROCCO SARL AU	F	83.3
2. Associates		
ABC S.A., Cordoba/Argentina	E	25.0

Ludwigsburg, April 27, 2022

MANN+HUMMEL International GmbH & Co. KG

The Management Board

Kurk Wilks
Emese Weissenbacher

1 F: Consolidated group; E: Accounted for at equity;
N: No inclusion due to irrelevance in accordance with Section 296(2) HGB or Section 311(2) HGB

Independent auditor's report

To MANN+HUMMEL International GmbH & Co. KG

Opinions

We have audited the consolidated financial statements of MANN+HUMMEL International GmbH & Co. KG, Ludwigsburg, and its subsidiaries (the Group), which comprise the consolidated profit and loss statement and consolidated statement of comprehensive income for the fiscal year from January 1 to December 31, 2021, the consolidated balance sheet as at December 31, 2021, the consolidated cash flow statement and the consolidated changes in equity for the fiscal year from January 1 to December 31, 2021, and the notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group status report of MANN+HUMMEL International GmbH & Co. KG, which has been combined with the status report of the Company, for the fiscal year from January 1 to December 31, 2021.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB ["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 December 31, 2021 and of its financial performance for the fiscal year from January 1 to December 31, 2021, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Responsibilities of the executive directors and the Supervisory Board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the

EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the assurance work. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors’ use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group’s ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor’s report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our 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 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.

Stuttgart, April 27, 2022

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Heubach	Difflipp
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

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