PFEIFFER VACUUM

Agile into the Future

Focusing on our customers

ANNUAL REPORT

2021

Key Figures

		2021	2020	Change
Sales and profit				
Total sales	K €	771,373	618,665	24.7 %
Operating profit	K €	93,093	45,296	105.5 %
Operating profit margin	%	12.1	7.3	4.8 Pp
Net income	K €	61,987	31,591	96.2 %
Return on sales	%	8.0	5.1	2.9 Pp
Operating cash flow	K €	91,578	59,191	54.7 %
Balance sheet				
Total shareholders' equity and liabilities	K €	707,876	661,845	7.0 %
Cash and cash equivalents	K €	99,371	122,883	-19.1 %
Shareholders' equity	K €	459,376	391,734	17.3 %
Equity ratio	%	64.9	59.2	5.7 Pp
Return on equity	%	13.5	8.1	5.4 Pp
Capital expenditures	K €	41,607	30,441	36.7 %
Workspace				
Workforce (average)		3,373	3,315	1.8 %
Personnel costs	K €	239,270	217,064	10.2 %
Per employee	K €	71	65	9.2 %
Sales per employee	K €	229	187	22.5 %
Per share				
Earnings	€	6.28	3.20	96.3 %
Dividend	€	4.08[1]	1.60	155.0 %

[1] Subject to the approval of the Supervisory Board and the Annual General Meeting

All percentages in this Annual Report were derived on the basis of amounts in thousands of euros.
Rounding differences might result from their presentation in millions of euros.

Corporate Profile

Pfeiffer Vacuum – a name with a reputation for innovative solutions, high technology and dependable products, along with first-class service. For more than 130 years we have been setting standards in vacuum technology with these attributes. One very special milestone was the invention of the turbopump by our Company more than 50 years ago. Thanks to our know-how, we continue to be the technology and world market leader in this field. To no small degree, this also manifests itself in our strong profitability. Our extensive line of solutions, products and services ranges from vacuum pumps, measurement and analysis equipment, valves as well as leak detectors right through to complex vacuum systems. And quality always plays a key role in this connection: Products from Pfeiffer Vacuum are continuously optimized through close collaboration with customers from a variety of industries, through ongoing development work and through the exceptional enthusiasm and commitment of our people. These are virtues that we will continue to embrace!

Established 1890

PURPOSE OF THE COMPANY

To develop, manufacture and market components and systems for vacuum generation, measurement and analysis as well as helium leak detectors

3,444

WORKFORCE

worldwide

HEADQUARTERS

Asslar, Germany

MANUFACTURING SITES

- Asslar, Germany
- Dresden, Germany
- Göttingen, Germany
- Annecy, France
- Asan, Republic of Korea
- Wuxi, China
- Cluj, Romania
- Indianapolis, USA
- Yreka, USA
- Ho Chi Minh City, Vietnam

The following symbols will lead you to further interesting information:

↗ You will find more information online. They are not part of the audited Combined Management Report and the audited Consolidated Financial Statements.

Additional information on this topic can be found within this report

These links and references were inserted for better understanding. They are not part of the audited Combined Management Report and the audited Consolidated Financial Statements.

We publish our complete Annual Report exclusively in digital format as a PDF. For further information please also refer to

↗ **Our website**

To our Shareholders

Management Board

Dr. Britta Giesen
CEO

Wolfgang Ehrk
COO

↗ CVs of the Management Board

Letter from the CEO

↗ Video message from the CEO

Dear Shareholders,
Ladies and Gentlemen,

2021 was a record year for Pfeiffer Vacuum Technology AG, with rapidly increasing demand for our products and sales exceeding our expectations in all market segments. In the midst of all of this, we managed to keep our customers at the center of everything we do. The entire organization responded quickly to meet the customers' needs and to satisfy the rapidly increasing demand. Despite of the considerable difficulties in the global supply chains, our production, logistics, and supply chains were able to successfully manage the significant ramp-up in demand.

In my first year as Chief Executive Officer I was thoroughly impressed by the dedication of the entire organization to our customers and the resilience of the teams. I am convinced that Pfeiffer Vacuum is in a great position for continuous growth and further performance improvements.

Our success is reflected in our financial results. For 2021, sales were up 24.7 percent to € 771.4 million, EBIT improved by 105.5 percent to € 93.1 million and order intake increased by 52.7 percent to € 964.3 million compared to the previous year. The demand for our products was broad based, across product groups, markets and geographies and it remains strong entering 2022. At the end of 2021, we recorded an order backlog of € 316.2 million.

Meeting the high demand of our customers

Our decision to maintain staffing levels through 2020, the first year of the corona pandemic, was critical as the demand in first quarter 2021 picked up extremely fast. In addition, we anticipated the change in customer demand early, which gave us an advantage to our competition. The challenge in 2021 was to manage the stability of the supply chain, increase production capacities and continue to protect the health of our employees in the corona pandemic.

On a global basis, supply chains were under pressure in 2021, due to disruptions related to the pandemic and demand fluctuations. We were in a fortunate position that we established a combined procurement organization with the Busch Group in 2020 as part of the Relationship Agreement we entered in 2019. As a result, we were able to access a broader base of suppliers and leverage the purchasing power from both organizations. Despite extended delivery times, many of our customers commented favorably regarding our delivery reliability in this challenging market environment.

Increasing our production capacity and continuing to protect our employees from the risk of infection through the Covid-19 virus has been a priority for us. Our employees responded to this challenge and maintained the safety protections that we put in place. At the same time, we increased production capacity through targeted shift and deployment planning as well as additional production equipment. However, capacity could not be added as quickly as we would have liked due to the long delivery schedules for the machinery. At our facility in Annecy, France, in which we manufacture helium leak detection products and dry multi-stage Roots pumps, we added a new building to increase our production capacity and improve efficiency. This new building is a negative energy building and highly automated for non-value-added tasks. In Asan, Korea, we are also expanding and adding a warehouse as well as logistics building, while at the same time increasing the material flow efficiencies and expanding production capacity.

Investments in 2021 driving opportunities for 2022 and beyond

While the immediate challenges of managing our production capacity took a lot of our focus, we also continued to invest in the future in other areas. This includes new technologies for the vacuum market and working even closer with our customers to meet their future vacuum technology requirements. I would like to mention just two examples from the past year: the introduction of our HiPace80 Neo turbopump and the HiScroll ATEX scroll pump. The HiPace 80 pump – due to its patented laser balancing technology and small size – is particularly suitable for vibration-sensitive applications, such as in mass spectrometry and electron microscopy. Features include longer life before service, reduced vibration and noise emissions as well as guaranteed maximum operational reliability. The HiScroll ATEX is suitable for pumping potentially explosive mixtures and covers therefore many applications in the field of industry as well as research and development. With these products, we are setting new standard in their respective applications.

In December 2021, we opened the Silicon Valley Innovation Center (SVIC). At the SVIC, customers collaborate with our vacuum experts to develop, test and evaluate new vacuum solutions designed for their applications, particularly in the semiconductor market. This kind of collaboration drives future innovation and solidifies our relationship as well as reputation with our customers.

Our customers are at the center

Putting our customers at the center of everything we do was a key success factor in 2021 and will remain our main guideline in 2022 and beyond. Being aware of our customers' needs – now and in the future – and providing the matching vacuum solutions for their applications is of paramount importance. During 2021, we conducted a detailed analysis of our business, markets, customers and general economic developments. This analysis helped us to define focus applications in our target markets with the highest growth potential that we will strategically address to drive growth.

Dear shareholders, the Pfeiffer Vacuum management team is highly convinced about the growth potential of our company. We aim to reach EUR 1 billion in annual sales in the medium- to long-term. This will require additional investments in people, competencies, technology and production capabilities. We want to be even closer to our customers. In this respect, we intend to re-organize our production network in order to manufacture more of our products where they are needed. Additionally, our research and development organizations will work even closer with our customers and accelerate product development.

We will manage cost carefully, but we are ready to accept that for our operating margins near-term do not yet reach their full potential as we focus on growth that we believe will position us for even stronger margins in the long-term. Beyond the financial performance, we have also environmental targets, including our contribution to energy neutrality, as well as the goal of meeting the changing vacuum technology challenges and that we will be a sought-after partner for our customers. This will drive long-term sustainable revenue growth and earnings results. All this will require the entire organization to be agile. We are very confident in our ability to further strengthen Pfeiffer Vacuum's position in the global vacuum market and drive shareholder and stakeholder returns.

2022 is shaping up as another strong year where we expect to grow from the 2021 record levels and to improve our operating results. On behalf of our entire team, I wish to thank you for the trust you place in us and our company. I invite you to accompany us on the growth journey ahead.

Sincerely,

Dr. Britta Giesen

Dr. Britta Giesen
CEO of Pfeiffer Vacuum Technology AG

Supervisory Board

Timo Birkenstock
↗ CV

Minja Lohrer
↗ CV

Stefan Röser
↗ CV

Ayla Busch
Chairwoman
↗ CV

Henrik Newerla
↗ CV

Götz Timmerbeil
Deputy Chairman
↗ CV

Report of the Supervisory Board on the 2021 Fiscal Year

Dear Shareholders,

In fiscal year 2021, Pfeiffer Vacuum Technology AG successfully continued the comprehensive transformation process initiated in 2018 towards becoming a global, integrated and agile Company. The Supervisory Board closely supported the Management Board in this process. In addition to the Company's strategic continued development and the ongoing consideration of the Company's sales and earnings development and the Group's financial position and profitability, the reorganization of the organizational and management structure following the commencement of the new Chief Executive Officer Dr. Britta Giesen, the handling of the effects of the COVID-19 pandemic, the further development of the production sites worldwide and the consideration of the remuneration system for the Management Board were important topics of the work of the Supervisory Board in the past fiscal year.

In fiscal year 2021, the Supervisory Board of Pfeiffer Vacuum Technology AG duly and diligently exercised all the duties attributed to it by law and the Articles of Association. It continuously and conscientiously monitored the work of the Management Board, accompanied and advised on the strategic development of the Company and important individual initiatives with a view to sustainable value creation and satisfied itself about the legality and regularity as well as the expediency and economic efficiencies of the managerial work on the basis of the Management Board's reports. In some cases, the Supervisory Board utilized the support of external experts in its work.

Cooperation between Supervisory Board and Management Board

The Management Board informed the Supervisory Board and/or the chairwoman of the Supervisory Board regularly, comprehensively and in a timely manner about the competitive environment, planned business policy and all strategic and crucial operational decisions. In the same way, the Management Board discussed key financial and non-financial performance indicators with the Supervisory Board as a basis for evaluating the economic situation and strategic development of the Company.

The Management Board reported during Supervisory Board meetings in oral or written form and replied within this setting to questions raised by the Supervisory Board. Outside of the meetings, an intensive exchange of information with the Supervisory Board was also ensured with regular reports on the economic development and the key occurrences of the Company and the Group. The Supervisory Board is satisfied that Management Board reporting met the statutory and Supervisory Board's requirements, which the Supervisory Board had specified in a special information policy for the Management Board in May 2020, and the principles of good corporate governance.

Business transactions of the Management Board requiring pre-approval were decided by the Supervisory Board after these had been carefully reviewed and the issues were discussed with the Management Board.

Personnel changes in the management bodies

There were no changes in the Management Board in the year under review; this consisted, and still does, of Dr. Britta Giesen as Chairwoman of the Management Board and Mr. Wolfgang Ehrk (COO). The Management Board is supported by a Group Executive Committee, which, in addition to the Management Board members themselves, includes Ms. Hind Beaujon as Chief Sales Officer – CSO (since January 1, 2021), Mr. Benoît Guillaumin as Chief Controlling Officer – CCO (since June 1, 2021), and Mr. Tobias Stoll as Chief Technology Officer – CTO (since February 1, 2022).

At the end of the Annual General Meeting on May 12, 2021, the term of office of the incumbent members of the Supervisory Board ended, namely on the part of the shareholder representatives

- Ms. Ayla Busch
- Mr. Götz Timmerbeil
- Mr. Filippo Th. Beck and
- Mr. Henrik Newerla

and as employee representatives

- Mr. Matthias Mädler and
- Mr. Stefan Röser.

The Annual General Meeting on May 12, 2021 elected new members of the Supervisory Board as shareholder representatives:

- Ms. Ayla Busch (member since October 2017)
- Mr. Götz Timmerbeil (member since June 2001)
- Mr. Henrik Newerla (member since April 2018) and
- Ms. Minja Lohrer (member since May 2021).

The following persons joined the Supervisory Board as employee representatives

- Mr. Stefan Röser (member since January 2020) and
- Mr. Timo Birkenstock (member since May 2021)

The term of office of the incumbent members of the Supervisory Board ends at the close of the 2025 Annual General Meeting.

The proportion of women on the Supervisory Board is 33.33 % and on the Management Board 50 %, in each case as of the reporting date of March 24, 2022.

Supervisory Board meetings and aspects of Supervisory Board work

In fiscal year 2021, the Supervisory Board addressed the current situation of the Company and the Group in a total of 13 meetings, most of which were carried out via video conference due to the pandemic. It dealt with all issues of importance to the Company and discussed them in detail with the Management Board. Meetings of the Supervisory Board committees were also held. Outside the meetings, the Supervisory Board adopted a number of resolutions by written circular. The Management Board members took part in the plenary meetings, unless there were topics on the agenda that required to be dealt with properly without the presence of the Management Board; therefore, the Supervisory Board met regularly without Management Board members being present.

The Supervisory Board reviewed the current course of business and the quarterly results on a continuous basis and discussed these in detail with the Management Board. It repeatedly received reports on strategy and discussed these reports with the Management Board. A further subject of discussion was the short-term and long-term corporate planning presented by the Management Board. Other main topics and resolutions discussed by the Supervisory Board in the past fiscal year were in particular:

The Supervisory Board repeatedly received reports on the status of ongoing IT projects and discussed the reorganization of the global organizational structure with the Management Board. Furthermore, it addressed in detail the structure of Management Board remuneration. Accordingly, on the basis of preparatory work by the Personnel Committee, it adopted a new Management Board compensation system, which was approved by the Annual General Meeting. In this connection it also resolved amendments to the existing Management Board service contracts with the objective of at least bringing these into line with the new compensation system that would apply in the future. Other aspects of the Supervisory Board's work included the statement of compliance with the German Corporate Governance Code, the focal points of the internal audits which the Management Board kept the Supervisory Board informed of, compliance and compliance management within the Company and the Group, as well as the structure and processes of the sales organization, key customer projects and market trends in 2022 and also ramp-up activities at the production sites. The Supervisory Board paid two visits to the Asslar site and held discussions with employees. It also attended training sessions on selected product groups.

At its financial statements meeting in March, the Supervisory Board, supported by the preparatory work of the Audit Committee and the detailed explanations provided by representatives of the auditor who were present at the meeting, dealt in detail with the Company's annual financial statement documents for the 2020 fiscal year. Following in-depth discussions and review, the Supervisory Board approved the 2020 annual financial statements, the annual report including the combined management report as of December 31, 2020, the Management Board's proposal for the dividend payout ratio and the distribution of profits, the consolidated financial statements, the Group annual report including the combined management report as of December 31, 2020, the non-financial Group statement (NFE report) and the Management Board's report on relations with affiliated companies (dependency report). It also adopted the report of the Supervisory Board for 2020.

Other aspects included a revision of the competence profile for the Supervisory Board as well as the nomination of candidates for the election of shareholder representatives at the 2021 Annual General Meeting. At its financial statements meeting, the Supervisory Board also dealt with the draft invitation to the 2021 Annual General Meeting presented by the Management Board, adopted the proposed resolutions to the Annual General Meeting, and gave its consent to holding the Annual General Meeting in the form of a virtual meeting.

The Supervisory Board also addressed the 2020 target achievements and the calculation of bonuses for the current Management Board member Wolfgang Ehrk and the former Management Board members Dr. Eric Taberlet and Nathalie Benedikt, and adopted the corresponding resolutions in accordance with the proposals presented by the Personnel Committee.

Following the Annual General Meeting, the newly constituted Supervisory Board held its constituent meeting, during which the elections of the Chair and Deputy Chair of the Supervisory Board took place and resolutions were passed concerning the composition of the committees.

Also in the year under review, the Supervisory Board conducted its regular efficiency review, which was presided over by an external legal expert.

In addition, the Supervisory Board regularly received the reports of its committees.

Supervisory Board Committees

The work of the Supervisory Board in fiscal year 2021 was again accompanied and prepared by its committees. In addition to the Nomination Committee, the Personnel Committee, the Audit Committee and the Related Party Transaction Committee (RPT Committee) were appointed. The tasks and competencies of the committees are defined in the rules of procedure for the Supervisory Board, which are available on the Company's website.

The personnel composition of the Supervisory Board committees in the reporting period was as follows:

Up to the close of the Annual General Meeting on May 12, 2021:

Nomination Committee
- Ayla Busch (Chairwoman)
- Filippo Th. Beck
- Götz Timmerbeil

Management Board Committee
- Ayla Busch (Chairwoman)
- Filippo Th. Beck
- Henrik Newerla
- Götz Timmerbeil

Audit Committee
- Götz Timmerbeil (Chairman)
- Filippo Th. Beck
- Ayla Busch

RPT Committee
- Götz Timmerbeil (Chairman)
- Matthias Mädler
- Henrik Newerla

Since the close of the Annual General Meeting on May 12, 2021:

Nomination Committee
- Ayla Busch (Chairwoman)
- Minja Lohrer
- Götz Timmerbeil

Management Board Committee
- Ayla Busch (Chairwoman)
- Minja Lohrer
- Henrik Newerla
- Götz Timmerbeil

Audit Committee
- Götz Timmerbeil (Chairman)
- Minja Lohrer
- Ayla Busch

RPT Committee
- Götz Timmerbeil (Chairman)
- Timo Birkenstock
- Henrik Newerla

The Nomination Committee held three meetings before the Annual General Meeting 2021. After detailed discussion, it adopted its proposals for candidates to be elected as new shareholder representatives to the Supervisory Board, dealt with the competence profile for the Supervisory Board, and prepared a resolution by the full Supervisory Board for a proposal to be put before the Annual General Meeting to amend § 9 of the Articles of Association in order to establish a staggered board in the future. After the Supervisory Board was newly constituted following the Annual General Meeting on May 12, 2021, a further meeting of the Nomination Committee was held at which the Chair was elected.

The Personnel Committee held six meetings in the 2021 fiscal year. The focus was the determination of the target achievement under the variable remuneration components of the Management Board in the 2020 fiscal year, adjustments to the Management Board service contracts, and the remuneration system for the Management Board.

In addition, the Personnel Committee dealt with setting the target EBIT for 2022 to 2024 under the LTI for the Management Board and with setting the target parameters for the variable remuneration components for 2022 for the members of the Management Board.

The Audit Committee held four meetings in the reporting year. At its March meeting, attended by representatives of the auditor, it dealt in detail with the Annual Financial Statements and the Consolidated Financial Statements of the Company for the 2020 fiscal year, the proposal of the Management Board for the dividend payout ratio and the distribution of profits, the Management Report for the Company and the Group for the 2020 fiscal year, and the auditor's reports. In preparation for dealing with the financial statements at the plenary meeting of the Supervisory Board, these documents were discussed in detail with the auditor's representatives and carefully examined on the basis of the information provided. Following discussions held in advance by the committee chairman with the Management Board, the Head of Global Finance and the auditor, and a mandate-related quality report submitted by the auditor, the Audit Committee dealt in detail with the quality of the audit. On the basis of its positive evaluation, the Committee resolved to recommend to the Supervisory Board that it propose to the Annual General Meeting that PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, be appointed as auditors of the financial statements and consolidated financial statements for the 2021 fiscal year.

After the Supervisory Board was newly constituted following the Annual General Meeting on May 12, 2021, the Audit Committee also held its constituent meeting.

At its third meeting in the reporting year, the Audit Committee addressed the current amendments to the law relating to the Audit Committee as a result of the Financial Market Integrity Strengthening Act (FISG). It also discussed and approved a catalog of criteria for evaluating the quality of financial statement auditing. The committee also dealt with the internal audit report for 2020/2021, the new requirements for the compensation report, as well as compliance and risk management. The Head of Compliance submitted a report on this to the committee, which was discussed in detail.

A fourth meeting of the Audit Committee was then held in October 2021, which was again attended by representatives of the auditor. At this meeting, the committee noted the auditor's statement of independence and determined that agreements would be reached with the auditor regarding the review of corporate governance rules, and that communication between the committee and the auditor would be defined in greater detail. The auditor's representatives presented the intended approach to auditing the financial statements, and the Committee determined the key points for the audit of the financial statements. In addition, the Audit Committee addressed the reorganization of the risk management system and the risk strategy, including the materiality thresholds implemented for the risk management system. Subsequently, the contracts for the audit of the Company's annual financial statements and the consolidated financial statements for 2021 and the nonfinancial statement for 2021 were awarded to the auditors.

The Related Party Transactions Committee (RPT Committee) met three times in the reporting year. It dealt with the dependency report for 2020 audited by the auditor and discussed it with the Management Board. Other topics of discussion were the system for the comprehensive recording of all business transactions with the Busch Group, the current status of the cooperation with Busch, as well as transactions carried out with the Busch Group and the intended cost allocation in this connection. It was established that the threshold for legal transactions requiring approval pursuant to § 111b of the German Stock Corporation Act ("AktG") was not reached in fiscal year 2021.

Attendance at the meeting

In fiscal year 2021, all members of the Supervisory Board attended every meeting of the Supervisory Board and all members of committees also attended every meeting of the committees to which they belong. Accordingly, the attendance rate of all Supervisory Board members at the plenum and the committees was 100 %.

Corporate Governance

As a listed company, Pfeiffer Vacuum Technology AG is subject to the obligation pursuant to § 161 Sub-Para. 1 of the German Stock Corporation Act ("AktG"). According to this, the Management Board and the Supervisory Board have to declare annually that the recommendations of the German Corporate Governance Code have been and will be complied with or which recommendations have not been or will not be applied and if so, why not. The Supervisory Board recognizes the principles of good corporate governance and also addressed this issue in fiscal year 2021. An essential basis for this is the extensive recognition and observance of the recommendations of the German Corporate Governance Code (GCGC). The Management Board and Supervisory Board issued the regular corporate governance declaration on November 3, 2021. It is available on the company's website and also forms part of the corporate governance statement (Erklärung zur Unternehmensführung).

According to Recommendation E.1 of the German Corporate Governance Code, every member of the Supervisory Board must disclose conflicts of interest immediately. There were no occasions to disclose actual or potential conflicts of interest in the year under review. In November 2019, the Supervisory Board already set up a special committee, known as the RPT Committee, of which Ms. Ayla Busch is not a member, to deal with the potential conflict of interest in the person of Ms. Ayla Busch which could arise when advising and monitoring the Management Board with regard to legal transactions with companies in the Busch Group and when implementing the Relationship Agreement concluded with Busch SE for related party transactions.

Annual and consolidated financial statements, audit of financial statements, dependent company report

Following preparatory discussions in the Audit Committee, PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, was commissioned to audit the annual financial statements and the consolidated financial statements of the Company, prepared in accordance with IFRS for the 2021 fiscal year and, to the extent required by law, of the subsidiaries. Pursuant to § 315e of the German Commercial Code, the Company did not prepare consolidated financial statements presented in accordance with the rules of the German Commercial Code. PricewaterhouseCoopers GmbH was also commissioned to audit the 2021 non-financial statement.

The Audit Committee and the auditor defined, amongst others, the following key audit points: risk and control awareness of management (management fraud); realization of sales revenues; inventories and valuation of inventories; valuation and completeness of provisions; pension provisions; current and deferred taxes; impairment tests (IAS 36 and shares in affiliated companies); risk and forecast reporting as well as remuneration reporting.

It has been agreed with the auditor (i) that it will inform the Audit Committee immediately of all findings and occurrences that are essential for its duties and that come to its knowledge during the course of the audit, and (ii) that it will inform the Audit Committee and record in the audit report notes if, during the audit of the financial statements, it discovers facts that indicate that the declaration made by the Management Board and the Supervisory Board in relation to the German Corporate Governance Code is incorrect.

The Annual Financial Statements and Management Report as well as the Consolidated Financial Statements in accordance with IFRS, together with the Combined Management Report, all for the 2021 fiscal year, were audited by the independent auditor and received his unqualified endorsement.

Pursuant to § 315b of the German Commercial Code (HGB), the Company has prepared the non-financial group report as part of the Combined Management Report for the 2021 fiscal year. The Supervisory Board reviewed the content of the non-financial statement with the support of PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, as part of an audit to obtain limited assurance in accordance with the International Standard on Assurance Engagement (ISAE) 3000 (Revised). The audit did not reveal any facts that would have led the auditing firm to conclude that the non-financial group statement of Pfeiffer Vacuum Technology AG for the period from January 1 to December 31, 2021, had not been prepared, in all material respects, in accordance with § 289c HGB and § 315c of the German Commercial Code ("HGB").

In the audit opinion, the non-financial group statement is identified as other information within the meaning of ISA 720 (revised). At its meeting on March 24, 2022, the Supervisory Board approved the non-financial group statement for the 2021 fiscal year.

The Annual and Consolidated Financial Statements, the Combined Management Report and the audit reports were submitted to all members of the Supervisory Board members in a timely fashion. They were first discussed, by way of preparation, in detail by the Audit Committee on March 23, 2022 and then on March 24, 2022 by the Supervisory Board at their respective meetings relating to the financial statements. Representatives of the auditors were present to report on the major findings of the audit and were available to answer questions. On the basis of its own thorough review, the Supervisory Board concurred with the result of the audit conducted by the auditor. Given the concluding results of its review, the Supervisory Board raised no objections to the Annual and Consolidated Financial Statements. It approved the Annual and Consolidated Financial Statements. The Annual Financial Statements were thus formally adopted. The Supervisory Board discussed in detail with the Management Board its proposal regarding the distribution of a dividend and then concurred with the Management Board's proposal regarding the appropriation of the Company's retained earnings.

Additionally, the Management Board of Pfeiffer Vacuum Technology AG has drawn up a report on the Company's relationships with affiliated companies for the fiscal year 2021 ("dependency report") in accordance with § 312 of the German Stock Corporation Act ("AktG") and afterwards presented this report to the Supervisory Board for review. PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, has audited the dependency report and issued the following auditor's report:

"According to our professional audit and judgment, we confirm that:

1. the actual disclosures in the report are correct, and
2. the Company's payment for legal transactions as included in the report was not unreasonably high."

The Management Board's dependency report as well as the related auditor's report were submitted to the Supervisory Board. The Supervisory Board reviewed both the Management Board's dependency report as well as the auditor's report. Final review was made in the Supervisory Board meeting on March 24, 2022. The independent auditor attended this meeting, reported on the audit of the dependency report and the major findings of his audit and was available to answer additional questions from the Supervisory Board. After the final review, the Supervisory Board concurred with the dependency report of the Management Board and the audit report of the auditor and had no objections against the declaration of the Management Board at the end of the dependency report.

Remuneration report

In addition, at the beginning of 2022, the Supervisory Board dealt with the preparation of the newly designed remuneration report 2021 in accordance with the requirements of the second shareholders' rights directive implementation act (ARUG II), which was jointly prepared with the Management Board for the first time for fiscal year 2021. The Supervisory Board adopted the final version of the remuneration report 2021 by way of a circular resolution on February 24, 2022. The remuneration report was issued with a separate audit endorsement by the auditor and will be presented to this year's Annual General Meeting of the Company for approval.

Acknowledgements

The Supervisory Board would like to sincerely thank the Management Board, the Employee Council and the entire staff of the Group for their dedication and commitment in the successful 2021 fiscal year.

Adoption of this Report

The Supervisory Board adopted this Supervisory Board Report in the resolution dated March 24, 2022 pursuant to § 171 Sub-Para 2 of the German Stock Corporation Act ("AktG").

Asslar, March 24, 2022

On behalf of the Supervisory Board

Ayla Busch

Ayla Busch
(Chairwoman of the Supervisory Board)

Agile into the Future

Fast changing market environments, an ever-increasing speed in the development of innovations and megatrends as well as a huge dynamic in the global economy, massively impacted by the Corona pandemic and geopolitical changes in some of our target markets – the current global business environment demands one property more than anything else: Agility.

Acting agile, adapting fast and flexibly to the changing demands is a key success factor. Pfeiffer Vacuum has made this property its guideline – with a clear focus: Our customers are at the center of everything we do. By acting in an agile way and adapting to their requirements, we serve our customers and enable them in their development of new technologies. The applications of our customers are cutting edge technologies and in parts pioneering projects that are realized for the first time ever. Therefore, it is essential to design the best solution for the vacuum demands in close collaboration. The basis for this is a trustful partnership between us and our customers that allows to work and discuss openly as well as constructively.

Our Customers are the Center of our Activities

The vacuum market is large and comprehensive: Vacuum technology is needed in the manufacture of countless products of our daily life and enables future technologies. In their markets, our customers research and develop the megatrends that shape our future. We supply these growth markets with the matching solutions by closely collaborating with our customers in diverse market segments right from the development stage.

Our Markets

Our Customers

- Semiconductor and Emerging Technologies
- Industry
- Analytics
- Research & Development

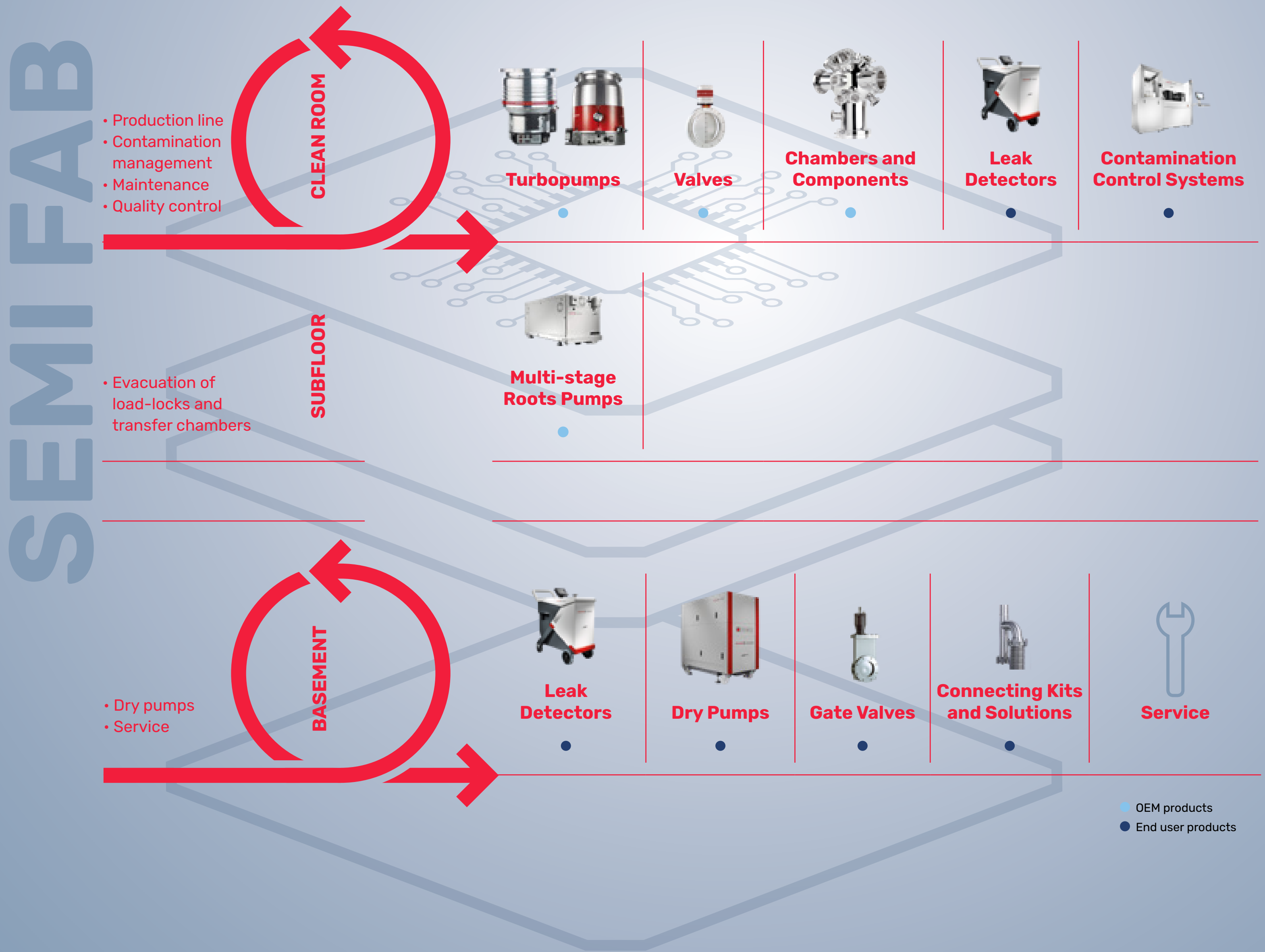
Our Solutions

Semiconductor and Emerging Technologies

With more than 50 % of our overall sales in 2021, Semiconductor and Emerging Technologies is our biggest market segment. Especially due to the accelerated digitalization and peaking demand for electronic devices during the Corona pandemic, the need for microchips manufactured in semi-fabs under vacuum conditions has increased tremendously.

Vacuum needs in semiconductor
- Vacuum solutions
- Leak detectors
- Service

To meet the requirements of our customers for their current and future processes, we are setting an even stronger focus on the co-development of our products together with them. Thanks to the ongoing expansion of our global footprint, our teams of experts are always close to the customers and align with them thoroughly. Through this close collaboration, we learn about new requirements at a very early stage and are thus able to develop matching solutions. This positions us as continuous supplier of one of the major growth markets of the world.



Solutions for semiconductor fabs

Pfeiffer Vacuum provides solutions for different sections of a semi fab in a two-staged approach to both Original Equipment Manufacturers (OEM) and end users in the semiconductor industry: To our OEMs, which provide the equipment to the fabs, we supply the vacuum solutions needed to generate the required high and ultra-high vacuum conditions in the cleanroom and the subfloor. Our semiconductor end users purchase dry pumps and leak detectors directly from us, which are installed in the basement. We also deliver complete contamination management systems to the semiconductor industry.

By close collaboration and through co-development projects, we ensure that we adapt our solutions to the future needs of our customers. With the opening of our Silicon Valley Innovation Center (SVIC) in San José, California, USA, we have established a R&D hub close to several of our major semiconductor customers where we develop and test next generation vacuum solutions with them.

Industry

Industry is a very heterogeneous market with many applications. Our target markets require a vacuum below 10^{-2} mbar, which is in the medium to high vacuum range. Additionally, in many applications, leak testing – with air or with a tracer gas – is compulsory to guarantee either final product or production process quality. In this vast variety of markets, our customers are leading manufacturers.

The automotive industry is a very good example for the range of applications we serve with our products to support leading growth technologies.

In the automotive industry, vacuum technology is needed for several different megatrends:

- Autonomous driving
- E-mobility
- Energy efficiency
- Safety

PROCESS VACUUM

- Pharma and biotech
- Technical gases
- Chemical
- Plastics
- Electrical power
- Fuel vapor recovery
- Oil & gas
- Biofuel
- Wind energy

$< 10^{-2}$
mbar

INDUSTRIAL VACUUM

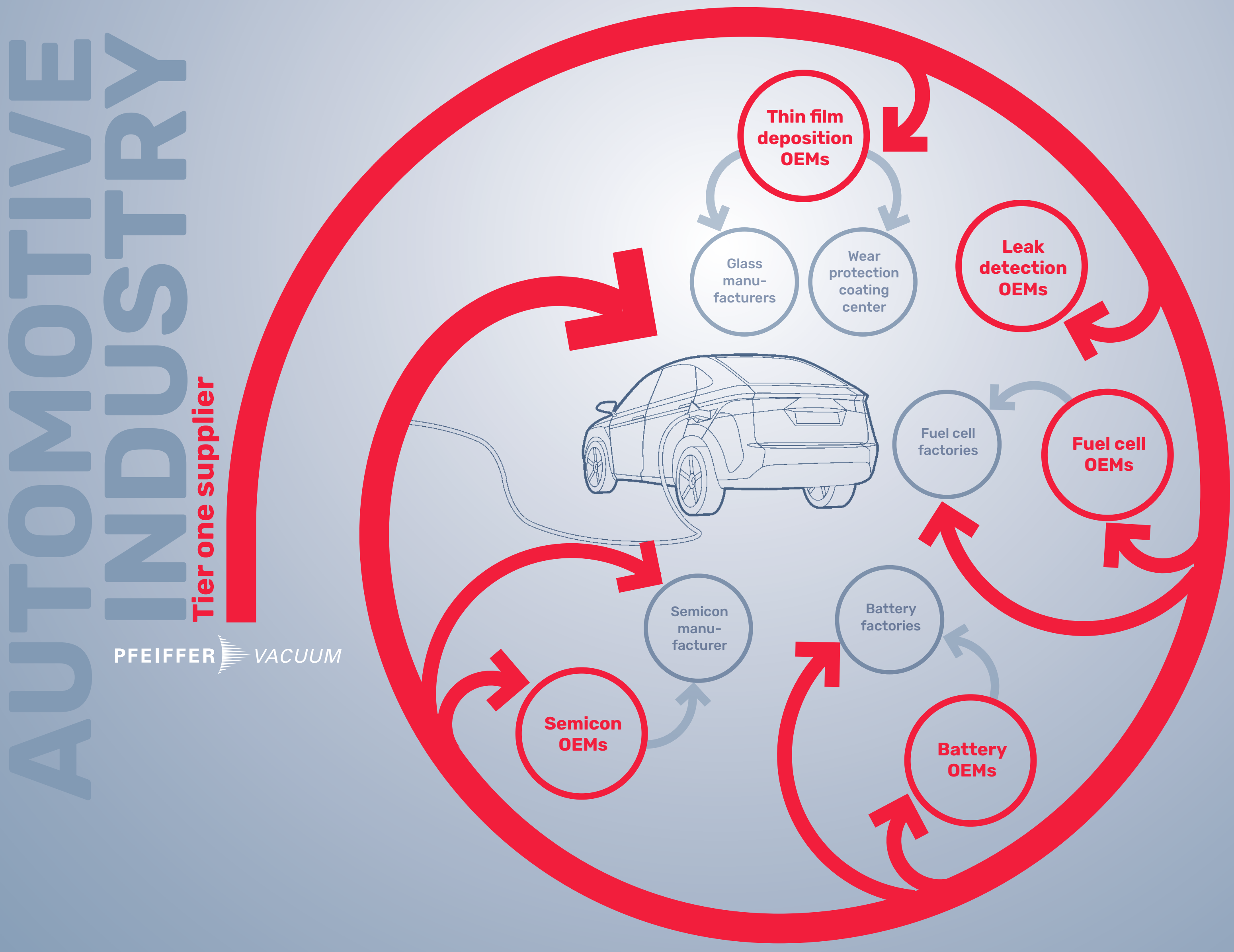
- Metallurgy
- Battery
- Medical devices
- Electronics
- Leak detection systems
- Refrigeration and air conditioning
- Automotive and transport
- Industrial Vacuum others

$10^{-2} - 10^{-6}$
mbar

THIN-FILM DEPOSITION

- Thin-Film deposition
  - Wear protection
  - Decorative coatings
  - Ophthalmic
  - Storage media
  - Thin-Film others
- Glass coating

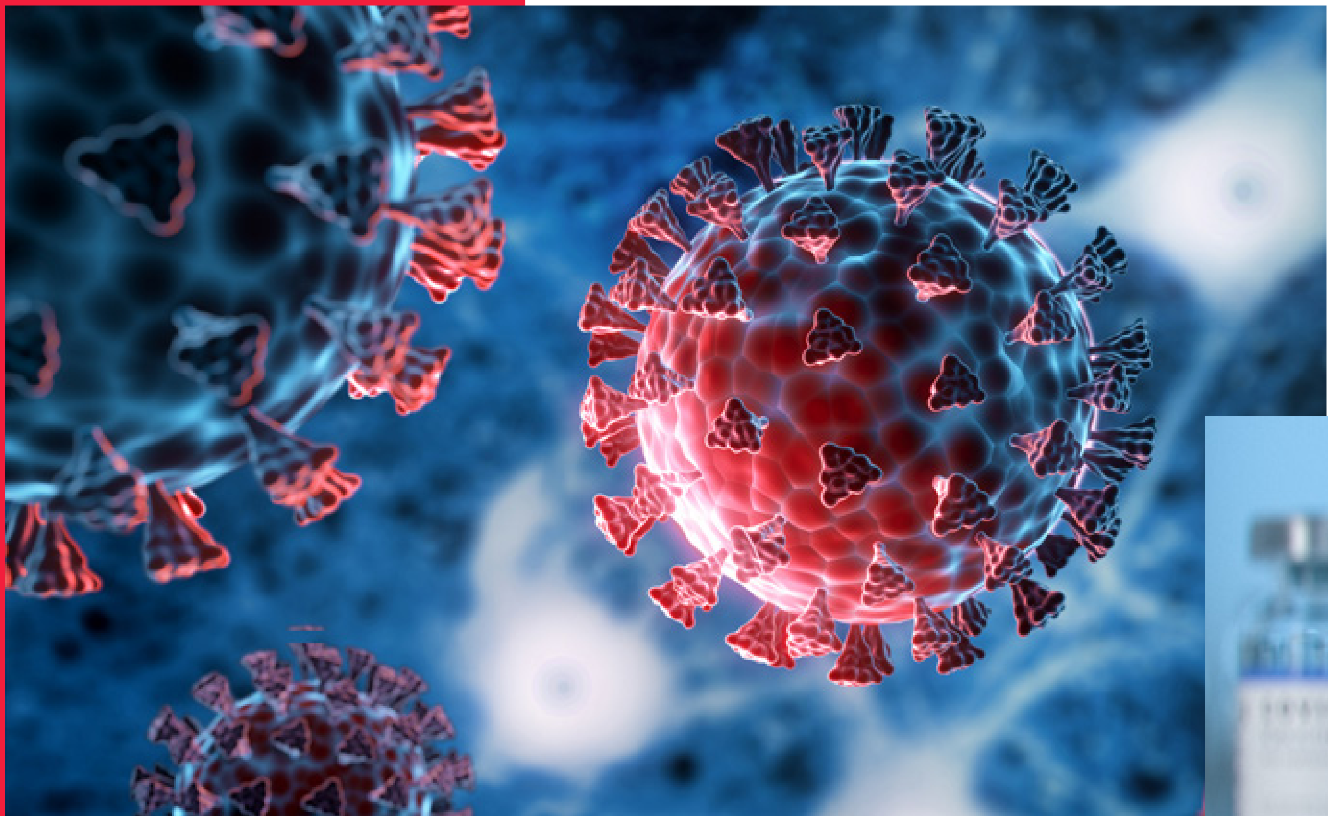
$10^{-3} - 10^{-8}$
mbar



In multiple applications, our products support leading growth technologies

We deliver our solutions for the automotive industry in a two-staged approach: Some of our customers are Original Equipment Manufacturers (OEM) that supply automotive manufacturers with machinery to produce batteries, fuel cells, coated glass or microchips for electronics, for example. But we also deliver directly to customers in the automotive industry. In both cases, close collaboration with the customers is key. Right from the beginning, we develop our solution together with them and therewith not only provide the matching products for their application, but also learn about their demands in the future.

Analytics

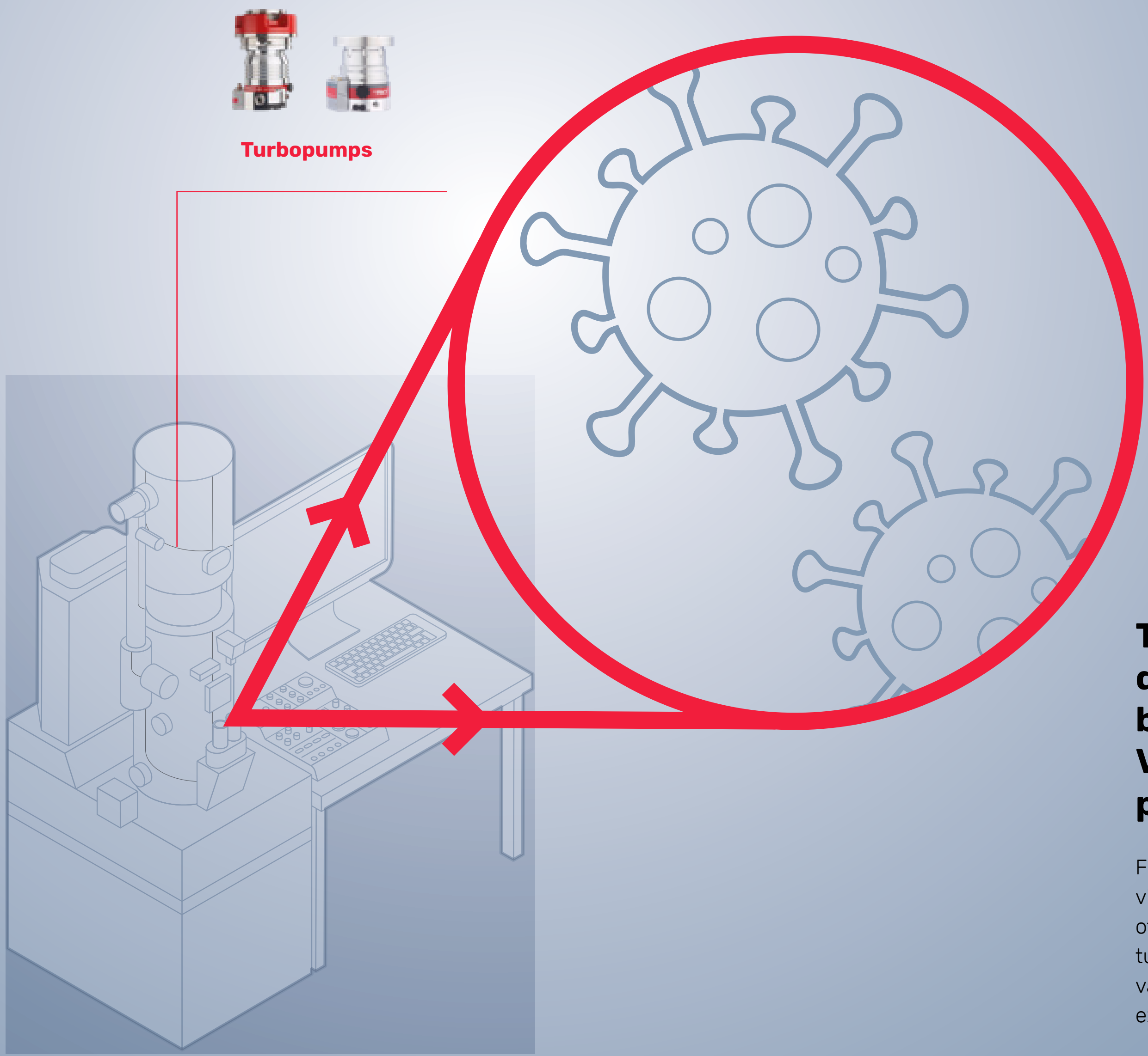


Pfeiffer Vacuum is providing manufacturers of analytic instruments all over the world with vacuum equipment for creating, measuring and controlling the vacuum process in their products and solutions. Their application requirements are always in our focus.

In our Analytics market segment, pharma and biotech applications play a crucial role. Our products are used, for example, to test the tightness of pharmaceutical packaging.

In the fight against COVID-19, our products became of great importance when a Transmission Electron Microscope (TEM) was used to characterize the pathogen of SARS-CoV-2 (COVID-19). Low vibration turbopumps are essential for the operation of TEMs.

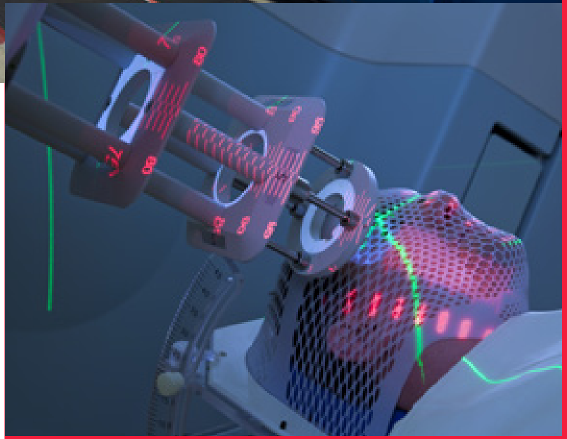
TRANSMISSION ELECTRON MICROSCOPE



This TEM was designed and built with Pfeiffer Vacuum turbo-pumps inside.

Furthermore, the structure of the virus was evaluated by using another high-end TEM afterwards. Our turbopumps generate the needed vacuum to conduct these analytical examinations.

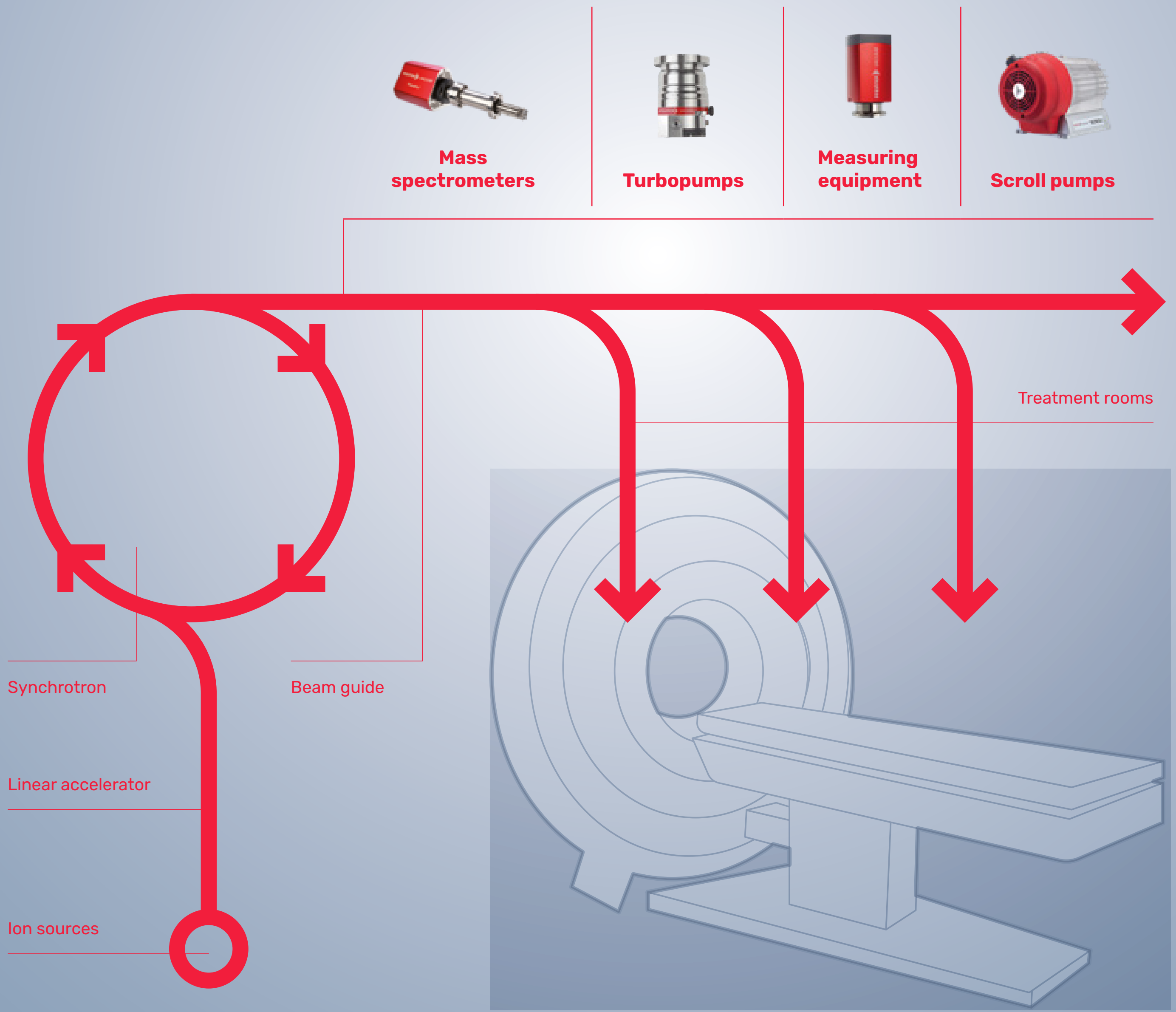
Research & Development



In the R&D segment, our products are directly used for groundbreaking research. Universities as well as large research institutes are among our long-term customers. We proactively assist them in setting up major research facilities while benefiting at the same time from their profound know-how that gets also access to the solutions. One very significant application of our products is the medical ion beam therapy: To treat brain cancer, the heavy ion therapy is most effective. The essential particle accelerator operates in ultra-high vacuum conditions. The requirement which need to be met are very strict as even the smallest amounts of gas in the accelerator system can impact the function and quality of the ion beam and thus the treatment. Therefore, close collaboration as well as an extremely high quality and reliability of the vacuum solutions in place are mandatory.

It is very important that the matching vacuum solution for this application is developed in conjunction with the customer in order to consider all specific requirements right from the beginning. This is mandatory for protecting the safety and health of the patient who receives the treatment.

ION BEAM



The entire trajectory of the ion beam requires vacuum.

Thus, vacuum technology is essential throughout the entire machine, from the ion source where the ions are generated up to the outlet window of the treatment room.

- Turbopumps generate the required ultra-high vacuum conditions
- Scroll pumps are used as backing pumps for turbopumps
- Mass spectrometers are used to carry out residual gas analysis in the vacuum system
- Measurement equipment is used to control the vacuum conditions within the accelerator.

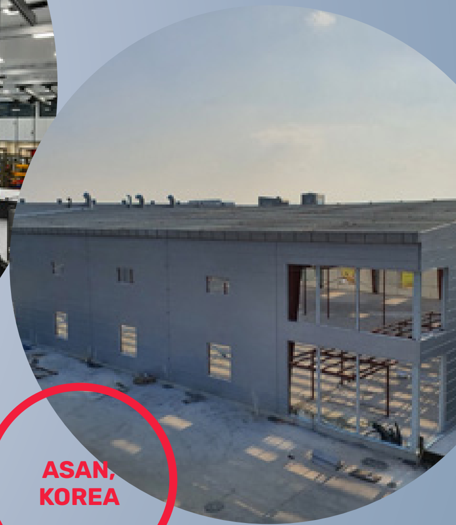
Being Close to our Customers

Our comprehensive customer focus does not only guide us on our approach to our target markets: We are expanding our global footprint to be close to our customers and are creating agile processes in order to adapt to our customers' needs immediately.

- Expanding our global footprint
- Living agility

Expanding our Global Footprint

Significant increase in productivity and capacity to meet the high demand from our customers and improve customer experience.



SAN JOSÉ, USA

Silicon Valley Innovation Center (SVIC) in San José, California, USA

- Almost 1,000 m²
- Support for US high tech customer applications, focus on semiconductor
- Co-development of products with customers

ANNECY, FRANCE

New leak detection production in Annecy, France

- 2,000 m²
- Energy neutral
- Industry 4.0

ASAN, KOREA

Modernization of our factory in Asan, Korea

- New logistics center
- Expanded manufacturing capacities required by local customers

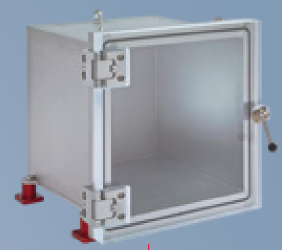
Reacting fast and flexibly to customer demands

- Establishment of a global procurement and supply chain organization to ensure business continuity by reacting quickly to supply chain challenges and to achieve best output.
- Fast ramp-up of production facilities in order to fulfill increased customer demand.
- Expansion of manufacturing capacity and modernization of production processes to adapt quickly to changes in demand.

Living Agility

Contigency plan during the Corona pandemic

- Global crisis management secured business continuity.
- By adapting to the changing market environments flexibly, our agility helped us to fulfill the customer demands even during the crisis.
- Safety measures at all sites are adapted continuously to the current local conditions.
- All business units are operational and react to changes immediately.



Structure of our Product Portfolio

VACUUM GENERATION

Backing pumps
- Rotary vane pumps
- Multi-stage Roots pumps
- Dry process pumps
- Roots pumping stations
- Scroll pumps

Turbopumps
- Hybrid
- Magnetically levitated
- Turbo pumping stations
- SplitFlow

↗ All products for vacuum generation

MEASUREMENT AND ANALYSIS EQUIPMENT

- Mass spectrometers
- Gauge heads
- Gas analysis equipment

↗ All products for measurement and analysis equipment

LEAK DETECTION

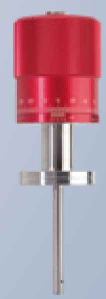
- Leak detectors
- Micro-Flow

↗ All produkts for leak detection

INSTALLATION ELEMENTS

- Feedthroughs
- Valves
- Components
- Manipulators

↗ All installation elements



VACUUM SYSTEMS

- Contamination management solutions
- Multi-stage vacuum systems
- Integrity testing

↗ All vacuum systems

VACUUM CHAMBERS

- Cylindrical
- Horizontal
- Vertical
- Cubical
- Modular
- For any pressure range

↗ All vacuum chambers

Vacuum Solutions

Our vacuum solutions – tailored to the needs of uur customers

Our customers' fields of application are extremely diverse – and so are their expectations and demands on our products. Thankfully, we have a portfolio of vacuum solutions that is just as broad. This allows us to design individual vacuum solutions tailored to the specific needs of our customers.

Application examples for our vacuum solutions

- Analysis technology
- Chemical industry
- Coating of glasses, architectural glass, tools, flat screens, Blu-ray discs
- Drying processes
- Food and beverage industry
- Leak detection for the automotive industry
- Manufacturing solar cells
- Paper manufacturing
- Pharmaceutical industry
- Semiconductor production
- Solar thermal plants
- Space simulation
- Steel degassing

Key factors for compiling a vacuum solution

- Number and types of gases in one container
- Pressure and flow velocity
- Intended final pressure and base pressure
- Pumping speed and throughput

Our guideline: technological excellence and highest quality standards – focused on the customers' requirements

For each vacuum solution we design, the same guidelines apply: technological excellence matched with the highest quality standards from the development stage right through to commissioning. We know that for each o f our customers, the perfect vacuum solution looks different. This is why the same standards apply to all our various products for evacuating, measuring, and analyzing vacuum – consultation and service included.

Elements of Vacuum Solutions

TURBOPUMPS

High and ultra-high vacuum

Magnetic and hybrid bearing turbopumps and turbo pumping stations

COMPONENTS

Valves and components

Valves, gaskets, filters, flanges, electrical feed-throughs, manipulators, bellows components, and otheraccessories

BACKING PUMPS

Low and medium vacuum

Rotary vane, diaphragm, Roots, side channel, screw, piston pumps and scroll pumps also combined in pumping stations

SERVICE

Flexible service module

Technical training and seminars, on-site service, comprehensive service contracts, regional service centers, replacement products, and original replacement parts

CONSULTATION

Absolute customer orientation

needs assessment, design, and calculation of vacuum systems as well as product consultation

VACUUM CHAMBERS

Depending on process conditions

Low, medium, and high vacuum chambers in individual shapes and sizes

LEAK DETECTION

Complete solutions

Portable, multipurpose, high-performance, modular, sniffing, Micro-Flow, Mass Extraction, CCIT for pharma

MEASUREMENT AND ANALYSIS EQUIPMENT

For all pressure ranges

Gas analyzers, gauges, and mass spectrometers

SYSTEMS

Individual technologies

Multi-stage vacuum systems, special pumping stations, calibration, and contamination management systems

↗ More about our vacuum solutions

Share Performance

Share price development in the year 2021

The Pfeiffer Vacuum Technology AG (Pfeiffer Vacuum) share started the trading year on January 4, 2021 at a price of € 158.18 and reached the high for the year of € 224.50 on November 22, 2021. It closed the year at a share price of € 216.00.

The share price development in 2021 continued to be strongly influenced by the global fight against the coronavirus and, in addition, by the very high increase in demand for our products in all market sectors. The global economy still had to respond to restrictions and requirements imposed by authorities and governments to control the spread of the virus as far as possible. At the same time, demand in the vacuum market, particularly in the semiconductor sector, rose, and thus also strengthened demand for Pfeiffer Vacuum's products. Fluctuations in the price of Pfeiffer Vacuum shares in relation to Pfeiffer Vacuum announcements as well as due to general economic influences were therefore not unusual.

SHARE PRICE DEVELOPMENT OF PFEIFFER VACUUM IN 2021

in €

Jan. 11, 2021	Medium-term goals adjusted
Feb. 23, 2021	Preliminary earnings 2020
Mar. 25, 2021	Annual Report 2020
Apr. 15, 2021	Preliminary Q1 earnings increased
May 4, 2021	Q1 earnings
May 12, 2021	Annual General Meeting 2021
May 18, 2021	Dividend payment (2020)
July 21, 2021	Preliminary H1 earnings increased
Aug. 3, 2021	H1 earnings
Oct. 26, 2021	Preliminary Q3 earnings increased
Nov. 4, 2021	Q3 earnings

Dec. 30, 2020
Closing price: € 155.21

Dec. 30, 2021
Closing price: € 216.00

Earnings Dividend payment

In the first quarter of 2021, Pfeiffer Vacuum shares got off to a very strong start to the year, but were unable to sustain their gains and settled back to their previous level. The share reached its low for the year of € 150.66 on March 29, 2021. At the end of the first half of the year, the daily closing price was over € 160.00.

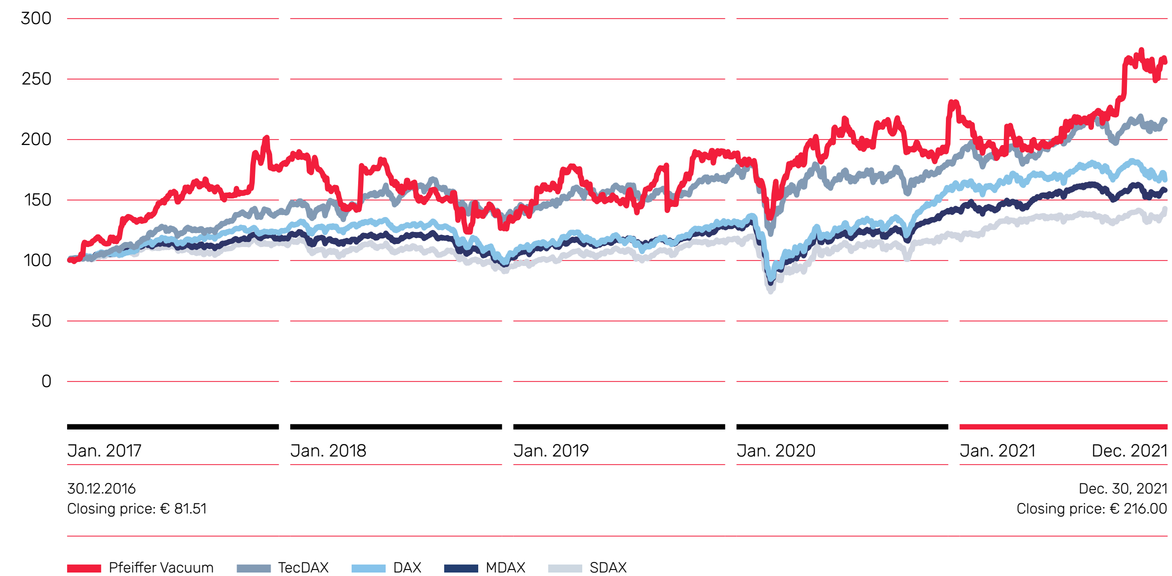
In the second half of 2021, the share underwent a strong development and showed a clear upward trend. The year-end price for 2021 on December 30 was € 216.00. The high for the year was recorded at € 226.00 on November 22.

In terms of the full year 2021, Pfeiffer Vacuum shares were nearly 38 % stronger compared to year-end 2020, with a volatile price trend. The benchmark indices TecDax, SDAX, DAX and MDAX gained between 11 % (SDAX) and 22 % (TecDax). In the medium to long term, Pfeiffer Vacuum shares continue to yield significantly better than the SDAX, DAX and MDAX.

The Pfeiffer Vacuum share is listed in numerous European and international indices. The average daily XETRA trading volume was 4,013 shares in 2021. The Pfeiffer Vacuum share continues to be listed in the SDAX.

RELATIVE SHARE PRICE DEVELOPMENT OF PFEIFFER VACUUM, TECDAX, DAX, MDAX UND SDAX BETWEEN 2017 AND 2021

in %



Dividend proposal of € 4.08 per share

Pfeiffer Vacuum closed the 2021 fiscal year with positive operating results and would like its shareholders to participate in this success.

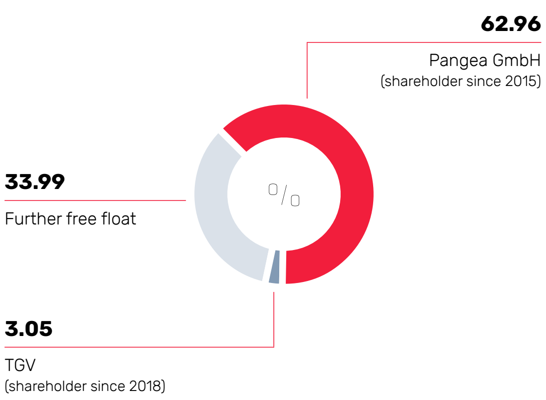
The Management Board and Supervisory Board will propose to the Annual Shareholders' Meeting on May 19, 2022 a dividend of € 4.08 per share (previous year: € 1.60 per share) for the fiscal year 2021. With a total pay-out of € 40.3 million, 64.9 % of the Group's profits would be paid out to shareholders (previous year: 50.0 %).

Broadly diversified investor structure and anchor investor with sector expertise

With Pangea GmbH, the family-owned investment company of the international vacuum group Busch SE, Pfeiffer Vacuum has a long-term oriented anchor shareholder. Shareholders with other noteworthy shares are the Investmentaktiengesellschaft für langfristige Investoren TGV (TGV).

SHAREHOLDER STRUCTURE AS OF DEC. 31, 2021

in %



MONTHLY HIGHS AND LOWS OF THE PFEIFFER VACUUM SHARE IN 2021

in €

Dec. 30, 2020
Closing price: € 155.21

Dec. 30, 2021
Closing price: € 216.00

A multitude of further investors, including insurance companies, pension funds, investment advisors and family offices, ensure a structurally broad diversification. Geographically, Germany and France form a solid core of European shareholders. Including the neighboring states, in particular the Nordic countries, Benelux, Italy, the U.K. and Switzerland, over 75 % of Pfeiffer Vacuum shares are held in the E.U.

Good analyst coverage: multipliers and opinion leaders

As a SDAX value company, Pfeiffer Vacuum regularly receives international attention and comprehensive support from approximately five analysts.

Regular analyst studies are available to investors for informed opinion. Additional well-known buy-side analysts from international fund companies and insurance companies analyze Pfeiffer Vacuum's financial results for their own investment opportunities. These analysts often have in-depth knowledge of peer groups and Pfeiffer Vacuum customers. More than half of the analyst firms follow not just Pfeiffer Vacuum but also at least one peer group company.

PFEIFFER VACUUM ANALYSTS

As of January 25, 2022

Bank	Analyst	Peer group
DZ Bank	Armin Kremser	Yes
Jefferies International	Martin Comtesse	Yes
Kepler Cheuvreux	Craig Abbott	Yes
Oddo BHF	Stephane Houri	–
Stifel	Adrian Pehl	–

Pfeiffer Vacuum is constantly available for its stakeholders and values an exchange of opinions and market assessments. We want to establish a sound pool of knowledge with our shareholders, investors and analysts and continue to develop it further through external and internal perspectives of markets, technologies and projects.

PFEIFFER VACUUM SHARE DATA

		2021	2020	2019	2018	2017
Share capital	in € millions	25.3	25.3	25.3	25.3	25.3
Number of shares issued	in units	9,867,659	9,867,659	9,867,659	9,867,659	9,867,659
Highest trading price	in €	224.50	180.00	160.00	164.20	174.50
Lowest trading price	in €	150.66	112.90	107.30	105.00	87.80
Trading price at year-end	in €	216.00	156.80	159.00	108.70	156.15
Market capitalization at year-end	in € millions	2,131.41	1,547.25	1,568.95	1,072.62	1,540.84
Dividend per share	in €	4.08[1]	1.60	1.25	2.30	2.00
Dividend yield	in %	1.9[1]	1.01	0.8	2.1	1.3
Earnings per share	in €	6.28	3.20	4.90	6.98	5.46
Price/earnings ratio		34.4	49.0	32.4	15.6	28.6
Free float[2]	in %	37.04	37.04	39.78	49.98	61.04

[1] Subject to the approval of the Supervisory Board and the Annual General Meeting
[2] According to the definition of Deutsche Börse

Comprehensive investor relations activities, member of the industry association DIRK[1]

With a broad range of investor relations activities, we always strive for open, transparent communication about the development of Pfeiffer Vacuum. As a member of the German Investor Relations Association (DIRK), Pfeiffer Vacuum is committed to adhering to the standards for transparent communication with investors. Conference calls with members of the Management Board take place on a quarterly basis to explain business results. In dialogue with investors and analysts, the Management Board receives regular feedback on the Company's strategy and performance.

A long-term orientation and continuity are crucial success factors for sustainable, successful relationship management with stakeholders. All stakeholders take the center stage of any activity focused on their needs. The Annual General Meeting took place on May 12, 2021 in Frankfurt as a virtual event. Taking into account postal votes, 82.01 % of the registered share capital was represented at the Annual General Meeting compared to 79.36 % in 2020. In the votes, a large majority of the shareholders agreed with the proposals of the management. Ahead of the Annual General Meeting, the shareholders were able to download all relevant documents, as well as the ballot sheet, from the broad information offerings on the Internet at ↗ Annual General Meeting.

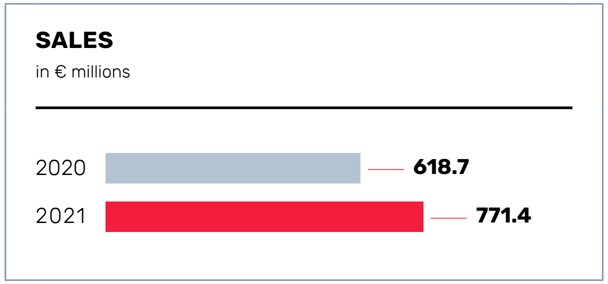
[1] Deutscher Investor Relations Verband – German Investor Relations Association

Combined Management Report

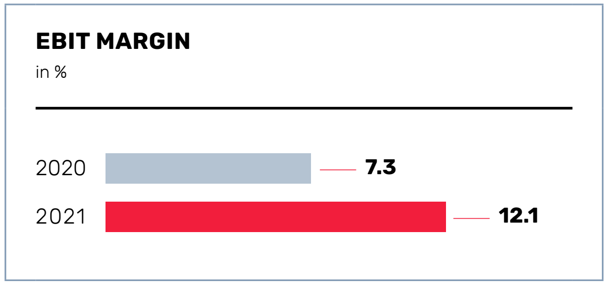
The following Management Report is a combined Management Report according to 315a Sub-Para 5 of the German Commercial Code ("HGB") as the future opportunities and risks of the Pfeiffer Vacuum Group and its parent company, Pfeiffer Vacuum Technology AG, are inseparably connected.

THE YEAR 2021 AT A GLANCE

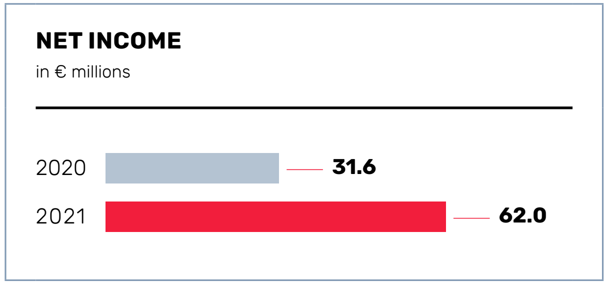
Semiconductors are indispensable for a modern society. Semiconductors are also critical for advancing the development of global megatrends – like electromobility, Industry 4.0 or a sustainable energy supply. But due to the sharp increase in demand, there are serious constraints on semiconductor availability. This development sparked an alignment of production capacities for semiconductors. Pfeiffer Vacuum benefited from this already the previous year, but profited again to a much greater extent in 2021. The other markets served by Pfeiffer Vacuum also recovered noticeably in 2021 and recorded similarly gratifying sales growth. Thus, after € 618.7 million in the previous year, **sales** rose significantly to € 771.4 million in 2021. This growth of € 152.7 million or 24.7 % meant that the highest recorded sales in the company's history were achieved in an unremittingly challenging macroeconomic environment. Last year's forecast report formulated the prospect of a 5 % increase in sales. Due to the high level of demand, which was initially not foreseeable but was sustained throughout 2021, we were able to exceed this target and even surpass the recently forecast level of sales of € 730 to 750 million.



Against the backdrop of the very positive sales performance and the resulting economies of scale, operating profit developed very positively in 2021 and more than doubled. This compensated for the burdens on earnings from the more intensive management of supply chains as well as the increase in personnel costs and the impairment losses to be recognized (€ 16.4 million; previous year: € 8.8 million). The operating profit of € 93.1 million achieved in 2021 represents an operating profit or **EBIT margin** of 12.1 % (previous year: € 45.3 million or 7.3 %). The slight improvement in margins anticipated in last year's forecast report based on a modest improvement in sales was thus significantly exceeded.



With a virtually consistent financial result and a higher tax ratio due to the non-deductibility of impairment losses, net income was € 62.0 million. Compared to the previous year (€ 31.6 million), this represented a very substantial increase of € 30.4 million or 96.2 %.



Significant increase in equity ratio

The **financial position** of the Pfeiffer Vacuum Group showed an increase in total assets from € 661.8 million to € 707.9 million. On the assets side, this development was attributable in particular to the rise in receivables and inventories, while cash and cash equivalents declined to € 99.4 million (previous year: € 122.9 million). **Equity** increased significantly compared to the previous year and, after € 391.7 million at the end of 2020, now amounted to € 459.4 million on December 31, 2021. This results in an equity ratio of 64.9 % at the end of the year under review (previous year: 59.2 %). By contrast, financial liabilities decreased appreciably as a result of the repayment of loans and amounted to € 18.2 million on December 31, 2021 (previous year: € 73.1 million) (Note 23). The Group remains debt-free on a net basis.

Parallel to the development of operating profit, the **operating cash flow** also increased significantly in the reporting year. Following € 59.2 million in the previous year, an operating cash inflow of € 91.6 million was achieved in 2021. The increase compared to the previous year is basically attributable to the development of operating profit. In contrast, the increase in receivables and inventories had an adverse impact, while the increase in liabilities brought an improvement in operating cash flow compared with the previous year.

At € 41.6 million, capital expenditures in 2021 were higher than in the previous year (€ 30.4 million). Against the background of the sustained high demand momentum, however, sensible investments were brought forward wherever possible and available on the market. Accordingly, the investment volume of around € 30 million originally forecast for 2021 was also exceeded.

In the past fiscal year 2021, various new products and product developments were introduced. In spring, Pfeiffer Vacuum introduced the expansion of the DigiLine, a total pressure vacuum gauge with digital signal output. For more than 20 years, Pfeiffer Vacuum has been offering the DigiLine, a complete line of digital total vacuum gauges that can be modularly adapted to any industrial vacuum application. In response to changing market requirements, the series has been expanded to include, among other things, Profinet and EtherCAT interface options. This option is an important factor in implementing Industry 4.0.

The following month, the company presented the MVP 030-3 C DC diaphragm pump for dry and clean vacuum. This corrosive gas version features a gas ballast valve and extremely good chemical and condensate compatibility. With their technical features, diaphragm pumps cover many application areas in analytics, leak detection and research & development. Due to their compact design and low weight, they fit extremely well into small analytical systems, mass spectrometers and turbopumping stations. As backing pumps, they perfectly complement the turbopumps from Pfeiffer Vacuum's HiPace series.

With the HiScroll ATEX series, Pfeiffer Vacuum presented a new scroll pump in the summer that is suitable for conveying potentially explosive gas mixtures. It can be used to convey all gases up to and including explosion group IIC. This makes it possible to pump even hydrogen. The models are oil-free, hermetically sealed vacuum pumps with a high nominal pumping speed of 6 to 20 m^3/h.

This was followed by the market launch of the HiPace 80 Neo. This turbopump features a longer service life as well as less vibration and lower noise emissions. At this time, the laser balancing of turbopump rotors developed by Pfeiffer Vacuum was also introduced. Thanks to this patented technology, the vacuum pump is particularly suited to vibration-sensitive applications. Fields of application range from mass spectrometry and electron microscopy to leak detectors and RGA systems.

In the fall of 2021, Pfeiffer Vacuum launched the new OmniControl universal control unit. It enables comprehensive control of a complete vacuum system using just one device. This device communicates with products which support the Pfeiffer Vacuum RS-485 protocol (e.g. HiPace, HiScroll, HiLobe, MVP and DigiLine). It provides an uncomplicated way to exchange and process data between Pfeiffer Vacuum products without the need to invest in additional devices.

The **profitability, financial position and liquidity** continue to reflect a fundamentally sound company. Pfeiffer Vacuum has significantly increased sales revenues and profits and has virtually no more financial liabilities. The equity ratio has risen compared to the previous year, and the liquidity situation affords ample room for maneuver. In these times accompanied by high uncertainties, this continues to represent a good basis for positive further development of Pfeiffer Vacuum for the benefit of all stakeholders in 2022 and beyond.

THE PFEIFFER VACUUM GROUP

CORPORATE PROFILE

Since 1890, and thus for more than 130 years now, we have been developing, producing and selling a comprehensive product portfolio in the vacuum technology sector and also offering after-sales service worldwide. Since the invention of the turbopump more than 50 years ago, we have been one of the world's leading suppliers of vacuum solutions. Our product portfolio ranges from hybrid and magnetically levitated turbopumps, as well as backing pumps and measurement and analysis equipment, right up to complex vacuum systems.

We manufacture our high-tech products at a total of ten locations in Europe, Asia and North America. The Group currently has over 20 sales and service companies. With their expertise and commitment our employees meet the requirements of our customers from our sales markets in semiconductors & future technologies as well as in analytics, industry and research & development.

With a considerable demand dynamic in the past fiscal year 2021, the semiconductor & future technologies sales market was again the strongest market for Pfeiffer Vacuum in terms of the sales revenues generated. This was followed by the industry, analytics and R&D market.

Global customer proximity with manufacturing, sales and service locations worldwide

Pfeiffer Vacuum manufactures in Germany in Asslar, as well as in Göttingen and Dresden. Within Europe, there are also production sites in Annecy, France, and Cluj, Romania. In Asia, we are represented by a production site in Asan in the Republic of Korea, by Ho Chi Minh City in Vietnam and also by Wuxi in China. In the USA, there are production sites in Indianapolis and Yreka.

In addition, we are present with our own sales and service branches at more than 20 locations around the globe.

Globally, 3,444 employees (December 31, 2021) are engaged in taking Pfeiffer Vacuum another step forward each day.

Markets and market position

Products from Pfeiffer Vacuum are employed in numerous branches of industry. Our customers in every region and every sector trust in the reliability of our products. In terms of the overarching industrial sector, Pfeiffer Vacuum divides these customers into the markets semiconductor & future technologies or industry, analytics and research & development (R&D). Overall, we consider ourselves to be number two in the world market in the markets we serve.

Pfeiffer Vacuum's products and solutions are used in key markets of the future. Already today, many innovative processes, such as in nanotechnology, in the manufacture of LEDs or in research, are inconceivable without the use of vacuum technology. Technological progress resulting from research and development activities in these fields of technology leads to new products and manufacturing processes. The dynamic development of people's private and professional communication behavior is leading to ever new applications based on new technologies in the semiconductor industry. The increasing demand for energy combined with the need to conserve resources is changing the way energy is generated. These trends, as well as other social and industrial trends, offer Pfeiffer Vacuum additional sales opportunities.

One of our strengths is that we serve all markets and are therefore not dependent on developments in individual market segments. In fiscal 2021, however, we recorded a very positive development in demand and sales in all the markets we serve, while the demand dynamic in the semiconductor industry was particularly strong. Thus, sales for the year 2021 showed a significant increase of 24.7 % overall.

Semiconductor & Future Technologies

Our vacuum pumps are used in the semiconductor industry for the production of microprocessors and storage media. Customers primarily use a large number of medium and large backing pumps, but also turbopumps and measurement instruments. With our decontamination systems, chip manufacturers can significantly increase their yield. A key growth driver in the semiconductor industry is the rapid development of communications technology. New applications for vacuum technology are arising in areas such as nanotechnology. Our semiconductor customers are mainly located in Asia, the USA and, to a lesser extent, Europe. An additional factor is that, since 2021, we have assigned our customers from emerging markets such as

LOCATIONS AND EMPLOYEES WORLDWIDE

THE AMERICAS

401
Employees

195.4
Sales in € millions

EUROPE

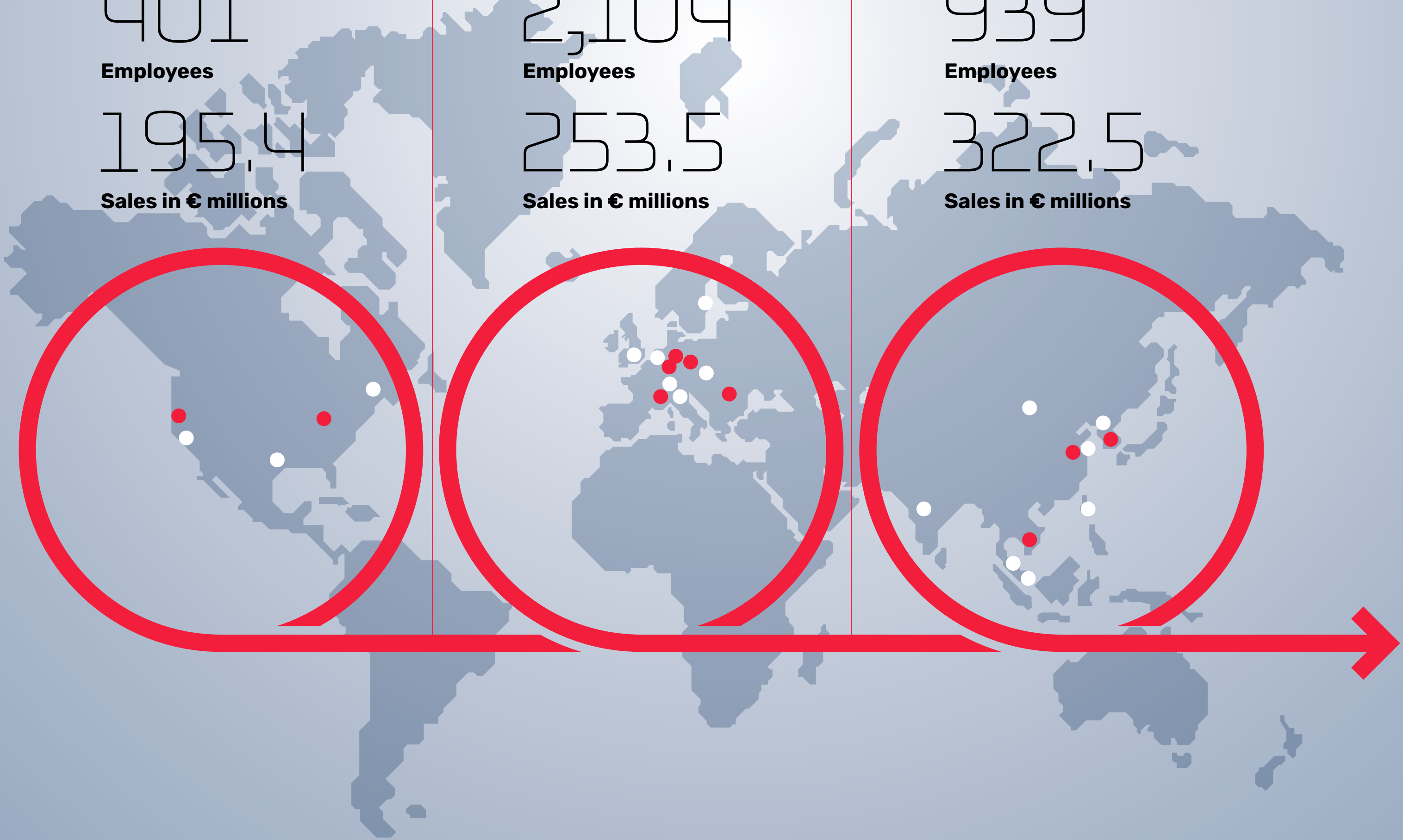
2,104
Employees

253.5
Sales in € millions

ASIA

939
Employees

322.5
Sales in € millions



TOTAL

3,444
Employees

771.4
Sales in € m illions

Production
Sales and Services

LED, OLED, flat screen and solar to the future technologies segment and thus also show the sales generated from these markets as a total figure. In previous years, customers from the future technologies segment belonged to the coating market segment.

Industry, Analytics and Research & Development (R&D)

Since the year 2021, the heterogeneous group of industry customers who require our vacuum solutions for certain stages of their production have been brought together into this segment. Industrial trends such as quality improvements, energy saving and generation, electromobility and environmental protection are opening up new fields of application. Examples of uses include metallurgy, tube production and air conditioning and refrigeration technology as well as solar thermal technology. Since 2021, customers who previously belonged to the coating market segment and who are active in fields such as manufacturing and coating of architectural glass or tool coating have also been assigned to this segment.

This segment also includes customers from the analytics industry, whose largest customers include OEM (original equipment manufacturer) customers. These are suppliers of industrial plants or analytical instruments. Complex analytical devices such as scanning electron microscopes are primarily used for industrial quality assurance. This sector is characterized in particular by megatrends in the fields of life science, biotechnology and security. Ever smaller and lighter portable analyzers are needed in environmental technology, security technology or for medical technology. The analytics industry therefore primarily requires small and medium-sized turbopumps, backing pumps and measurement instruments.

Finally, our customers from the research & development sector are also assigned to this market segment. Cooperation with research institutes has a long tradition at Pfeiffer Vacuum. Whether physics or chemistry laboratories at universities or renowned research institutions – they all utilize our pumps, mass spectrometers, leak detectors or vacuum solutions. In close cooperation with research institutions in Europe, the USA and Asia, new applications are constantly emerging, for example in the field of energy generation or healthcare technology.

COMPANY STRATEGY

Customers and market focus as a basis for growth

In 2021, Pfeiffer Vacuum conducted a systematic analysis of the market to identify the future vacuum solution requirements of its customers and upcoming market developments: this analysis confirmed Pfeiffer Vacuum's growth potential. The results were used to define packages of focus measures for each market segment which can be strategically addressed in future to accelerate the positive development of the Company. Detailed strategies were developed for the different functional areas to support the company's growth course. The objective is to realize Pfeiffer Vacuum's medium and long-term growth potential. In all areas, Pfeiffer Vacuum will align itself more closely than before with the needs of its customers and the markets it serves. Our goal is to achieve sales of more than one billion euros in the medium- and longterm.

Market share and sales should increase

Pfeiffer Vacuum's guiding principle is to always place our customers at the focus of our actions in every area of the Company – from developing and manufacturing our products right up to our after-sales service. This principle still holds true and was lent further impetus by the market analysis we conducted. In view of the Company's global presence, we are able to serve our customers' needs directly where they are. In the coming years, we intend to further expand and modernize our production facilities around the globe, so we can continue to be close to our customers in future and respond quickly to their needs. Pfeiffer Vacuum has set itself the goal of significantly increasing the market share in the global vacuum industry. The market position is to be strengthened through growth based on a clear customer and market strategy, and through new, innovative products and solutions and a range of services geared to serve its customers' needs.

Pfeiffer Vacuum develops, produces and markets quality and technologically sophisticated vacuum solutions. The Company sees itself as a quality market leader and has a long-term strategic goal to sell its products through quality, not price, and by placing the focus on customer proximity in all areas. Pfeiffer Vacuum therefore works more closely than ever with its customers to help them develop technologies for the future. These close ties enable us to evolve innovative vacuum solutions for the market even more efficiently and thus accelerate the market acceptance of our products. This sales strategy also includes emphasizing the long-term cost advantages over the life of a Pfeiffer Vacuum product (the total cost of ownership) for customers. These advantages result, among other things, from lower maintenance and repair costs, longer service lives and lower energy consumption in comparison with rival products.

Pfeiffer Vacuum's strategy is clearly focused on further growth. In this context, the Company's global presence must be tailored to the needs of our customers. The focus is particularly on the Asian region, as exceptionally high growth rates in demand for vacuum products are expected there. Pfeiffer Vacuum will benefit from the megatrends in its markets today and in the future.

These trends include, for example, digitalization, the expansion of renewable energies, electromobility or ever larger, high-resolution displays. The rapid developments in the life science industry, nanotechnology and the security industry offer additional growth opportunities. Pfeiffer Vacuum will do its utmost to be a strong partner to our customers implementing these new technologies.

**Extensive investments:
EBIT margin should increase medium- to long-term together with sales**

To further drive Pfeiffer Vacuum's dynamic development, between € 30 and lately more than 40 million have been invested annually over the past three years (see also p. 59). These funds were used, among other things, to expand and modernize production capacities. Due to the rapid increase in demand from our customers in 2021, we are reaching the limits of our current production capacity in some areas. For this reason, we are planning higher investments that will exceed those of the last three years, in order to expand our current, but also medium- and long-term, capacities. Production capacities will be expanded particularly where there is increased demand for the products manufactured there. But expansion will also be based on the geographical location of customer demand. Spending on new IT projects will also increase in the coming years. The primary goal is to achieve operational efficiency through a globally integrated digital infrastructure.

STRATEGY

MANAGEMENT SYSTEM

Tight control through annual sales and profitability targets

The Management Board of Pfeiffer Vacuum Technology AG assumes responsibility for the strategic leadership of the Corporate Group. All Group companies are managed by the Management Board and the global organization by setting annual sales, profitability and qualitative strategy targets (management by objectives). The most relevant key figures in this context in 2021 were sales, operating profit, and the operating profit margin or EBIT margin. All subsidiaries in the Group are responsible in principle for all market segments, continue to have self-directed management and essentially make their own decisions within central guidelines and strategic targets on how to attain the defined targets (sales, operating profit and operating profit margin). The supervisory bodies of the subsidiaries, including the members of the Management Board of Pfeiffer Vacuum Technology AG and the global organization, must be involved in major decisions.

Target achievement is measured through detailed target/actual comparisons and variance analyses as part of the monthly reporting system, which is supplemented by market information. This shall ensure that undesirable developments can be identified and corrected at an early stage. In addition, monthly conference calls and virtual conferences with the management of the operating subsidiaries shall ensure that all business development issues are discussed. In addition, face-to-face meetings are held by Group management and the global organization with staff at the local site. As a result of the coronavirus pandemic, virtually all meetings and conferences previously held physically have been held almost exclusively as online conferences since 2020.

For countries in which Pfeiffer Vacuum is not represented directly through a subsidiary, sales targets are agreed with the local sales partner. Here, too, the achievement of sales targets is measured by target/actual comparisons.

A further steering instrument is the variable remuneration of the local management of the foreign subsidiaries and the sales staff. This sensitizes employees to cost structures, and thus to the long-term success of the Company, even if they do not work in areas of the Company which have a direct influence on sales.

GROUP STRUCTURE

Pfeiffer Vacuum – global presence

As of December 31, 2021, the Pfeiffer Vacuum Group comprises a total of 31 companies (previous year: 32). Besides Pfeiffer Vacuum Technology AG, Asslar, Germany, as the parent company of the Group, central roles in the Corporate Group are adopted by Pfeiffer Vacuum GmbH, Asslar, Germany, and Pfeiffer Vacuum SAS, Annecy, France. Pfeiffer Vacuum GmbH is responsible for the development and production of all Pfeiffer Vacuum products, as well as for sales in Germany, and central investment management for the Group. This company had a total of 887 employees as of December 31, 2021 (December 31, 2020: 876). To a certain extent, Pfeiffer Vacuum SAS is the French counterpart to Pfeiffer Vacuum GmbH. The company employed 749 people at year-end (December 31, 2020: 718), is the central development and production facility for the semiconductor market and is responsible for sales in France. With a total of 1,636 employees, these two companies employ almost half of the Group's workforce of 3,444 (as of December 31, 2021).

Further Group companies with their own production facilities that are of mention here are Pfeiffer Vacuum Components & Solutions GmbH, Dreebit GmbH, Pfeiffer Vacuum Semi Korea Ltd., Pfeiffer Vacuum Romania S.r.l., Nor-Cal Products, Inc. and Pfeiffer Vacuum Inc., Nor-Cal Products Viet Nam Co., Ltd. as well as Pfeiffer Vacuum (Wuxi) Co., Ltd.

The other active Group companies are legally independent corporations that perform sales and service tasks. In legal terms, all companies are essentially organized in a legal form comparable to the German limited liability company (GmbH). In addition, there are companies that perform intra-Group service or holding functions. These include, first and foremost, Pfeiffer Vacuum Technology AG.

The complete structure of the Group as of December 31, 2021 is as follows:

THE PFEIFFER VACUUM CORPORATE GROUP AS OF DEC. 31, 2021

	Headquarters	Equity Share (in %)
Pfeiffer Vacuum Technology AG	Germany	
Pfeiffer Vacuum GmbH	Germany	100.0
Pfeiffer Vacuum Austria GmbH	Austria	100.0
Pfeiffer Vacuum (Schweiz) AG	Switzerland	100.0
Pfeiffer Vacuum (Shanghai) Co., Ltd.	China	100.0
Pfeiffer Vacuum (India) Private Ltd.	India	27.0[1]
Pfeiffer Vacuum Ltd.	Great Britain	100.0
Pfeiffer Vacuum Scandinavia AB	Sweden	100.0
Pfeiffer Vacuum Singapore Pte. Ltd.	Singapore	100.0
Pfeiffer Vacuum Taiwan Corporation Ltd.	Taiwan	100.0
Pfeiffer Vacuum Benelux B. V.	Netherlands	100.0
Pfeiffer Vacuum (Xi'an) Co., Ltd.	China	100.0
Pfeiffer Vacuum Malaysia SDN. BHD.	Malaysia	100.0
Pfeiffer Vacuum (Wuxi) Co., Ltd.	China	100.0
Pfeiffer Vacuum Shared Services GmbH	Germany	100.0
Pfeiffer Vacuum Inc.	USA	100.0
Pfeiffer Vacuum New Hampshire Realty Holdings, LLC.	USA	100.0
Pfeiffer Vacuum Indiana Realty Holdings, LLC.	USA	100.0
Nor-Cal Products Holdings, Inc.	USA	100.0
Nor-Cal Products, Inc.	USA	100.0
Nor-Cal Products Viet Nam Co., Ltd.	Vietnam	100.0
Nor-Cal Products Korea Co., Ltd.	Republic of Korea	100.0
Nor-Cal Products Asia Pacific Pte. Ltd.	Singapore	100.0
Pfeiffer Vacuum California Realty Holdings, LLC.	USA	100.0
Pfeiffer Vacuum Holding B. V.	Netherlands	100.0
Pfeiffer Vacuum Italia S. p. A.	Italy	100.0
Pfeiffer Vacuum (India) Private Ltd.	India	73.0[1]
Pfeiffer Vacuum Semi Korea, Ltd.	Republic of Korea	11.9[2]
Pfeiffer Vacuum Components & Solutions GmbH	Germany	100.0
Pfeiffer Vacuum SAS	France	100.0
Pfeiffer Vacuum Romania S. r. l.	Romania	100.0
Pfeiffer Vacuum Semi Korea, Ltd.	Republic of Korea	88.1[2]
Dreebit GmbH	Germany	100.0

[1 and 2] Group shareholding in total 100.0 %

RESEARCH AND DEVELOPMENT

Commitment to technology leadership

Our primary goal is to offer our customers innovative products and solutions with the highest process efficiency. Our innovative strength is the decisive key to our future business success. In addition to its own research and development (R&D) activities in four principal locations worldwide, Pfeiffer Vacuum works closely with customers and suppliers on projects to jointly advance new technologies to market maturity at an early stage. It was against this background, too, that the Silicon Valley Innovation Center was opened in the fall of 2021. Our highly qualified staff in San José, California, at the heart of the semiconductor industry, will support and advise our customers in the development of innovative future technologies and assist them with the vacuum requirements necessary for this purpose.

In addition, we have an established network with various national and international universities and research institutions. The core topics of Pfeiffer Vacuum's R&D are derived from the needs of our customers, most of whom operate globally and in very different markets in some cases. They can be assigned to megatrends such as energy, healthcare, digitization and the environment.

Important R&D projects in fiscal 2021 focused on additions to the product portfolio and the innovative renewal of products at the end of their product life cycle. In the OEM business, new lines of important customers were able to be won with pumps developed specifically for our customers, while the volume of existing lines was developed. New product launches onto the market saw increasing demand. In addition, the R&D departments helped to maintain the supply capability for serial products by selecting and qualifying alternative components. Against the background of strong global demand for raw materials and electronic components, we were thus able to ensure our ability to supply our customers. Our claim to be a technology leader is supported by the fact that many of our employees are active for us in engineering and engineering-related activities. Of these, a total of 252 employees were assigned to R&D in 2021 (previous year: 239). As a result of its R&D activities, Pfeiffer Vacuum filed a total of 34 (previous year: 40) new patent families in fiscal 2021.

In the 2021 fiscal year, research and development expenses amounted to € 34.2 million (previous year: € 35.1 million). The R&D ratio at 4.4 % lay below the previous year's level (5.7 %) due to the significant increase in revenue from sales (see also p. 54).

BUSINESS REPORT

OVERALL ECONOMIC AND INDUSTRY-SPECIFIC DEVELOPMENT

Overall economic development

Global economy recovers from Covid crisis later than expected

Ongoing disruptions in the global supply chain, unexpectedly high inflation, record levels of debt, and the accelerating, wave-like spread of the COVID-19 pandemic through the Omicron variant have taken a toll on the global economy, particularly in the second half of 2021. This trend is likely to continue for at least the first half of the current year. In their latest assessment in the “World Economic Outlook” at the end of January 2022, the International Monetary Fund (IMF) also expects the global economy to grow by only 4.4 % in the current year 2022, following growth of 5.9 % in 2021. In October 2021, IMF analysts were even more optimistic and forecast growth of 4.9 %. In 2020, the first year of the coronavirus pandemic, the global economy dipped considerably by 3.1 %.

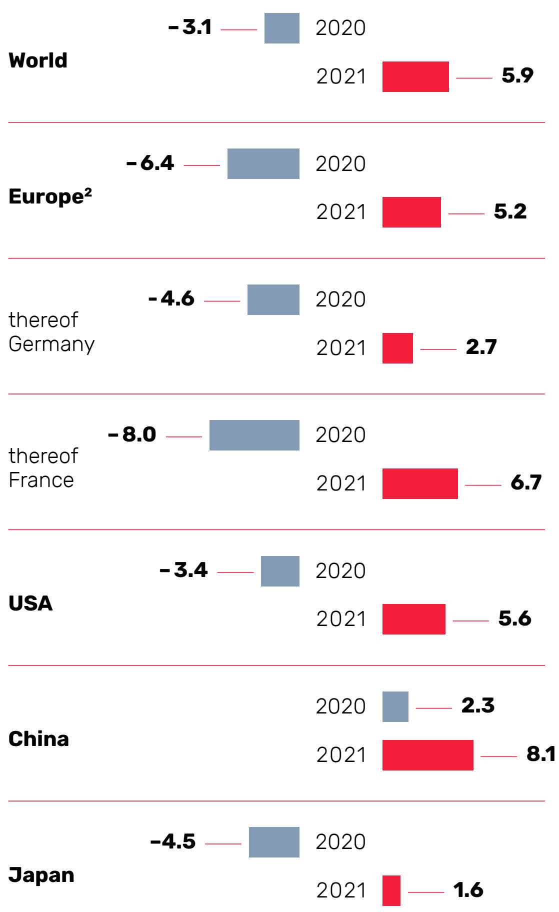
According to IMF calculations, economic output in the emerging and developing countries rose by 6.5 % in the course of 2021, following a decline of 2.0 % in the previous year. For the industrialized nations worldwide, the IMF economists forecast average GDP growth of 5.0 % in 2021, following a decline of 4.5 % in the previous year.

Europe

The countries of the euro zone fared slightly better, with economic output increasing by 5.2 % in 2021 according to IMF calculations. In 2020, growth in the euro states had fallen appreciably by 6.4 %. Within the eurozone, Germany experienced a comparatively moderate decline of 4.6 % in the first year of the coronavirus pandemic, but also achieved only moderate growth in 2021, expanding by 2.7 %. France, whose economy had slumped by 8.0 %, ended 2021 with a 6.7 % increase in economic output. Italy also struggled with an 8.0 % decline, but recently returned to growth of 6.2 %. Spain, which brought up the rear in 2020 with a particularly drastic 10.8 % slump in economic performance, was able to enjoy a 4.9 % economic upturn again last year. The U.K. closed the Brexit year 2020 with a significant economic slump of 9.4 %. In 2021, however, the country returned to growth and achieved a 7.2 % increase in GDP.

GROSS DOMESTIC PRODUCT

(real change compared with previous year[1]) in %



[1] Data relating to the previous year may differ from the previous year's report due to statistical revisions.
[2] IMF refers to the eurozone.

USA

Following the comparatively moderate economic downturn of 3.4 % in 2020, the world's largest economy grew again last year, achieving growth of 5.6 % according to IMF data.

Asia

China was one of the few economies in the world to achieve economic growth both in 2020 (+ 2.3 %) and again in 2021 (+ 8.1 %). This is the highest gain in China in ten years. Only India was able to boast higher economic growth in 2021 and achieve an economic upturn of 9.0 %. However, the subcontinent's gross domestic product also slumped very sharply by some 7.3 % in 2020. According to IMF estimates, Japan's economic performance grew by a manageable 1.6 % in 2021, following a fall of 4.5 % the year before.

Mechanical engineering and semiconductor industry experience record demand

In the course of 2021, Germany's mechanical engineering companies again recorded significant growth and recovered some of the substantial losses sustained during the previous year, which was impacted by the coronavirus pandemic. As reported by the German Mechanical Engineering Industry Association (VDMA) at the beginning of February 2022, the volume of orders on hand, which is so important for the sector, increased by 32 % in real terms compared with the previous year 2020, with domestic orders up by 18 % and orders from abroad up by as much as 39 %. Adjusted for prices, the high level of orders experienced during the good economic year of 2018 was even surpassed by 7 %. According to the association, companies in the sector began 2022 with an above-average volume of orders on hand of 10.9 months. However, persistent supply bottlenecks made it difficult to complete the orders.

The supply difficulties are hampering production, which despite the roughly one-third increase in orders on hand was only up by around 7 % year-on-year compared to 2020. With a production volume achieved of around € 219 billion, Germany's machinery manufacturers remain below the level recorded before the coronavirus pandemic. A survey conducted at the beginning of December 2021 among VDMA member companies shows that 84 % of the members surveyed are experiencing noticeable or even serious impairments in the supply chain. Electronic components and metals in particular are said to be in short supply. The companies do not expect the situation to ease until the second half of 2022 at the earliest.

The situation on the three most important sales markets for SME machinery and equipment engineering – China, the USA and Europe – which together account for some 80 % of exports overall, developed unevenly over the course of 2021: While growth momentum in China recently weakened again after a strong start, the economic stimulus programs in the USA and Europe improved export opportunities there. Compared with the first three quarters of 2020, exports in the first nine months of 2021 were up 11 %.

The year 2021 brought high growth rates for the semiconductor industry, which were not expected in view of the existing supply bottlenecks. The German Electrical and Electronic Manufacturers' Association (ZVEI) expected global growth of between 21 % and 27 % to a level of between 533 billion and 559 billion U.S. dollars in 2021. Sales in Europe and Germany also developed extremely positively, increasing by 20 % year-on-year to USD 45 billion and USD 14 billion U.S. dollars respectively.

COURSE OF BUSINESS

The sharp rise in demand for semiconductors worldwide led to comprehensive investments in production capacities and consequently to an increased demand for products to facilitate these production capacities. Pfeiffer Vacuum already benefited from this at the end of the previous year, but was able to do so again significantly in 2021. The other markets served by Pfeiffer Vacuum also recorded very gratifying sales growth in the past fiscal year. Overall, sales therefore rose significantly from € 618.7 million in the previous year to € 771.4 million in 2021. This is a material increase of € 152.7 million, or 24.7 %. In a macroeconomic environment that remains challenging, this represents an excellent result.

Last year's outlook was prepared at the end of February 2021. At that time, the impact of the coronavirus pandemic on the global economy could not yet be assessed, and the slight sales growth formulated there compared to 2020 was derived in an environment that was difficult to evaluate. Ultimately, this forecast was actually overfulfilled. But after it turned out in the further course of the year that the forecast-related uncertainties in the highly dynamic market environment were considerably less critical than expected and proved, in fact, to be more sustainable and positive, the Company substantiated its sales and earnings forecasts in more concrete terms and raised these predictions several times.

Due to the sustained high demand dynamics at the end of the 2021 fiscal year and brought-forward big investments by our customers, even the last sales forecast of € 730 to 750 million was again exceeded.

Against the backdrop of the very positive sales development and the resulting economies of scale, as well as the full utilization of our production capacities, we were able to compensate for the negative effects on earnings exerted by supply chain management as well as by the rise in personnel expenses. Impairment losses of € 16.4 million were also included in the operating result for 2021. An operating profit of € 93.1 million achieved in the year 2021 means a resulting operating profit margin, or EBIT margin, of 12.1 %. After € 45.3 million or 7.3 % in the previous year, this represents a significant improvement compared to the previous year. The slight improvement in margins expected in last year's forecast report on the basis of a slight improvement in sales revenue was exceeded for the reasons outlined above, in particular due to the significant increase in revenues from sales. The same applies to the expected development of earnings before taxes, which developed in parallel with the operating profit. By contrast, the EBIT margin of between 12 and 13 % for the 2021 fiscal year, which was last forecast at the beginning of November 2021, was indeed achieved.

A glance at the balance sheet of the Pfeiffer Vacuum Group reveals that the financial position remained unchanged and sound. The Group is debt-free on a net basis and has a high equity ratio, which was boosted again in 2021. The continuing good liquidity situation enables us to take the necessary steps for the successful further development of the Group on our own. In addition, financial liabilities in the order of € 55.0 million were repaid. All planned investments for the further development of Pfeiffer Vacuum as well as the distribution of dividends to our shareholders are also to be financed from the cash flow from operating activities in the future. The fact that the investment volume of around € 30 million originally planned for 2021 was exceeded, with € 41.6 million actually spent, was due in particular to the highly dynamic development of new orders and sales in 2021. By expanding its capital expenditures, the Group has responded to the sustained increase in demand that will extend beyond 2021.

PROFITABILITY, FINANCIAL POSITION, AND LIQUIDITY

With a sales volume of € 771.4 million in the 2021 fiscal year, we were able to achieve a very significant increase of € 152.7 million or 24.7 % compared to 2020 (€ 618.7 million) against the backdrop of increased momentum in virtually all of the markets we serve.

Despite this broad-based development in all major markets, the strong demand from our customers in the semiconductor industry was decisive for this. The global demand for semiconductors has increased massively, which, based on the existing production resources, has led to a significant shortage of supply and consequently to pronounced expansion investments by this industry. As a supplier to this industry, we are currently benefiting from this development and the resulting demand for our products. It should by no means be overlooked, however, that the other markets supplied by Pfeiffer Vacuum also recorded very satisfactory sales growth.

In the following, we explain the sales generated in 2021 by segment, region, and market. With regard to the sales by segment, it should be noted that the registered office of the company that invoiced the sales is decisive for the allocation of sales. Therefore, the segment-related presentation shows the sales by subsidiaries. In contrast, sales by region include all sales in a specific region, regardless of which company of the Pfeiffer Vacuum Group invoiced the sales. Sales by segment and sales by region differ from each other to a greater or lesser extent. Sales in the Asia segment, for example, differ significantly from those in the Asia region, since the Asia segment contains only the direct sales of our Asian subsidiaries. In contrast, the Asia region also includes sales generated directly by our companies producing outside of Asia with Asian customers, for example, with customers in Japan or China. In terms of sales by segment, sales by the German company are significantly higher than sales in Germany by region due to direct deliveries to agencies or customers outside Germany.

In order to bundle resources and dedicated know-how and to achieve more growth in the areas concerned, the previous organization of market segments into the areas of industry, coating and semiconductors was transferred to two new areas of “Industry” and “Semiconductor and Emerging Technologies” at the beginning of 2021. The associated customers and sales revenues were also re-allocated in the process. This new allocation is also reflected in the presentation of sales by market. To improve comparability, the previous-year figures have also been adjusted accordingly.

Sales by Segment

USA

As in virtually all segments within the Pfeiffer Vacuum Group, the U.S. segment showed a very gratifying development of sales in the past fiscal year 2021. In line with the development in the Group as a whole, the strong demand from our semiconductor customers was also the main driver here, but our other customers too – for example in analytics – also contributed significantly to an increase of € 25.5 million. This rise in sales was burdened by the development of the U.S. dollar exchange rate with its continued weakness of the U.S. dollar, although this weakness declined over the course of the year.

Asia (excluding Republic of Korea)

Development in this segment continues to be dominated by our local sales unit in China. In contrast to the development of the Group as a whole, however, sales to customers in the heterogeneous industry market were the main driver of performance in China. In the other countries in this segment, the development in 2021 was again fundamentally characterized by the high momentum in the semiconductor sector. Overall, a significant increase was also achieved in this segment.

Germany

In addition to sales in Germany, direct business outside Germany also developed very positively in 2021, contributing to an increase of € 29.6 million overall. Direct business in Asia, particularly in Japan, deserves special mention here. Growth is broad-based in principle, but was influenced in particular by improved business with our customers in the semiconductor and analytics industries.

Republic of Korea

Our major semiconductor customers in Asia are addressed mainly by the production and sales company managed in the South Korea segment. As a result of a very dynamic demand by these customers in the past fiscal year, sales here also increased very significantly. With a hike of more than 50 %, this segment showed the greatest relative and absolute sales growth in 2021.

Europe (excluding Germany and France)

Due to the customer structures at our European sales companies, this segment lacks the impetus otherwise provided by the semiconductor market and analytics. The development of this segment is therefore largely in line

SALES BY SEGMENT

	2021	2020	Change	
	in € millions	in € millions	in € millions	in %
USA	148.0	122.5	25.5	20.8
Asia (excluding Republic of Korea)	141.4	112.5	28.9	25.6
Germany	127.3	97.7	29.6	30.3
Republic of Korea	116.9	77.6	39.3	50.7
Europe (excl. Germany and France)	110.0	107.4	2.6	2.4
France	57.9	40.2	17.7	43.9
USA (production)	45.6	39.5	6.1	15.3
All others	24.3	21.3	3.0	14.4
Total	**771.4**	**618.7**	**152.7**	**24.7**

with the macroeconomic development and as such only achieved moderate growth in 2021. Nevertheless, there are regional differences here as well. The Italian sales company, for example, recorded a pleasing increase in sales, while the Austrian unit reported declining sales after a very solid growth phase in previous years. Sales at the Dutch unit, which grew in all markets, were very broad-based and therefore particularly pleasing.

France

The France segment also showed a very pleasing development in 2021, which was attributable in roughly equal parts to the development of demand in France itself and to foreign business conducted directly out of France, mainly in China. Due to the focus of this location on products for the semiconductor industry, the evolution of demand from this sector was the main determining factor here.

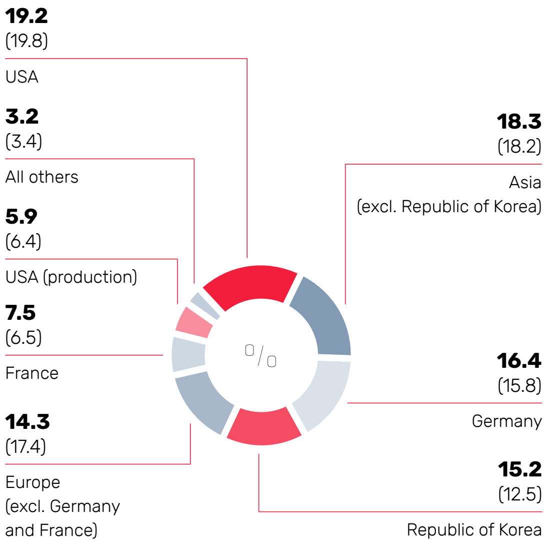
USA (production)

The stronger year-on-year sales in this segment, were – as in large parts of the rest of the Group – mainly attributable to the semiconductor industry. However, in contrast to the rest of the Group, it was not possible to participate to the same extent in the development of demand in this area. With an increase of 15.3 %, sales growth was sound, but below average compared to the other segments. This development was also adversely affected by the weakness of the U.S. dollar in the course of the year.

All others

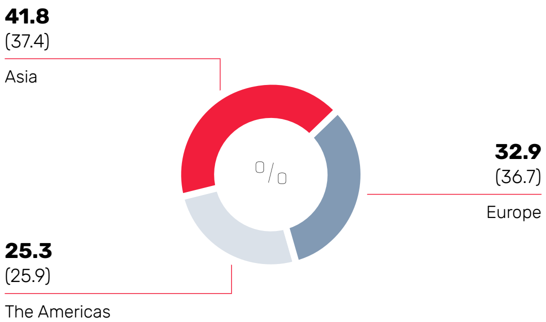
This segment combines those Group companies which differ from the other segments due to segment-related characteristics (such as economic conditions, range of functions, product portfolio, sales markets, distribution channels) and thus cannot be assigned to any other segment. Accordingly, this segment has a very heterogeneous composition. The increase of € 3.1 million is therefore characterized by a variety of different factors and largely follows the overall trend of Pfeiffer Vacuum in the 2021 fiscal year.

SALES BY SEGMENT
in % (previous year)



Sales by Region

SALES BY REGION
in % (previous year)



Asia

The already mentioned dynamic demand in the semiconductor market had a regional impact, particularly in Asia. Essentially as a result of this, it was possible to achieve a significant increase in sales in 2021. Close to 60 % of Pfeiffer Vacuum's global sales growth was thus attributable to this region. However, the other markets in this region also posted significant double-digit growth rates and contributed to this very gratifying development.

SALES BY REGION

	2021	2020	Change	
	in € millions	in € millions	in € millions	in %
Asia	322.5	231.3	91.2	39.4
Europe	253.4	227.3	26.1	11.5
The Americas	195.4	160.0	35.4	22.1
Rest of the world	0.1	0.1	0.0	1.6
Total	**771.4**	**618.7**	**152.7**	**24.7**

Europe

The Europe region remained strongly focused on the Analytics, Industry, Research & Development market segment in 2021. As in the Group overall, however, the semiconductor industry developed far more dynamically during the past fiscal year and thus also gained in importance in this region. A good fifth of sales in Europe in 2021 were generated with customers from this sector.

The Americas

With sales of € 195.4 million, this region also shows a significant increase in sales compared to the previous year. The development of sales in the North and South America region continues to be influenced to a large extent by developments in the USA. Although we also benefited from demand from the semiconductor market in this region, the Analytics, Industry, Research & Development market segment also made a significant contribution to the increase. Additionally, it has to be considered that the weaker US dollar burdened the sales development in 2021 by approx. € 7 million. The share of total sales was 25.3 % in 2021 and, as a result, it completes the overall balanced picture of the regional sales distribution in the Group.

Sales by Market

Semiconductor & Emerging Technologies

The increased demand in the semiconductor industry already foreseeable in the previous year gained further momentum in 2021. Accordingly, sales with customers from this market environment also increased significantly by € 108.5 million or 38.1 %. Regionally, as in previous years, this strength was particularly pronounced in Asia and the USA. However, related sales in Europe also improved significantly in 2021 and – starting from a smaller base – developed best in relative terms.

Analytics, Industry, Research & Development

At € 378.2 million, sales in these market segments were € 44.2 million higher than in the previous year (€ 334.1 million). While the Industry subgroup largely followed the economic recovery after the coronavirus crisis, the Analytics subgroup in particular showed more vigorous development, which in regional terms was particularly pronounced in Europe.

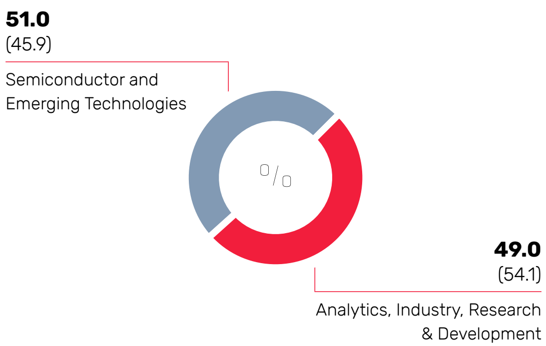
SALES BY MARKET

	2021	2020[1]	Change	
	in € millions	in € millions	in € millions	in %
Semiconductor & Emerging Technologies	393.2	284.6	108.6	38.1
Analytics, Industry, Research & Development	378.2	334.1	44.1	13.2
Total	**771.4**	**618.7**	**152.7**	**24.7**

[1] adjusted

SALES BY MARKET

in % (previous year[1])



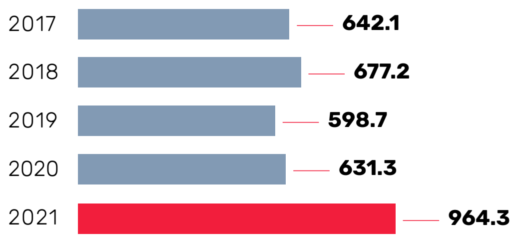
[1] adjusted

New orders and orders on hand

After new orders of € 631.3 million in 2020, order intake rose to € 964.3 million in the past fiscal year. This corresponds to a very marked increase of 52.7 % which, in turn, is very broad-based. The impetus from the semiconductor industry remained a determining factor here as well however. Longer delivery times and the resulting need to secure supply chains have also led our customers to place orders earlier. The book-to-bill ratio, the ratio of incoming orders and sales, also increased strongly and amounted to 1.25 in 2021 after 1.02 in the previous year. At € 316.2 million as of December 31, 2021, the order backlog was thus 156.4 % higher than the previous year's figure of € 123.3 million. The visibility of orders on the basis of average sales in 2021 is now just under five months, compared with around two months in previous years.

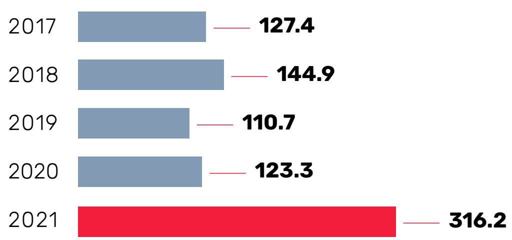
DEVELOPMENT OF ORDER INTAKE

in € millions



DEVELOPMENT OF ORDER BACKLOG

in € millions

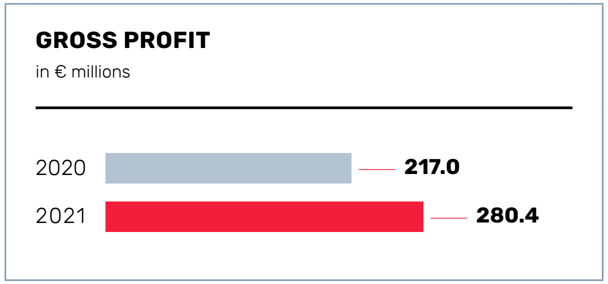


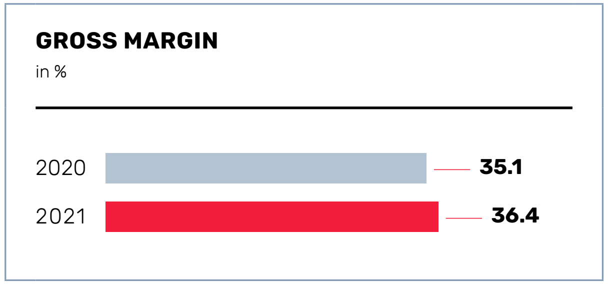
Profitability

Gross profit

The cost of sales increased in 2021 from € 401.7 million to € 491.0 million mainly due to the marked increase in sales. This corresponds to an increase of € 89.3 million or 22.2 %, which was disproportionately low compared with the increase in sales. Various, partly overlapping effects, played a role here. Positive economies of scale coming from the full utilization of production facilities as a result of the sales development positively impacted our manufacturing costs. In contrast, the continued implementation of the growth strategy also impacted the development of costs, albeit to a lesser extent. Moreover, the intensive management of tight supply chains and the increase in the cost of raw materials had a negative impact on manufacturing costs. Overall, we nevertheless recorded an improvement in the gross margin – i.e. the ratio of gross profit to sales – from 35.1 % in the previous year to 36.4 % in 2021.

In absolute terms, the gross profit of € 217.0 million in the previous year increased by € 63.4 million to € 280.4 million in 2021. In addition to the influences already mentioned, the weaker U.S. dollar over the course of the year also had a negative impact on the development of the gross profit and gross margin, even if these effects weakened in the course of 2021.





Selling and administrative expenses

Total selling and administrative expenses in 2021 amounted to € 140.8 million. After € 128.4 million in the previous year, this represents an increase of € 12.4 million, which is mainly attributable to the relative development of selling expenses. After completing the creation of new Group structures in the middle of the previous year and the focus on further business growth, this new structure had an impact for the first time throughout the 2021 fiscal year and has thus led to an increase in administrative and general costs. The increases in selling expenses are primarily due to the development of sales and the increase in payroll costs for existing employees (in particular variable sales-related remuneration). As a result of the significant increase in sales, the share of selling and administrative expenses in total sales decreased from 20.8 % in the previous year to 18.3 % in fiscal 2021.

Research and development expenses

As a high-tech company, we view research and development expenses as an indispensable investment for the future. Therefore, we continue to focus on innovation in vacuum technology through our own research projects and by consistently fostering teaching and science. Accordingly, a significant amount was again spent on research and development activities in 2021. Following € 35.1 million in 2020, a total of € 34.2 million was recorded in the past fiscal year. It should also be noted that research and development costs of € 1.9 million were capitalized in the reporting year. Taken together, research and development expenses therefore increased again compared with the previous year.

Due to the increase in sales, the percentage share of research and development costs recognized as an expense amounted to 4.4 % after 5.7 % in the previous year. Adjusted for subsidies for expenses for research and development services included in other operating income in the amount of € 4.1 million (previous year: € 3.2 million), the net research and development expenses totaled € 30.2 million in 2021 (previous year: € 31.9 million).

Other operating income and expenses

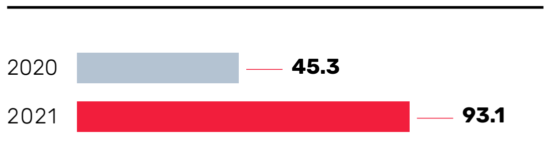
As in previous years, other operating income and other operating expenses (Note 9) also includes the Group's foreign exchange gains and losses. The other operating income of € 11.4 million in 2021 (previous year: € 9.3 million) in addition contained subsidies for expenses in the amount of € 4.1 million (previous year: € 3.2 million) and miscellaneous income of € 0.5 million (previous year: € 0.7 million), principally resulting from gains on disposals and pandemic subsidies.

In 2021, the other operating expenses of € 23.7 million (previous year: € 17.5 million) were characterized by two main issues. As in previous years, this figure included exchange rate losses of € 6.0 million (previous year: € 8.4 million). After € – 3.0 million in the previous year, the net foreign exchange result in 2021 thus stood at € 0.8 million. In addition, this item included impairment losses of € 16.4 million (previous year: € 8.8 million) (Note 11). These were incurred in connection with impairment losses on goodwill (previous year: € 6.2 million). In the previous year, additional impairment losses on trademark rights amounting to € 2.6 million were recorded. Furthermore, other operating expenses also include realized losses on disposals (€ 0.4 million; previous year: € 0.2 million). The balance of other operating income and expenses fell overall from € – 8.2 million to € – 12.3 million in the year under review.

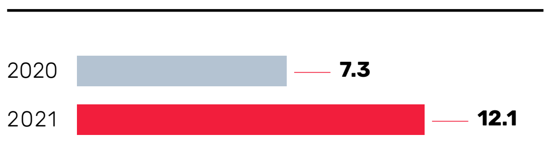
Operating profit

After € 45.3 million in the previous year, the operating profit in the past financial year 2021 amounted to € 93.1 million. With an increase of € 47.8 million or 105.5%, the operating profit more than doubled. This development is mainly attributable to the effects mentioned above. Personnel expenses, which are a substantial part of all functional costs and increased from € 217.1 million in the previous year to € 239.3 million in the past year 2021, are another factor of earnings development. On the one hand, this reflects the adjustment of remuneration in line with the accelerated inflation trend. In addition, variable remuneration, particularly in the sales area, has increased significantly. The operating profit attained of € 93.1 million corresponds to an operating profit margin or EBIT margin of 12.1 % (previous year: 7.3 %). In last year's forecast report, the EBIT margin for 2021 was initially expected to rise above the level of 2020 without any further specification. At the time, the forecast was based on the uncertainties of the coronavirus pandemic. At 12.1%, the forecast was certainly achieved, although the level that was ultimately reached in 2021 only proved achievable in the further course of 2021. Nevertheless, the EBIT margin of 12.1 % corresponds to the last forecast level of between 12 and 13 %.

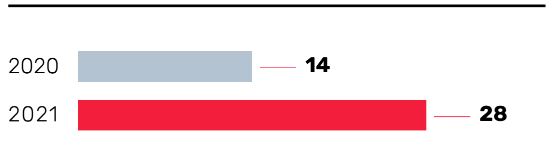
OPERATING PROFIT
in € millions



EBIT MARGIN
in %



OPERATING PROFIT PER EMPLOYEE
in K €



With regard to the segments it can be seen that the two large production sites in Germany and France with 42.7 % and 24.2 % account – as in the previous year – for the largest part of the overall operating profit (previous year: 46.4 % and 16.4 %). Due to the high dynamics in the semi market the segment Republic of Korea developed very well and accounted for an operating profit portion of 17.8 % (previous year: 17.0 %). By contrast, the performance of the USA (Production) segment declined as a result of the impairment losses attributable to this segment, with a clearly negative contribution to earnings overall.

The operating profit before depreciation and amortization (earnings before interest, taxes, depreciation and amortization, EBITDA), or operating profit without depreciation and amortization (for tangible and intangible assets) in 2021 amounted to € 114.0 million. After € 66.2 million in the previous year, this represented an increase of € 47.8 million. For better comparability with the previous year, the depreciation/amortization of € 20.9 million (previous year: € 20.9 million) was determined without taking into account the amortization of right of use assets and also without taking into account the impairment losses.

Financial income

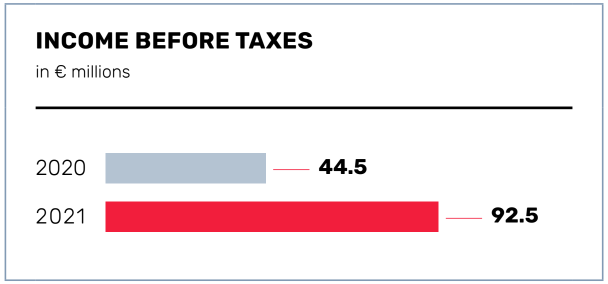
With interest rates unchanged, the financial result of € – 0.6 million was slightly under the previous year's level (€ – 0.8 million). There were no significant changes in the determining factors in the reporting year, since the main loan repayments were not made until the end of the fiscal year.

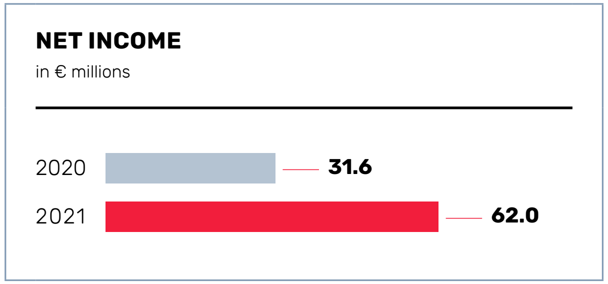
Income taxes

After a tax rate of 29.1 % in 2020, this figure, that is, the ratio of income tax expenses to earnings before taxes, rose to 33.0 % in 2021. The main reason for this is that the impairment losses referred to previously are not deductible for tax purposes. As a result of substantially higher earnings before taxes, tax expenses in absolute terms increased from € 13.0 million in the previous year to € 30.5 million (Note 24).

Net income

As a result of the aforementioned developments, the net income of € 31.6 million in 2020 increased significantly to € 62.0 million in 2021. With an increase of € 30.4 million or 96.2 %, this corresponds to almost double the previous year's figure.

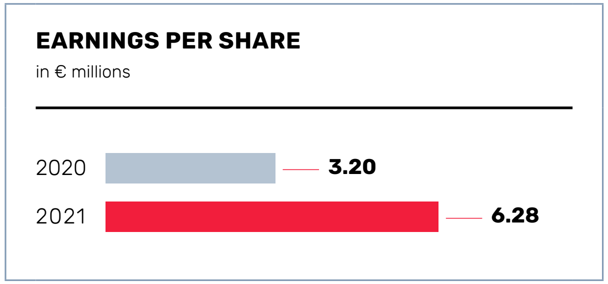




As a result, the net return on sales, i.e., the ratio of net income to sales, increased from 5.1 % in the previous year to 8.0 % in 2021.

Earnings per share

Since there were no changes in the number of shares outstanding in the year under review, earnings per share changed in line with net income. After € 3.20 in the previous year, a figure of € 6.28 was achieved in 2021 (Note 35).



Financial Position

Balance sheet total increased

The development of the financial position of the Pfeiffer Vacuum Group showed an increase in total assets in 2021, rising from € 661.8 million to € 707.9 million as of December 31, 2021. On the assets side, the decrease in intangible assets, which is also related to the impairment losses recognized (Note 11), from € 100.7 million in the previous year to € 91.5 million is particularly noteworthy. On the other hand, property, plant and equipment increased by € 17.8 million to € 176.0 million as of December 31, 2021, mainly as a result of investments in production capacities. The significantly higher volume of business also resulted in an increase in trade receivables (Note 16) from € 83.6 million to € 119.6 million and, for the same reason, inventories also rose from € 133.3 million in 2020 to € 162.2 million (Note 15). Cash and cash equivalents declined from € 122.9 million at the end of fiscal 2020 to € 99.4 million on December 31, 2021. The main drivers of this development were the dividend payment, the higher investments in 2021 and the loan repayments made. A detailed analysis of the development of cash and cash equivalents can be found in the section "Liquidity" (see p. 58).

On the liabilities side of the balance sheet, one change related to the development of shareholders' equity. It increased significantly by € 67.6 million from € 391.7 million to € 459.4 million. The increase resulted from the net income generated in the year under review (€ 62.0 million) and the dividend payment to the shareholders of Pfeiffer Vacuum Technology AG (€ 15.8 million) (Note 20) and

PFEIFFER VACUUM CONSOLIDATED BALANCE SHEETS

(Abstract)

	Dec. 31, 2021	Dec. 31, 2020	Change
	in € millions	in € millions	in € millions
Total non-current assets	**299.8**	**293.6**	**6.2**
Cash and cash equivalents	99.4	122.9	– 23.5
Other current assets	308.7	245.3	63.4
Total current assets	**408.1**	**368.2**	**39.9**
Total assets	**707.9**	**661.8**	**46.0**
Equity	**459.4**	**391.7**	**67.7**
Total current liabilities	**168.4**	**124.9**	**43.5**
Total non-current liabilities	**80.1**	**145.2**	**– 65.1**
Total liabilities	**248.5**	**270.1**	**– 21.6**
Total shareholders' equity and liabilities	**707.9**	**661.8**	**46.0**

CHANGE IN NET WORKING CAPITAL

	Dec. 31, 2021	Dec. 31, 2020	Change
	in € millions	in € millions	in € millions
Inventories	162.2	133.3	28.9
Trade accounts receivable[1]	121.0	85.1	35.9
Trade accounts payable[2]	– 71.4	– 52.2	– 19.2
Net working capital	**211.8**	**166.2**	**45.6**

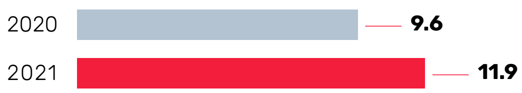
[1] including contract assets
[2] including short-term contract liabilities

the significant net increase of € 21.4 million in other equity components (Note 21). As in previous years, the development of other equity components was mainly due to the effects of the foreign exchange conversion and, in particular, the valuation of pension provisions recorded directly as equity of the balance sheet date. As a consequence, the equity ratio rose from 59.2 % in the previous year to 64.9 %. A further change on the liabilities side resulted from the repayment of financial liabilities. As a result of the good development of the liquidity situation, repayments totaling € 55.0 million were made here during 2021. The existing financial liabilities do not restrict the Group's ability to act financially. The Group remains debt-free on a net basis. Current working capital increased in parallel with the good business performance from € 166.2 million to € 211.8 million.

Liquidity

Following € 59.2 million in the year 2020 the operating cash flow in the fiscal year 2021 totaled € 91.6 million. This increase by € 32.4 million, or 54.7%, was caused by different factors. While the considerably higher earnings before taxes (+ € 48.0 million) and the therein included non-cash impairment losses positively influenced the operating cash flow, the significantly increased business volume and the resulting increase in receivables and inventories led to corresponding cash outflows. This was partly compensated by an increase in liabilities. As a result of the earnings development also income taxes paid with € 16.1 million were above the previous year's level (€ 11.7 million). Overall, cash flow per share thus increased from € 6.00 in 2020 to € 9.28 in the year under review.

CASH FLOW MARGIN
in %



CASH FLOW PER SHARE
in €

As in the previous years, capital expenditures were the main determinant for the cash outflow from investing activities in the past fiscal year 2021. At € 41.6 million, these were again on a high level (previous year: € 30.4 million), which is due to the investments required as a result of the development in demand in 2021. Since the level and, in particular, the sustainability of the development in demand could not be foreseen at the beginning of the year, the investment volume of around € 30 million originally forecast for 2021 was also significantly exceeded. More information on the composition of the investment volume can be found in the section "Capital expenditure and financing" (see p. 59) that follows. Capital expenditures were offset by cash inflows from the disposal of property, plant and equipment amounting to € 1.7 million (previous year: € 0.2 million), resulting in a total cash outflow from investing activities of € 39.9 million following € 30.2 million in the previous year.

REPRESENTATION OF CASH FLOW FROM OPERATING ACTIVITIES
(Abstract)

	2021	2020
	in € millions	in € millions
Earnings before taxes	92.5	44.5
Income taxes paid	– 16.1	– 11.7
Depreciation/amortization	26.1	25.9
Other non-cash changes[1]	23.7	13.7
Effects of changes in assets and liabilities	– 34.6	– 13.2
Net cash provided by operating activities (operating cash flow)	**91.6**	**59.2**

[1] including impairment losses of € 16.4 million (previous year: € 8.8 million)

The main determinant for the cash flow from financing activities was the dividend payment (Note 20) of € 15.8 million (previous year: € 12.3 million) and the repayment of financial liabilities of € 55.1 million (previous year: € 0.1 million). Together with the repayment portion of rental and leasing installments (€ 5.5 million; previous year: € 4.9 million) the cash outflow from financing activities totaled € 76.4 million in 2021. After € 17.3 million in the previous year, this represents an increase of € 59.1 million.

Taking currency effects into account, the total cash outflow in 2021 was € 23.5 million (previous year: cash inflow € 10.9 million) and led to a decrease in cash and cash equivalents from € 122.9 million to € 99.4 million.

At the balance sheet date, Pfeiffer Vacuum also had unused credit lines amounting to € 10.3 million (previous year: € 16.2 million). Free liquidity is invested in interest-bearing financial instruments where possible. A cash management system is in place in the Group companies in Asslar and Annecy to bundle liquidity. Conservative and largely short-term investment vehicles, such as money market or time deposits at financial institutions, dominate where financial investments are concerned. Speculative transactions are not conducted. Both liquidity management as well as steering of the interest-rate change risk are thus primarily handled at Corporate Headquarters, taking into consideration all relevant matters within the corporate Group.

Capital Expenditure and Financing

As planned and as in previous years, the operating business, investments made in the past fiscal year 2021 and the dividend payment were solely financed by the Group's own funds. In addition, loan repayments of € 55.0 million were made. The inclusion of financial liabilities will only be examined with a view to financing acquisitions.

This conservative approach, which had already been implemented in the past, resulted in financial liabilities totaling € 18.2 million as of the balance sheet date of December 31, 2021 (previous year: € 73.1 million). Of this amount, € 5.0 million related to liabilities to banks and € 13.2 million to leasing liabilities (previous year: € 60.1 million and € 13.0 million respectively).

Capital expenditure in 2021 amounting to € 41.6 million (previous year: € 30.4 million) was attributable mainly to modernization measures and, in part, to capacity expansions at the Asslar (Germany), Annecy (France) and Asan (Republic of Korea) production sites. In addition, necessary replacement investments were made in machinery and operating and office equipment. Due to the expansion of investment projects as a result of the development of sales, the investment volume was higher than the originally forecast capital expenditures of around € 30 million.

Allocation of capital expenditures for tangible and intangible assets to the reported segments compared to the previous year is comprised as follows:

CAPITAL EXPENDITURES BY SEGMENT

	2021	2020
	in € millions	in € millions
Germany	11.9	11.6
France	12.1	12.8
USA	4.0	0.6
Republic of Korea	3.8	0.6
Asia (excluding Republic of Korea)	2.3	1.3
USA (production)	0.4	1.9
Europe (excluding Germany and France)	0.4	0.5
All others	6.7	1.1
Total	**41.6**	**30.4**

The balance sheet of the Pfeiffer Vacuum Group has long demonstrated a good equity base as compared to the industry. The equity ratio of 64.9 % at December 31, 2021 rose compared with the end of the previous year (59.2 %). The ratio of current assets as the ratio of short-term assets to short-term liabilities amounted to 242 % (previous year: 295 %) and reflects a conservative financing concept and the high credit rating of Pfeiffer Vacuum.

With capital expenditure of € 41.6 million (previous year: € 30.4 million) and a depreciation/amortization volume of € 20.9 million (previous year: € 20.9 million) the depreciation expense ratio (ratio of capital expenditure to depreciation/amortization) amounted to 200 %, compared to 145 % in the previous year (excluding in each case the impact of rights of use and also excluding the consideration of impairment losses).

CURRENT ASSETS RATIO

in %

DEPRECIATION EXPENSE RATIO

in %

PFEIFFER VACUUM TECHNOLOGY AG – SHORT VERSION IN ACCORDANCE WITH GERMAN COMMERCIAL CODE ("HGB")

In addition to the consolidated financial statements prepared in accordance with IFRS, the development of Pfeiffer Vacuum Technology AG, the parent company of the Pfeiffer Vacuum Group, is discussed below. Pfeiffer Vacuum Technology AG acts purely as a management and holding company within the Pfeiffer Vacuum Group.

The Annual Financial Statements of Pfeiffer Vacuum Technology AG are prepared in accordance with the principles of German commercial law ("HGB", "AktG"). Use is made of the option pursuant to § 315, Sub-Para. 5, German Commercial Code ("HGB"), to combine the Management Report of Pfeiffer Vacuum Technology AG with the Management Report of the Pfeiffer Vacuum Group. This is also because a very close connection exists between the future opportunities and risks of the Group and Pfeiffer Vacuum Technology AG.

The following comments relate exclusively to Pfeiffer Vacuum Technology AG.

Profitability

The principal activities of Pfeiffer Vacuum Technology AG consist of management and holding functions for the Pfeiffer Vacuum Group. These include, among other things, cash management for the German subsidiary in Asslar and Pfeiffer Vacuum SAS in Annecy, the financing function for the Group-wide liquidity requirements, as well as the leasing of buildings to Pfeiffer Vacuum GmbH in Asslar. The existing profit and loss transfer agreement with the subsidiary Pfeiffer Vacuum GmbH has a significant impact on the Company's earnings.

At € 52.2 million, Pfeiffer Vacuum Technology AG's net profit for the year exceeded the previous year's figure of € 18.3 million by a significant € 33.9 million. This corresponds to a very gratifying gain of 185.3 %.

Unchanged from previous years, the profitability of Pfeiffer Vacuum Technology AG was significantly impacted by the transfer of profits from Pfeiffer Vacuum GmbH in the amount of € 51.7 million (previous year: € 27.7 million). Coming on the heels of a previous year burdened in part by the consequences of the coronavirus crisis, the demand momentum of the year 2021 gave rise to an outstanding sales and earnings development for Pfeiffer Vacuum GmbH in 2021.

SALES BY REGION (PFEIFFER VACUUM GMBH)

	2021	2020	Change	
	in € millions	in € millions	in € millions	in %
Germany	80.1	71.4	8.7	12.2
Asia	79.4	60.3	19.1	31.7
Europe (excluding Germany)	65.2	54.3	10.9	20.1
The Americas	42.6	35.9	6.7	18.7
Rest of world	0.1	0.1	0.0	0.0
Total	**267.4**	**222.0**	**45.4**	**20.5**

PFEIFFER VACUUM TECHNOLOGY AG STATEMENTS OF INCOME

(Abstract)

	2021	2020	Change	
	in € millions	in € millions	in € millions	in %
Income from profit and loss transfer agreement	51.7	27.7	24.0	86.6
Income from investments	16.3	3.7	12.6	340.5
Other sales revenues and income	13.4	9.3	4.1	44.1
Total income	**81.4**	**40.7**	**40.7**	**100.0**
Personnel costs	- 3.0	- 3.1	0.1	- 3.2
Depreciation/amortization	- 1.5	- 1.6	0.1	- 6.3
Other expenses	- 19.4	- 14.8	- 4.6	31.1
Financial result	- 0.1	- 0.7	0.6	- 85.7
Net income tax expenses	- 5.2	- 2.2	-3.0	136.4
Annual net profit	**52.2**	**18.3**	**33.9**	**185.3**
Profit carried forward from the previous year	128.2	125.7	2.5	2.1
Retained earnings	**180.4**	**144.0**	**36.4**	25.3

Following € 222.0 million in the previous year, Pfeiffer Vacuum GmbH significantly expanded its sales volume in 2021 to reach € 267.4 million in the year under review. This corresponds to an increase of € 45.4 million or 20.5 %. It was particularly gratifying that this development was broad-based, with all major sales regions recording double-digit sales growth. The development of sales in Asia is particularly noteworthy however as a result of the exceptionally dynamic development of the semiconductor industry.

In last year's forecast report, a sales revenue forecast was formulated with a slight increase in the sales volume compared to the year 2020 (€ 222.0 million). This development was significantly exceeded as a result of the same dynamism that prevailed in all the markets served by Pfeiffer Vacuum GmbH and as a consequence in particular of the strength of the semiconductor industry. Against the backdrop of the overall economic situation at the beginning of March 2021, sustained high demand throughout 2021 was not initially to be expected.

The significant increase in sales revenues at the level of Pfeiffer Vacuum GmbH has led to positive economies of scale and thus also to an increase in income from profit transfer. Moreover, at the level of Pfeiffer Vacuum GmbH, increased investment income had a positive impact on the development of earnings.

A further important element for the profitability of Pfeiffer Vacuum Technology AG, in addition to the development of Pfeiffer Vacuum GmbH, is income from investments as a result of profit distribution from the direct Group companies. This income rose significantly from € 3.7 million in the previous year to € 16.3 million in the past fiscal year. Following personnel expenses of € 3.1 million in the previous year, these remained virtually unchanged and amounted to € 3.0 million in 2021. As a result, in particular, of the continued establishment of a global IT organization and the associated costs, other operating expenses again rose significantly from € 14.8 million in the previous year to € 19.4 million in 2021. The main factor here was the further expansion of the global IT infrastructure. Sales revenues and other income increased from € 9.3 million in the previous year to € 13.4 million as a result of IT costs being passed on. At € – 0.1 million, a virtually balanced financial result was achieved in 2021 (€ – 0.7 million). This was due in particular to effects from pension valuation, which led to a lower net interest expense compared to the previous year.

At 20.7 %, the tax ratio in 2021 was significantly lower than in 2020 (29.9 %). This is mainly attributable to the comparatively higher proportion of investment income, which is largely tax-free. In conjunction with the significantly higher overall earnings, tax expenses nevertheless increased from € 6.2 million to € 12.0 million. In parallel, the tax allocation levied on the subsidiary company increased from € 4.0 million to € 6.8 million.

Overall, annual net profit thus increased very significantly from € 18.3 million in the previous year to € 52.2 million in the year under review. Contrary to the original plans and the formulations in last year's forecast report, the slight improvement in annual net profit was in fact significantly exceeded. Due in particular to the strong sales momentum, the profit transfer from Pfeiffer Vacuum GmbH was higher than expected and, added to the higher income from investments, made a major contribution to the improvement in profitability.

Assets, liabilities, and financial position

At € 347.1 million, the balance sheet total as of December 31, 2021 decreased slightly compared to the previous year (€ 350.1 million). A significant change resulted from the decrease in loans to affiliated companies, which fell by € 3.0 million from € 12.6 million to € 9.6 million as a result of repayments. In addition, cash at banks declined from € 23.1 million to € 18.3 million.

PFEIFFER VACUUM TECHNOLOGY AG BALANCE SHEET

(Abstract)

	Dec. 31, 2021	Dec. 31, 2020	Change	
	in € millions	in € millions	in € millions	in %
Intangible assets	12.1	9.3	2.8	30.1
Property, plant and equipment	9.3	10.3	– 1.0	– 9.9
Financial assets	233.6	236.6	– 3.0	– 1.3
Total intangible assets	**254.9**	**256.2**	**– 1.3**	**– 0.5**
Receivables and other assets	72.6	70.5	2.1	2.9
Cash at banks	18.3	23.1	– 4.8	– 20.6
Total current assets	**90.9**	**93.6**	**– 2.7**	**– 2.9**
Deferred income	1.2	0.3	0.9	308.3
Balance sheet total	**347.1**	**350.1**	**– 3.0**	**– 0.9**
Share capital	25.3	25.3	0.0	0.0
Additional paid-in capital	99.7	99.7	0.0	0.0
Retained earnings	180.4	144.0	36.4	25.3
Total equity	**305.4**	**269.0**	**36.4**	**13.5**
Provisions	**12.1**	**10.4**	**1.7**	**16.4**
Liabilities	**29.0**	**70.7**	**– 41.7**	**– 59.0**
Accrued expenses	0.6	0.0	0.6	100.0
Balance sheet total	**347.1**	**350.1**	**– 3.0**	**– 0.9**

On the liabilities side, the change in the balance sheet total is mainly characterized by two opposing movements: On the one hand, there was a significant increase in equity. At € 305.4 million as of December 31, 2021, this was € 36.4 million higher than the previous year's figure of € 269.0 million. The annual net profit generated of € 52.2 million and, in contrast, the dividend payment of € 15.8 million in accordance with the resolution of the Annual General Meeting of May 12, 2021 were the reasons for this development. The equity ratio increased once again to 88.0 % (previous year: 76.8 %). In contrast, liabilities to banks decreased significantly. This item includes a loan taken out in 2017 as part of the external financing of a company acquisition, the value of which remained unchanged at € 5.0 million as of the balance sheet date (previous year: € 60.0 million). The good liquidity situation resulting from the very positive earnings performance has enabled us to significantly reduce this financing. The loan has a variable interest rate based on Euribor plus a margin in line with the market and is available to the Company on a long-term basis. In addition to the borrowing, the company has free credit lines amounting to € 8.7 million (previous year: € 14.3 million). Liabilities to affiliated companies are predominantly in relation to Pfeiffer Vacuum SAS and result from a cash pooling agreement. These liabilities increased from € 10.2 million in the previous year to € 23.2 million as of December 31, 2021. The other items on the liabilities side did not show any significant changes as of the end of fiscal year 2021 compared to the previous year.

Overview of course of business

Against the backdrop of the ongoing economic impact of the global coronavirus pandemic during the last two years, business development was extremely satisfactory. Pfeiffer Vacuum Technology AG's annual net profit rose very significantly and thus also had a markedly positive impact on the Company's financial and liquidity position. The equity ratio improved significantly and thus remains at an above-average level compared with the sector as a whole. In spite of the loan repayments of € 55.0 million that were made during the fiscal year, the liquidity situation also remains sound and, in our view, the financing of the operative business and the further growth of the Company are assured even in these times that continue to be fraught with a great deal of uncertainty.

Non-Financial Consolidated Statement 2021

NON-FINANCIAL CONSOLIDATED STATEMENT 2021

LEGAL FRAMEWORK OF THE NON-FINANCIAL CONSOLIDATED STATEMENT

For the 2021 fiscal year, Pfeiffer Vacuum Technology AG ("Pfeiffer Vacuum") prepared a non-financial Group Statement in accordance with the "Law to Strengthen the Non-Financial Reporting of Companies in their Management Reports and Group Management Reports" ("CSR-RUG"). This report meets the requirements of §§ 315b and 315c in conjunction with §§ 289c to 289e of the German Commercial Code ("HGB") as well as of the regulation (EU) 2020/852 of the European Parliament and of the council of 18th June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 ("EU Taxonomy Regulation"). In the same way as for financial reporting, it shows how material non-financial issues are managed for the entire Group. Information that does not relate to the entire Group is indicated accordingly.

The statement was audited by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, on behalf of the Supervisory Board.

A limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) was performed. The audit report is found following the Independent Auditor's Report of the Consolidated Financial Statements and of the Group Management Report. References to statements or any other disclosure outside the Group Management Report are additional information and are not part of the non-financial Group Statement.

For a structured description of the contents pursuant to § 315c in conjunction with §§ 289c to 289e of the German Commercial Code (HGB) in the non-financial consolidated statement, Pfeiffer Vacuum follows the standards of the Global Reporting Initiative (GRI). The description of the concepts required by the HGB is based on the structure of the GRI management approaches. This is applied in the description of the new materiality analysis (GRI 101 management approach) as well as in the management approaches to "environmental matters", "employee matters", "respect for human rights", "combating corruption and bribery" and "other matters" (GRI 103 management approach). In addition, a GRI Content Index compares the GRI indicators with corresponding reporting. The GRI Content Index is published in accordance with the GRI Standards – Core option (see from p. 206) of the Pfeiffer Vacuum Annual Report 2021. The information on the fulfillment of GRI indicators as well as references to information outside the Group Management Report or Consolidated Financial Statements are additional information and not part of this non-financial Group Statement.

For a description of Pfeiffer Vacuum's business model, please refer to the section entitled "Corporate Profile" (see from p. 40).

Companies that are obliged to publish a non-financial report are required to provide information on "environmentally sustainable" sales revenues, investments (CapEx) and operating expenses (OpEx) in accordance with the EU Taxonomy Regulation regarding the reporting period 2021 for the first time. Pfeiffer Vacuum complies with this obligation and reports on the taxonomy eligibility of the Group's economic activities. Please read more in the section "EU Taxonomy".

Sustainability approach

Pfeiffer Vacuum sees sustainability as a long-term value driver that brings benefits on an economic, ecological, and social level. In this sense, Pfeiffer Vacuum is committed to the guiding principle of sustainable development. Complying with laws and regulations, integrity, responsibility for employees and society, and also preserving resources are values we already meet today.

To underline this commitment, in summer 2021 we joined the United Nations Global Compact (UNGC), the world's most important initiative for sustainable business.

As a signatory, we commit to sustainable and responsible corporate governance in accordance with the ten principles of the UNGC.

This report also serves as an annual Communication on Progress (COP) how the company supports and upholds the ten principles. Please read more in the section "Governance".

The Group's approach to sustainability is part of Pfeiffer Vacuums corporate strategy: Our claim is to consider economy, ecology and social issues together as part of our value creation. This does not only apply to our own business activities, but it is also our declared goal to develop sustainable, innovative and energy-efficient vacuum technology solutions for our customers in numerous industries.

Organizational structure

Various sustainability committees drive the issue of sustainability at Pfeiffer Vacuum and ensure that responsible corporate governance is also reflected in economic success. CEO Dr. Britta Giesen is responsible for this area at Management Board level. She is also a member of the Global CSR Board, which includes representatives from all of the Group's divisions. They define Pfeiffer Vacuum's sustainability strategy, determine the roadmap for implementing goals and measures, and discuss all major issues relating to sustainable action. The work of the Global CSR Board is supported by the Global CSR Coordinator.

This staff unit is where the group-wide organization and communication of CSR-relevant issues converge. Our General Managers and our Regional Managers play a decisive role in accelerating the sustainability roadmap. They are responsible for the implementation of CSR measures in the respective regions, position the innovations with the customers and control the correct collection and evaluation of data.

During the 2021 fiscal year, Pfeiffer Vacuum intensively focused on the further implementation of its growth strategy as well as prudently managing the challenges and supply chain impacts associated with the coronavirus situation.

Pfeiffer Vacuum has developed a sustainability management for balancing economic, ecological and social aspects to support the company's strategy. Pfeiffer Vacuum again conducted a comprehensive materiality analysis. We managed to identify additional key topics, defined non-financial goals and set up a roadmap for the Group. The data collection processes were further developed throughout the Group and are in turn reflected in the disclosure of additional sustainability-related information. Furthermore, we have defined measures to reduce CO_2 emissions and examined intensively a new software solution with the intention of having all data available during the year and enhancing the management of sustainability-relevant issues more efficiently. All the measures undertaken demonstrate Pfeiffer Vacuum's active commitment to sustainability.

Scope of the report

The present statement provides information on the main developments in the 2021 fiscal year with respect to the five legally required aspects of environmental matters, respect for human rights, employee matters, social matters and the fight against corruption and bribery. The aspect relating to social matters was not considered to be of material significance, but the additional, legally not required aspects of products and customers as well as governance were identified as material.

This report covers a number of management concepts and key figures for the Group's main production sites. These include the German sites in Asslar, Göttingen and Dresden, Annecy in France, Cluj in Romania, Asan in South Korea, Indianapolis, Yreka and Nashua in the USA, Ho Chi Minh City in Vietnam and Wuxi in China. The following information all relates to this scope, unless specified otherwise. Adjusted figures from 2020 have been highlighted in indicated sections. Due to the coronavirus pandemic, data from 2020 concerning energy, fluctuation and accidents cannot be used as benchmark for previous or future reporting. Significant deviations from the previous year are indicated and described in more detail in the relevant text passages.

Risk assessment of the non-financial reporting

Pfeiffer Vacuum has established a Group-wide risk management system in order to identify risks at every level of the organization and to take appropriate measures to counter them. During the year under review, after taking into consideration risk mitigation measures, we were unable to identify any risks that are associated with our business operations, our business relationships as well as our products and services and that are very likely to, or will have serious negative impacts on the aspects presented in the table of aspects and issues of the non-financial consolidated statement. For more information on the procedures of our risk management system, please refer to the section entitled "Risk and Opportunities Report" (see p. 98-108).

Material Issues

Pfeiffer Vacuum again conducted a materiality analysis in the course of the fiscal year 2021, which is guided by the principles specified in the GRI Standards and the CSR-RUG. In doing so, we seek to identify and confirm the issues that are material to the Group, on the basis of which we are driving forward the sustainable, strategic further development of Pfeiffer Vacuum.

"Material" in this context means issues that are essential to an understanding of the company's business success. On the other hand, topics are assessed in terms of their materiality with regard to the effects of the business activity on employees, society or the environment.

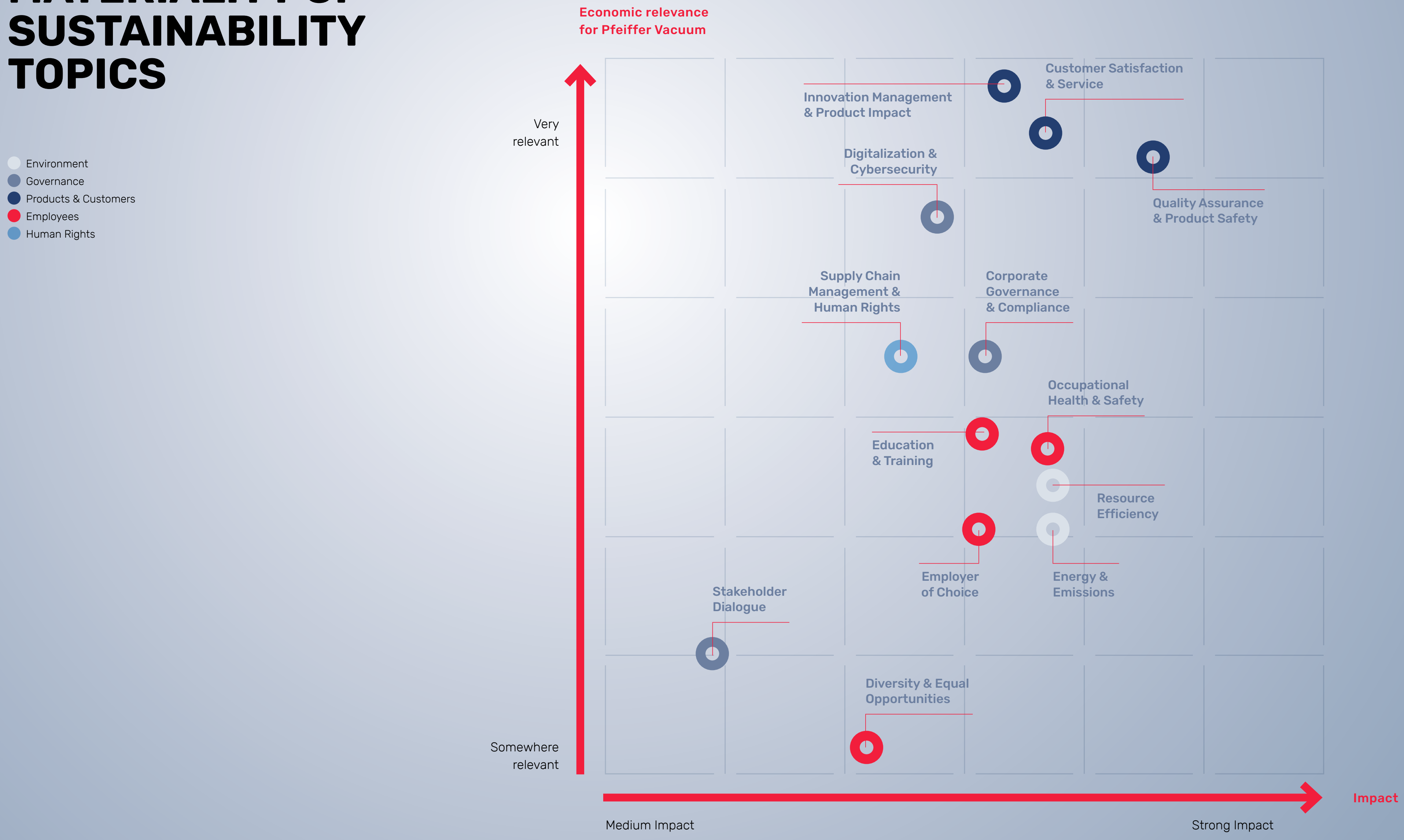
The materiality analysis was implemented in a multi-stage process: First, a comprehensive catalogue of topics was created based on international reporting standards, legal requirements, peer group analyses, rating agency and investor requirements, and best practice in the market. This broad catalogue of 165 sustainability-relevant topics was grouped and assigned to 6 fields of action. In a second step, this catalogue was internally discussed and adapted by the senior management and the Board level. This resulted in a list of sustainability issues that were assessed for materiality in an anonymous survey using an online-based survey tool.

The evaluation was carried out by means of a 5-point scale with regard to two criteria:

Firstly, the extent to which Pfeiffer Vacuum's business activities according to the identified material topics have a positive or negative influence on the environment, employees and society was evaluated. On the other hand, the relevance of the topics for Pfeiffer Vacuum's long-term business development was analysed.

The evaluation resulted in 13 material topics from five fields of action, which are shown in the following materiality matrix.

MATERIALITY OF SUSTAINABILITY TOPICS



The following table allocates the material issues of Pfeiffer Vacuum identified in the course of the materiality analysis to the aspects of the non-financial Group Statement:

INDEX TO THE NON-FINANCIAL STATEMENT

NFS aspects	Material issue
Employee matters	• Employer of Choice • Diversity & Equal Opportunities • Education & Training • Occupational Health & Safety
Environmental matters	• Resource Efficiency • Energy & Emissions
Combating corruption and bribery	• Corporate Governance & Compliance
Respect for human rights	• Supply Chain Management & Human Rights
Other matters: Products & Customers	• Quality Assurance & Product Safety • Innovation Management & Product Impact • Customer Satisfaction & Service
Other matters: Governance	• Digitalization & Cybersecurity • Stakeholder Dialogue

Pfeiffer Vacuum has set goals for all major topics and decided on measures to achieve these goals. The overall objective is to achieve an increase in value for the stakeholders and the company. Additionally, these goals are related to Pfeiffer Vacuum's contribution to the Sustainable Development Goals (SDGs). Further information on the key fields of action, individual goals and associated measures can be found on the following pages.

NON-FINANCIAL STATEMENT 2021 – TARGETS

Environment

Pfeiffer Vacuum considers resource-savings and environmental-friendly action to be an essential basis for responsible corporate management. Measures for more sustainability and a careful treatment of the environment not only benefit nature but are also supporting in the company's success.

Topic	Target	Timeframe	Status quo 2021
Energy & Emissions	• Implementation of a certified management system according to ISO 14001 at the main sites	by 2025	in progress
	• Implementation of a certified management system according to ISO 50001 at all production sites	by 2030	in progress
	• Evaluation of existing energy supply contracts regarding renewables share and conclusion of new contracts where feasible	2022	started
Resource Efficiency	• Comprehensive analysis and monitoring of Group-wide water consumption	2022	started
	• Reduction of the amount of waste (in kg/tons) in relation to the cost of sales	ongoing	in progress

Supply Chain Management & Human Rights

For Pfeiffer Vacuum, responsibility goes beyond the boundaries of the company. This relates, for example, to sustainable procurement and ecological and social standards among suppliers. Respect of human rights is a crucial issue for us.

Topic	Target	Timeframe	Status quo 2021
Supply Chain Management & Human Rights	• Signature of the Pfeiffer Vacuum Supplier Code of Conduct by 100% of all new major suppliers and business partners	ongoing	in progress
	• Increase in the percentage of significant direct suppliers with an approved environmental management system	ongoing	in progress
	• Procurement of raw materials which originate from certified smelters that are free of conflict minerals	2022	achieved

Employees

The long-term business success of Pfeiffer Vacuum is based on the competence, commitment and flexibility of our employees. In return, it is our goal to be an attractive and responsible employer.

Topic	Target	Timeframe	Status quo 2021
Employer of Choice	• Conduct regular employee satisfaction surveys	ongoing	started
	• Foster diversity and inclusion at all Pfeiffer Vacuum sites via internal communication campaigns	ongoing	in progress
Education & Training	• Offer every employee at least one full-day training session at our in-house Pfeiffer Vacuum Academy or external courses by specialized providers	2025	started
Occupational Health & Safety	• Implementation of a certified management system according to ISO 45001 at the main production sites	2025	in progress
	• Reduce occupational accidents, accident rates (LTIFR) and absenteeism to a minimum	ongoing	in progress

Products & Customers

The direct dialogue with our customers holds great potential for Pfeiffer Vacuum and is therefore important. Our customers give us new impulses for improvements and innovations - they are our daily motivation to constantly optimize the services we offer. This also includes the safety and sustainability of our products and services.

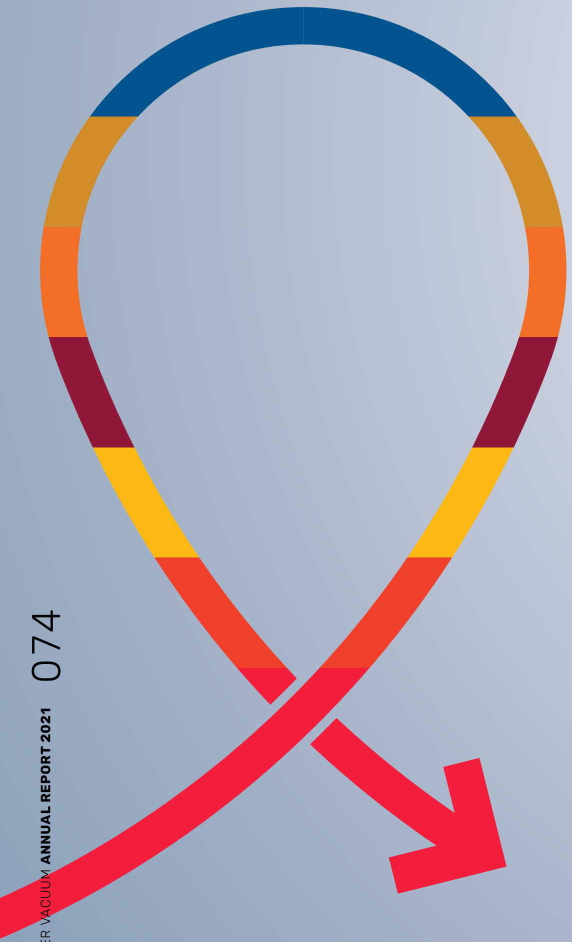
Topic	Target	Timeframe	Status quo 2021
Quality Assurance & Product Safety	• All products are 100% quality-tested	ongoing	achieved
Innovation Management & Product Impact	• Develop environmental-friendly products, especially reduce use of materials and increase energy efficiency	ongoing	achieved
Customer Satisfaction and Service	• Be a leading provider for customer training in the vacuum market	end of 2023	in progress

Governance

Effective structures, control and regulation systems as well as compliance with internal guidelines and external requirements are crucial for Pfeiffer Vacuum. This also includes high standards of data protection and information security.

Topic	Target	Timeframe	Status quo 2021
Corporate Governance and Compliance	• Further development of global CSR Management including data collection according to international standards	ongoing	in progress
	• Mandatory attendance at training on the Code of Conduct for every (new) employee	ongoing	achieved
	• Regular training of all (new) employees on the Code of Conduct and selected staff receive training on new policies.	ongoing	achieved
Digitalization and Cybersecurity	• Group-wide roll-out of the Information Security Management System (ISMS)	end of 2023	started

SUSTAINABLE DEVELOPMENT GOALS



Target relevant for Pfeiffer Vacuum
5.5 _ Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

Contribution by Pfeiffer Vacuum
Pfeiffer Vacuum promotes women and enables their equal opportunities at all hierarchical levels. We foster equal pay for work and fight against any form of discrimination. We have 33 % women on the supervisory board and 50 % women on the management board.

Targets relevant for Pfeiffer Vacuum
7.2 _ By 2030, increase substantially the share of renewable energy in the global energy mix.
7.3 _ By 2030, double the global rate of improvement in energy efficiency.

Contribution by Pfeiffer Vacuum
Pfeiffer Vacuum invests in sustainable, energy-efficient and environmentally friendly production. Moreover, particularly energy-efficient products are offered. Pfeiffer Vacuum itself promotes the production of renewable energy by operating biomass or photovoltaic systems and buying from renewable sources.

Targets relevant for Pfeiffer Vacuum
8.4 _ Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation.
8.8 _ Protect labour rights and promote safe and secure working environments for all workers.

Contribution by Pfeiffer Vacuum
Pfeiffer Vacuum strives for sustainable corporate growth without negative impacts on the environment and in compliance with labor standards at all company sites. Pfeiffer Vacuum promotes the human right to physical and mental health of employees within the Group and other companies along the supply chain.

Target relevant for Pfeiffer Vacuum
9.4 _ By 2030, upgrade infrastructure (buildings, machinery) and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes.

Contribution by Pfeiffer Vacuum
Pfeiffer Vacuum is modernizing its production sites to enable sustainable, energy-efficient product manufacturing. Pfeiffer Vacuum invests in research and development to become a technology leader also concerning energy-efficient products.

Targets relevant for Pfeiffer Vacuum
12.2 _ By 2030, achieve the sustainable management and efficient use of natural resources.
12.6 _ Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

Contribution by Pfeiffer Vacuum
Pfeiffer Vacuum invests in sustainable, energy-efficient and environmentally friendly production. Our research and development focusses on sustainable product and process innovations. Since 2017, Pfeiffer Vacuum has published non-financial information in accordance with CSR-RUG and expands the scope of this with each report. Along its value chain, Pfeiffer Vacuum embolds its business partners and suppliers to enhance their sustainability reporting as well.

Target relevant for Pfeiffer Vacuum
16.5 _ Substantially reduce corruption and bribery in all their forms.

Contribution by Pfeiffer Vacuum
Pfeiffer Vacuum is committed to combating corruption and bribery. Our code of conduct clearly forbids any such behaviour.

Sustainable Development Goals

The Sustainable Development Goals (SDGs) are 17 specific targets set by the United Nations to make the world a more sustainable and just place. The SDGs cover areas such as poverty reduction, protection of the planet, securing peace and the promotion of prosperity for all people. Until the year 2030, representatives from politics, society and business are to work together to implement these goals.

As a global operating group with 3,444 employees, Pfeiffer Vacuum is aware of its responsibility in this regard. For this reason, we have carried out an analysis showing where our sustainable priorities support the SDGs. This resulted in 6 goals in which we, as a technology company, can make a particularly good contribution. These SDGs are linked to our sustainability path and embedded in our operating business.

STAKEHOLDER DIALOGUE

Pfeiffer Vacuum maintains a regular and transparent dialogue with its stakeholders. Our relevant stakeholders include groups and institutions with which we are directly or indirectly affiliated through our business activities and who, thus, have an interest in our sustainable actions. Among them are our customers and employees, suppliers and business partners, scientific institutions and research facilities, representatives of associations, public authorities and non-governmental organizations, and our shareholders.

We conduct a dialogue with all of the aforementioned stakeholders in a spirit of partnership and mutual trust in order to inform them about current developments in Pfeiffer Vacuum's business activities, sustainability performance and objectives. It is also important for us to learn about and discuss the stakeholders' manifold expectations of our company. The needs of our stakeholders are different and so we use various communication channels to promote constructive and fruitful exchange.

In the fiscal year 2021, the dialogue was again dominated by the Corona pandemic and largely took place virtually. Particular highlights were the opening of our Silicon Valley Innovation Center (SVIC) in San Jose together with our customers or participating in the SEMICON West trade show in San Francisco, which both took place on-site.

As a publicly traded company, dialogue with the financial community is important for Pfeiffer Vacuum. The Investor Relations department regularly informs investors, analysts and journalists about our business performance. This comprises, among other things, corporate presentations at roadshows, analyst calls or latest news on our website. In 2021, we were rated by four rating agencies regarding our financial and non-financial performance. For the latter, we obtained an independent measurement of our commitment to sustainability by participating in an international ESG rating conducted by Sustainalytics. We placed 69th out of 516 companies in the machinery industry evaluated and strive for continuous improvement. Further Information on Pfeiffer Vacuum's obtained ratings can be found within the Annual Report 2021.

ENVIRONMENT

Pfeiffer Vacuum is actively committed to environmental and climate protection and promotes the sustainable use of natural resources within our group. Therefore, we always aim to reduce our environmental footprint and to minimize our GHG emissions.

Products from Pfeiffer Vacuum have an impact on the environment in all phases of their life cycle, from development and production to utilization and disposal. Various raw materials, semi-finished products, pre-products, energy and water are required for the manufacturing processes. The consumption of resources in the supply chain begins with procurement. During the manufacturing phase, electricity, water and materials such as stainless steel, aluminum and grey cast iron are consumed at all production sites. Unfortunately, waste is unavoidable in this process – for example in the form of metal chips. Wherever possible, we recycle waste and offcuts back into the value-added cycle. During the utilization phase, the main factors are electricity consumption, noise emissions and material characteristics in the respective application.

Continuous improvement at the Annecy, Asslar and Asan production sites is supported by certification to the environmental management standard ISO 14001. We have set ourselves the goal to implement the ISO 14001 standard at all main production sites by the year 2025. Currently, our production sites in Vietnam and Indianapolis (USA) are preparing the certification process.

We foster our efforts of sharing environmental best practices and lessons learnt globally as part of our existing corporate culture. This aspiration is independent of the certification process and thus also includes non-certified production sites as well as administrative sites.

Energy & Emissions

The operation of the production facilities and administration buildings requires energy. This is not only a cost factor, but also causes harmful emissions in the form of CO_2 and other greenhouse gases. Even though the manufacture of vacuum pumps is not very energy-intensive compared to the mechanical engineering industry, Pfeiffer Vacuum reports on energy management in view of the overall social and environmental relevance of the topic.

The responsibility for energy management lies with each individual site although it is supported by the Groups' Head of Global Quality & EHS. In 2021, we have continued to install energy consumption meters with measuring systems for analyzing and controlling energy requirements at the Annecy and Asslar sites. The metering systems are equipped with sensors for diagnostics and predictive maintenance. The aim is to implement these metering systems throughout the Group within the next years.

During the current reporting period, we have implemented a tool that assists us in collecting, preparing and presenting the relevant data to track energy consumption of almost every manufacturing site.

When new equipment is purchased, Pfeiffer Vacuum requests proof of the installed capacity, electricity consumption and energy class from the supplier and strives to achieve an increase in energy efficiency targeting the most efficient production equipment fit to purpose. New buildings, as well as renovations and extensions to existing buildings, such as the expansion of production operations in Annecy that commenced in 2019, are planned and implemented with a focus on energy-efficiency, climate neutrality and green building standards. For the coming years, Pfeiffer Vacuum is seeking to modernize, expand and run operations in an energy- and resource-efficient manner.

For environmentally friendly energy production, there is a combined heat and power plant in Asslar and a local biomass plant in Annecy. Moreover, we have installed photovoltaic systems at our headquarter in Asslar. The electricity produced by the photovoltaic system is sold to the local electricity provider. In case of promising location analysis, this model is to be transferred to other production sites of Pfeiffer Vacuum. Further energy-saving measures will be implemented throughout the Group in the coming years. The installation or replacement of conventional light sources with LED lighting at the locations in Asslar, Annecy, Indianapolis, Yreka and Asian sites was continued in the reporting year. In Indianapolis, for example, the lighting systems will be changed in the common areas and the restrooms, laboratories, and the assembly area next year.

At our production site in Asan, for example, the ventilation fans of the shop floors are controlled by automatic timers to reduce running times and, thus, energy consumption. Self-closing speed doors help to avoid loss of energy and heat as well. By carrying out regular “Gemba walks” on-site

ENERGY CONSUMPTION[1]

	2021		
	Europe	Asia	USA
Consumption category	in MWh	in MWh	in MWh
Natural gas	12,528	105	107
Company car diesel	1,281	108	126
Company car gasoline	12	230	108
Electricity consumption	26,120	9,536	3,108
Steam, heat or cold consumption	4,499	0	96
Total energy consumption	**44,440**	**9,979**	**3,545**

[1] Missing invoice data from the Asslar site for December 2021 have been estimated.

we identify further potential for saving energy and CO_2 emissions. In Annecy, new buildings were constructed based on sustainability standards. Thanks to wall insulation, heat recovery, presence detector lighting and automatic heat cut-off when windows are opened, energy efficiency was increased by 20 % on average compared to older buildings.

Additional energy-saving measures comprise, amongst others, a briquetting plant, which is in operation at the Asslar site since 2019. It briquettes aluminum chips from the production process for efficient disposal. Furthermore, to lower CO_2 consumption during transportation, this measure enables the Group to achieve a higher resale value for the waste materials.

Certified energy management systems in accordance with ISO 50001 and/or environmental management systems in accordance with ISO 14001 are in place at the Asan, Asslar and Annecy sites. In 2021, Asslar and Annecy obtained their ISO 50001 re-certification. Group-wide standardization and further implementation of certified management systems is planned for the coming years. Local energy officers at the sites coordinate all measures and obligations to meet local statutory requirements.

At locations where services were provided by external energy service providers in previous years, the company has employed its own staff since 2019. Evaluations and analyses of energy consumption are discussed in energy circle meetings with related departments such as Facility Management, Purchasing and Engineering, and specific energy efficiency improvement measures are identified. Energy audits are conducted in the course of the re-certification process of ISO 14001/50001 regularly and serve to comprehensively analyze and review the measures. In addition, promising employee suggestions are welcomed.

The primary source of energy at Pfeiffer Vacuum is electricity. A further energy source for obtaining heat is gas in the form of natural gas and/or liquified gas. The following table shows the consumption of natural gas, fuels, electricity, and steam, heat or cold energy at the key production sites. A total of 57,964 MWh were consumed in the reporting year. As the collection of energy-related data has been extended, a comparison with previous years is not possible.

One of the main impacts of energy consumption is the emission of greenhouse gases such as carbon dioxide (CO_2) as shown in the table on the following page. The basis for assessment is determined using the internationally recognized calculation standard of the "Greenhouse Gas Protocol". Pfeiffer Vacuum reports direct emissions from the operation of its systems and buildings as well as indirect emissions from purchased energy on this basis.

At the production sites in Europe, Asia and the USA listed in the table next page, 18,370 t CO_2e – expressed as carbon dioxide equivalents – were emitted in the electricity and natural gas consumption categories under consideration. In 2021, the intensity of emissions (emissions per sales in € million) was 23.8 t CO_2e. As the collection of energy-related data and, thus inherent CO_2e emissions, has been extended, a comparison with previous years is not possible. Nonetheless, a mitigating effect on our total volume of CO_2e emissions in 2021 is attributed to the purchase of green, climate-neutral power at the German sites in Asslar, Dresden and Göttingen. An expanded inventory, data collection and reporting of greenhouse gas emissions is planned for the coming years.

Resource Efficiency

All the resources that Pfeiffer Vacuum purchases, processes and sells are not inequitable, we need and want to lead by example and act responsibly. As a matter of fact, they need to be managed in a way that increases our efficiency in the one hand and limits the cost on the other hand. Resource efficiency is reflected in our daily operations and aims for the reduction of CO_2 emissions, other greenhouse gases, water consumption and waste.

CO_2e-EMISSIONS

	2021		
	Europe	Asia	USA
Emissions all sites[1]	in t	in t	in t
Scope 1 GHG emissions[2]	2,924.5	108.5	224.2
thereof CO_2 emissions[2]	2,915.1	107.7	223.3
thereof CH_4 emissions[2]	3.5	0.2	0.2
thereof N_2O emissions[2]	5.9	0.5	0.6
Scope 2 GHG emissions (location-based)	5,943.6	4,897.4	1,212.8
thereof CO_2 emissions	5,907.2	4,876.2	1,207.3
thereof CH_4 emissions	9.4	1.8	0.7
thereof N_2O emissions	27.0	19.4	4.7
Scope 3 GHG emissions[3 4]	1,638.6	1,166.4	254.3
thereof Fuel- and energy-related activities	1,527.4	814.3	254.3
thereof Business travel[4]	111.2	352.1	0.0
Total emissions[2 5]	**10,506.7**	**6,172.3**	**1,691.2**
thereof CO_2 emissions[2 6]	8,822.3	4,985.1	1,430.6
thereof CH_4 emissions[2 6]	12.9	2.0	0.9
thereof N_2O emissions[2 6]	32.9	20.0	5.3
Total CO_2e emissions[2 5]	**10,506.7**	**6,172.3**	**1,691.2**

[1] Emissions are calculated according to the operational control approach. Sources for emission factors are DEFRA 2020 for all factors apart emissions from location-based electricity, which are calculated via IEA 2020.
[2] Direct fugitive emissions not included.
[3] Scope 3 emissions include: Fuel- and energy-related activities that are not included in the categories direct emissions and indirect energy; and business travel. All other 13 categories are excluded.
[4] Scope 3 emissions from business travel exclude the following sites: Indianapolis and Yreka. Emissions from business travel are partly estimated or assumed.
[5] Including Scope 3 emissions.
[6] Excluding Scope 3 emissions.

The responsibility for the efficient use of resources lies mainly with each employee - regardless of their work content and position – because everyone can act accordingly at her and his level. The Global Head of EHS is the interface for the topic – it is where the information is collected and regularly addressed to the COO. In order to control the consumption of resources, Pfeiffer Vacuum counts on ISO 50001 certification, which will play an even greater role in the coming years.

Water

The supply of drinking water is a global challenge of increasing relevance. Water use is managed decentrally at the production sites of Pfeiffer Vacuum. The establishment of global water management has been initiated.

Since 2019, Pfeiffer Vacuum collects its Group-wide water-related data on a monthly basis. The total water withdrawal in fiscal year 2021 amounted to 92,976 m^3 (previous year: 66,761 m^3)[1]. This significant increase was mainly due to our site in Vietnam, which experienced a sharp increase in water consumption for operational reasons and a leakage. In 2021, we also collected data on water consumption and water discharge for the first time. Particularly in terms of the adequacy of global supply and availability, Pfeiffer Vacuum plans to comprehensively analyze and further track its Group-wide water consumption.

[1] Value adjusted. Inclusion of Yreka

Water is employed in manufacturing and cleaning processes, as a coolant, industrial water or drinking water within the corporate Group. At our Asan site, the water used in cleaning processes is recycled by an efficient wastewater recycling system and re-used again. Furthermore, there is a sewage treatment plant at the industrial complex where all other water is sent to.

We will further develop our management and monitoring of water consumption worldwide over the next few years and report on this accordingly.

Waste

One way to manage resources efficiently is to reduce or reuse waste. As a manufacturing company, Pfeiffer Vacuum generates waste mainly at the production sites, but also typical household waste at the service and administrative sites. Waste management is largely decentrally organised and also differs according to country-specific legislation. In 2021, the establishment of global waste management has been initiated.

Pfeiffer Vacuum collects its Group-wide waste on a monthly basis. The most frequently generated waste includes aluminum, iron and stainless steel raw material. The total amount of waste in the fiscal year was 4,563 t.[1] Thereof raw materials – including aluminium, iron and stainless steel – were reused or resold. Pfeiffer Vacuum plans to comprehensively analyse and further expand its Group-wide rate of reusage or resell.

Future Factory Projects

With the international Future Factory Project, Pfeiffer Vacuum brings its manufacturing sites up to a worldwide high level in the use of sustainable state-of-the-art technologies and efficient workflows. The project at the Asslar site was launched in 2019, and extensive modernization work was also carried out in recent years at our sites in Wuxi, China, and Nashua, USA. In Asslar, for example, the measures comprise:

- Replacing old equipment with energy-efficient and low-noise machines
- Construction of new green buildings and energetic optimization of existing ones
- Optimization of the material flow
- Centralization of logistics
- Implementation of continuous lean manufacturing and improvement processes

[1] Without Dresden and Indianapolis sites

EU Taxonomy

Pfeiffer Vacuum provides – in the course of the expansion of the non-financial disclosure requirements – disclosures on the implementation of the EU Taxonomy Regulation (Regulation (EU) 2020/852) for the first time for this reporting year. The key element is the classification of economic activities. Due to the initial application of the EU taxonomy for 2021, the disclosure can be limited to the taxonomy-eligibility of the Group's economic activities. In drafting the regulation, the European Commission focused on primarily CO_2-emitting sectors and industries and derived possible relevant economic activities from this.

The development, manufacture and sale of vacuum pump systems and components (vacuum generation, measurement and analysis) do not fall within the scope of this regulation, so that for Pfeiffer Vacuum this largely results in activities that are excluded from consideration for the first two environmental objectives. However, this does not mean that activities do not pursue or promote the objectives of the Company's overall sustainability strategy.

We want to contribute to the European Union's environmental objectives of "climate protection" and "adaptation to climate change". To this end, we have comprehensively analyzed our economic activities, the turnover generated from them, as well as capital expenditure, and operating expenses, and assessed which portions classify as taxonomy-eligible. This approach has ensured that individual activities are not considered twice in KPIs.

The result shows no relevance in terms of the turnover KPI within the meaning of the Taxonomy Regulation.

In addition to the product-side consideration of the turnover KPI of the Taxonomy Regulation, we have to consider our internal activities. Sustainable investments in our sites as well as the decarbonization of our company car fleet can be assigned to an EU taxonomy activity. Company car and commercial vehicle leasing has been allocated to activity 6.5 Transport by motorbikes, passenger cars and (light) commercial vehicles and 6.6 Freight transport services by road, of the EU taxonomy. The individual measures at our sites are allocated to the activities 7.1 Construction of new buildings, 7.2 Renovation of existing buildings, 7.4 Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings). Investments such as building leases are allocated to activity 7.7 Acquisition and ownership of buildings.

Data collection for all KPIs was conducted by workshops with the relevant business units and by requesting the relevant data from the respective companies and business units.

The denominator of the KPIs comprises turnover as defined by IFRS 15 (turnover KPI), additions to/investment in assets in accordance with IAS 16, IAS 38, IAS 40 and IFRS 16 (CapEx KPI), and expenses for non-capitalized research and development costs, short-term leasing, building refurbishment measures, and maintenance and repair (OpEx KPI).

The amounts used to calculate taxonomy-eligible turnover, capital expenditures (CapEx) and operating expenses (OpEx) are based on the figures reported in the consolidated financial statements.

The turnover KPI is calculated as the ratio of net turnover from taxonomy-eligible economic activities in a financial year to total net turnover in that financial year. Sales revenues for the financial year 2021 form the denominator of the turnover KPI and can be taken from the consolidated statement of income.

The basis of capital expenditure (CapEx) is additions to property, plant and equipment and intangible assets during the financial year considered before depreciation, amortization and revaluations, including those resulting as revaluations and impairments for the financial year considered and excluding changes in fair value. The denominator must also include additions to property, plant and equipment and intangible assets resulting from business combinations. (Application of IFRS (IAS 16, 38, 40, 41, IFRS 16)). The capital expenditures included in the denominator can be reconciled to the amounts shown in the notes to the consolidated financial statements (see “Consolidated Statements of Cash Flows”). The numerator of the CapEx KPI results from the analysis of the expenses recognized in the denominator related to assets or processes with regard to their taxonomy-eligibility.

The basis of operating expenses (OpEx) includes direct, non-capitalized costs related to research and development, building renovation measures, short-term leasing, maintenance and repair, and all other direct expenses associated with the day-to-day maintenance of property, plant and equipment assets by the company or third parties to whom activities are outsourced that are necessary to ensure the continuous and effective functioning of these assets. The numerator of the OpEx KPI results from an analysis of the expenses recognized in the denominator related to assets or processes with regard to their taxonomy-eligibility.

The KPIs for the financial year are as follows:

TAXONOMY ELIGIBLE PORTION OF ECONOMIC ACTIVITIES FOR 2021

	Portion
Turnover	
thereof taxonomy eligible[1]	0 %
thereof non taxonomy eligible	100 %
Investments (CapEx)	
thereof taxonomy eligible	33.35 %
thereof non taxonomy eligible	66.65 %
Operating expenditures (OpEx)	
thereof taxonomy eligible	8.34 %
thereof non taxonomy eligible	91.66 %

[1] The turnover-generating activities, i.e. products and services of Pfeiffer Vacuum, cannot be assigned to taxonomy-eligible activities.

SUPPLY CHAIN MANAGEMENT & HUMAN RIGHTS

Pfeiffer Vacuum is committed to respecting universal human rights along its entire supply chain. As a Group with subsidiaries and production sites all over the globe, we consider respect for human rights to be one of the fundamental preconditions for our business activities. This is in line with our corporate goal of contributing to a sustainable society. For this reason, we reject all forms of child labor, forced and compulsory labor, modern slavery and human trafficking. Moreover, we ensure to work only with those companies who comply with environmental legislation and social standards such as adequate living wages and regulated working times.

Supply Chain Management

The responsibilities for managing the corporate supply chain are organized Group-wide. The operational responsibility for ensuring compliance with environmental and social standards in the supply chain is with Pfeiffer Vacuum's major manufacturing locations and lies with the local purchasing teams at each production site. They report directly to the Global Head of Procurement and for environmental issues to the Head of Global Quality & EHS.

During the period under review, we continued to make progress towards a uniform approach to environmental and social standards in the supply chain throughout the Pfeiffer Vacuum Group. For example, global alignment of management, the use of a common system and standardization of supplier policies has been achieved.

Code of Conduct as guiding principle for business relationships

Pfeiffer Vacuum conducts business with high ethical and integrity standards and, thus, expects the same from its business partners. Since 2019, suppliers have been required to confirm their compliance with legal obligations concerning environmental protection, human rights and compliance with other sustainability requirements by signing the suppliers code of conduct when concluding a contract. Our requirements are based on the international principles of the "Global Compact" and the "Universal Declaration of Human Rights" of the United Nations as well as the labor standards issued by the International Labor Organization, taking into due account the applicable laws and regulations in different countries and at different sites. They are supplemented by our internal standards and core values.

The Supplier Code of Conduct is available in seven languages. Suppliers who are considered for series delivery of production-related parts must accept these conditions.

It is our ambition and role to make sure that the Pfeiffer Vacuum Supplier Code of Conduct is signed by 100 % of the new key suppliers and business partners and we also require our existing business partners to acknowledge it. Additionally, there is a Code of Conduct for our distributors which is a binding part of the distribution contract. The Codes are based on the principles of the UN Global Compact and include provisions for human rights, working conditions, environmental protection, preventing corruption and bribery, fair competition and material compliance. Suppliers to and distributors of Pfeiffer Vacuum shall adhere to any applicable environmental laws, provisions and standards. It is furthermore expected that they develop and use an efficient environmental management system (e.g. their own written policy, ISO 14001 or other standards), in order to identify and minimize the environmental impact and hazards. In this respect, we expect them to make a reasonable provision for protection of the environment in their own business activities. We aim to increase the proportion of major direct suppliers with a recognized environmental management system in the coming years.

ESG risk assessments for suppliers

Before entering into a new business relationship, we carry out a business partner review in order to identify critical areas. For this purpose, we use a software for risk assessment, which has been introduced on Group level. The global use ensures that suppliers to every production location will be subject to the same binding requirements relating to environmental regulations and standards.

With the support of this software solution counterparty risks, country risks, environmental risks and geopolitical events are monitored and checked for their impact on the Group's supply chains. Changes in risk assessment and risk situations are communicated immediately to all relevant units of the Group. This enables Group-wide supply chains and suppliers to be assessed for risks in real time and measures to limit risks to be implemented to avoid any harm is being caused as early as possible.

These may include hazardous materials used during supply chain operations, environmental pollution, energy consumption or carbon emission.

The main production sites monitor compliance with environmental and social standards by carrying out quality audits at the individual suppliers' sites. The audits are based on the international quality and environmental management systems such as ISO 9001 or ISO 14001. Thus, in addition to a catalog of requirements, it is also examined whether certified management systems exist or if any conspicuous issues can be identified during site inspections.

Due to the high importance of this comprehensive topic for us, we would like to sensitize our business partners to it instead of just imposing contractual conditions on them. Therefore, it corresponds to our approach to run awareness campaigns and conduct compliance courses for the suppliers where feasible. Last but not least, we pursue the goal to conduct sustainability audits of identified key suppliers by the year 2025. This may be implemented by self-assessment, on-site audits or audits conducted by third parties.

Environmental and social aspects

As we understand it, the supply chain can pose a threat to the very two areas we consider most worthy of protection: The concerns of our environment on the one hand and human and labor rights on the other. We therefore pay particular attention to both of these.

The careful use of natural resources and the adherence to environmental standards throughout the entire value chain is crucial. We consider environmentally responsible action as an ethical and corporate duty – far beyond the supply chain, but within the framework of our own processes in manufacturing, sales and administration or at a later stage in the utilization phase of our products at the customer's premises. We want to save energy and CO_2 emissions along our value chain and thus make a positive contribution to global climate goals.

Pfeiffer Vacuum procures pre-products from a large number of suppliers. Inadequate environmental standards on the part of suppliers can result in air, soil and water pollution, as well as climate damage or loss of biodiversity. For this reason, Pfeiffer Vacuum strives to collaborate with partners along the entire supply chain who observe environmental regulations, for example through an environmental management system.

Doing otherwise could not only constitute an infringement of local laws and regulations but also have a negative impact on our reputation as well as on our internal business processes. This might lead to cost increases or sales loss. In order to mitigate these risks we carefully analyze and select our potential suppliers in the fields of environmental risks and by conducting ongoing supplier qualification programs.

Of equal importance to Pfeiffer Vacuum is the observance of social standards, which includes respect for human and labor rights, as well as safety in the workplace. This also has an indirect impact on the protection and development of local communities. Since our principal manufacturing facilities are located in industrialized countries, Pfeiffer Vacuum has classified the likelihood of social standards being violated as rather low, given the strict legal requirements that apply in each case. Where this is not the case, we closely monitor working conditions and ensure that social and legal standards are met. The major risks for the violation of social standards therefore lie in the global supply chains.

Conflict Minerals

According to Pfeiffer Vacuum's ethical standards, we have installed processes to assure our products do not contain any conflict minerals. The term "conflict minerals" refers to the raw materials tantalum, tin, tungsten and gold if the extraction and trade in these raw materials contribute to financing or otherwise supporting armed groups in the Democratic Republic of Congo or its neighboring countries. These conflicts endanger human rights and the protection and development of local communities.

Pfeiffer Vacuum has been aware of its coherent responsibility in the supply chain for many years. We already have fulfilled the requirements of the "Conflict Mineral Regulation" on a voluntary basis, which was enacted across the European Union by January 2021. Pfeiffer Vacuum utilizes the potentially critical minerals tantalum, tin, tungsten and gold primarily in connection with bought-in electronic components.

At the manufacturing locations with their own procurement departments in Asslar, Annecy, Yreka, Asan and Ho Chi Minh City, suppliers are required to confirm any potential use of conflict minerals. If the absence of conflict minerals cannot be confirmed, suppliers were obliged to implement measures within a reasonable period of time to ensure compliance. If necessary, conflict-free components are procured from a different supplier.

Due to the high degree of complexity and dynamic nature of the issue, Pfeiffer Vacuum has outsourced the process at its Asslar facility to a specialized service provider. Currently, we are switching to a new software-based compliance platform which assists us in managing relevant supply chain data including data concerning conflict minerals. The system has been tested in Asslar and was implemented in Annecy in 2020. It is being rolled out at other sites at the moment. For its production locations in Asslar, Annecy and Yreka in particular, Pfeiffer Vacuum is also pursuing the objective of continuing to utilize only raw materials that originate from certified smelters in accordance with the appraisal of the Responsible Minerals Initiative (RMI). Certified smelters extract ores and minerals in accordance with defined environmental and social standards. It is our goal that the procurement of raw materials at all major production sites comes from main suppliers which originate from certified smelters.

The subsidiaries in Asslar, Annecy, Yreka and Ho Chi Minh City provide a conflict mineral statement to their customers if required. This commitment to conflict-free products includes a standardized conflict mineral reporting template ("CMRT") of the Responsible Minerals Initiative, which contains detailed information on the country of origin of all smelters and refineries used. New suppliers are also required to sign a conflict mineral reporting template. This document was sent to all suppliers for initial compliance and to new suppliers upon initial qualification.

Throughout the reporting year, no suppliers were excluded due to the use of conflict minerals at any location.

RESPONSIBILITY FOR EMPLOYEES

The successful development of Pfeiffer Vacuum can be attributed to the competence, high level of commitment and outstanding performance of our people in particular. With great loyalty each day, they make a significant contribution in their respective positions to advancing the transformation process initiated by the Group. Every employee is valuable to us. That is why we are interested in long-term cooperation. We invest in the development of each individual employee. These topics also are a decisive factor for us for strategic reasons – today and in the coming years.

All core issues that affect our employees are managed by the Global HR Team consisting of members of the HR department in Annecy and Asslar. The local HR managers are responsible for regional support and implementation.

In order to enable seamless cooperation between all regions, flat hierarchies are indispensable and therefore already part of everyday practice in our Group. They make everyday work easier and are to be expanded. During the reporting period we have revised the Management organization in terms of reporting lines and established a matrix organisation in order to empower functional managers across all Pfeiffer Vacuum sites around the globe.

Employer of Choice

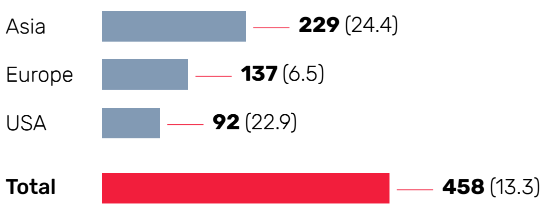
Employee structure

At the end of 2021, a total of 3,444 people were employed at Pfeiffer Vacuum (previous year: 3,309) This represents an increase of 4.1 % compared to the previous year. This is essentially attributable to the fact that the Company had to accommodate unpredicted growth. In addition, further personnel support is needed to continue the implementation of the planned growth strategy.

In the reporting year, the employee fluctuation rate varied depending on the Company's geographical location. Due to the Corona pandemic, our units in Korea and Yreka had an increased turnover of their workforce. In China a large internal transfer from one legal unit to another legal unit took place.

FLUCTUATION RATE BY REGION

Number of employees (in %)



In order to get a picture of the satisfaction of our employees, we have decided to conduct a Group-wide employee survey for the first time in 2020. 1,580 employees participated in the survey and the results clearly show that our colleagues are committed and enjoy working for Pfeiffer Vacuum. However, they also reveal where we can still improve in our role as a preferred employer. The next worldwide survey will be conducted in 2022.

REGIONAL DISTRIBUTION OF EMPLOYEES

	2021		2020		2019	
	Number	in %	Number	in %	Number	in %
Europe	2,104	61	2,048	62	2,060	63
Asia	939	27	884	27	836	25
USA	401	12	377	11	380	12
Total	**3,444**	**100**	**3,309**	**100**	**3,276**	**100**

In order to derive the greatest possible benefit from the employee survey, the Managing Directors and the Human Resources Manager of each unit were given the task of evaluating the results of the survey in detail for their respective areas and deriving recommendations for action from them. Over the course of the current year, smaller surveys had been carried out in various departments related to specific topics in order to follow upon the impact of targeted improvements.

Work-life-balance

Pfeiffer Vacuum is a modern, agile employer that grants its employees flexibility to experience a work-life balance as long as it suits in with economic requirements. In addition to mobile and flexible working time models, the compatibility of family and career plays a prominent role. In accordance with the applicable law at the place of work, we grant our employees parental leave as a matter of course.

In addition, we offer our employees flexible working and transition models with regard to the end of their working life. An example is the 100/50 – 0/50 model: in the first phase of this model, employees can forego half of their salary while working full time in order to receive half of their salary without working in the second phase. After the second phase is over, the regular pension period begins.

As the pandemic has subsided in some parts of the world in the meantime, colleagues have returned selectively to their work places in the Group's offices. We have mastered the associated challenges well. This is also due to the Global Guideline for Mobile Working which we have developed and is planned to be rolled out over the course of the year 2022. The guideline grants all employees a total of eight days for mobile work per month, if its suits their daily working tasks as well as local working culture.

Remuneration and incentive schemes

The incentive scheme of Pfeiffer Vacuum differs according to local conditions and customs. In addition to personal KPIs and company result, personal development is also included in the bonus scheme. The sales personnel basically receive performance-related incentives via a bonus scheme oriented to sales growth and profit. Depending on the location, there are additional bonus, incentive or employee participation schemes.

Perspectively, we will include our ESG targets in bonus schemes for executive levels and intend to add ESG targets to the individual targets of our managers in 2022.

The pension scheme is similarly varied by the individual locations. Apart from a purely public scheme in France funded by the French subsidiary, the worldwide pension scheme includes additional measures and payments into pension funds, the offer of a pension plan and direct insurance with the additional option of deferred compensation.

Diversity & equal opportunities

Pfeiffer Vacuum has positioned itself as a globally operating group. Therefore a large number of people from a variety of backgrounds work for us under one umbrella brand.

Consequently, cooperation between people of different cultures and nationalities is commonplace at Pfeiffer Vacuum. Employees are sensitized not to treat their colleagues differently from others because of their origin, age, gender, sexual orientation, disability or religious beliefs. Pfeiffer Vacuum has been a member of the “Diversity Charter” initiative launched by the German federal government for several years. It is an expression of a fundamental commitment to fairness and appreciation of the people in our companies. In order to raise awareness of intercultural differences, diversity and compliance among our colleagues, we again held numerous training sessions in the past 2021 financial year, where participants were able to learn about our Code of Conduct covering key aspects of the broad area of diversity. For further information please refer to the Compliance chapter.

Of our 3,444 employees, 635 are female, 2,809 are male and we have no employees who indicated the third gender. This means that women make up 18 % of the total workforce (previous year: 18 %).

Since October 2017, the chair of the Supervisory Board of Pfeiffer Vacuum has been held by a woman. Since January 2021, the percentage of women in the Management Board is 50 %. This was positively registered by the AllBright Foundation and mentioned in its latest report, which was published on October 27, 2021. Pfeiffer Vacuum is thus leading a group of five companies out of a total of 160 listed on the Frankfurt Stock Exchange whose proportion of women on the Management Board is over 40 percent.

Education and training

Continuous education and training despite coronavirus

Good training and the readiness to adapt to changes in market forces by continuous development are thus the best prerequisites for all employees, regardless of age, in order to secure jobs and sustain professional success. For this reason, the continuous education and training of all our employees plays an outstanding role in our company.

We do not differentiate according to the length of service with the company, the area of application or the career level of the employee or the specific location but make suitable offers in each case. The provision of further training options is generally linked to the local conditions and requirements.

Despite certain restrictions due to the comprehensive hygiene and safety measures in connection with the coronavirus pandemic, we succeeded in continuing qualification activities in 2021. Some of them were based on newly developed concepts. In addition, we were able to hold some employee training courses, which were previously held as face-to-face events, as online training courses during the coronavirus crisis. We continued to hold mandatory information events on safety and health at work at all sites and integrated them into the onboarding trainings.

Over the course of the year 2021 we developed new concepts so we were able to offer workshops on sales and product topics, which were held as online sessions. Furthermore, we extended the corporate e-learning material in the compliance area covering aspects of global information security, competition and anti-trust-law as well as anti-corruption and bribery law as well as export control.

Specific employees also benefitted from trainings in the usage of Social Media or aspects of our new Corporate Brand Strategy. At our headquarter in Asslar we initiated special e-learnings in soft- and leadership skills for the mid-level and top level management.

Our goal is to offer every employee at least one full-day training session at our in-house Pfeiffer Vacuum Academy or with external providers. Our new e-learning portal, whose introduction began in 2021 and will be completed in 2022, will make this goal possible offering more flexibility and possibilities for all employees to perform training sessions.

Vocational training for young professionals

Our corporate culture focuses on people, who are able to develop their potential in an appreciative working environment with equal opportunities. Pfeiffer Vacuum offers training in a variety of vocations. The promotion of young talent is of great importance for the Company. Therefore, we regularly offer company apprenticeships for industrial mechanics, in the business administration area, as well as in warehouse logistics at various locations. Due to disparities in the context of the coronavirus, we did not provide any exchange programs for trainees or students over the course of 2021. Since the health of our employees is our top priority, we have decided with a heavy heart to discontinue this practice in the year 2022. However, as soon as it is possible for the exchange programs to be carried out again without any health risk, we will revive the offer immediately. In 2021, Pfeiffer Vacuum employed a total of 85 (previous year: 82) apprentices worldwide.

In addition to the company apprenticeships, Pfeiffer Vacuum in Germany participates very successfully in the "Studium Plus" project, a dual degree program of the Technical University of Mittelhessen. Furthermore, a partnership exists with the Georg-August University Göttingen in relation to the company apprenticeships. In this way, we secure our young talent in industrial and mechanical engineering as well as in the area of business informatics.

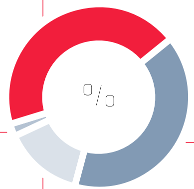
PROFESSIONAL QUALIFICATIONS OF THE WORKFORCE

	2021	2020[1]	2019
	Number	Number	Number
Graduates of universities, colleges, and universities of applied sciences	1,364	1,246	1,236
Employees with professional training	1,524	1,454	1,496
Employees without professional training	471	344	452
Apprentices	85	82	92
Total	**3,444**	**3,124**	**3,276**

[1] Indication without Nashua site, concerns 185 employees.

RELATIVE DISTRIBUTION OF THE PROFESSIONAL QUALIFICATIONS OF THE WORKFORCE[1]

in %



[1] Indication without Nashua site.

Our Company is active in very special markets that require know-how in this field. Therefore, all of our new employees complete an introductory course in the basic principles of Vacuum Technology while sales and service employees receive advanced training courses about products and services.

GROUP-WIDE KEY FIGURES FOR TRAINING AND EDUCATION

	2021	2020	2019
	Number	Number	Number
Training measures[1]	3,900	5,300	3,000
as of on-site trainings	800	900	700
as of e-learnings	2,700	4,000	2,100
as of external and other trainings	400	400	200
Training participants[1]	11,800	20,200	11,800

[1] The figures were rounded to the nearest hundred.

Long-standing employees with relevant experience receive adequate training opportunities to specialize and take advantage of appropriate career opportunities within the Group.

Furthermore, the Company pays attention to specialized advanced training to transfer technical innovations within Pfeiffer Vacuum. German, English or French language courses are offered depending on the respective location and need. In the year under review, the number of training measures and training participants declined, as we trained Pfeiffer Vacuum employees worldwide on our Code of Conduct in 2020. Due to the ongoing pandemic, courses continued to be offered on a limited basis, but will restart in the coming year.

We support and promote the transfer of knowledge between employees in all areas of our company. In 2021, for example, a dedicated project team, composed of members of HR and R&D, has been working on the design of an expert path in addition to the “classic” manager path. With this approach, we aim to validate a process for identifying internal experts who can evolve on two defined levels in this new “expert” pathway with a personalized development plan and clearly established responsibilities. Pfeiffer Vacuum aims to retain our technical talent and offer them a path to a successful career within the Group.

In 2022, we will continue to offer our employees the opportunity to participate in trainings based on innovative digital tools and video conferencing. This should support face-to-face training without endangering health and safety in ongoing times of the Corona pandemic.

Corporate management and executive training

Due to their outstanding position, we pay particular attention to the continuous training and development of our current and future managers who wish to develop themselves. Contents include management techniques, employee leadership or the training of rhetorical skills.

In 2021 we worked further on our leadership culture. The key competencies and values that define leadership in Pfeiffer Vacuum were defined as:

- Customer focus
- Trust
- Communication
- Financial acumen
- Courage and accountability
- Being humble and learning from self-reflection
- Ethical sensitivity and compliance
- Open mindedness
- Strategic and creative thinking
- Resilience and face adversity
- Fostering a culture of empowerment, engagement and collaboration

In 2020 we introduced a 360°-feedback for our Top Management including the members of the Management Board, General Managers and Regional Managers worldwide. In 2021 we expanded this 360°-feedback opportunity to the next level of leadership in France, the US, Germany, China and Vietnam. Extended individual coaching is offered to the leaders to implement the learnings out of the feedback.

Furthermore, we developed a training program for our Human Resources Business Partners with regard to our four main entities. It enables the participants to gain the experience on how to run a leadership assessment by themselves.

At the headquarters in Asslar in 2021 a series of online small group workshops was held to work on leadership. In addition, we designed and implemented a new four module leadership program for leaders. Five groups of 8 to 10 leaders have already started the one-year program.

International long-term assignments

As a globally operating company, it is common for Pfeiffer Vacuum to assign certain employees to a foreign subsidiary for a period of more than six months. The mutual learning process is at the forefront of these long-term projects – and has proven itself repeatedly. One important task of the Global HR Team in 2021 was to establish a Global Mobility Guideline that regulates all assignment-related aspects.

Occupational health and safety

Due to the great expertise and engagement of our employees, which was supported by our hygiene concept, we have mastered the second year of the coronavirus pandemic 2021 comparatively well. The physical safety and safe working conditions for our employees are paramount.

The health of its workforce, operations and the conditions of the buildings are key factors in the creation of value within the corporate Group and is a major prerequisite for satisfying the high quality and safety requirements that apply to the products and services of Pfeiffer Vacuum. As a responsible employer, Pfeiffer Vacuum strives to limit the number of accidents and the frequency of days lost due to illness as far as possible. This benefits not only every employee, but also the corporate Group itself, since inadequate occupational safety and health protection can result in cost due to absenteeism, reduced production capacity and lower product quality. For this reason, we pursue the goal of ensuring that occupational safety and health protection are at a high level.

In the areas of production, service, administration and sales, there are different requirements for occupational safety in each case. Hence, the following comments refer primarily to the Company's principal production sites in Germany, France, Romania, China, South Korea, Vietnam and the United States of America.

The topic of occupational safety and health protection has been managed within the Group according to an occupational safety policy. In this field too, we comply with legal requirements at a local, national and international level. We seek to identify sources of danger in our processes, to analyze suggestions for improvements made by our employees and to implement concrete measures. Compliance with the respective country-specific legal requirements is the minimum applicable requirement for occupational safety and health protection throughout the Group. The requirements specified in our guidelines go beyond this in many cases.

Since the year 2019, all of our Group sites use a software-based information and collaboration platform. They are required to provide coherent data in the fields of environment, occupational health and safety (EHS) every month.

For each LTI (Lost Time Injuries) a report including detailed evaluation is generated and shared with the Chief Operating Officer, the General Managers, the Head of EHS and the other sites EHS managers in order to implement mitigation measures avoiding similar incidents in the future.

With our global EHS policy we pursue a preventive approach. We seek to avoid all potential risk situations that may occur at Pfeiffer Vacuum, including accidents involving machinery. The wearing of safety equipment is mandatory throughout the Group and includes all employees and other persons who are present in the production areas.

At our sites we carry out weekly "Gemba walks". This enables us to identify imminent safety risks, optimization possibilities in production processes or synergy effects resulting from standardization at the production sites. Using these systematic analyses, we are able to derive measures to improve working conditions on an ongoing basis. Such measures include, for example, updated escape and rescue plans, training of employees to deal with a special crane for approximately 200 employees or the creation of standard templates for instructional documents such as work instructions and process descriptions. They also include setting up workplaces in line with ergonomic criteria and setting up comfortable workstations.

The table below shows the key indicators for occupational health and safety at all Pfeiffer Vacuum production sites in the regions Europe, Asia and the USA.

FREQUENCY OF ACCIDENTS AND FATALITIES

	2021			2020[1]			Total	
Key accident figures	**Europe**	**Asia**	**USA**	**Europe**	**Asia**	**USA**	**2021**	**2020**
LTI (Lost Time Injuries: Accidents requiring at least one day of absence)	30	2	2	43	2	1	**34**	46
LTIFR (Lost Time Injuries Frequency Rate: LTI per 1 million working hours)	9.5	1.6	2.6	14.9	2.1	1.3	**6.6**	9.9
Work-related deaths	0	0	0	0	0	0	**0**	0
FAR (Fatal Accident Rate: frequency of fatalities) in %	0 %	0 %	0 %	0 %	0 %	0 %	**0 %**	0 %

[1] Indication without Indianapolis and Wuxi sites.

GROUP-WIDE KEY ACCIDENT FIGURES

	2021	**2020[1]**	**2019**
LTI (Lost Time Injuries: Accidents requiring at least one day of absence)	34	46	59
LTIFR (Lost Time Injuries Frequency Rate: LTI per 1 million working hours)	6.6	9.9	14.3
Work-related deaths	0	0	0
FAR (Fatal Accident Rate: frequency of fatalities) in %	0 %	0 %	0 %

[1] Indication without Indianapolis and Wuxi sites.

The accident frequency (lost time injuries frequency rate (LTIFR): accidents with lost working time of at least one day/shift) was 6.6 in 2021 (previous year: 9.9). We explain the decline in the rate, to the effects of our occupational health and safety prevention measures and increased mobile working. During the Corona pandemic, we recorded fewer accidents at our sites worldwide; there were again no fatalities in 2021.

Preventive health protection

We protect the health of our employees by preventing work-related disorders and occupational diseases. We pay particular attention to ergonomics in the workplace. In this context we follow our philosophy of prevention, treatment and rehabilitation.

Health protection at our production sites is generally managed by the respective environment, health and safety department. In 2021, employees at the sites in Germany and Vietnam had the opportunity to be vaccinated against Covid and to be tested. The necessary medical personnel came to the respective sites for this purpose. In connection with the pandemic, the offer of mental health services was also expanded, for example at sites in Germany and France.

The health protection concept at the production site in Asslar is managed by the HR and EHS department and includes measures such as health consultations with a company physician, the extension of the product catalog for personal protective equipment or the 2021 conducted "Mission Zero" poster campaign. The latter is an awareness-raising campaign to prevent occupational accidents. All documents are available to the entire Group. Pfeiffer Vacuum in Annecy offers employees similar programs, has also established the "MoveGreen" program in 2021, that promotes employees to come to work with the bicycle and conducted an ergonomic evaluation for production workstations. At Wuxi for example, training on prevention of chemical leakage and a fire drill for all employees was organized to ensure the right reaction in case of an emergency.

In this context, we have managed to implement a global safety culture during the reporting period. Our goal to reduce accidents is of common interest and of particular importance to us. It should be manifested in the consciousness of each individual employee. Thus, we developed "12 rules of workplace safety and health", translated them into nine languages, printed them on posters and displayed them at different places at our sites.

To accompany this, we conduct training courses on EHS topics and use different media channels illustrating general safety requirements, protective measures and other key issues of the subject area. The training courses are held at regular intervals throughout the Group, during which specific findings are also discussed in order to continuously expand the knowledge and experience of all employees.

Our EHS managers are responsible for the ongoing improvement of our workplace safety and regularly carry out safety checks and audits within the Group. Hence, they are driving the process forward to achieve the implementation of ISO 45001 certification at all production sites by the year 2025.

PRODUCTS AND CUSTOMERS

It is our company philosophy to consider, quality as an inherent characteristic of our production. Our products are highly trusted by our customers because they are reliable and safe but also innovative and energy-efficient. This means our customers can be sure that the products they use are not only energy-efficient but have also been manufactured in the most resource-friendly way possible. However, it is not only environmental thinking and product quality that are appreciated by our customers, but also our additional services and training. Altogether, this forms the basis for close customer cooperation and long-term and sustainable relationships.

Innovation Management and Product Impact

Sustainability, innovation and technological leadership are important factors at Pfeiffer Vacuum for ensuring our company's success. We take a leading role in order to pave the way to a sustainable future. We do this by developing and delivering innovative and energy-efficient vacuum technology for our customers in numerous industries.

In addition to pursuing our own research and development (R&D), we work closely with customers and suppliers on projects to jointly move new technologies and innovative sustainability solutions forward to market maturity at an early stage. We also have a well-established network that includes various national and international universities and research institutes. In order to manage R & D throughout the corporate Group, a Global Technology Organization is in place, which reports to the CTO.

Pfeiffer Vacuum offers a variety of different products and solutions meeting the various specific requirements of our clients. It starts with the product definition which incorporates for most a very strong focus on sustainable and costumer-oriented product development requirement in all aspects of the development phase. Technology bricks that form the basis for further product developments enable an efficient and sustainable development process. This toolbox is constantly updated and deployed in different development areas at Pfeiffer Vacuum.

Environmental friendliness and energy efficiency of products

Products from Pfeiffer Vacuum have an impact on the environment in all phases of their life cycle, from development and production to recycling and disposal respectively. In the utilization phase, the main factors besides meeting the requirements of the specific application are electricity consumption, noise emissions, material characteristics and simplicity to operate in the respective application. In the coming years, we will continue developing environmental-friendly products, especially reduce use of materials and increase energy efficiency.

Strategic measures include Group-wide coordination and steering of global research and development activities, the implementation of a Group-wide IT strategy as well as the advancement of technologies. The comprehensive digitalization of our products in the coming years will enable us to monitor the performance of our products on our customers' applications much more closely. We will use the findings for process and product improvements, which also lead to material and energy savings along the life cycle.

The products will be becoming smarter allowing for predictive maintenance intervals subsequently reducing scrap and process failures during operation. This is supported by data-collecting sensors which are introduced to the products, depending on customer requirements and applications. For example, this means sensors detecting depositions during the process, vibration and subsequent wear effects or temperature impacts, as temperature measurement in vacuum is much more difficult as under atmosphere.

Due to the individuality and physical limitations of our different product technologies, there are no Group-wide targets for energy, environmental or resource efficiency of each product. However, depending on the area of application and the manufacturing process, there are clear specifications to take into account resource and environmental protection aspects. The specifications include, for example, increasing energy efficiency, assuring the environmental friendliness of the materials used, reducing the amount of raw materials used, reducing emissions and waste, and the avoidance of hazardous substances. By using an appropriate product design, products can be developed, for example, with smaller dimensions and modern drives, which allow for savings and conservation of the materials and resources used.

In the production process, Pfeiffer Vacuum strives to increase material efficiency and to handle all materials employed in an environmentally compatible manner. More information on this can be found in the Environment section and the Supply Chain section.

Although technical features and physical properties are a major decisive design criteria, the specification for new developments concentrates on footprint and power consumption as well as smart drive technologies which allow for significant power reduction during the utilization phase. This is an integrated part of all new energy using product specifications and leads to innovative products based on state-of-the-art technologies.

Over the course of the year 2021 we have introduced a variety of new products taking the sustainability aspects into account. Among these are:

1. Turbomolecular pumps HiPace 80 Neo: The design of the new generation of Turbomolecular pumps HiPace 80 Neo offers a 28 % smaller overall volume for the same performance. Thus, less material and lower energy consumption are the result of these specifications and developments. The innovative and patented balancing technology allows for lower noise and reduced vibration and subsequently reduces the impact on the environment where installed. The HiPace 80 Neo incorporates a new high-performance lubricant, which improves safety and reliability with improved ageing resistance, optimized lubrication behavior and higher temperature resistance. The HiPace 80 Neo pumps run maintenance-free for up to 5 years.

2. The new HiScroll ATEX scroll pump series is an innovative addition to the existing scroll pump portfolio and covers many applications in the field of analytics, industry or research & development. They have several advantages in terms of sustainability: A compact design, low-vibration operation and high-quality components ensure a long lifetime, lower operating costs and a reduced environmental impact. The powerful yet efficient drive features a 15 % higher efficiency compared to conventional drives. This also results in lower power consumption compared to previous generations of drives. Our new HiScroll oil-free vacuum pumps also enable maximum performance at low temperatures and easier and more cost-effective cooling.

3. Furthermore, we completed our HiLobe product line. These intelligent, high performance roots pumps for low and medium vacuum applications are particularly innovative with their exceptional short pump-down times, power and energy efficiency. They consume 30 % less power and, furthermore, HiLobe has 50 % reduced volume and weight compared to its predecessors.

In 2021, further product variants of our well-established XN range were launched. The innovative technology of our dry process pumps in the XN range reduces maintenance frequency, allows multiple reuse of cleaned parts and increases pumping lifetime. The cost of ownership is drastically reduced, as well as the tool downtime. It also offers more energy saving mode capabilities which result lower power consumption in operation than other products. The furthermore optimized N2 purge reduces the utilities and offers even better lifetime.

Material efficiency

Increasing the material efficiency of for example aluminium results in a reduced environmental impact (under the same production conditions) since large quantities of energy are required for aluminum manufacturing and, in some cases, environmentally hazardous waste materials are produced. We will therefore work continuously on reducing the use of this raw material in our products, as has for instance been achieved with HiPace neo.

Pfeiffer Vacuum adheres to statutory requirements for hazardous materials to ensure the environmentally compatible handling of the raw materials and preproducts used. Examples here include the EU's REACH chemicals directive and the RoHS directive for restricting the use of certain hazardous substances in electrical equipment. In order to monitor the adherence in the most effective way, we established a specific material compliance department in the reporting period to ensure centralized conformity. The main focus in the reporting period was in essence to define the criteria for standardization and material compliance and role them out to the organization – this applies to R&D as well as to the supply chain.

Quality Assurance and Product Safety

Pfeiffer Vacuum manufactures innovative high-tech-products and sets industry-wide benchmarks regarding both – quality and safety. Pfeiffer Vacuum applies high safety standards and strict quality requirements in product development and production. Our quality management system is based on internationally recognised standards as well as applicable legal requirements along the entire manufacturing process. For example, all product development processes comply to defined standards as minimum requirements under DIN ISO 9001. Numerous further specific product and process standards also apply on top of these requirements. Depending on the product specification, Pfeiffer Vacuum has established different quality assurance systems.

Compliance with these requirements and standards is audited at regular intervals by internal experts and external auditors. The results of these audits are systematically evaluated. Reporting is provided directly to the management.

Already during the development process, quality gates and milestones are binding steps that are constantly monitored and reviewed. The results of the quality meetings are made available to management as an integral part of the release meetings.

Ensuring constant product quality, the entire supply chain has to be part of the monitoring and control processes. For example Pfeiffer Vacuum ensures that relevant suppliers confirm to ISO 9001 and are audited with respective documentation and follow up. We have in-house control plans for production parts and for all tools, machines and gauges. In 2021, all Pfeiffer Vacuum products were tested with regard to their quality. Our quality assurance employees participate in regular and permanent training plans.

Strict compliance with product safety regulations also has high priority for us. The safety and integrity specifications are essential for minimizing the risk of malfunction or even accidents. The stored energy of fast spinning large Turbomolecular pumps for example needs to be and is safely managed.

Pfeiffer Vacuum has set an international standard as prerequisite for design evaluations during the design process. These and our other efforts make us one of the leading companies in the matter of product safety.

Customer Satisfaction and Service

Customer satisfaction is a key element of Pfeiffer Vacuum's corporate culture and success. It is an important part of our customer loyalty, because only highly satisfied customers become loyal customers and place follow-up orders.

In addition, feedback from our customers enables us to adapt internally to desired improvements as well as new or changed market requirements. Our direct internal communication to the Quality, R&D and Production departments involved makes Pfeiffer Vacuum a learning organisation.

At Pfeiffer Vacuum, customer service includes the supply of spare parts and replacement service, repair services from our service centres and technical support from a highly specialised team. Visual assistance is the latest addition to Pfeiffer Vacuum's service portfolio. Responsible for the area of customer service is the Head of Service with a direct reporting line to the Head of Sales, who in turn reports to the Management Board.

Pfeiffer Vacuum started anonymous customer surveys in November 2021 directly after a field service call, an in-house repair or after a completed technical support request. We conduct surveys with a focus on quality, turnaround time and overall satisfaction as well as pricing. In addition, the Net Promoter Score also plays an important role. These newly introduced surveys are reviewed on a monthly basis and appropriate actions for improvement are initiated within a timely manner.

Develop competencies, expand know-how

The success of Pfeiffer Vacuum is decisively based on the expertise, the loyalty, and the high motivation of our employees. The expert knowledge of our service and sales employees, in particular plays an important role in the collaboration with our customers. They benefit from the many years of experience which our experts can draw upon in the fields of vacuum technology.

Most projects are developed by our customers together with our Sales and Market teams which, in turn, also consult the relevant experts from the areas of Research & Development as well as Production and Service as necessary. The skilled knowledge of our employees is also of major importance in the manufacture and installation of our products. The key goal is to offer our customers a perfect vacuum solution for their application.

Pfeiffer Vacuum has a dedicated training academy. In addition to training our employees, we also provide customer-specific courses. These technical training courses impart knowledge and skills that are specifically required when working with vacuum technology components and systems. They cover a broad spectrum from basic training to specific customized training. Our introductory course imparts the theoretical and practical fundamentals of vacuum technology.

Participation in professional seminars on the subjects of vacuum generation, leak detection, vacuum measurement and mass spectrometry offer an efficient opportunity for familiarization with the subject matter and for regularly refreshing special knowledge. In these courses, our customers will utilize practical exercises to gain the technical knowledge and professional skills and abilities that are necessary for operating and maintaining vacuum components and systems.

By the end of 2023, we intend to be a leading provider for customer training in the vacuum market.

GOVERNANCE

Pfeiffer Vacuum observes and respects local laws and statutory regulations as the legal foundation of our business activities in all countries in which we operate. Furthermore, responsible corporate governance means for Pfeiffer Vacuum a commitment to our Code of Conduct and internationally recognized standards, such as the principles of the UN Global Compact. They serve as binding guidelines for all employees in our daily business and we expect our suppliers and business partners to respect them.

Corporate Governance & Compliance

Compliance Management

The Global Head of Compliance and her international team are responsible for the Group-wide implementation and management of compliance. The team consists of several employees with responsibility for operational compliance issues, risk management, export control, data protection and information security in the different regions. The Global Head of Compliance reports directly to the Chief Executive Officer. The Supervisory Board is informed regularly about current developments and issues. Further reports are made as required.

In addition to implementing the Group-wide Pfeiffer Vacuum compliance program, the principal tasks of the compliance organization include the formalized assessment of risks, including the annual review of the internal control system. By means of internal audits, international subsidiaries are regularly evaluated and reviewed with respect to particularly risk-exposed issues.

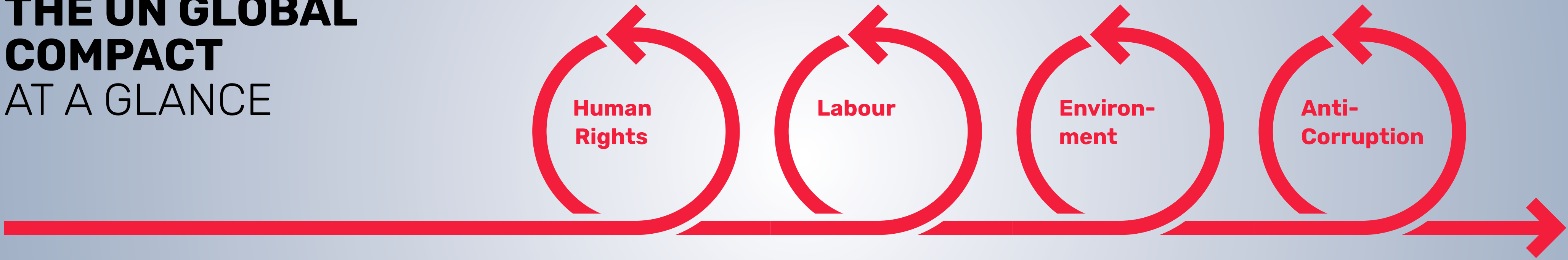
One focus is on anti-corruption measures. In the markets in which Pfeiffer Vacuum operates, we are exposed to the risk of corruption and antitrust incidents as a result of its widely ramified supply chains and global business relationships. Relevant offenses can distort market conditions and impede fair competition.

Violations are associated with repercussions for customers and business partners, as well as for economic performance as a whole. If an infringement is discovered, there is a potential risk of heavy fines, damage to reputation and loss of customers.

In order to assure continuous accessibility of the relevant documents on compliance issues for our colleagues, we implemented further measures in the course of 2021. For example, we extended our intranet presence on additional topics such as the export control, data protection and information security. As the latter is of high importance to us, we have developed and published further policies in this field.

Additionally, In the course of the year, we also developed and introduced a new online-based training concept tailored to the needs of the respective employee target groups.

THE TEN PRINCIPLES OF THE UN GLOBAL COMPACT AT A GLANCE



1

Businesses should support and respect the protection of internationally proclaimed human rights; and

2

make sure that they are not complicit in human rights abuses.

3

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

4

the elimination of all forms of forced and compulsory labour;

5

the effective abolition of child labour; and

6

the elimination of discrimination in respect of employment and occupation.

7

Businesses should support a precautionary approach to environmental challenges;

8

undertake initiatives to promote greater environmental responsibility; and

9

encourage the development and diffusion of environmentally friendly technologies.

10

Businesses should work against corruption in all its forms, including extortion and bribery.

Selected staff receive training on new policies whereas all new employees are instructed on the Code of Conduct .

Pfeiffer Vacuum sees itself as a law-abiding, transparent and responsible taxpayer. Therefore, it is of highest importance for us to comply with all national and/or international tax and duty obligations. Pfeiffer Vacuum complies with the legal regulations in all countries in which we operate, both in terms of wording and intention of the regulations.

Basic information on our Tax compliance, on the fulfilment of our reporting obligations and a breakdown of our worldwide tax revenue by region can be found on our website.

Business Ethics & Code of Conduct

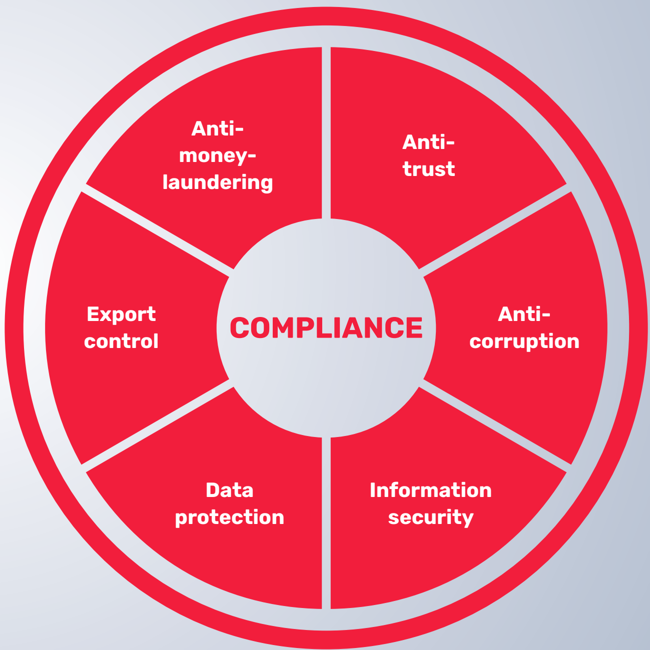
In summer 2021 Pfeiffer Vacuum joined the global sustainable initiative United Nations Global Compact. With more than 15,000 member companies from over 160 countries it is the world's largest sustainability initiative. As a signatory Pfeiffer Vacuum is required to make the Codex principles in the areas of human rights, labour standards, environmental protection and fighting corruption an integral element of its corporate strategy. The ten principles are consistent with our own corporate values and guidelines. This non-financial statement is also a progress report which must be published annually as part of our participation in the United Nations Global Compact.

Code of Conduct as the Group-wide basis for compliance

The central element of Pfeiffer Vacuum's compliance management is our Code of Conduct. This code serves as the fundamental basis for the daily actions of all employees and corporate bodies worldwide, in their dealings with one another and with all stakeholders, including customers, business partners and the general public. The Code of Conduct is available in all corporate languages through the Company's websites in the different countries as well as in the Group-wide intranet. Every new hire and employee is trained and needs to understand the individual rules and their application via software-based e-learning or face-to-face training. In addition to this, we have different global compliance policies for our key compliance topics.

The compliance policies are translated into twelve languages to ensure that every employee fully understands them. Currently, around 85 % of employees worldwide participated successfully in the Code of Conduct training courses and confirmed their understanding and binding application in a corresponding written declaration. Since we take this area of topics very serious and wish to keep it present in the minds of our employees, we plan continue increasing the awareness of the Code of Conduct on a regular basis. Irrespective of this, it is our goal that all new employees attend a training course on the Code of Conduct. In 2021, 299 employees (previous year: 191) received this training as planned.

COMPLIANCE POLICIES



Additional trainings regarding the different compliance policies were provided to our employees. These tutorials are an important part of the compliance program at Pfeiffer Vacuum and therefore will continuously be performed by target employees. Altogether during the reporting period 683 (previous year: 1,028) employees took advantage of the compliance training courses.

Whistleblowing system

For the prevention and clarification of possible violations, we have a Group-wide whistleblowing online system for anonymously reporting violations. The whistleblowing system can be used by employees as well as by external stakeholders.

The web-based whistleblowing system, which is certified according to data protection guidelines, makes it possible to report violations to the Compliance Department completely anonymously.

In 2021, we did not observe any case (previous year: one case) of bribery and two cases (previous year: one case) of harassment that had immediate remediation measures, but otherwise had no further impact on Pfeiffer Vacuum.

Digitalization & Cybersecurity

Pfeiffer Vacuum is part of the so-called 4th Industrial Revolution, which is transforming all aspects of business. "Digitalization" offers great opportunities and has a major impact on the way we do business. Information as well as digital assets are crucial and critical for our success. Thus, an innovative company as Pfeiffer Vacuum has a greatly increased risk through threats like cyber-crime and cyber espionage. Our goal is to minimize these risks as far as possible. A systematic management approach has been implemented for this purpose including local contacts for each subsidiary, diverse Group policies and training for all employees.

Organization

The Chief Information Security Officer (CISO) is responsible for the Group-wide definition, coordination and implementation of appropriate information security measures. In order to implement information security globally in all business lines, the Chief Information Security Officer is supported by an Information Security Officer and an Information Security Team. Additional support is guaranteed by the Information Security Coordinators in every legal entity and the Global Process Owners who are responsible for the global information security risks and therefore must ensure that organizational and technical measures are effective within their area of responsibility. Implementing an information security management system (ISMS) is a crucial success factor to ensure the availability of information and IT systems and to protect them from unauthorized access and unauthorized changes.

The Pfeiffer Vacuum Group has a Computer Security Incident Response Team (CSIRT). The role of the CSIRT is to protect from threats and to act as the first responder to computer security incidents within the Pfeiffer Vacuum Group, such as cyberattacks or technical disruptions. The CSIRT offers proactive and reactive services to protect the digital assets of the Pfeiffer Vacuum Group.

Information Security Management System (ISMS)

To ensure the availability of IT systems and protect them from unauthorised access and changes, Pfeiffer Vacuum has started to implement an information security management system in accordance with ISO 27001. ISMS' various tools secure an effective protection of digital assets, information and prototypes against different kinds of attacks such as disclosure/leak, misappropriation, destruction, manipulation, or misuse. Doing so, we ensure the availability of our production systems and a functioning supply chain management at all time. We are of course complying with all applicable laws and regulations as well as coherent contracts.

Having defined a global security risk assessment, we installed a group-wide Information Security Policy as well as special regulations according to the specific requirements of a country, company or department. All Information Security Coordinators were trained in their functions. Among our major targets is to roll out the ISMS all over the Group by the end of the year 2023.

RISK AND OPPORTUNITIES REPORT

ASSESSMENT OF THE MANAGEMENT BOARD OF OVERALL RISKS AND OPPORTUNITIES

In order to achieve sustained success and remain competitive, Pfeiffer Vacuum always strives to recognize early on and actively utilize opportunities that present themselves. Seizing opportunities often involves consciously taking risks but handling these responsibly. Overall, we strive to achieve a balanced relationship between opportunities and risks by facing and countering them systematically and in a controlled manner, while avoiding risks that could jeopardize the company's existence.

Our risk strategy is geared to securing the continued existence of Pfeiffer Vacuum on a sustainable basis and increasing shareholder value in the long term. We achieve this primarily by taking opportunity-oriented and risk-balanced decisions, fostering a company-wide risk culture and communication, planning and allocating resources in a controlled manner in the most efficient and effective way possible, limiting risks to an acceptable level, prohibiting actions or decisions that could jeopardize the Company's existence, and ensuring compliance with statutory regulations and internal guidelines.

An early risk warning system is necessary not only from a business management point of view, but also due to legal regulations, in particular § 91, Sub-Para. 2 of the German Stock Corporation Act ("AktG").

We are of the opinion that the risk and opportunity management system in place is suitable for identifying, analyzing and evaluating existing and potential risks and opportunities in order to manage them adequately. In our estimation and on the basis of the risk and opportunity management system in place, as well as taking into consideration the risks and opportunities discussed in this Risk and Opportunities Report, there are no identifiable risks to Pfeiffer Vacuum Technology AG and its subsidiaries, either as of the balance sheet date or at the time of preparation of the financial statements, that could jeopardize the Company's continued existence.

In accordance with § 317, Sub-Para. 4 of the German Commercial Code ("HGB"), the auditor examined whether the early risk warning system is suitable for the early identification of risks that could jeopardize the Company. This examination revealed no objections.

RISK AND OPPORTUNITY MANAGEMENT SYSTEM

Further developments were made to the risk and opportunity management system in the 2021 fiscal year. These can be attributed both to personnel changes on the Management Board and, substantially, to the revised auditing standard of the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] for auditing the early risk detection system (IDW PS 340 new version). Essentially, the adjustments relate to the revision of risk management system regulations aimed at increasing the efficiency and effectiveness of risk management, the implementation of a risk-bearing capacity concept, further development and improvement of risk evaluation methodology and aggregation, a reorganization of risk categories and risk classes, optimization of the reporting process as well as the introduction of an up-to-date GRC software solution as the basis for system-supported integration of the risk management system at all organizational levels within the Pfeiffer Vacuum Group as well as for mapping regulatory requirements. These changes partly impact the presentation and assessment of risks and opportunities and result in restricted comparability of information compared to the previous year. The further development that was undertaken to the risk management system was followed by a reorientation of training courses and their Group-wide implementation in fiscal 2021.

The objective pursued by Pfeiffer Vacuum's risk and opportunity management system is to practice a global and functionally integrated risk management approach that is both flexible and equipped to respond to medium and long-term business developments, customer requirements as well as ad hoc business challenges, internal or external events or threats. Pfeiffer Vacuum assesses the identified risks on the basis of systematic evaluation procedures and quantifies these risks both in terms of their financial impact on planned earnings figures in gross and net terms and in terms of their probability of occurrence. Opportunities are considered and documented in a process that is separate from Pfeiffer Vacuum's risk management system. A systematic risk and measure reporting system has been established for the present function-integrated risk management approach in order to regularly compare and analyze the overall risk position that is determined with the available risk cover funds within the framework of the risk-bearing capacity concept. Supplemented by the regular planning and reporting processes in Controlling, this ensures that the Management Board is informed about the current risk situation of the company in a comprehensive and timely manner. In addition to reporting, our internal control system (ICS) helps us to identify and avoid risks in the daily processes that take place and thus prevent potentially undesirable developments. Furthermore, Internal Audit, as a process-independent body, conducts audits in order to monitor the risk management system and identify potential weaknesses. Despite the information and control systems in place, the occurrence of risks cannot be completely ruled out.

We define risks as possible future internal or external events or fluctuations that could have a negative impact on the achievement of our corporate objectives or result in deviation from the planned figures in the underlying corporate planning. Accordingly, we define opportunities as potential events or developments that could contribute to the achievement of our corporate goals.

Organization and processes of risk and opportunity management system

Overall responsibility for Pfeiffer Vacuum's effective risk and opportunity management system is borne by the Management Board. Identifying and exploiting opportunities is essential to ensure the continuous success of the Company. These opportunities are continuously evaluated by management, taken into account in the planning processes and implemented in the business process. The risk management system is being continuously developed and adapted to the latest internal and external requirements in close coordination between the Management Board and the Global Compliance & Risk Management department (Compliance). The current risk management policy (Group Policy: Risk Management) specifies the principles, procedures, roles and responsibilities as well as the requirements for reporting risks and countermeasures. This is a Group-wide policy that applies to all employees, functional areas and business operations in every country in which Pfeiffer Vacuum is active. From the perspective of Pfeiffer Vacuum Technology AG as the parent company, a Group-wide assessment is made of a potential threat to the Company's existence on the basis of a holistic overall risk inventory.

Identification of risks and opportunities

We view the identification of risks and opportunities at Pfeiffer Vacuum as an ongoing task and a component of our existing business processes. It comprises the systematic consideration and analysis of internal and external events and developments that could have a positive or negative impact on the achievement of our corporate goals. Potential opportunities are discussed, analyzed and specified as part of the strategy and planning processes and are implemented in the form of operational or strategic projects. Significant opportunities are presented at the end of the fiscal year in Pfeiffer Vacuum's Annual Report.

As part of the existing reporting system, the Management Board, the Group Executive Committee and the global heads of functional areas are informed promptly about relevant risks. Above all, the regular exchange of information and interactions between the global functional area managers and the responsible employees in these functional areas help to ensure that they are informed about significant risks, unusual incidents or loss events. A systematic reporting system has also been established for the entire Pfeiffer Vacuum Group in order to report, consolidate and analyze information on risks and countermeasures in a structured approach and format using a GRC software solution.

We carry out market and competition analyses to ensure that we can also make the most of opportunities in the sector and the economy as a whole. This gives us a good overview to enable us to further expand our market share by exploiting our potential in a targeted manner. Through contact with our customers, we strive to identify requirements and trends at an early stage and actively shape changes in the market.

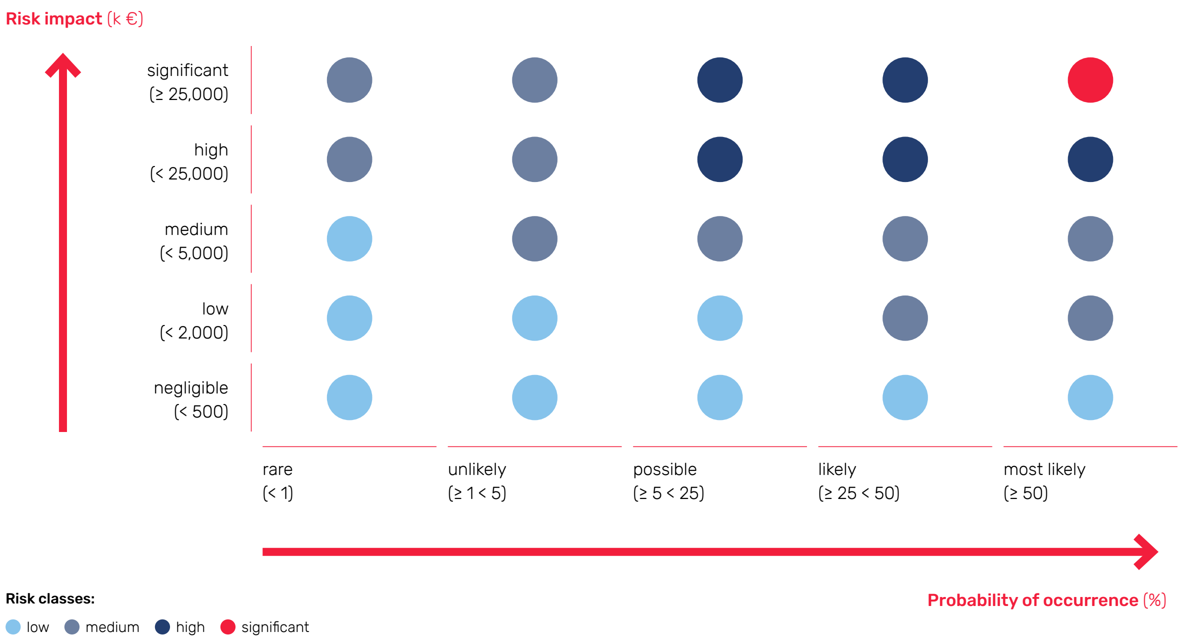
To support a systematic approach to risk identification, we use predefined risk categories and risk clusters with explanatory descriptions. This categorization permits us to classify risks according to their cause. The risk clusters form generic risk subcategories and were derived from the company's historical experience, the current risk situation and the typical risk landscape within the industry. In addition to assisting with risk identification, systematic allocation of risks allows them to be analyzed, aggregated and reported.

Risk assessment

The identified risks are assessed on the basis of two dimensions: the impact of the risk and the probability of occurrence (likelihood). The aim of the centrally defined uniform assessment is to estimate possible deviations in the performance indicators EBIT and cash flow for a three-year period. On the basis of the defined assessment criteria, risk classes are derived in accordance with the following table and individual risks are classified as low, medium, high and significant.

As part of the risk assessment method, potential risks are assessed before risk-responding measures are taken (gross risks) and the residual risks are assessed after the implementation of risk-responding activities have already been taken or are still necessary (net risks). The assessment in this report reflects only the net risks.

RISK CLASSIFICATION



Risk reporting and management

In order to record relevant event risks, fluctuation risks and other risks in a structured manner, we have been using a standard GRC software solution worldwide since the middle of the past fiscal year. Risks not already included in the planning figures or the updated projections during the year are reported on a half-yearly basis as part of this risk inventory. The risk inventory covers a period of three years.

In addition to identifying and assessing risks, the risk managers are responsible for defining and implementing suitable risk mitigation measures for these risks and monitoring the effectiveness of the measures. When deciding on response measures, the costs and benefits of any measures must be taken into account. Operational risk responsibility, reporting and risk management lie with the operating units and, at a higher level, with the global heads of the functional areas.

The GRC software application used supports risk aggregation and risk analysis and provides risk results on the basis of a stochastic scenario analysis. The assessment of whether negative developments could jeopardize Pfeiffer Vacuum's continued existence is made by regularly analyzing the Company's risk-bearing capacity. The aggregated information about material risks and countermeasures as well as the assessment of the Group's risk-bearing capacity are the subject of discussions involving the Management Board and the Group Executive Committee as well as part of the reporting to the Supervisory Board.

Risks that arise due to a special incident between the regular reporting dates of the risk management system and exceed a defined materiality threshold are reported immediately to the Management Board and documented through the established reporting channels.

EXPLANATION OF RISKS AND OPPORTUNITIES

In the following, the main categorization of Group risks is presented, and the Group risks and Group opportunities that are to be regarded as relevant from today's perspective are explained in detail. The risk classification in the following overview reflects, how the risks within a risk category are assigned to a risk class (see "Risk Classification" chart) at mean. In order to remain consistent with the forecast report, a period of one year has been used as the basis for assessing the risks in this report.

OVERVIEW OF GROUP RISKS

Risk category	Risk classes			
	low	medium	high	significant
Strategic risks	●			
Financial risks		●		
Legal and compliance risks		●		
Operational risks				
Technology			●	
Procurement		●		
Supply chain		●		
Manufacturing	●			
Sales, service and marketing	●			
Information technology risks			●	
Personnel risks	●			
Environmental risks		●		
Project risks		●		

Strategic risks and opportunities

As a globally operating corporate Group, Pfeiffer Vacuum is dependent upon the global development of the economy. Economic downturns, financial market and exchange rate fluctuations, regulatory interventions, geopolitical uncertainties and tensions, and military conflicts can have a direct negative impact on our business development. Market-specific economic weaknesses, in particular in the semiconductor market, can also have a disproportionately high impact on the development of Pfeiffer Vacuum's sales revenues. In addition, uncertainties arising from international trade conflicts, economic policy sanctions, but also the increasing effects of climate change, can bear potential risks in the form of lost sales or cost increases for the Group.

This applies particularly to the recent escalation in the Ukraine conflict with the Russian invasion into a sovereign country. Even if the scope of Pfeiffer Vacuum's relationships with customers and suppliers in the directly affected countries is considered not material from today's perspective, the consequences for the supply chain and the entire global economy cannot yet be finally assessed.

Uncertainties regarding the development of the global economic environment currently exist in connection with the further course and duration of the coronavirus pandemic. In view of recurring waves of infection, the spread of new virus mutations and the possible tightening of restrictive measures, considerable economic uncertainties remain. In the past fiscal year, despite the global coronavirus pandemic, we have succeeded in meeting the increased customer demand for our vacuum solutions.

Overall debt levels in EU countries, which have increased as a result of government spending to combat the pandemic and support the economy, may also have a negative impact on economic growth even if the debt of the EU remains relatively lower than that of the USA and Japan. Supply bottlenecks on the procurement market are causing raw material prices to rise, thus exacerbating the global inflation trend.

We continuously monitor macroeconomic and socio-political developments, and communicate and discuss our findings and assessments within the company-wide network of experts in order to identify potential risks in time and to find and implement suitable risk management measures.

Pfeiffer Vacuum has a balanced regional and market segment-related distribution of sales (see p. 50). This leads to a balance in the overall structure of sales in economically weak and growing markets and industries. This is because all regions and market segments are rarely affected to the same extent by deteriorating economic development. The management of economic risk also includes the control of capacities and costs. By using flexible working time models, we try where possible to adjust production capacities to changing developments in the order situation.

We are confident that our broad strategic alignment with a focus on clearly defined markets will help us to counteract the risks and at the same time provide an opportunity to drive Pfeiffer Vacuum's dynamic development. Sales in Pfeiffer Vacuum's individual market segments are closely linked to global economic developments. The research and development market, for example, depends on government spending and focuses where research projects are concerned. The semiconductor market follows its own cycles, which offers enormous opportunities during boom phases and involves major risks during weak phases. The industry market segment brings together a heterogeneous group of industrial customers who require our vacuum solutions for certain production stages. Different industrial trends enable new areas of application for our vacuum solutions and help us to counteract negative general economic developments.

In order to reduce the risks stemming from dependence upon individual market segments, Pfeiffer Vacuum places a great deal of value on its broad-based alignment.

Pfeiffer Vacuum is subject to intense competition. In our opinion, we mitigate this risk by selling our products not on price but on quality. Our market position should be expanded primarily through new products and solutions, as well as a broader range of services. We see it as an opportunity that our business units are set to benefit from current and future megatrends such as digitization, electromobility and rapid developments in the life science industry, nanotechnology and the security sector. We also see great potential for our products in contributing towards climate neutrality against the backdrop of renewable energy expansion due to global climate change.

With the goal we have set ourselves of always being close to our customers by our international presence we want to ensure that our customers are always the focus of our activities. Intensive cooperation with our customers, especially the OEMs, helps us to recognize requirements and trends at an early stage and thus actively shape changes in the market.

We see a significant opportunity to strengthen our competitive position in the vacuum technology industry in the strategic cooperation with Busch SE (Busch Group). Both companies are working to realize synergies in the areas of purchasing, sales and service, research & development and IT. The objectives of the cooperation are to strengthen the competitive position in the market for vacuum technology, to better exploit the growth opportunities that arise and to improve cost structures.

Pfeiffer Vacuum is pursuing ambitious growth targets that are to be achieved both through organic growth and through suitable acquisitions. Acquisitions offer a variety of opportunities, including gaining access to regional markets or developing them more quickly, as well as broadening the Company's own technology portfolio. Both acquisition activities and the integration of acquired companies into the Group always present particular challenges and also carry certain risks. To counteract these risks as far as possible, detailed and targeted reviews are carried out in the form of due diligence in the run-up to a company acquisition.

Pfeiffer Vacuum's consolidated balance sheet includes goodwill and other intangible assets resulting from acquisitions, which are regularly tested for impairment. Due to the potential value in use of these acquisitions, there is a general risk of goodwill and other intangible assets being impaired through profit or loss. This risk is reflected in the operating profit of the Pfeiffer Vacuum Group in 2021 with an amount of € 16.4 million (see note 11).

Products and services that do not meet different and specific customer needs or keep pace with the latest technological developments can lead directly to potential sales decreases and thus to a loss of market share and reputation. For this reason, Pfeiffer Vacuum places innovative strength, digitization and diversity – combined with high quality in our products and services – at the center of its corporate activities.

From the very beginning we have set ourselves the primary goal of offering our customers reliable, durable, high-performance and energy-efficient products. We reduce these risks through ongoing customer contact and the resulting market proximity. The information thus obtained about the different needs of our customers enables us to develop and offer up-to-date products that are suited to their demands. This allows us to expand both our competitive position as well as our brand recognition.

Maintaining high quality standards is of utmost importance to us. This includes continuous ISO 9001:2015 certification. Innovative products and a targeted expansion of the product portfolio offer us ways to better and more broadly serve existing markets and opportunities to generate additional sales volume by gaining market share. Selective acquisitions can help us to expand our product portfolio and our technology in order to strengthen our own market position.

Financial risks

As a result of our pronounced international operations and the high percentage of export business that this involves, we are subject to a foreign exchange risk.

The Company carries out active currency management to control foreign exchange risks. In order to minimize the impact of exchange rates, we enter into forward exchange contracts and occasionally forward exchange options. In the case of Group companies outside the eurozone, there is also a risk that stems from the valuation of foreign currency receivables at the close of the fiscal year, which may be reflected in the form of unrealized foreign currency losses.

Due to the conversion of income and expenses of Group companies outside the eurozone an unfavorable development of foreign currency exchange rates has a direct impact on Pfeiffer Vacuum's consolidated statements of income and cannot be hedged. A certain degree of compensation for this effect results from the fact that the subsidiaries outside of the eurozone record their own selling and general administrative costs, which change counter to sales (natural hedge). As a function of the development of the euro relative to the respective foreign currency – there can be both positive as well as negative effects on sales and operating profit.

The risk of individual customers' insolvency always exists, independently of the economic situation. We counter bad debt risk with credit checks, diversified payment terms and active receivables management. In addition, we try to limit dependence on individual customers as far as possible.

Financial liabilities amounted to € 18.2 million on December 31, 2021 (corresponding to a share of 2.6 % of the balance sheet total) (see note 23 and note 30). With cash and cash equivalents of € 99.4 million, there is therefore no net debt, as in previous years. This means that there is sufficient room for maneuver financially to assure the survival of the Company, even in difficult economic times. Our operational business generates sufficient liquid assets to enable the Company to continue to grow from within and to pay dividends to our shareholders.

Legal and compliance risks and opportunities

As a result of Pfeiffer Vacuum's international business operations, the Company is subject to different country-specific legal risks. National and international contract law and taxation are of particular significance in this connection. These areas can have a direct impact on the Company's profitability and financial position.

Standardized terms and business conditions of contracts are always used to minimize the risk from product and service contracts. In the case of special contracts, the contract instrument is first reviewed in-house and then by external legal counsel, if necessary. The expertise required to assess day-to-day business is provided by our qualified staff in the legal, patent, tax and sales departments. For complex questions of national and international taxation or patent matters, we use the assistance of external tax consultants and patent attorneys.

As a manufacturer of technology products, Pfeiffer Vacuum is subject to product liability stemming from its business relationships with customers. Potential product liability risks are limited by setting high quality standards. In addition, appropriate product liability insurance policies are in place.

No legal disputes are currently pending whose outcome could have a material impact on the Company's earnings or financial position.

The focus of our compliance activities is primarily on the fields of anti-corruption, antitrust, data protection, information security and export control, as the occurrence of such risks can have a significant impact on our business activities and thus on our profitability, financial position and liquidity. Failure to do so could result in loss of reputation, criminal or civil prosecution, fines, penalties, injunctions, profit skimming, disqualification from participating in certain transactions or other restrictions.

To reduce these risks, the company has implemented a global compliance management system. The aim of this is to avoid compliance breaches as far as possible by means of preventive measures, to detect any misconduct at an early stage, to react quickly in the event of confirmed violations and to penalize misconduct.

The effectiveness and efficiency of our compliance program is of central importance and we place particular emphasis on its strict implementation. In this way we set binding standards for our employees.

Violations of export control regulations can have massive consequences for the company as well as for the responsible actors: In addition to a reputation risk, there is also the threat of loss of export licenses and a personal liability risk. To counteract this, the company has set up a global export control organization to analyze local and international laws and monitor their compliance.

Pfeiffer Vacuum also views itself as being exposed to competition and antitrust risks. The Company minimizes these risks through internal and external employee training as well as targeted exchange with external antitrust experts.

Protecting the personal rights of its business partners, employees and shareholders has always been an important and fundamental objective for the Pfeiffer Vacuum Group. As a trustworthy partner, the careful handling of the data made available to us is a high priority for us. We are constantly developing our data protection measures to meet our responsibility. Pfeiffer Vacuum estimates the compliance risks in this connection as relevant, while the probability of occurrence is low.

Operational risks and opportunities

Technology

Pfeiffer Vacuum develops, produces and distributes vacuum solutions that are highly demanding in terms of technology and quality. Pfeiffer Vacuum's business success and reputation depend heavily on the development of innovative products and solutions. New technical possibilities, trends and changing customer needs may require changes in technology and new business models.

According to our philosophy as a technology leader in the vacuum industry, our primary goal is to offer our customers innovative products and solutions with maximum process efficiency. Our innovative strength is the decisive key to our future business success. In order to utilize opportunities early on and to minimize risks, Pfeiffer Vacuum collaborates closely with customers and suppliers on projects that enable it to jointly advance new technologies to market maturity early on. In addition to our own research & development activities at several locations worldwide, we have an established network with various national and international universities and research institutes.

As is the case for many other globally operating technology companies, a growing number of cases involving "intellectual property rights" can also harbor potential risks for Pfeiffer Vacuum. Possible damages resulting from the violation of such rights may lead to payments of compensation claims right up to a conviction to refrain from selling a product or using a certain technology. In addition to ongoing monitoring of registered third-party patents, we are committed to monitoring our own patent protection rights in order to prevent unlawful use by third parties and avoid the associated disadvantages for Pfeiffer Vacuum.

Procurement, supply chain, production

On the procurement market there are fundamental risks, in particular in the form of supply bottlenecks, dependence on individual suppliers, price increases, quality problems, adverse changes in the economic and political environment and external disruptions, such as the current coronavirus pandemic. The sustained economic recovery in the past fiscal year has resulted in shortages of raw materials and pre-products. At the same time, these supply bottlenecks exacerbate the rise in prices for raw materials and energy. Prolonged dynamics such as these can have a negative impact on our business operations and lead to unforeseeable cost increases and delays in delivery.

We counter these risks by carefully analyzing and selecting our potential suppliers and by conducting ongoing supplier qualification programs. We also access external business information databases and auditors. We counteract supply bottlenecks and supplier dependencies by continuously monitoring and optimizing our procurement processes through making greater use of diversified sources of supply and expanding the use of digital tools. In view of the current shortage of pre-products and components combined with extended delivery times and the overall economic disruptions caused by the ongoing coronavirus pandemic, we have greatly stepped up the ongoing monitoring of operationally important production materials, significantly increased the focus on close and timely communication with our suppliers, and expanded our inventory holding of critical products. We try to reduce risks resulting from supply bottlenecks for raw materials and associated price increases by means of long-term framework contracts wherever possible, although we will not be able to escape a longer-term trend. Further risk management measures include the targeted optimization of strategic and local procurement, close cooperation with supply chain management and the accelerated realization of synergy effects from the cooperation with the Busch Group described above.

We pay special attention to the continuous optimization of our measures and processes against the instability and the increasing complexity in the supply chain. Achieving maximum efficiency can become a success factor in competition here. We seize the opportunity to improve our processes, reduce costs and at the same time offer better service.

Interruptions to production or production losses due to internal or external incidents, but also a lack of production capacity combined with strong growth in customer demand, are among the main risks that can negatively affect on-time product availability. In order to reduce downtimes due to technical causes to a minimum, modern production machinery and equipment as well as qualified technicians are used. Regular servicing and preventive maintenance of the machinery, investment in machinery expansion and efficient energy management also contribute to further risk prevention. We prevent risks in the form of quality defects by continuously developing and optimizing our quality and process management.

Production at our production sites may be interrupted by a massive spread of coronavirus infections or by lockdowns ordered by the authorities. We counter these risks with elaborate and continuously adapted safety measures and strict implementation of national regulations.

The desired best possible design of our production networks helps us to optimize the interaction and control of our production sites, avoid possible capacity bottlenecks and focus even more on the needs of our customers.

We see further investments in the expansion, modernization and optimization of our production, logistics and service processes as an opportunity to offer our customers high-quality solutions even faster.

To enhance our future viability, we have set ourselves the goal of continuously improving our operational efficiency. This goal can be influenced by internal or external occurrences or undesirable developments. To minimize these risks, performance is continuously monitored and controlled.

Sales, service and marketing

The potential loss of important customers or failure to acquire new customers could have a negative impact on our sales and service activities. Reasons for this could be inadequate customer relationship management, inadequate response time or flexibility, or delayed market entry. Dependence on individual customers or their investment behavior also bears risks. We counter these risks by continuously expanding our global presence. The alignment of our global sales organization should help us to identify our customers' needs early on, optimize our customer relationship management and at the same time manage our resources in an appropriate manner. A broad product portfolio, innovative technology combined with our problem-solving approach and a high level of service and support help us to secure sales.

Information technology risks and opportunities

Due to the increasing digitization in all business processes, the requirements regarding confidentiality, integrity and availability of electronically processed information and the associated use of information technology (IT) are high. Business success increasingly depends on the security of information and digital assets. The use of digital assets, however, greatly increases the risk of external threats such as cybercrime ("cybercrime as a service") or cyber espionage, which reach new levels each year. Laws and regulations also increasingly require organizational structures and processes to identify and address information security risks (for example, the EU General Data Protection Regulation or the IT Security Act).

In addition to the external threat of cyberattacks and direct physical interference, there are also potential risks due to a lack of awareness or misconduct on the part of employees. These also include the risks of system failures, data loss and misconfigurations, which could lead to an interruption of business activities. Indirect consequences of such events could include reputational damage and significant cost burdens. The risk of data losses is kept to a minimum at Pfeiffer Vacuum by performing daily backups of our complete corporate data. Our corporate databases with sensitive information are subject to a high security standard.

All files created by our employees within the server environment are backed up on a daily basis. Our backup tapes are stored in secure, fireproof locations.

The activities of our in-house support team reduce system outages to a low level. The Company also uses regularly updated virus scanners and state of the art firewalls to protect its hardware and software against the risk of computer viruses and hacking.

Within the framework of risk management, information security and IT risks are systematically recorded and assessed with the support of the specialist departments. Despite preventive safety measures for logical access protection for program maintenance and IT operations, risks in this environment cannot be completely excluded. All employees are obliged to handle information such as confidential business, customer and employee data with care, to use information systems securely and to deal with risks transparently.

An information security management system (ISMS) in accordance with the ISO/IEC 27001 standard is currently being implemented and in some cases is already in operation. The objective is to use a methodical approach to permit the holistic identification and management of risks, implement appropriate measures and anchor information security as an integral part of the Company. Particular emphasis is placed here on ensuring that the measures take three main elements into account: people, technology and the organization or processes. Implementing continuous improvement processes also helps to ensure the effectiveness of the measures and allows them to be adapted rapidly to the requirements of business operations.

Personnel risks and opportunities

As a provider of vacuum solutions, which represents a special field of mechanical engineering, we are dependent on the high level of qualification of our employees and their commitment. Competition for a diverse and highly qualified workforce is very intense in our industry and the regions in which we do business. In addition, turnover rates in Asian countries are generally somewhat higher than in Europe or the USA. There is a general risk of losing qualified employees or of not being able to recruit enough qualified personnel for our company to meet the high demands of our customers.

We counter these risks with many globally and locally managed projects in order to strengthen employer branding and the recruitment, retention and development of employees. We place high value on global communication and on developing the use of new and modern channels of communication.

As part of our human resources management, we also monitor structural changes within our workforce to identify potential personnel requirements at an early stage and take appropriate measures.

Pfeiffer Vacuum provides its own training in a variety of vocations and offers internships for young professionals and students at many of our subsidiaries. In addition, we participate very successfully in the dual degree program of the Technical University of Mittelhessen in Germany, maintain a partnership for in-company training with the Georg-August University in Göttingen and are in continuous exchange with other schools and universities.

The subject of occupational health and safety is of great importance to our employees and to us as an employer. In the worst case, deficits could lead to a loss of reputation. We therefore place the highest demands on safety and health protection at our operating sites. As a responsible employer, Pfeiffer Vacuum endeavors to limit the number of accidents and the frequency of days lost due to illness as far as possible. We also take our customers' security requirements very seriously. At Pfeiffer Vacuum, occupational safety at the principal manufacturing locations is the responsibility of at least one central internal or external expert who is assigned to the "Environment, Health and Safety" (EHS) department. With regard to the measures taken by our quality and EHS management, we refer to the detailed explanations in the section "Non-Financial Consolidated Statement" (see p. 66 ff.).

Environmental risks and opportunities

As a globally operating company, Pfeiffer Vacuum cannot avoid external risks. Increasing effects of climate change, natural disasters, fire and accidents, but also the spread of diseases across countries and continents, can lead to business interruptions or property damage to the company's assets, as well as endanger the health of our employees.

As far as possible and economically justifiable, we have taken out insurance to minimize the financial consequences of such risks. In addition, we implement possible preventive measures and develop contingency plans for the rapid resumption of our business activities. In order to avoid environmental deficits, we set the highest standards for the implementation of preventive measures and compliance with regulatory requirements. Furthermore, we are repeatedly subject to local safety management audits.

The ongoing coronavirus pandemic and its consequences continue to harbor a high degree of uncertainty. Due to recurring waves of infection, the spread of new virus mutants, and uncertainty regarding the long-term control of the virus, the global macroeconomic, sociopolitical and regulatory situation remains very tense. The possible expansion of government-imposed restrictions to contain the incidence of infection makes it impossible to rule out potential negative economic consequences in many countries.

Since the onset of the coronavirus pandemic, Pfeiffer Vacuum has established a global Emergency Intervention Committee (EIC). EIC members meet regularly in virtual sessions and deliberate and decide on global health and safety rules and measures. The main objective and absolute priority of the EIC is to ensure the health and safety of our employees in the context of potential coronavirus infections. The EIC ensures that the health and safety measures adopted are implemented at all Pfeiffer Vacuum locations.

In addition to the measures addressed and the strict implementation of the government-mandated requirements, we attach great importance to transparent and ongoing communication with our employees and keeping our employees informed about the coronavirus. We provide our employees with free corona tests, inform them about the importance of getting vaccinated and arrange vaccination opportunities.

In addition to the focus on health and safety aspects, there is also a regular global exchange about the current development of Pfeiffer Vacuum and about countermeasures to control negative developments.

With the global corporate strategy, sustainability has become a component of the corporate mission statement of the Pfeiffer Vacuum Group. Sustainability, for the Group means first and foremost ethical action with respect for all stakeholders and responsibility for the economic, ecological and social impact of business activities. The trend towards increased sustainability requirements on the part of our customers continues. We intend to exploit the resulting opportunities in a growing market even more systematically in the future through more sustainable innovations. For further information on sustainability, please refer to the section "Non-financial Group Statement".

Project risks and opportunities

Pfeiffer Vacuum's growth strategy and the related challenges are extensive and involve the entire organization. The implementation of our growth strategy means that a large number of projects and tasks need to be coordinated and harmonized worldwide. Both the scope of the tasks and their complexity pose considerable challenges for our employees. We mitigate these risks by promoting open communication, making continuous and targeted decisions, and providing additional resources as needed.

As part of the investments in the future that are being made, we are currently working on global process and system harmonization and the standardization of ERP landscapes in various IT projects. Demanding and cross-functional projects like these can result in delays in implementation, startup difficulties or unplanned additional costs. We counter these risks by bundling external and internal expertise during project implementation and putting thoroughness before the time factor.

MISCELLANEOUS

Risk management as it relates to consolidated accounting pursuant to § 315, Sub-Para. 4, German Commercial Code ("HGB")

The purpose of an internal consolidated accounting control system is to ensure adequate certainty by implementing controls that – despite identified risks – enable consolidated financial statements to be prepared in accordance with applicable standards.

The Management Board bears overall responsibility for the internal control and risk management system in respect to the consolidated accounting process. All companies included in the Consolidated Financial Statements are covered by a strictly defined management and reporting organization.

The principles, the organizational and procedural structures, as well as the processes of the internal control and risk management system relating to consolidated accounting, are stipulated throughout the entire Corporate Group in guidelines and organizational procedures that are adapted if needed to reflect current external and internal developments. Our internal experts also work together with external counterparts on a case-by-case basis. This enables us to ensure that our accounting is in compliance with IFRS accounting and valuation regulations.

In respect of the consolidated accounting process, we consider those characteristics of the internal control and risk management system to be key that can have a decisive influence on consolidated accounting and on the overall view presented in the Consolidated Financial Statements. In particular, these are the following elements:

- Identification of the major fields of risk and areas of control that are relevant to the consolidated accounting process,
- Monitoring controls for enabling the consolidated accounting process to be supervised by the Management Board,
- Preventive control measures in the finance and accounting systems of the Corporate Group and the companies included in the Consolidated Financial Statements, as well as in operational corporate processes that generate key information for drawing up the Consolidated Financial Statements, including the Management Report for the Corporate Group (including separation of functions),
- Measures that assure proper IT-based processing of facts and data that relate to consolidated accounting.

Rating

Pfeiffer Vacuum Technology AG is not subject to any official rating by Moody's, Standard & Poor's or similar agencies.

SUBSEQUENT EVENTS

There have been no significant changes to the Company's situation or the industry environment since the beginning of the 2022 fiscal year.

OUTLOOK

Overall economic development

The International Monetary Fund (IMF) expects the global economy will recover much more slowly in 2022 than predicted in their last forecast in October 2021. In their latest forecast, the "World Economic Outlook", at the end of January 2022, the experts assume that the global economy will grow by 4.4 % this year. This means that the IMF economists' current expectations for global growth are 0.5 percentage points lower than their last forecast in the fall of 2021. Ongoing problems in global supply chains, higher energy prices, inflation that remains at a high level, and the increasingly fast spread of the omicron variant of the coronavirus pandemic are slowing down the recovery of the global economy. Looking in particular at the heavyweights of the global economy – the U.S., China and Germany – the economists see added factors that have made it necessary to lower the forecasts framed in the fall. For 2023, on the other hand, IMF analysts are once again more optimistic than in October 2021 and hold out the prospect of global economic growth of 3.8 %. As in the previous year, however, uncertainty about the continuing development of the pandemic and the spread of viral mutations affect the accuracy of forecasts.

For the world's largest economy, the USA, the IMF economists have meanwhile become more confident again and are forecasting growth of 4.0 % for 2022 – albeit 0.6 percentage points lower than in October 2021. The conceivable failure of Joe Biden's multi-billion "build back better" infrastructure package, the end of the loose monetary policy and the continuing supply bottlenecks made this correction necessary. In 2023, growth is expected to be as low as 2.6 %.

The IMF economists also believe the Chinese economy will grow by only 4.8 % in the current year. Compared with the last forecast in October 2021, this represents a correction of 0.8 percentage points. The ongoing crisis on the real estate markets in the Middle Kingdom is weighing on economic expectations. The IMF analysts fear that exposed banks and other financial intermediaries may be forced to cut back on lending, which would significantly curtail investment activity and consumer spending. On top of this, as a result of the Chinese government's rigid zero-covid strategy, production facilities and ports are repeatedly undergoing closures. On the one hand, this is sapping Chinese growth, and on the other, it is exacerbating international supply chain problems. The economic forecast for 2023 is 5.2 %.

IMF economists have also made a significant course correction to growth expectations for Germany. The export-oriented economy is affected in particular by the ongoing problems in the global supply chain. For this reason, too, the IMF now only expects Germany's economy to grow by 3.8 % in 2022, leveling off to 2.5 % in the following year. Compared with the October forecast, this represents a substantial drop of 0.8 percentage points for the current year 2022, but an increase of 0.9 percentage points for 2023.

Similarly, the IMF is less optimistic about economic development in the eurozone and is also more cautious than it was in October 2021, which is why it lowered its forecast for the current year by 0.4 percentage points to a gain of 3.9 %. For 2023, the IMF predicts an increase in economic performance of 2.5 %.

In the view of the experts at the IMF, a particular problem for the global economy is that significant debt and high inflation would limit the fiscal policy room for maneuver in many countries. From 2023, however, inflationary pressures are expected to fall due to stabilizing energy and food prices, increasing easing in the supply chain and tighter monetary policy.

The main risk factor, however, for global economic development, besides an overall increase in inflation expectations, remains the COVID-19 pandemic. The IMF economists believe that a joint health strategy is needed to combat it, including a more equitable distribution of vaccines. While on average only 4 % of the population in the developing countries is fully vaccinated, this figure is 70 % in the industrialized nations.

Mechanical engineering and semiconductor market likely to continue on growth course

The persistent material and supply bottlenecks and the existing shortage of skilled workers mean that Germany's machinery and plant manufacturers are not getting carried away with euphoric expectations for 2022, despite full order books. The German Mechanical Engineering Industry Association (VDMA) has lowered its forecast for production in 2021, but raised its outlook for 2022. In its latest forecast from mid-December 2021, it now expects production to rise by 7 % in 2021 rather than the previous 10 %. By contrast, it raised its expectation for production growth in 2022 by two percentage points to a figure of now 7 %. In line with the German Federal Statistical Office, the VDMA economists forecast a substantial increase in mechanical engineering sales from around € 221 billion in 2021 to € 243 billion in the current year.

With the record-breaking growth from 2021 behind it, the semiconductor industry is starting 2022 with confidence, although growth is likely to weaken somewhat. Representatives of the German Electrical and Electronic Manufacturers' Association (ZVEI) forecast sales increases of between 4 % and 10 % for the global semiconductor market to a level of between 556 billion U.S. dollars and 615 billion U.S. dollars. Europe-wide, the increase in sales is expected to be between 6 % and 8 % to around 47 billion U.S. dollars to 49 billion U.S. dollars. Growth drivers included increasing digitalization and the "green transformation" which is gaining in importance worldwide with its high demand for CO_2-reduction technologies.

Growth impulses for the German and European industry are also expected from an initiative of the EU Commission, which announced concrete details of a "semiconductor alliance" in the first quarter of 2022. It is intended to promote industrial progress in the sector within the EU. The aim is to develop and produce the most advanced chips while reducing overall strategic dependencies. In this way, the European share of global semiconductor production is to be increased to 20 percent by 2030.

Sales growth expected again for 2022

Against the backdrop of a continued recovery of the global economic situation and sustained dynamic demand, particularly in the semiconductor market segment, we anticipate organic sales growth in principle again in fiscal 2022. The stability of supply chains and the availability of resources will be decisive for achieving this target. In addition, the development of sales is particularly dependent on the further course of the coronavirus pandemic. As in previous years, these factors cannot be evaluated conclusively and therefore result in a high degree of uncertainty in planning.

We believe that we managed the development of demand very well in 2021. However, in contrast to the beginning of 2021, we are not starting the current year with a well-stocked inventory of finished goods, and the supply chain situation is also significantly tighter than it was 12 months ago. This will determine the situation in 2022. In addition, our production capacities were practically exhausted in 2021. Expansions in this respect are very time-consuming and their effect only sets in with some delay. These circumstances restrict growth in 2022. Nevertheless, we are currently assuming an increase in sales volume of at least 5 % above the already high level of 2021. This assumption currently excludes unforeseeable geopolitical risks, which further increases the degree of uncertainty. This applies particularly with regard to the status in Ukraine for which we currently consider the consequences for Pfeiffer Vacuum Group to be not material. However, this situation cannot be finally assessed for the time being.

As usual, we will provide further details of this forecast during the course of the year, once a number of developments can be assessed more accurately if at all.

Improvement in EBIT margin anticipated compared to 2021

Based on the forecasted sales development and due to the investments already made or further planned, the operating margin for 2022 is expected to be slightly above the level of 2021. This is mainly attributable to the one-time effects for 2021 resulting from impairment losses that are not expected to recur in 2022. This then also results in a corresponding development of the operating result.

Capital investment increased once again

The investments currently planned for the 2022 fiscal year are again likely to be significantly above the level of € 41.3 million in 2021. As in the previous year, a main focus will be on expenditures in connection with the standardization of ERP systems. However, our investment activities will also focus on expenditures for the expansion of production capacities. In view of the current delivery times for investments in plant and equipment, it may well be the case that measures planned for 2022 will not be realized until the following years.

Development of Pfeiffer Vacuum Technology AG in the year 2022

Due to the existing profit transfer agreement the earnings position of Pfeiffer Vacuum Technology AG continues to be significantly impacted by the sales development within Pfeiffer Vacuum GmbH. Mainly paralleling the anticipated development for the whole Group we assume a similar level or slight increase in sales compared to 2021 to be achievable. Accordingly, we also foresee an unchanged or slightly improved operational result for Pfeiffer Vacuum GmbH in the current fiscal year. On the level of Pfeiffer Vacuum GmbH, further burdens on earnings also have to be considered, amongst others, in connection with the implementation of a global ERP solution. It should be noted that these will have an indirect impact on the earnings development of Pfeiffer Vacuum Technology AG from 2022 onwards through the newly established Pfeiffer Vacuum Shared Services GmbH, a wholly owned subsidiary of Pfeiffer Vacuum GmbH. According to our estimations, and bearing in mind that income from investments is likely to rise, this should still result in a slight increase in the net income overall.

Dividend of € 4.08

As in the previous year, the Management Board would like the shareholders to participate again in the good results of the Company. The Management Board is therefore proposing a dividend of € 4.08 per share (previous year: € 1.60 per share) for fiscal 2021. With a total pay-out of € 40.3 million, 64.9 % of the Company profits would be paid out to shareholders (previous year: 50.0 %).

This proposal is made due to the good financial situation of the Company, the very sound liquidity position and the high volume of orders on hand for 2022.

DIVIDEND FIGURES

		2021	2020
Payout ratio[1]	in %	64.9	50.0
Dividend per share	in €	4.08[2]	1.60
Dividend yield	in %	1.9[2]	1.0

[1] proposed distribution in comparison to the net income of the respective year
[2] subject to the approval of the Supervisory Board and the Annual General Meeting

Forward-looking statements

The statements, estimates and other information in our outlook are based on assumptions related to the development of the future overall economy and the industry that remain subject to considerable uncertainty. These assumptions reflect the understanding at the time of preparing the Management Report. There are risks and uncertainties relating to the probability of the statements and estimations made here, meaning that the actual developments may deviate significantly.

OTHER INFORMATION

Final declaration of the Management Board's report on relations with affiliated companies pursuant to § 312 of the German Stock Corporation Act ("AktG")

Pfeiffer Vacuum Technology AG is a dependent company of Busch SE, Maulburg, Germany, as defined in § 312 of the German Stock Corporation Act. Pursuant to § 312, Sub-Para. 1, German Stock Corporation Act ("AktG"), the Management Board of Pfeiffer Vacuum Technology AG has therefore prepared a report of the Management Board on relationships with affiliated companies, which contains the following concluding statement:

"Our company received appropriate consideration for each legal transaction from January 1, 2021 until December 31, 2021 listed in the report on relations with affiliated companies. This assessment is based on the circumstances known to us at the time when the reportable transaction took place. No measures were taken or omitted in the year under review."

Takeover-relevant information pursuant to §§ 289a, 315a of the German Commercial Code ("HGB")

The subscribed capital of Pfeiffer Vacuum Technology AG as of December 31, 2021, remains unchanged at K € 25,261 and consists of a total of 9,867,659 no-par value bearer shares. There are no different classes of shares currently or previously existent, so all shares have the same rights, in particular the same voting and dividend entitlement rights. Accordingly, the calculated share of the subscribed capital amounts to € 2.56.

As of December 31, 2021, Dr. Karl Busch, Ms. Ayhan Busch, Ms. Ayla Busch, Mr. Sami Busch and Mr. Kaya Busch, all of Germany, according to their own statements, continued to hold a total of 62.96 % of the voting rights in the Company. No further information is available to us. The shares are held indirectly through Pangea GmbH, Maulburg, Germany, and other independent legal entities belonging to the family-run Busch Group, and are deemed to be held by the persons named. To the best of our knowledge, there were no other shareholders with a holding of more than 10 % as of December 31, 2021 and also as of December 31, 2020.

Amendments to the Articles of Association can be adopted by the Annual General Meeting with a qualified majority of three quarters of the share capital present at the Annual General Meeting, unless a larger majority is required by law.

To the best of our knowledge, there are no restrictions on voting rights or the transfer of shares.

According to the Articles of Association of the Company and §§ 84 and 85 of the German Stock Corporation Act ("AktG"), Management Board members are appointed by the Supervisory Board for a maximum of five years. Reappointments or extensions to the term of office are permitted for a maximum of five years in each case.

Through a resolution of the Annual General Meeting on May 23, 2018, the Management Board is authorized to increase the subscribed capital one or more times by € 12,630,602.24 or 4,933,829 shares in exchange for cash and/or contributions in kind (authorized capital). This authorization is valid until May 23, 2023 and requires the approval of the Supervisory Board.

According to the resolution of the Annual General Meeting on May 23, 2019, the Management Board is authorized to issue fractional bonds with option or conversion rights and/or option or conversion obligations, profit participation rights and income bonds (or combinations of these instruments) with an aggregate nominal value of up to € 200,000,000.00 and to grant the holders conversion rights of up to 2,466,914 no-par bearer shares of the Company having a pro-rata amount of the share capital of up to € 6,315,299.84. This authorization is valid until May 22, 2024 and requires the approval of the Supervisory Board.

At the Annual General Meeting on May 20, 2020 the shareholders authorized the Management Board to repurchase treasury shares pursuant to § 71, Sub-Para. 1, No. 8, German Stock Corporation Act ("AktG"). This authorization covers the buyback of a proportionate amount of the share capital of up to € 2,526,120.70 (986,766 shares corresponding to 10.0 % of the share capital at the time the resolution was adopted), requires the approval of the Supervisory Board and is valid through May 19, 2025.

It remains unchanged as of December 31, 2021 that the Corporate Group does not own treasury shares.

For information relating to the employment contracts of the members of the Management Board, please refer to the corresponding paragraphs in the compensation report (an element of this Group Management Report) (see p. 120 ff.).

There are no further aspects that would require discussion within the context of §§ 289a, 315a, German Commercial Code ("HGB").

DECLARATION ON CORPORATE GOVERNANCE

A central component of the declaration on corporate governance pursuant to § 289f, Sub-Para. 1, sentence 2 and § 315d of the German Commercial Code ("HGB") is the reporting on the corporate governance of the Company. Principle 22 of the German Corporate Governance Code (GCGC 2020) states that the Supervisory Board and the Management Board shall report annually on the corporate governance of the Company in the declaration on corporate governance. The Management Board and Supervisory Board therefore issue the declaration on corporate governance jointly, each being responsible for those parts of the declaration that concern them.

Pfeiffer Vacuum complies with virtually all Code recommendations

On November 4, 2021, the Management and Supervisory Boards of Pfeiffer Vacuum Technology AG submitted the declaration of compliance for the year 2021 pursuant to § 161 of the German Stock Corporation Act ("AktG"). The declaration of compliance has been made permanently accessible to shareholders on the Company's website in the section ↗ Pfeiffer Vacuum/Corporate Governance and is given below.

Declaration of compliance dated November 4, 2021

The German Stock Corporation Act (AktG) § 161, Sub-Para. 1, sentence 1 requires the Management and Supervisory boards of listed companies to issue an annual declaration regarding the recommendations of the "Government Commission on the German Corporate Governance Code". The Management and Supervisory Board of Pfeiffer Vacuum Technology AG issued their last declaration of compliance according to § 161 AktG on November 4, 2020, supplemented this as a precautionary measure on November 19, 2020 and updated it with explanations on January 29, 2021, March 22, 2021, May 20, 2021 and August 4, 2021.

This being said, the Management and Supervisory Board of Pfeiffer Vacuum Technology AG declare the following:

Since submitting the last declaration of compliance, the Corporation has complied with all the recommendations of the German Corporate Governance Code in the version of March 20, 2020, with the following exceptions:

- The Supervisory Board had reserved the right not to comply with the recommendation in B.3, according to which the initial appointment of management board members should be for a maximum of three years, since it restricts the decision-making freedom of the Supervisory Board in an inappropriate manner. No use was made of this because no new Management Board members were appointed in the reporting period.

- When adjusting the current employment contracts with the two incumbent members of the Management Board in March 2021, a deviation was made (i) from recommendation G.7, according to which the Supervisory Board should determine the performance criteria for all variable remuneration components for each Management Board member for the upcoming fiscal year, since the performance criteria relating to the long-term variable remuneration for the 2021 fiscal year were amended during the course of the year, and (ii) from recommendation G.8, according to which a subsequent amendment of the target values or the comparison parameters should be excluded, since an amendment relating to the targets/comparison parameters for the long-term variable remuneration was made after the conclusion of the contract.

- The recommendation in G.8, according to which subsequent amendment of the target values or comparison parameters should be excluded, was deviated from in August 2021, since key performance indicator 3 of the short-term goals for Mr. Wolfgang Ehrk for 2021 already defined on December 28, 2020 for the purpose of determining the annual bonus, was amended for the following reasons: Since the date of December 28, 2020 when the targets were set, the economic starting situation at Pfeiffer Vacuum Technology AG had changed significantly and unforeseeably, which is why an adjustment of KPI 3 appeared necessary and in the interests of the Company. In particular, it was not expected at the time that demand would develop so keenly. The previously targeted performance criteria, particularly those relating to reducing inventories, no longer made economic sense in view of impending bottlenecks and delays in deliveries, and were no longer appropriate or suitable as a means of incentivizing Mr. Ehrk in the intended manner.

- The recommendation in G.10 sentence 1, according to which the variable components of Management Board remuneration should be predominantly invested in shares or appropriate share-based awards, was not complied with since this would expose the members of the Management Board to the risk of negative share price developments based on market fluctuations over which the Management Board has no influence. The recommendation in G.10 sentence 2, according to which long-term variable awards should only be available after four years, was also not complied with. Instead, long-term variable remuneration, which is paid out following the Annual General Meeting at the end of each three-year period, is provided for on the basis of a three-year assessment period. The Supervisory Board believes that this adequately assures the desired long-term incentive, and that this would not be enhanced by a later payout date.

- The recommendation in G.17, according to which the increased time commitment of the Chair and of members of committees should also be appropriately taken into account in the remuneration of the Supervisory Board, was not fully complied with until the Annual General Meeting on May 12, 2021 insofar as the regulation in place until then only provided for higher remuneration for the Chair and the Vice Chair of the Supervisory Board as well as the Chair of the Audit Committee. By resolution of the Annual General Meeting on May 12, 2021, the remuneration of the Supervisory Board was fully adjusted to recommendation G17.

- Up until January 2021, the company did not have a system of remuneration for the members of the Management Board within the meaning of § 87a AktG and Principle G.23. This remuneration system was decided by the Supervisory Board on January 28, 2021 and approved by the Annual General Meeting on May 12, 2021. No use was made of the initially reserved deviation from recommendation G.3 (peer group comparison to assess customary practice).

From now on and in the future, all recommendations of the German Corporate Governance Code in the version of March 20, 2020 will be conformed to, with the following exceptions:

- The recommendation in G.10 sentence 1, according to which the variable components of the Management Board remuneration should be predominantly invested in shares or granted as appropriate share-based awards, will not be complied with in the future for the same reasons as before (see above). The recommendation in G.10 sentence 2, according to which long-term variable awards should only be available after four years, will also not be complied with in the future for the same reasons as before (see above).

Dual management system: Management Board and Supervisory Board

As a stock corporation based in Asslar, Germany, Pfeiffer Vacuum Technology AG is also subject to the provisions of the German Stock Corporation Act ("AktG"). One of the basic principles enshrined in this is the dual management system, which assigns the management of the Company to the Management Board and the appointment, advice and supervision of the Management Board to the Supervisory Board. These two bodies are strictly separated as corporate organs, both in terms of their members and their responsibilities. Both bodies work together closely in the interests of the Company.

Management Board

In the 2021 fiscal year, the Management Board consisted of

- Dr. Britta Giesen, Diploma in Industrial Engineering (Chief Executive Officer)
- Wolfgang Ehrk, Diploma in Industrial Engineering (Chief Operations Officer)

The members of the Management Board are responsible for the further development and strategy of the Company. They are also involved in the day-to-day running of the Company and bear operational responsibility.

The Supervisory Board appointed Dr. Britta Giesen as a new member of the Management Board with effect from October 1, 2020. She was the designated Chief Executive Officer at the time and assumed this function upon the scheduled retirement of the previous Chief Executive Officer, Dr. Eric Taberlet, on January 1, 2021.

With effect from January 1, 2020, Mr. Wolfgang Ehrk was appointed as a member of the Management Board of Pfeiffer Vacuum Technology AG and assumed the function of COO within the Management Board.

FUNCTIONS OF THE MANAGEMENT BOARD MEMBERS

Dr. Britta Giesen CEO, acting CTO	Wolfgang Ehrk COO
• Group Strategy • Global Sales & Service • Global R&D • Product Management • Information and Communication Technologies • Finances and Controlling • Communication • Compliance • CSR • HR • Investor Relations	• Production • Purchasing • Quality and EHS (Environment, Health and Safety) • Supply Chain • Continuous Improvement

CEO = Chief Executive Officer, CTO = Chief Technology Officer,
COO = Chief Operations Officer

Ms. Nathalie Benedikt resigned from her office as a member of the Management Board and Chief Financial Officer in agreement with the Supervisory Board as of September 30, 2020.

The new composition of the Management Board reflects the Supervisory Board's decision to change the Management Board and extended management structure from January 1, 2021. Accordingly, after this date, and also taking into account the existing Relationship Agreement (Group Cooperation Agreement) with the Busch Group, only two persons are to constitute the Management Board, namely a Chief Executive Officer (at the same time Chair of the Management Board) and a Chief Operations Officer. The amended management structure is the result of long-term succession planning, which the Supervisory Board is monitoring together with the Management Board. In addition to the requirements of the German Stock Corporation Act ("AktG"), the German Corporate Governance Code (GCGC) and the Rules of Procedure, long-term succession planning also takes into account aspects such as the appropriate consideration of women and diversity. Taking particular account of the specific qualification requirements and the aforementioned criteria, the Management Committee creates an ideal profile as a basis on which to draw up a shortlist of available candidates. Structured interviews are held with these candidates. A recommendation is then submitted to the Supervisory Board for resolution. If necessary, the Management Committee enlists the support of external consultants in developing the requirement profiles and selecting the candidates.

In the future, the Management Board will be supported in its management tasks by a Group Executive Committee which was newly formed in 2021. In addition to the members of the Management Board, this committee is currently made up of the Chief Sales Officer and the Chief Controlling Officer.

The four-eyes principle applies in exercising the duties and responsibilities of the Management Board: major decisions are always made jointly. Personal expenditures, such as travel and entertainment expenses, require the approval of another Management Board member. In addition to close cooperation and reciprocal information on a daily basis, board meetings are held every two weeks. The Management Board works exclusively for Pfeiffer Vacuum. In this context, the Management Board members are also members of supervisory organs of various subsidiaries of the Company. In addition to this, Dr. Giesen has also been a member of the supervisory board of Rheinmetall AG, Düsseldorf, Germany, since May 11, 2021. Her membership of the supervisory board of Neles Corporation, Vantaa, Finland, ended on March 26, 2021. Beyond this, the members of the Management Board do not hold any other memberships in supervisory or regulatory bodies outside the Pfeiffer Vacuum Group.

In accordance with the recommendations of the German Corporate Governance Code, the Supervisory Board has set an age limit for the members of the Management Board. Accordingly, members of the Management Board should not, as a rule, be older than 65 years.

Supervisory Board

Pursuant to the statutory requirements and the Articles of Association of Pfeiffer Vacuum Technology AG, the Supervisory Board consists of a total of six persons, comprised of four members to be elected by the shareholders at the Annual General Meeting and two employee representatives, in accordance with the German One-Third Participation Act ("Drittelbeteiligungsgesetz"). In accordance with the recommendations of the German Corporate Governance Code, the Supervisory Board has set an age limit for its members. This is 70 years for all members of the Supervisory Board at the time of appointment to the Supervisory Board.

In 2021, periodic elections were held for all members of the Supervisory Board. As a result, the composition of the Supervisory Board changed from that of the previous year with effect from the date of the Annual General Meeting on May 12, 2021.

Membership over the course of the year 2021 was as follows:

- Ayla Busch (Chairwoman), Co-CEO Busch SE, Maulburg
- Götz Timmerbeil (Vice Chairman), Auditor and Tax Consultant
- Timo Birkenstock (Employee Representative), Development Engineer, from May 12, 2021
- Filippo Th. Beck, Attorney at Law of Swiss Law, up to May 12, 2021
- Minja Lohrer, Director, from May 12, 2021
- Matthias Mädler (Employee Representative), Development Engineer, up to May 12, 2021
- Henrik Newerla, Self-employed Management Consultant
- Stefan Röser (Employee Representative), Chairman of the Employee Council

The shareholder representatives on the Supervisory Board, Ayla Busch, Minja Lohrer, Henrik Newerla and Götz Timmerbeil, were elected for a four-year term of office by the Annual General Meeting on May 12, 2021. According to this, they were elected for a term of office up to the end of the Annual General Meeting that resolves on the formal approval of the actions of the Supervisory Board for the fiscal year 2024. This same end of term applies for the incumbent employee representatives on the Supervisory Board, Timo Birkenstock and Stefan Röser.

For election of the Supervisory Board Members representing the shareholders, the Nomination Committee submits a nomination suggestion to the Supervisory Board. When selecting the candidates, care is taken to ensure that at all times there are members of the Supervisory Board who possess the requisite expertise, skills, and professional experience. The international activities of the Group and potential conflicts of interest are also taken into account. In addition, the Supervisory Board should at all times include a sufficient number of members who are independent of the Management Board and the Company and independent of the controlling shareholder.

In 2018, the Supervisory Board developed a profile of skills and expertise for the Supervisory Board and set the following goals for its composition: Internationality, avoidance of potential conflicts of interest, independence, time availability, generation mix and age limit, length of membership, diversity (including diversity of professional backgrounds and an appropriate consideration of women). In view of the fact that the term of office of its incumbent members was due to end at the close of the Annual General Meeting in 2021, the Supervisory Board again critically reviewed the skills and expertise profile in the updated version of December 2020 and adjusted it again in March 2021. The profile of skills and expertise is permanently available on the company's website in the section ↗ Investor Relations/ Corporate Governance/Supervisory Board.

The Supervisory Board has also set itself the specific objective that more than half of the shareholder representatives on the Supervisory Board are independent of the Company and its Management Board in accordance with the recommendation in C.7 GCGC 2020 and that at least one shareholder representative is independent of the controlling shareholder in accordance with recommendation C.9 GCGC 2020. After detailed assessment, it has determined that currently all shareholder representatives on the Supervisory Board are independent of the Company and its Management Board, and that all shareholder representatives, with the exception of Ms. Ayla Busch, are also independent of the controlling shareholder. To this extent, the Supervisory Board has complied with the recommendation in C.7 (2) and taken into account the indicators mentioned there. In this respect, with regard to Mr. Götz Timmerbeil and Ms. Ayla Busch, the Supervisory Board has reached the above-mentioned conclusions concerning their independence based on the following reasons:

Mr. Götz Timmerbeil has been a member of the Supervisory Board since 2001. Since then, however, the Company has undergone a fundamental change in its corporate structure; the acquisition of a majority shareholding by the Busch Group has substantially altered the ownership structure, and the Management Board has also been restructured in terms of personnel. The Supervisory Board is therefore convinced that Mr. Götz Timmerbeil's longstanding membership of the Supervisory Board does not affect his independence.

Ms. Ayla Busch, as co-CEO and co-owner of Busch SE and as legal representative and indirect shareholder of the significant shareholder Pangea GmbH, is not independent of the controlling shareholder within the meaning of C.9 (2) GCGC 2020. Ms. Ayla Busch, on the other hand, is independent of the Company and the Management Board. It is true that the Relationship Agreement has existed between Busch SE and the Company since May 2019, which could be regarded as a material business relationship for the Company within the meaning of C.7, sentence 3, second indent, of the GCGC 2020. However, the Supervisory Board is convinced that there is no evidence whatsoever that Ms. Busch's independence vis-à-vis the Management Board and the Company could be impaired as a result of the Relationship Agreement. On the contrary, due to her proximity to the controlling shareholder, Ms. Busch is particularly well placed to exercise her control function vis-à-vis the Management Board free of any considerations concerning the latter or the Company steered by the Management Board.

Currently, the Supervisory Board fulfills all these objectives, and it is also intended to appropriately take these objectives into consideration for future nominations.

No remuneration or benefits for personal service rendered, especially consultation and brokerage services, were paid or granted to the members of the Supervisory Board during the period under review. No potential conflicts of interest requiring immediate disclosure to the Supervisory Board arose for Management and Supervisory Board members in fiscal 2021.

The establishment of an Audit Committee is a longstanding practice at Pfeiffer Vacuum. As a certified public accountant, the Chairman of the Audit Committee, Götz Timmerbeil, is particularly qualified to bear responsibility for the activities of the Audit Committee, in particular in connection with questions relating to financial accounting, compliance, and the risk management system. The task of the Nomination Committee is to suggest suitable candidates to the Supervisory Board who can then recommend them for nomination to the Annual General Meeting. Additionally, a Management Committee was formed. In the past, the Management Committee has deliberated the personnel matters of the board members in detail before – in accordance with the requirements of the German Corporate Governance Code – being resolved by the full Supervisory Board. The determination of Management Board compensation is thus subject to the provisions of the German Act on the Appropriateness of Management Board Compensation. In addition, a committee was formed already in the previous year to monitor transactions with related parties ("Related Party Transactions" or "RPT"). The formation of this RPT Committee was in particular a consequence of the entry into force of the act implementing the Second Shareholder Rights Directive ("ARUG II") and the relevant tasks that fall to the Supervisory Board.

The committee memberships of the Supervisory Board members can be seen in the following overview.

The Company has taken out pecuniary loss liability insurance (so-called D&O insurance) for the members of the Management Board and Supervisory Board.

Collaboration between the Management and Supervisory Boards

As a rule, the Supervisory Board annually reviews the effectiveness and efficiency of its activities and its committees once a year. This review is carried out on the basis of an extensive catalog of questions with which the assessments of all members of the Supervisory Board are collected, in particular with regard to the following key topics: frequency of meetings as well as preparation and conduct of meetings, committee work and information dissemination, reporting and information by the Management Board, resolution of internal board conflicts and corporate governance, personnel competence, corporate strategy and handling of important measures and transactions as well as risk management and accounting. These topics are dis-

PERSONNEL COMPOSITION OF THE SUPERVISORY BOARD COMMITTEES

	Nominating Committee	Audit Committee	Management Committee	RPT Committee
Frau Ayla Busch	Chairwoman	Yes	Chairwoman	–
Götz Timmerbeil	Yes	Chairman	Yes	Chairman
Timo Birkenstock (from May 12, 2021)	–	–	–	Yes
Minja Lohrer (from May 12, 2021)	Yes	Yes	Yes	–
Henrik Newerla	–	–	Yes	Yes
Stefan Röser	–	–	–	–
Filippo Th. Beck (up to May 12, 2021)	Yes	Yes	Yes	–
Matthias Mädler (up to May 12, 2021)	–	–	–	Yes

cussed at the plenary meetings of the Supervisory Board. An external expert is regularly consulted for assistance in relation to such efficiency reviews. The Supervisory Board conducted its last self-assessment in its meeting on December 7, 2021 with the assistance of an external expert. The meeting was moderated by an external expert. As a result, the organization of the activities of the Supervisory Board and its committees was found to be appropriate and efficient.

The following active members on the reporting date exercised further mandates. These are supervisory board mandates unless otherwise indicated:

- Götz Timmerbeil
  - Richard Stein GmbH & Co. KG, Engelskirchen (Chairman of the Advisory Board).

Close and trustful collaboration between the Management and Supervisory Boards is an essential prerequisite for good corporate governance and serves the good of the Company. The rules of procedure for the Management Board stipulate that the Supervisory Board must give its approval for significant business transactions. Supervisory Board meetings are held at least twice a year in this context, during which the members of the Management Board report in detail on the course of business operations as well as on the implementation of the strategy agreed upon with the Supervisory Board. The number of Supervisory Board Meetings held exceeds this minimum.

If necessary, other executives also explain the current issues in their respective areas of responsibility. If needed, additional special meetings are held. The Management Board reports to the Supervisory Board on the general condition of the Company, including the risk situation and the strategic targets, through a monthly reporting system.

Shareholders and Annual General Meeting

The Annual General Meeting is the supreme body of the corporation. At the Annual General Meeting, shareholders may exercise their voting rights themselves, through a proxy of their choice, or a proxy nominated by the Company who is bound to act on their instructions. The shareholders make key decisions at the Annual General Meeting about the allocation of profits, amendments to the Articles of Association, or the approval of share repurchase programs. All information and documents essential for the Annual General Meeting will be provided to the shareholders in a timely manner.

The agenda and an explanation of the conditions of participation in addition to the shareholders' rights will generally be announced duly according to the legal requirements before the Annual General Meeting date.

All documents and information for the Annual General Meeting are also available on our website. In addition, it is possible to electronically direct questions to the employees of our Investor Relations Department. Using our financial calendar, which is made public in the Annual Report, in the quarterly reports, and on our website, we inform shareholders and interested parties about key dates, publications, and events throughout the year.

In addition, we maintain close ties with our shareholders through our active Investor Relations work. Moreover, it is also possible to contact the Company with questions at any time.

Remuneration

The remuneration for members of the Management and Supervisory Boards is detailed in the section "Remuneration Report" (see p. 120) of the combined Management Report. In addition, the remuneration systems for Management Board and Supervisory Board Members are made accessible on the Company's website within the Investor Relations section (↗ ir.pfeiffer-vacuum.com). The latest resolution on remuneration according to § 113, Sub-Para. 3, German Stock Corporation Act ("Aktiengesetz") was made in the Annual Shareholders Meeting on May 12, 2021 and can also be found on the Company's website.

Transparency

The claim to provide all target groups promptly with the same information at the same time is a high priority in our corporate communications. One of the ways that this is manifested is that all relevant information is published in German and in English. Shareholders and interested parties can directly obtain information on current developments within the Group on the Internet. All ad-hoc releases by the Pfeiffer Vacuum Technology AG are made available on the Company's website. The purchase and sale of Pfeiffer Vacuum shares by members of the Management Board and Supervisory Board will be published immediately pursuant to Article 19 of European Regulation No. 596/2014 (Market Abuse Regulation), in Europe and on the Company's website at ↗ group.pfeiffer-vacuum.com.

Equality

In January 2018, pursuant to § 111, Sub-Para. 5 of the German Stock Corporation Act ("AktG"), the Supervisory Board determined a women's quota of 16.67 % for the Supervisory Board and 25 % for the Management Board and a deadline for reaching the targets by December 31, 2020. These figures have already been reached for the Supervisory Board and exceeded for the Management Board in its new composition from May 2021 as well as previously. In February 2022, the Supervisory Board set itself the goal of achieving a proportion of women of 50 % in the Supervisory Board and 50 % in the Management Board within 5 years in accordance with § 111, Sub-Para. 5, German Stock Corporation Act ("Aktiengesetz"). The provision contained in § 76, Sub-Para. 4 of the German Stock Corporation Act ("AktG") refers to management levels at Pfeiffer Vacuum Technology AG only. Due to its function as a holding company, this company only has very few employees and there were no further management levels below the Management Board in the reporting year, thus making it impossible to establish a target figure. For the newly formed Group Executive Committee, the Management Board has determined a corresponding women's quota target of at least 30 %, which is currently exceeded.

Compliance

Adherence to all internal rules and legal regulations applicable to Pfeiffer Vacuum Technology AG and its subsidiaries by management and employees (compliance) has long been a goal of the Company as well as an inherent part of our Company culture. This is especially expressed in our Code of Conduct, which applies for all employees. The Management Board is fundamentally committed to these tenets in addition to the "zero tolerance" principle. Our Code of Conduct defines, among other things, integrity and lawful conduct as basic standards and is the basis for the daily work of all employees in our Company.

The Code of Conduct, which was updated and supplemented in 2018, is also available outside the Company via the Company's website in all languages that are relevant to the Group's employees. In it, options for employees to report possible violations of the law in the Corporate Group are described. These options are also open to third parties outside of the Company.

Compliance with legal and internal Company regulations is a comprehensive task for which each area of the Company is fundamentally responsible. Committed employees educate themselves further when required and take part in training in order to recognize and address current developments in their respective areas of responsibility. All determined breaches of compliance will be sanctioned accordingly.

Accounting and auditing

Pursuant to statutory provisions, the Consolidated Financial Statements of Pfeiffer Vacuum and the Quarterly Financial Reports are prepared in accordance with the current International Financial Reporting Standards (IFRS) as applicable in the European Union.

The Annual Financial Statements of Pfeiffer Vacuum Technology AG as the parent corporation are prepared in accordance with the provisions of the German Commercial Code ("HGB"). The Annual Financial Statements and the Consolidated Financial Statements of Pfeiffer Vacuum Technology AG together with the combined Management Report were audited pursuant to the resolution of the Annual General Meeting on May 12, 2021 by PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, Germany. PricewaterhouseCoopers GmbH is also the auditor of the report on relations with affiliated companies.

It was agreed with the auditors that the Chairman of the Audit Committee shall be immediately informed about any reasons for exclusion or prejudice arising during the audit, unless these are eliminated immediately. The auditor must also immediately report to the Supervisory Board all findings and events of importance that arise during the audit. In addition, the auditor must inform the Supervisory Board and note in the audit report if the auditor determines facts during the course of the audit that are not compatible with the declaration of compliance submitted by the Management Board and Supervisory Board pursuant to § 161 of the German Stock Corporation Act ("AktG").

REMUNERATION REPORT 2021

The newly designed remuneration report 2021 contains the presentation and explanation of the remuneration received by the members of the Management Board of Pfeiffer Vacuum Technology AG (hereinafter: "**Company**") and the members of the Supervisory Board of the Company in the fiscal year 2021. The remuneration report takes into account the requirements of the German Commercial Code (HGB) as well as the German Stock Corporation Act (AktG). In particular, the newly designed remuneration report contains all disclosures required by § 162 of the German Stock Corporation Act (AktG) as amended by the Act Implementing the Second Shareholder Rights Directive ("**ARUG II**"). This includes explanations of the extent to which and how the remuneration system for the Management Board developed by the Supervisory Board and approved by the Annual General Meeting on May 12, 2021 has been implemented. The same applies to the implementation of the remuneration system for the Supervisory Board, which was approved at the same Annual General Meeting.

The remuneration system for the Management Board adopted by the Supervisory Board on March 22, 2021 for approval by the Annual General Meeting has been binding on the Supervisory Board since its submission to the Annual General Meeting. The service contracts with the two incumbent members of the Management Board, which had already been concluded at that time, correspond in essential parts to the remuneration system, but deviate in part from it with regard to the provisions on the variable remuneration components. Reference is made to this in the following explanations. When concluding future service contracts with members of the Board of Management, the Supervisory Board will ensure that full account is taken of the approved remuneration system.

REMUNERATION FOR THE MANAGEMENT BOARD

Consideration of the Management Board remuneration system and approval by the shareholders

Following preparatory work in the 2020 fiscal year, the Supervisory Board, on the recommendation of its Management Committee and taking into account the requirements of § 87a, Sub-Para. 1 AktG and principle 23 of the GCGC 2020, adopted the new system for the remuneration of the members of the Management Board in January 2021 and then made minor adjustments in March 2021, prior to submission to the Annual General Meeting. This remuneration system was approved by the shareholders of the Company at the Annual General Meeting on May 12, 2021 with a majority of 99.04 % of the attending share capital. In addition to the statutory requirements, the recommendations of GCGC 2020 were also taken into account, to the greatest possible extent, in the revision of the remuneration system. The review of the appropriateness and customary nature of the remuneration is carried out at a horizontal level on the basis of a comparison with suitable other companies listed on the TecDAX or the SDAX, taking into account in particular the key figures of sales, number of employees and market capitalization for this market comparison. In this context, the Supervisory Board elected Heidelberger Druckmaschinen AG, Deutz AG, Jenoptik AG and Carl Zeiss Meditec AG as the relevant peer-group.

However, the Supervisory Board has decided against complying with the recommendations in G.10 sentence 1 and sentence 2 GCGC 2020. The Supervisory Board is skeptical of the recommendation in G.10 sentence 1 DCGK 2020 that the variable components of the Management Board's remuneration should be predominantly granted in shares or on a share-based basis, because this would expose the members of the Management Board to the risk of negative share price developments based on market fluctuations over which the Management Board has no direct influence. In addition, the recommendation in G.10 sentence 2 GCGC 2020 that long-term variable remuneration amounts should only be available after four years is not complied with. Instead, the remuneration system provides for long-term variable remuneration based on a three-year assessment period, with payment taking place in each case following the Annual General Meeting at the end of the three-year assessment period. The Supervisory Board is of the opinion that this sufficiently ensures the desired long-term incentive, which would not be increased by a longer payment period.

In accordance with the requirements of the remuneration system approved by the Annual General Meeting, when determining the remuneration of the Management Board the Supervisory Board is guided by the following principles:

- The members of the Management Board are to be encouraged to work towards achieving the company's strategic goals. These goals focus on (i) ensuring sustainable and long-term corporate development and value enhancement, (ii) increasing market share and further growth, (iii) expanding the global presence, particularly in selected growth markets, (iv) pursuing a sales policy geared to customer satisfaction, and (v) pursuing sustainability targets, which include in particular increasing efficiency in the use of energy and raw materials. As part of the variable remuneration, non-financial performance criteria that are committed to aspects of corporate social responsibility and sustainability, are therefore defined in some cases in addition to financial performance criteria.

- Long-term variable remuneration, in particular, is an essential component of the remuneration structure and is intended to support sustainable and long-term corporate development and the business strategy.
- The remuneration shall take into account the size and economic situation of the enterprise.
- The remuneration should be commensurate with the individual's contribution to performance. Special performance should be rewarded with accordingly higher remuneration, while failure to achieve performance targets should result in a discernible reduction in the level of remuneration.
- Compared with enterprises of a similar size, remuneration should be attractive in order to attract and retain particularly qualified Management Board members over the long term.
- The remuneration should contribute to harmonizing the interests of the Management Board members with those of the shareholders and other stakeholders. In particular, the variable, performance-related remuneration components are therefore of major importance.

In line with these principles, and in line with the remuneration system in general, the Supervisory Board, supported by its Management Committee, set the specific target parameters for the members of the Management Board in the reporting year and made a determination on the individually agreed target achievement parameters in each case. In particular, the definition and possible adjustment of the variable, performance-related remuneration parameters were of decisive importance in order to ensure that the remuneration of the Management Board members makes an important contribution to promoting the business strategy and the long-term development of the Company.

Like the service contracts of the current Management Board members, the Management Board remuneration system contains **malus and clawback provisions** which the Supervisory Board may utilize in individual cases. Accordingly, in the event of serious breaches of due diligence by a member of the Management Board during the year, the Supervisory Board may reduce or completely cancel the corresponding variable remuneration components of a member of the Management Board or demand full or partial reimbursement after payment has already been made. The Supervisory Board shall decide on this in each individual case at its due discretion and shall in particular take into account the severity of the violation and the amount of the resulting financial or reputational damage. In the reporting period, the Supervisory Board had no reason to make use of the malus and clawback provisions.

The Management Board service contracts of Dr. Britta Giesen and Wolfgang Ehrk additionally contain provisions – also in line with the applicable remuneration system for the Management Board – according to which, in the event of premature termination of their Management Board service contracts, they may not be granted, promised or made any payments exceeding the value of two years' remuneration or the value of the benefits payable for the remaining term of the Management Board service contracts (termed "**Severance Payment Cap**"). The Management Board service contract of Wolfgang Ehrk also stipulates that benefits paid in the event of premature termination of the Management Board service contract due to a change of control may not exceed 1.5 times the Severance Payment Cap. Benefits in this connection were not payable in the reporting year because no member of the Management Board resigned.

In line with the requirements of the Management Board remuneration system, the Management Board service contracts provide for non-competition clauses. According to these, Management Board members may not work for or hold an interest in a company that competes with the Company or one of its affiliated companies or has significant business relations with the Company or one of its affiliated companies during the term of their employment contract. Furthermore, freelance or consulting work for such a company is also not permitted. The service contract with Dr. Britta Giesen has a term until December 31, 2023. The existing Management Board service contract with Wolfgang Ehrk ends on December 31, 2022. In summer 2021, the Supervisory Board and Wolfgang Ehrk agreed on a two-year extension of the Management Board service contract, which will take effect from January 1, 2023 and thus ends on December 31, 2024. The new Management Board service contract will have no effect on the 2021 reporting year, in particular no effect on the amount of remuneration granted or due.

For the reporting year, the Supervisory Board has verified that the maximum remuneration stipulated in the remuneration system based on the amounts received by the incumbent members of the Management Board, namely a gross amount of € 1.2 million for the Chairman of the Management Board and a gross amount of K € 800 for ordinary members of the Management Board, was not exceeded in the reporting period. The fact that this was not exceeded is evidenced by the specific remuneration tables below, which show payments of K € 590 for Dr. Britta Giesen and K € 404 for Wolfgang Ehrk.

Unless otherwise stated below, the currently existing Management Board service contracts correspond to the adopted remuneration system.

Fixed remuneration and benefits in kind

Each member of the Management Board receives annual fixed remuneration, which is paid in twelve equal installments at the end of each month. If the service contract begins or ends during the course of the fiscal year that is relevant for payment of the remuneration, the fixed remuneration for this fiscal year is paid pro rata temporis.

In addition, the members of the Management Board receive benefits in kind, in particular in the form of company cars provided, reimbursement of expenses and travel costs, and accident insurance. The Company has entered into directors' and officers' liability insurances (D&O insurance) for the benefit of the members of the Management Board, which provides for a statutory deductible of 10 % of the amount of the loss (§ 93, Sub-Para. 2, sentence 3 AktG). In addition, the Company provides the Chairwoman of the Management Board, Dr. Britta Giesen, with a driver in certain cases. The benefits in kind are generally taxable by the Management Board members themselves. In deviation from this, a net remuneration agreement exists with regard to the provision of a driver for Dr. Britta Giesen, so that taxation in this case is borne by the Company.

Performance-related remuneration components

The performance-related remuneration components comprise an annual bonus ("**target bonus**") and a long-term variable remuneration component based on a three-year assessment period ("**LTI**").

Target bonus

The target bonus is designed to motivate members of the Management Board to achieve demanding and challenging financial, operational and strategic targets within a fiscal year. The targets reflect the corporate strategy and are aimed at increasing the enterprise value.

The target bonus for the members of the Management Board is K € 220 for the Chairwoman of the Management Board, Dr. Britta Giesen, and K € 140 for Wolfgang Ehrk as a further member of the Management Board, assuming full target achievement. It should be noted that the above-mentioned amounts are the maximum that can be earned as a target bonus and that the target bonus can also drop to a minimum value of zero. The target bonus is determined by the Supervisory Board, supported by the Management Committee, according to the achievement of the individual performance criteria agreed with the Management Board members after the end of the reporting period by determining the level of actual target achievement and setting it in relation to the assumed target achievement of 100 %. The target bonus is paid out following the Annual General Meeting for the previous year.

The determination of the target bonus for the reporting year was based on the individual target agreements that are decided upon between the Supervisory Board and the individual members of the Management Board.

The composition of the remuneration granted and due in respect of the 2020 target bonus, i.e. the amounts received in this respect in 2021, is based on the individual target agreements displayed in the below table, the respective weightings and the resulting target achievement levels. All current and former Management Board members who received variable remuneration in this respect in the reporting year are listed below.

These individual targets differ with regard to the percentage amount of short-term targets of financial nature provided for in the remuneration system because they were determined on the basis of the Management Board service contracts already in place with the incumbent Management Board members before the new remuneration system for the Management Board was submitted to the Annual General Meeting. In the future, the Supervisory Board will ensure that the requirements of the remuneration system are fully taken into account when determining the individual target agreements of the Management Board members.

Due to the fact that Dr. Britta Giesen joined the Company during the year on October 1, 2020, a guaranteed target bonus of K € 55 was agreed with her for the 2020 fiscal year in deviation from the principles described above. This amount was paid out in full following the Annual General Meeting in 2021.

TARGET BONUS 2020

	Basic value	Weighting	Degree of target achievement	Target achievement
	in K €	in %	in %	in K €
Dr. Britta Giesen				
Guaranteed target bonus	55	100 %	100 %	55
Wolfgang Ehrk				
Introduction of a new product at the Asslar site	49	35 %	100 %	49
Improvement of work-safety conditions	28	20 %	100 %	28
Development of organisation, in particular quality control related	63	45 %	100 %	63
	140	**100 %**		**140**
Dr. Eric Taberlet				
Achievement of sales budget	70	50 %	87 %	61
Introduction of a new product at the Asslar site	42	30 %	100 %	42
Reduction of warranty costs	28	20 %	100 %	28
	140	**100 %**		**131**
Nathalie Benedikt				
Development of an HR strategy and culture	23	20 %	92 %	21
Development of a standardized ERP structure	59	50 %	100 %	59
Improvement of the CSR footprint	35	30 %	40 %	14
	117	**100 %**		**94**
Total	**452**			**420**

The payment of the 2020 target bonus was made after the Annual General Meeting on May 12, 2021.

During the fiscal year, the Management Committee and subsequently also the full Supervisory Board also dealt with the assessment of the target bonus for 2021. The individual target agreements, the respective weightings and the resulting preliminary target achievement levels are shown in the following overview.

The aforementioned amounts were recognized in the annual financial statements as a provision for the 2021 target bonus. The final resolution on target achievement for the fiscal year 2021 will be adopted on presentation of the audited annual financial statements and the consolidated financial statements of Pfeiffer Vacuum Technology AG for 2021.

TARGET BONUS 2021

	Basic value	Weighting	Degree of target achievement[1]	Target achievement[1]
	in K €	in %	in %	in K €
Dr. Britta Giesen				
Development and revision of a market segment-specific strategy	110	50 %	100 %	110
Implementation of a revised compliance management systems	66	30 %	100 %	66
Increase of ROCE	44	20 %	100 %	44
	220	**100 %**		**220**
Wolfgang Ehrk				
Fulfillment of product- and service related energy saving targets	35	25 %	93 %	33
Development of an improvement plan for Yreka site	42	30 %	38 %	16
Increasing output of turbo pumps to satisfy increased short-term demand in the segments semi-conductors, coating and display	28	20 %	100 %	28
Increasing efficiency in relation to maintenance services	35	25 %	100 %	35
	140	**100 %**		**112**
Total	**360**			**332**

[1] preliminary

Long-term variable remuneration component/LTI

In addition, at the end of a three-year assessment period each Management Board member receives long-term variable remuneration (long-term incentive or "**LTI**") depending on the achievement of specific targets determined at the beginning of each three-year assessment period. The actual amount of the LTI depends on the extent to which the Management Board member has been allocated an initial value of gross long-term variable remuneration measured in euros ("allocated starting value") as of January 1 of each calendar year within the three-year assessment period.

Whether and to what extent the LTI is paid out at the end of a three-year assessment period is determined on the basis of the EBITDA development of the Company and the development of one or more key performance indicators defined for the assessment period in question, each development being weighted equally.

To take account of the sustainable development of the Company over the entire three-year assessment period, the sum of the initial values allocated is subjected to a validation process at the end of each assessment period, by which the average EBIT achieved over the year is set in relation to a target EBIT figure defined in advance by the Supervisory Board. If the average EBIT for the three-year assessment period differs from the target EBIT in that it is less than 75 %, no payment at all is made in relation to the LTI.

If the average EBIT lies between 75 % and the amount of the target EBIT, a pro-rata adjustment is made. If the average EBIT in the three-year assessment period exceeds the target EBIT, this outperformance is rewarded with a pro-rata premium on the contractually agreed gross LTI amount, up to a maximum of 125 %.

The contractually agreed target remuneration in relation to the LTI after three years is K € 230 for Dr. Britta Giesen and K € 160 for Wolfgang Ehrk as a further Management Board member, assuming full target achievement without taking into account an outperformance reward. It should be noted that a maximum of the above mentioned amounts can be earned (without an outperformance reward) and that the target remuneration can also drop to a minimum value of zero.

Under the conditions described above, however, the long-term variable remuneration is not finally determined until the end of the three-year assessment period concerned. Hence, the long-term variable remuneration promised in

DR. ERIC TABERLET

		in 2018				in 2019				in 2020				
		Basic value	Weighting	Degree of target achievement	Target achievement	Basic value	Weighting	Degree of target achievement	Target achievement	Basic value	Weighting	Degree of target achievement	Target achievement	Total LTI
		in TK €	in %	in %	in K €	in K €	in %	in %	in K €	in K €	in %	in %	in K €	in K €
LTI 2018–2020	Increasing EBITDA above previous year's amount	27	50 %	100 %	26	27	50 %	74 %	20	27	50 %	74 %	20	
	Development of the business unit Semi & Coating	16	30 %	100 %	16	16	30 %	87 %	14	16	30 %	100 %	16	
	Development of the organisation in China	11	20 %	100 %	11	11	20 %	96 %	10	11	20 %	83 %	9	
		53	**100 %**		**53**	**53**	**100 %**		**44**	**53**	**100 %**		**45**	**142**
LTI 2019–2021 (until retirement on December 31, 2020)	Increasing EBITDA above previous year's amount	–	–	–	–	27	50 %	74 %	20	27	50 %	74 %	21	
	Increasing gross profit	–	–	–	–	27	50 %	76 %	20	27	50 %	100 %	27	
		–	**–**	**–**	**–**	**53**	**100 %**		**40**	**53**	**100 %**		**46**	**86**
LTI 2020–2022 (until retirement on December 31, 2020)	Increasing EBITDA above previous year's amount	–	–	–	–	–	–	–	–	27	50 %	74 %	20	
	Increasing market share	–	–	–	–	–	–	–	–	27	50 %	0 %	0	
		–	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**53**	**100 %**		**20**	**20**
Total														**248**

2020 cannot be paid out prior to the end of the 2022 fiscal year. Accordingly, the long-term remuneration promised in 2021 can be paid out for the first time only upon the end of the 2023 fiscal year. In deviation from this, in the event of termination of a Management Board service contract there are separate due date rules which state that the LTIs will also be paid out after the Annual General Meeting which resolves on the fiscal year corresponding to the last year of service of the member of the Management Board.

The composition of the remuneration granted and due in relation to the various LTIs, i.e. the amounts received in this respect in 2021, is based on the individual target agreements shown below, the weightings concerned and the resulting target achievement levels. All current and former Management Board members who received variable remuneration in this respect in the reporting year are listed below.

NATHALIE BENEDIKT

		in 2018				in 2019				in 2020				
		Basic value	Weighting	Degree of target achievement	Target achievement	Basic value	Weighting	Degree of target achievement	Target achievement	Basic value	Weighting	Degree of target achievement	Target achievement	Total LTI
		in TK €	in %	in %	in K €	in K €	in %	in %	in K €	in K €	in %	in %	in K €	in K €
LTI 2018–2020 (until withdrawal on September 30, 2020)	Increasing EBITDA above previous year's amount	27	50 %	100 %	27	27	50 %	74 %	19	23	50 %	74 %	17	
	Development of a global IT organization	9	17 %	100 %	9	9	17 %	74 %	7	7	17 %	100 %	7	
	Implementation of the investment plan	9	17 %	100 %	9	9	17 %	98 %	9	7	17 %	100 %	7	
	Development of a compliance organisation	9	17 %	100 %	9	9	17 %	100 %	9	7	17 %	100 %	7	
		53	**100 %**		**53**	**53**	**100 %**		**44**	**44**	**100 %**		**38**	**135**
LTI 2019–2021 (until withdrawal on September 30, 2020)	Increasing EBITDA above previous year's amount	–	–	–	–	27	50 %	74 %	20	22	50 %	74 %	16	
	Increasing gross profit	–	–	–	–	27	50 %	76 %	20	22	50 %	100 %	22	
		–	**–**	**–**	**–**	**53**	**100 %**		**40**	**44**	**100 %**		**38**	**78**
LTI 2020–2022 (until withdrawal on September 30, 2020)	Increasing EBITDA above previous year's amount	–	–	–	–	–	–	–	–	22	50 %	74 %	17	
	Increasing market share	–	–	–	–	–	–	–	–	22	50 %	0 %	0	
		–	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**44**	**100 %**		**17**	**17**
Total														**230**

DR. ULRICH VON HÜLSEN

		in 2020				
		Basic value	Weighting	Degree of target achievement	Target achievement	Total LTI
		in K €	in %	in %	in K €	in K €
LTI 2018–2020 (until withdrawal on June 30, 2019)	Increasing EBITDA above previous year's amount	26	50 %	100 %	26	
	Increasing capacity and efficiency of value chain	19	35 %	100 %	19	
	Increasing CAGR in the segments R&D and Industry	8	15 %	100 %	8	
		53	**100 %**		**53**	**53**
Total						**53**

DR. BRITTA GIESEN

		in 2021				
		Basic value	Weighting	Degree of target achievement[1]	Target achievement[1]	Total LTI
		in K €	in %	in %	in K €	in K €
LTI 2021–2023	Increasing EBITDA above previous year's amount	39	50 %	100 %	39	
	Increasing group sales per capita	38	50 %	100 %	38	
		77	**100 %**		**77**	**77**
Total						**77**

[1] preliminary

Due to the fact that Dr. Britta Giesen joined the company during the year on October 1, 2020, a guaranteed LTI of K € 58 was agreed with her for the 2020 fiscal year in deviation from the principles described above. This amount was paid out in full following the Annual General Meeting in 2021.

During the fiscal year the Management Committee and subsequently also the full Supervisory Board also dealt with the assessment of LTI target achievement for the year 2021. The individual target agreements, the weightings concerned and the resulting preliminary target achievement levels are shown in the following overview.

The aforementioned amounts were recognized in the annual financial statements as a provision for the remuneration of the 2021 LTIs. The final resolution on target achievement for fiscal 2021 will be adopted on presentation of the audited annual financial statements and the consolidated financial statements of Pfeiffer Vacuum Technology AG for the fiscal year 2021.

WOLFGANG EHRK

		in 2021				
		Basic value	Weight-ing	Degree of target achieve-ment[1]	Target achieve-ment[1]	Total LTI
		in K €	in %	in %	in K €	in K €
LTI 2020–2022	Increasing EBITDA above previous year's amount	27	50%	100 %	27	
	Improvement of on-time delivery	26	50%	48 %	13	
		53	**100%**		**40**	**40**
LTI 2021–2023	Increasing EBITDA above previous year's amount	27	50%	100 %	27	
	Improvement of employee productivity	26	50%	90 %	24	
		53	**100%**		**51**	**51**
Total						**91**

[1] preliminary

Total Management Board remuneration in the fiscal year 2021

The following tables show the total benefits granted and due to each individual member of the Management Board in the fiscal year 2021, i.e. the total benefits actually received for fiscal year 2021 and the previous year individually for all current and former Management Board members who received a remuneration in the reporting year. The receipts and benefits are set in relation to the corresponding reference values for the 2020 fiscal year. In accordance with the provisions of § 162 of the German Stock Corporation Act (AktG), the amounts to be disclosed as remuneration granted and due (receipts) are those which became due in the reporting period and have already been received by the individual Management Board member or those for which due payment has not yet been made.

In 2019, Dr. Eric Taberlet's remuneration in France was determined to be subject to social security contributions. The employer contributions subsequently paid and a part of the employee contributions in Germany are included in the fringe benefits for the year in question. The fringe benefits of the year 2021 are thus attributable to the employer contributions in connection with the variable remuneration paid out for previous years.

The remuneration granted in 2020 was paid in part by the subsidiary Pfeiffer Vacuum SAS, Annecy, France. Of the fixed remuneration, K € 164 and of the fringe benefits, K € 101 were attributable to this entity. The remuneration paid in 2021 was exclusively attributable to Pfeiffer Vacuum Technology AG.

In addition, the remuneration recognized as an expense in the annual financial statements and the consolidated financial statements in the reporting year 2021 is shown below.

REMUNERATION GRANTED OR DUE

	Dr. Britta Giesen CEO		Wolfgang Ehrk COO		Dr. Eric Taberlet CEO		Nathalie Benedikt CFO		Dr. Ulrich von Hülsen Member of the Management Board		Dr. Matthias Wiemer Member of the Management Board		Total	
	Member of the Management Board from Oct. 1, 2020 CEO from Jan. 1, 2021		from Jan. 1, 2020		from Nov. 27, 2017 until Dec. 31, 2020		from Nov. 27, 2017 until Sept. 30, 2020		from Aug. 1, 2017 until June 30, 2019		from April 1, 2007 until June 30, 2019			
	2021	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
	in K €	in K €	in K €	in K €	in K €	in K €	in K €	in K €	in K €	in K €	in K €	in K €	in K €	in K €
Fixed remuneration	450	113	250	250	–	302	–	220	–	–	–	–	700	885
Benefits in kind	27	9	14	15	80	171	–	24	–	–	–	–	121	219
Total	**477**	**122**	**264**	**265**	**80**	**473**	**–**	**244**	**–**	**–**	**–**	**–**	**821**	**1,104**
Target Bonus	55	–	140	–	131	109	94	56	–	–	–	60	420	225
LTI 2018–2020	–	–	–	–	142	–	135	–	53	–	–	47	330	47
LTI 2019–2021	–	–	–	–	86	–	78	–	–	–	–	20	164	20
LTI 2020–2022	58	–	–	–	20	–	17	–	–	–	–	–	95	–
Total variable remuneration	**113**	**–**	**140**	**–**	**379**	**109**	**324**	**56**	**53**	**–**	**–**	**127**	**1,009**	**292**
Other	–	–	–	40	–	–	–	–	–	–	–	–	–	40
Total	**590**	**122**	**404**	**305**	**459**	**582**	**324**	**300**	**53**	**–**	**–**	**127**	**1,830**	**1,436**
Pensions	–	–	–	–	–	57	–	–	–	–	28	–	28	57
Total remuneration	**590**	**122**	**404**	**305**	**459**	**639**	**324**	**300**	**53**	**–**	**28**	**127**	**1,858**	**1,493**
Proportion of fixed remuneration in total remuneration	76.3 %	92.6 %	61.9 %	82.0 %	0.0 %	47.2 %	0.0 %	73.3 %	0.0 %	0.0 %	0.0 %	0.0 %	37.7 %	59.3 %
Proportion of variable remuneration in total remuneration	19.1 %	0.0 %	34.6 %	0.0 %	82.6 %	17.1 %	100.0 %	18.7 %	100.0 %	0.0 %	0.0 %	100.0 %	54.3 %	19.5 %
Proportion of other remuneration in total remuneration	4.6 %	7.4 %	3.5 %	18.0 %	17.4 %	35.7 %	0.0 %	8.0 %	0.0 %	0.0 %	100.0 %	0.0 %	8.0 %	21.2 %
	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	0.0 %	100.0 %	100.0 %	100.0 %	100.0 %

REMUNERATION RECORDED IN THE INCOME STATEMENTS

Dr. Britta Giesen, CEO (CEO from Jan. 1, 2021, Member of the Mangement Board from Oct. 1, 2020)	**2021**	**2021**		**2020**
		Minimum value	**Maximum value**	
	in K €	in K €	in K €	in K €
Fixed remuneration	450	450	450	113
Benefits in kind	27	27	27	9
Total	**477**	**477**	**477**	**122**
Target Bonus	220	0	220	55
LTI 2018–2020	–	–	–	–
LTI 2019–2021	–	–	–	–
LTI 2020–2022	–	–	–	58
LTI 2021–2023	77	0	77	–
Total variable remuneration	**297**	**0**	**297**	**113**
Other	–	–	–	–
Total	**774**	**477**	**774**	**235**
Pensions	50	50	50	17
Total remuneration	**824**	**527**	**824**	**252**

REMUNERATION RECORDED IN THE INCOME STATEMENTS

Wolfgang Ehrk, COO (from Jan. 1, 2020)	**2021**	**2021**		**2020**
		Minimum value	**Maximum value**	
	in K €	in K €	in K €	in K €
Fixed remuneration	250	250	250	250
Benefits in kind	14	14	14	15
Total	**264**	**264**	**264**	**265**
Target Bonus	112	0	140	140
LTI 2018–2020	–	–	–	–
LTI 2019–2021	–	–	–	–
LTI 2020–2022	40	0	53	40
LTI 2021–2023	51	0	53	–
Total variable remuneration	**203**	**0**	**246**	**180**
Other	–	–	–	40
Total	**467**	**264**	**510**	**485**
Pensions	–	–	–	–
Total remuneration	**467**	**264**	**510**	**485**

REMUNERATION RECORDED IN THE INCOME STATEMENTS

Dr. Eric Taberlet, CEO (from Nov. 27, 2017, until Dec. 31, 2020)	**2021**	**2021** Minimum value	**2021** Maximum value	**2020**
	in K €	in K €	in K €	in K €
Fixed remuneration	–	–	–	302
Benefits in kind	–	–	–	171
Total	**–**	**–**	**–**	**473**
Target Bonus	–	–	–	129
LTI 2018–2020	–	–	–	46
LTI 2019–2021	–	–	–	48
LTI 2020–2022	–	–	–	21
LTI 2021–2023	–	–	–	–
Total variable remuneration	**–**	**–**	**–**	**244**
Other	–	–	–	–
Total	**–**	**–**	**–**	**717**
Pensions	–	–	–	57
Total remuneration	**–**	**–**	**–**	**774**

REMUNERATION RECORDED IN THE INCOME STATEMENTS

Nathalie Benedikt, CFO (from Nov. 27, 2017, until Sept. 30, 2020)	**2021**	**2021** Minimum value	**2021** Maximum value	**2020**
	in K €	in K €	in K €	in K €
Fixed remuneration	–	–	–	220
Benefits in kind	–	–	–	24
Total	**–**	**–**	**–**	**244**
Target Bonus	–	–	–	94
LTI 2018–2020	–	–	–	40
LTI 2019–2021	–	–	–	40
LTI 2020–2022	–	–	–	18
LTI 2021–2023	–	–	–	–
Total variable remuneration	**–**	**–**	**–**	**192**
Other	–	–	–	–
Total	**–**	**–**	**–**	**436**
Pensions	–	–	–	–
Total remuneration	**–**	**–**	**–**	**436**

TOTAL REMUNERATION OF THE MANAGEMENT BOARD RECORDED IN THE INCOME STATEMENTS

	2021	2021		2020
		Minimum value	Maximum value	
	in K €	in K €	in K €	in K €
Fixed remuneration	700	700	700	885
Beneftis in kind	41	41	41	219
Total	**741**	**741**	**741**	**1,104**
Target Bonus	332	–	360	418
LTI 2018–2020	–	–	–	86
LTI 2019–2021	–	–	–	88
LTI 2020–2022	40	0	53	137
LTI 2021–2023	128	0	130	–
Total variable remuneration	**500**	**0**	**543**	**729**
Other	–	–	–	40
Total	**1,241**	**741**	**1,284**	**1,873**
Pensions	50	50	50	74
Total remuneration	**1,291**	**791**	**1,334**	**1,947**

Information on the relative development of the remuneration of the Management Board, the remuneration of the other employees, and the development of the Company's earnings

The following overview shows the relative development of the remuneration of the members of the Management Board who were active in the respective fiscal year in relation to the remuneration of fiscal year 2020, as well as to the remuneration of the Company's senior management (in accordance with the remuneration system), the other employees of the Pfeiffer Vacuum Group and selected key earnings figures of the Pfeiffer Vacuum Group. The remuneration of the members of the Management Board on which the overview is based corresponds to the total amounts received in 2021 and the previous year, respectively.

CHANGE IN MANAGEMENT BOARD REMUNERATION IN RELATION TO EARNINGS DEVELOPMENT AND EMPLOYEES

	Change in remuneration 2021 compared to 2020
	in %
Management Board	
Dr. Britta Giesen (from October 1, 2020)	+ 383.6 %[1]
Wolfgang Ehrk	+ 32.5 %
Dr. Eric Taberlet (until Dezember 31, 2020)	– 28.2 %
Nathalie Benedikt (until September 30, 2020)	+ 8.0 %
Dr. Ulrich von Hülsen (until Juni 30, 2019)	n/a
Dr. Matthias Wiemer (until Juni 30, 2019)	– 78.0 %
Key earnings indicators	
Group sales	+ 24.7 %
Group EBIT	+ 105.5 %
Net profit of Pfeiffer Vacuum Technology AG (Annual Financial Statements acc. to HGB)	+ 185.3 %
Employees	
Senior management	+ 34.3 %[2]
Other employees of Pfeiffer Vacuum Group	+ 10.8 %[3]

[1] On the basis of receipts linearly extrapolated to a full year, a more comparable increase would be 20.9 %.
[2] This increase results primarily from filling new roles within the Group Executive Committee.
[3] On the basis of gross salaries of all group employees (excluding Management Board and senior management).

Pension commitments for members of the Management Board

A pension commitment exists for Dr. Britta Giesen in the form of an annual fixed contribution to a provident fund in the amount of K € 50. In 2020, this contribution was paid pro rata temporis from October 1, 2020 (K € 17). The benefits of the provident fund are financed by a life insurance policy pledged to Dr. Britta Giesen.

Other benefits for former members of the Management Board

Dr. Eric Taberlet received a one-off payment in the amount of K € 57 in connection with the commencement of his retirement on December 31, 2020, which resulted from his many years of employment, including with Pfeiffer Vacuum SAS, Annecy, France, due to legal requirements and was also paid by this entity.

No further payments, particularly severance payments, were made in connection with the service contracts of Dr. Eric Taberlet and Nathalie Benedikt, which were terminated in 2020.

There are final-salary pension commitments to other former members of the Board of Management. The IFRS net pension expenses attributable to this group of persons in the past fiscal year amount to K € 64 (previous year: K € 83).

Following a repayment of K € 280 in 2020, a total repayment of K € 332 was made by the Pfeiffer Vacuum Trust e. V. in 2021. The net pension obligation (IFRS) that exists for former members of the Management Board amounts to K € 8,007 (previous year: K € 9,823). Current pensions in 2021 amounted to K € 403 (previous year: K € 371). Of this amount, K € 28 is attributable to Dr. Matthias Wiemer for the first time.

REMUNERATION FOR THE SUPERVISORY BOARD

The members of the Supervisory Board receive only fixed remuneration, which is determined by the Annual General Meeting. On May 12, 2021, the Annual General Meeting approved the remuneration system presented for the Supervisory Board and, in accordance with this, determined new Supervisory Board remuneration that became effective from the beginning of the 2021 fiscal year.

Accordingly, each member of the Supervisory Board now receives annual base remuneration of K € 45 (previously K € 35). The Chair of the Supervisory Board will continue to receive base annual remuneration of K € 105, while the Deputy Chair will continue to receive base remuneration of K € 70. In addition to their base remuneration, the members of the Supervisory Board will receive, for the first time from fiscal 2021, the following annual remuneration for their work on Supervisory Board committees:

- K € 5 each as an ordinary member of a committee, and
- K € 15 as Chair of the Audit Committee, and K € 10 each as Chair of another committee.

This additional remuneration does not accrue if no meetings of the committee concerned were held in that fiscal year.

If members of the Supervisory Board are newly elected during a fiscal year or withdraw for any other reason, the remuneration shall be paid on a pro rata temporis basis.

The composition of Supervisory Board remuneration recognized as an expense in 2021 and 2020 is as follows:

FIXED REMUNERATION OF THE SUPERVISORY BOARD MEMBERS 2021

	Base remuneration	Remuneration for committee work	Total aggregate remuneration 2021	Total aggregate remuneration 2020	Change
	in K €	in K €	in K €	in K €	in %
Ayla Busch, Chairwoman of the Supervisory Board	105	25	130	105	23.8
Götz Timmerbeil, Deputy Chairman of the Supervisory Board	70	35	105	70	50.0
Minja Lohrer (from May 12, 2021)	30	10	40	–	n/a
Filippo Th. Beck (until May 12, 2021)	19	6	25	35	– 28.6
Henrik Newerla	45	10	55	35	57.1
Matthias Mädler (until May 12, 2021)	19	2	21	35	–40.0
Stefan Röser	45	0	45	35	28.6
Timo Birkenstock (from May 12, 2021)	30	3	33	–	n/a
Total	**363**	**91**	**454**	**315**	**44.1**

In addition, the remuneration granted and due in 2021 and 2020, i.e., the remuneration actually received.

SUPERVISORY BOARD REMUNERATION GRANTED AND DUE

	2021	2020	Change
	in K €	in K €	in %
Ayla Busch, Chairwoman of the Supervisory Board	105	0	n/a
Götz Timmerbeil, Deputy Chairman of the Supervisory Board	0	70	-100.0
Minja Lohrer (from May 12, 2021)	0	–	n/a
Filippo Th. Beck (until May 12, 2021)	0	35	-100.0
Henrik Newerla	0	35	-100.0
Matthias Mädler (until May 12, 2021)	0	35	-100.0
Stefan Röser	0	35	-100.0
Timo Birkenstock (from May 12, 2021)	0	–	n/a
Total	**105**	**210**	**-50.0**

In accordance with the resolution of the Annual General Meeting, the remuneration attributable to the year 2021 was paid to the members of the Supervisory Board in January 2022. Therefore, in principle, no remuneration was paid to the members of the Supervisory Board in 2021. In deviation from this, the remuneration of Supervisory Board Chairwoman Ayla Busch for 2020 was not paid until January 2021. The other members of the Supervisory Board received their remuneration for the year 2020 in 2020.

Consolidated Financial Statements

3

CONSOLIDATED STATEMENTS OF INCOME PFEIFFER VACUUM TECHNOLOGY AG

CONSOLIDATED STATEMENTS OF INCOME

Pfeiffer Vacuum Technology AG

	Note	2021	2020
		in K€	in K€
Net sales	7, 32	771,373	618,665
Cost of sales	8, 15	– 490,965	– 401,671
Gross profit		**280,408**	**216,994**
Selling and marketing expenses	8	– 79,371	– 70,795
General and administrative expenses	8	– 61,448	– 57,595
Research and development expenses	8	– 34,230	– 35,135
Other operating income	9	11,395	9,349
Other operating expenses	9	– 23,661	– 17,522
Operating profit	32	**93,093**	**45,296**
Financial expenses	10, 33	– 843	– 902
Financial income	10, 33	251	147
Earnings before taxes	24, 32	**92,501**	**44,541**
Income taxes	24	– 30,514	– 12,950
Net income		**61,987**	**31,591**
Earnings per share (in €)			
Basic	35	6.28	3.20
Diluted	35	6.28	3.20

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME PFEIFFER VACUUM TECHNOLOGY AG

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
Pfeiffer Vacuum Technology AG

	Note	2021	2020
		in K€	in K€
Net income		**61,987**	**31,591**
Other comprehensive income			
Amounts to be reclassified to income statement in future periods (if applicable)			
Currency changes	21	13,850	–14,133
Results from cash flow hedges	21, 33	10	–30
Related deferred income tax effects	21	–3	–
		13,857	**–14,163**
Amounts not to be reclassified to income statement in future periods			
Valuation of defined benefit plans	21, 25	10,401	–8,950
Related deferred income tax effect	21	–2,815	2,146
		7,586	**–6,804**
Other comprehensive income net of tax		**21,443**	**–20,967**
Total comprehensive income net of tax		**83,430**	**10,624**

CONSOLIDATED BALANCE SHEETS PFEIFFER VACUUM TECHNOLOGY AG

CONSOLIDATED BALANCE SHEETS – ASSETS

Pfeiffer Vacuum Technology AG

	Note	Dec. 31, 2021	Dec. 31, 2020
		in K€	in K€
Intangible assets	11	91,524	100,736
Property, plant and equipment	3, 12	175,952	158,191
Investment properties	13	352	376
Other financial assets	14	2,502	2,198
Other assets	14	791	829
Deferred tax assets	24	28,650	31,306
Total non-current assets		**299,771**	**293,636**
Inventories	15	162,178	133,254
Trade accounts receivable	16, 33	119,587	83,601
Contract assets	16	1,392	1,501
Income tax receivables		4,796	10,848
Prepaid expenses		4,689	4,260
Other financial assets	14	168	1,597
Other accounts receivable	17	15,924	10,265
Cash and cash equivalents	18, 33	99,371	122,883
Total current assets		**408,105**	**368,209**
Total assets	32	**707,876**	**661,845**

CONSOLIDATED BALANCE SHEETS PFEIFFER VACUUM TECHNOLOGY AG

CONSOLIDATED BALANCE SHEETS – SHAREHOLDERS' EQUITY AND LIABILITIES

Pfeiffer Vacuum Technology AG

	Note	Dec. 31, 2021	Dec. 31, 2020
		in K€	in K€
Share capital	19	25,261	25,261
Additional paid-in capital	19	96,245	96,245
Retained earnings	20	370,007	323,808
Other equity components	21	– 32,137	– 53,580
Equity of Pfeiffer Vacuum Technology AG shareholders		**459,376**	**391,734**
Financial liabilities	3, 23, 33	13,876	69,614
Provisions for pensions	25	60,502	70,348
Deferred tax liabilities	24	4,437	4,477
Contract liabilities	27	1,321	804
Total non-current liabilities		**80,136**	**145,243**
Trade accounts payable	26, 33	58,046	44,937
Contract liabilities	27	13,343	7,296
Other accounts payable	28	27,742	21,478
Provisions	29	48,181	39,502
Income tax liabilities		16,773	8,154
Financial liabilities	3, 30, 33	4,279	3,501
Total current liabilities		**168,364**	**124,868**
Total shareholders' equity and liabilities		**707,876**	**661,845**

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY PFEIFFER VACUUM TECHNOLOGY AG

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

Pfeiffer Vacuum Technology AG

	Note	Share Capital	Additional Paid-in Capital	Retained Earnings	Other Equity Components	Equity of Pfeiffer Vacuum Technology AG Shareholders
		in K€	in K€	in K€	in K€	in K€
Balance as at January 1, 2020		**25,261**	**96,245**	**304,552**	**-32,613**	**393,445**
Net income		–	–	31,591	–	31,591
Earnings after taxes recorded directly in equity	21, 33	–	–	–	-20,967	-20,967
Total comprehensive income		**–**	**–**	**31,591**	**-20,967**	**10,624**
Dividend payment	20	–	–	-12,335	–	-12,335
Balance as at December 31, 2020		**25,261**	**96,245**	**323,808**	**-53,580**	**391,734**
Net income		–	–	61,987	–	61,987
Earnings after taxes recorded directly in equity	21, 33	–	–	–	21,443	21,443
Total comprehensive income		**–**	**–**	**61,987**	**21,443**	**83,430**
Dividend payment	20	–	–	-15,788	–	-15,788
Balance as at December 31, 2021		**25,261**	**96,245**	**370,007**	**-32,137**	**459,376**

CONSOLIDATED STATEMENTS OF CASH FLOWS PFEIFFER VACUUM TECHNOLOGY AG

CONSOLIDATED STATEMENTS OF CASH FLOWS – CASH FLOW FROM OPERATING ACTIVITIES

Pfeiffer Vacuum Technology AG

	Note	2021	2020
		in K€	in K€
Cash flow from operating activities:			
Earnings before taxes	32	92,501	44,541
Adjustment for financial income/financial expenses		592	755
Interest income received		282	154
Interest expenses paid		– 1,031	– 945
Income taxes paid		– 16,055	– 11,675
Depreciation/amortization	3, 11, 12, 13, 32	26,103	25,933
Impairment losses	11	16,407	8,833
Gain/loss from disposals of long-term assets		775	484
Changes in allowances for doubtful accounts	16	730	507
Changes in inventory reserves	15	5,531	4,584
Other non-cash income and expenses	3	159	– 639
Effects of changes in assets and liabilities:			
Inventories		– 30,094	– 13,152
Receivables and other assets		– 30,667	4,733
Provisions, including pensions, and income tax liabilities		1,643	– 2,764
Payables		24,702	– 2,158
Net cash provided by operating activities		**91,578**	**59,191**

CONSOLIDATED STATEMENTS OF CASH FLOWS PFEIFFER VACUUM TECHNOLOGY AG

CONSOLIDATED STATEMENTS OF CASH FLOWS – CASH FLOW FROM INVESTING ACTIVITIES / CASH FLOW FROM FINANCING ACTIVITIES

Pfeiffer Vacuum Technology AG

	Note	2021	2020
		in K€	in K€
Cash flow from investing activities:			
Capital expenditures	11, 12, 13, 32	– 41,607	– 30,441
Proceeds from disposals of fixed assets		1,748	256
Net cash used in investing activities		**– 39,859**	**– 30,185**
Cash flow from financing activities:			
Redemptions of financial liabilities	33	– 55,062	– 56
Dividend payments	20	– 15,788	– 12,335
Redemptions of leasing liabilities	3, 33	– 5,505	– 4,930
Net cash used in financing activities		**– 76,355**	**– 17,321**
Effects of foreign exchange rate changes on cash and cash equivalents		1,124	– 782
Net changes in cash and cash equivalents		**– 23,512**	**10,903**
Cash and cash equivalents at beginning of period		122,883	111,980
Cash and cash equivalents at end of period	18	**99,371**	**122,883**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

REMARKS RELATING TO THE COMPANY AND ITS ACCOUNTING AND VALUATION METHODS

1. General remarks relating to the Company

The parent company within the Pfeiffer Vacuum Group ("the Company" or "Pfeiffer Vacuum") is Pfeiffer Vacuum Technology AG, domiciled at Berliner Strasse 43, 35614 Asslar, Germany. Pfeiffer Vacuum Technology AG is a stock corporation organized under German law and recorded in the Register of Companies at the Local Court of Wetzlar under Number HRB 44. The Group is listed in the Prime Standard of Deutsche Börse Stock Exchange in Frankfurt am Main, Germany, where it is included in the SDAX index.

Pfeiffer Vacuum is one of the leading full-line vacuum technology manufacturers, offering custom solutions for a wide range of needs in connection with the generation, control, and measurement of vacuum. The products manufactured at the Group's production facilities in Asslar, Dresden and Göttingen, Germany, as well as in Annecy, France and Asan, Republic of Korea, Indianapolis and Yreka in the United States, Cluj, Romania, as well as Ho Chi Minh City, Vietnam, and Wuxi, China, include turbopumps, a range of backing pumps, such as rotary vane, Roots and dry pumps, complete pumping stations, as well as custom vacuum systems, leak detectors and components.

Pfeiffer Vacuum markets and distributes its products through its own network of sales companies and independent marketing agents. Moreover, there are service support centers in all major industrial locations throughout the world. The Group's primary markets are located in Europe, the United States, and Asia.

2. Basis for preparing Consolidated Financial Statements

Statement of compliance with IFRS

The Consolidated Financial Statements of Pfeiffer Vacuum Technology AG for the fiscal year from January 1 to December 31, 2021, have been prepared in accordance with International Financial Reporting Standards (IFRS) and the interpretations of the IFRS Interpretations Committee (IFRS IC) as applicable in the European Union (EU). This includes the International Accounting Standards (IAS), which continue to retain their validity, the interpretations of the Standing Interpretations Committee (SIC) and the interpretations of the International Financial Reporting Interpretations Committee (IFRIC). Those standards that have been approved but whose application is not yet mandatory have not been adopted at an earlier stage. The Notes to the Consolidated Financial Statements additionally include the information required by § 315e, Sub-Para. 1, of the German Commercial Code ("HGB").

Basic valuation principles

The Consolidated Financial Statements were prepared on the basis of historical acquisition and production costs. This does not include derivative financial instruments and plan assets in connection with defined benefit plans, which are measured at fair value. Pfeiffer Vacuum prepares its Consolidated Financial Statements in euros (€). Unless otherwise indicated, the presentation is in thousands of euros (K €). For mathematical reasons, the numbers presented in the Consolidated Financial Statements may include rounding differences.

Consolidated companies and principles of consolidation

All companies which Pfeiffer Vacuum directly or indirectly controls are consolidated. The Group is considered to control an entity if it is exposed to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Inclusion in the Consolidated Financial Statements is made on the basis of individual financial statements prepared in accordance with consistent accounting and valuation principles. The balance sheet date of the individual financial statements of the included companies is the same as the balance sheet date of the Consolidated Financial Statements.

There were no investments in joint ventures or joint operations as of December 31, 2021, or in previous years. Nor were there any investments in unconsolidated structured entities or investments to be included using the equity method.

Consolidation of investments is effected at the acquisition date in accordance with the acquisition method. In this connection, all assets (including, if applicable, intangible assets to be recognized additionally) and liabilities are first valued at their attributable fair values. The acquisition costs of the equity investment, i.e. the total compensation transferred, valued in accordance with attributable fair values, are then offset against the acquired, newly valued shareholders' equity. Any resulting positive difference is recognized as goodwill and written down in future periods only in the event of impairment (impairment-only approach). If these amounts are less than the fair value of the net identifiable assets of the acquired business, the difference is recognized immediately in profit or loss as a discounted acquisition.

All intercompany receivables and liabilities, gains and losses, revenues and expenses are eliminated in connection with the consolidation process.

Foreign currency translation

The annual financial statements of subsidiaries domiciled outside the European Currency Union have been translated into euros (€) in accordance with IAS 21, "The Effects of Changes in Foreign Exchange Rates." Each company within the Corporate Group stipulates its own functional currency. The functional currency of the subsidiaries is the respective local currency. When translating financial statements presented in foreign functional currencies, year-end exchange rates are applied to assets and liabilities, while average annual exchange rates are applied to income statement accounts. The resulting translation adjustments are recorded in other equity components.

In the consolidated financial statements, foreign-currency transaction gains and losses from regular operations of consolidated companies are recorded as other operating income and expenses in the income statement.

3. Application of amended or new standards

The accounting and valuation principles used are essentially the same as those used the year before. In variance thereto, in 2021 the Group has applied the following new or amended IASB announcements that have been endorsed by the European Union (EU) for the first time, as their application was mandatory in fiscal 2021.

NEW ANNOUNCEMENTS

	Issued by IASB/IFRS IC	Applicability[1]
Amendment to IFRS 16 Covid-19-Related Rent Concessions after Juni 30, 2021[2]	March 2021	April 1, 2021
Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16: Interest Rate Benchmark Reform Phase II[2]	August 2020	January 1, 2021
Amendments to IFRS 4 Insurance Contracts – deferral of IFRS 9[2]	June 2020	January 1, 2021

[1] Fiscal years beginning on or after the indicated date according to EU regulation
[2] no practical relevance for the group

The following pronouncements adopted by the IASB and IFRS IC have not yet been adopted into EU law by the EU.

NEW ANNOUNCEMENTS

	Issued by IASB/IFRS IC	Applicability
Amendments to IFRS 3 „Business combinations", IAS 16 „Property, plant and equipment" and IAS 37 „Provisions, contingent liabilities and contingent assets"	May 2020	January 1, 2022
Annual Improvements to IFRS Standards 2018–2020 Cycle (issued on Dec. 12, 2017)	May 2020	January 1, 2022
IFRS 17 „Insurance contracts" as amended in June 2020 by amendments to IFRS 17 „Insurance Contracts"	June 2020	January 1, 2023

Pfeiffer Vacuum intends apply the announcements mentioned above as of the effective date of mandatory application within the EU. The impact on the Consolidated Financial Statements resulting from the application of these not yet endorsed pronouncements are currently being analyzed.

4. Accounting and valuation methods

Income recognition

Revenue is recorded when control over the distinct goods or services is transferred to the customer, i.e. when the customer has the ability to control the use of the transferred goods or services and substantially obtains all of the benefits that remain from them. The prerequisite for this is that a contract with enforceable rights and obligations exists and that, among other things, it is probable that the consideration will be received, taking into account the creditworthiness of the customer. Most contracts with customers are fixed-price agreements. Sales revenues correspond to the transaction prices according to the contracts with customers to which the Group is expected to be entitled. Basically, transaction prices do not include any financing components, as the expected period between the transfer of the goods or services to the customer and the payment date does not exceed twelve months. If a contract includes several distinct performance obligations, the transaction price is allocated to the performance obligations on the basis of the relative individual selling prices. If standalone selling prices are not directly observable, they are estimated based on the "expected-cost-plus-a-margin" approach. In the case of individual contracts with variable consideration that is included in the transaction price, the amount of the variable consideration is determined using the expected value method or the most probable amount. The variable consideration is generally measured according to the most probable amount. Revenues within the meaning of IFRS 15 are recognized at Pfeiffer Vacuum either at a specific point in time or over a specific period of time, whereby revenue recognition at a point in time predominates.

Revenues from the sale of vacuum products are recognized at the time when control is transferred to the customer, generally upon delivery of the goods. Revenues from contracts with customer-specific vacuum solutions are recognized over a certain period of time based on the stage of completion, based on the ratio of costs already incurred at the balance sheet date to the estimated total costs (input-based method) and recorded as contract assets. In connection with the sale of vacuum products, Pfeiffer Vacuum in some cases offers extended warranty terms ("service & process-type warranties") that go beyond the statutory warranty obligations ("assurance-type warranties"). Performance obligations in connection with extended warranty terms, for which the customer has already paid a consideration, are recognized as contract liabilities and recognized over the period in which the services are rendered based on the time elapsed.

Sales from providing services are recognized at a point in time after execution. They include billed working hours of the service staff, spare parts and replacement parts. Interest income is recognized when the interest accrues. Rental income from investment property is recognized on a straight-line basis over the term of the lease.

Selling and marketing expenses

Selling and marketing expenses mainly include personnel costs, costs for marketing and advertising, costs for trade fair visits and other sales promotion expenses (e.g. catalogues, brochures, etc.).

Administrative and general expenses

The administrative and general expenses mainly include personnel costs, expenses for bad debt allowances, costs of the annual audit, IT costs, other general consulting costs and all expenses relating to the group as a whole.

Research and development expenses

Research and development costs are generally expensed as incurred. Development costs are capitalized, if the capitalization prerequisites in IAS 38, "Intangible Assets," are fully satisfied.

These capitalization requirements are:

- The completion of the project/asset is technically feasible so that the asset can be used or sold
- Management intends to complete the asset for use or sale
- There is the ability to use or sell the asset
- It can be demonstrated how the asset is expected to generate future economic benefits
- Adequate technical, financial and other resources are available to complete the development and use or sell the asset
- The expenditure on the asset during the development phase can be reliably determined

The directly attributable costs that are capitalized as part of the asset include employee costs and an appropriate share of related overheads.

Capitalized development costs are amortized as intangible assets and amortized from the point at which the asset is available for use.

Self-created development expenses were capitalized for the first time in the 2021 financial year because the aforementioned capitalization requirements were met.

Property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets are stated at cost and depreciated/amortized on a straight-line basis over the customary useful lives of the assets. At the close of each fiscal year, the useful lives and depreciation/amortization methods, as well as the residual values in the case of property, plant and equipment, are reviewed and adjusted where necessary. The following useful lives are assumed:

ESTIMATED USEFUL LIFE

Production halls, production and administration buildings and similar facilities	20 – 40 years
Machinery and equipment (including IT equipment)	3 – 15 years
Intangible assets[1]	3 – 5 years

[1] With the exception of the purchase price allocations based on goodwill and certain trademarks recognized in connection with purchase price allocations, there are no intangible assets with an indefinite useful life. Internally generated capitalized intangible assets have an expected useful life of 3-15 years.

Intangible assets recognized in connection with acquisitions, i.e. trademark rights or customer base, may have different, longer estimated useful lives of up to 20 years unless indeterminable. Determination is made on an individual basis.

Scheduled depreciation and amortization are allocated to the expense lines in the income statement on the basis of the input involved. Subsequent acquisition or production costs are only included in the carrying amount of the asset or recognized as a separate asset if it is probable that future economic benefits associated with the item of property, plant and equipment will flow to the Group and the cost of the item of property, plant and equipment can be reliably determined. The carrying amount of a component accounted for as a separate asset is derecognized when it is replaced. Repair and maintenance costs are expensed as incurred.

The Group reviews long-lived assets for impairment whenever events or changes in circumstances suggest that the carrying amount of an asset may not be recoverable. Should impairment indicators exist, the Group performs the analyses required under IAS 36, "Impairment of Assets," with the carrying amount of the asset being compared to the recoverable amount. The recoverable amount of an asset or a cash-generating unit is the greater of the fair value less its selling costs and value in use. The resulting amount must be determined for each individual asset, unless an asset generates cash flows that are dependent upon those from other assets or other asset groups. Should the carrying amount of an asset be higher than its recoverable amount, the asset is viewed as being impaired and is written down to its recoverable amount. To determine the value in use of an asset, the anticipated future cash flows are discounted to their cash value, taking into consideration a before-tax discount rate that reflects current market expectations with respect to the interest rate effect and the specific risks of the asset in question. An appropriate valuation model is employed to determine the fair value less selling costs. This model is based on valuation multiples and other available indicators for the fair value. Any required reversals of impairment losses are recorded in future-period income statements up to the amount of the impairment loss reversal limit. This limit is determined by the amount that would have resulted at the close of the respective fiscal year given scheduled depreciation of the asset.

At least once a year, the Group reviews goodwill for possible impairments. For the purpose of the impairment test, goodwill acquired within the context of a corporate merger is allocated at the acquisition date to those cash generating units of the Corporate Group that can be expected to be able to benefit from the corporate merger. This review is always made whenever events or changes in circumstances suggest that the carrying amount may not be recoverable. In this case, the above described process for impairments under IAS 36, "Impairment of Assets," is applied. Any resulting impairment loss is recorded in the income statement. A reversal of goodwill impairment losses in future periods is not permissible.

A fixed or intangible asset is derecognized either at the time of disposal or at such time as no economic benefit can any longer be expected from the further utilization or sale of the asset. Gains and losses from disposals of assets are determined and recorded in the income statement on the basis of the difference between selling costs and carrying amount, less any directly attributable selling costs, where applicable.

Investment properties

Real estate properties are allocated to the portfolio of investment properties if they are held for the purpose of generating rental income. They are stated at cost and depreciated on a straight-line basis over their estimated useful lives (cost model). Assessment of their residual values, useful lives and depreciation methods, as well as any impairment losses, is performed analogously to the procedure described in connection with property, plant and equipment. Investment properties are derecognized upon disposal or when they are no longer being permanently used and they are no longer expected to produce any further future economic benefit.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or an equity instrument of another entity. Accounting for financial instruments in the case of usual and customary purchase or sale is performed on the settlement date, i.e. the day on which the asset is delivered. According to IFRS 9, "Financial Instruments" financial instruments are allocated to the following categories upon initial recognition:

- "Fair value through profit or loss"
- "Fair value through other comprehensive income"
- "Amortized cost"

At the time of recognition accounts receivable, in particular trade accounts receivable and contract assets, are recorded with the amount of unconditional consideration and subsequently measured at amortized cost. Receivables generally do not contain any significant financing components. If they contain significant financing components, they must instead be recognized at fair value. A contract asset is the right to receive consideration in exchange for goods or services that have been transferred to the customer. Allowances on contract assets and receivables for credit risks are made on the basis of the expected loss model. Pfeiffer Vacuum applies a simplified approach to measure expected losses pursuant to IFRS 9, under which a provision for possible loan losses must be recognized in the amount of the expected losses over the remaining term of the asset (excluding potential VAT amounts). A reversal of an impairment loss is recognized in profit or loss up to a maximum of the amortized cost. Receivables are derecognized as soon as they become uncollectible.

The Group uses derivatives only to manage foreign currency exchange rate risks. Instead of applying the hedge accounting provisions of IFRS 9, Pfeiffer Vacuum is voluntarily exercising its option and continues to apply the corresponding provisions of IAS 39. Approximately 58 % of Group sales are invoiced in foreign currencies (non-euro, predominantly US dollars as well as KRW) (2020: 54 %). The Group enters into forward exchange and option transactions to hedge its future sales invoiced in foreign currencies against exchange rate fluctuations. Derivative financial instruments are acquired exclusively for this purpose. Pfeiffer Vacuum does not engage in speculative hedging transactions. Derivative financial instruments employed for hedging purposes are recorded at their fair values both at the time they are first recorded as well as in subsequent periods. Derivative financial instruments are recorded as assets if their fair value is positive and as liabilities if their fair value is negative. Changes in the fair value of these derivatives are recorded in equity without any impact on the income statement if the hedging is classified as a cash flow hedge according to IAS 39 and is effective. The derivative is reclassified into other operating income and expenses as foreign exchange gains/losses at the time of realization of the underlying transaction that has been hedged. If derivatives were purchased for hedging purposes but do not formally qualify for hedging under IAS 39, they are recorded at fair value through profit and loss. The fair values are determined on the basis of reference rates, taking into account forward premiums and discounts as of the balance sheet date. Please refer to Note 33 for further information on financial instruments.

Trade accounts payable are financial liabilities and are measured at fair value at the time of first recognition and subsequently at amortized cost (using the effective interest method).

Bank loans are also categorized as financial liabilities and are measured at fair value upon first recognition and in future periods at amortized costs using the effective interest method. This takes into consideration all components of the effective interest rate. Interest income and expenses resulting from the application of the effective interest rate method are shown under financial results.

Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, bank balances, and all highly liquid bank investments having original maturities of three months or less. Cash and cash equivalents are defined accordingly in the consolidated cash flow statements. Cash and cash equivalents are also subject to the expected loss model according to IFRS 9. Due to the short investment period, this line item is only subject to minor value fluctuations.

Inventories

Inventories are valued at the lower of net realizable value and acquisition or manufacturing costs. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated selling costs. Acquisition or manufacturing costs comprise all costs for acquisition or manufacturing as well as all costs incurred for bringing the inventories to their current place and to the current status. With regard to work in process and finished products, the manufacturing costs include besides directly attributable material and production costs also production related indirect costs. Removals from inventory are determined on a weighted average cost basis. Interests on borrowed capital are not considered as part of acquisition or manufacturing costs for inventories. Valuation adjustments on excess inventories are determined on the basis of internal procedures in accordance with the ratio between inventory turnover and future sales or usage. Excess inventories are stocks of individual inventory items that exceed anticipated sales or usage. Management utilizes its judgement in forecasting sales or usage.

Other accounts receivable and other assets

Other accounts receivable and other assets are recorded at amortized cost and less allowances, where applicable. Non-current receivables and assets are valued using the effective interest method.

Provisions

Provisions are formed when the Corporate Group presently has a legal or constructive outside obligation as a result of a past event and it is likely that settlement of the obligation will lead to an outflow of economic resources and the amount of the obligation can be reliably determined. The valuation is made on the basis of the best estimate of the extent of the obligation.

Pensions

Valuation of pension obligations under defined benefit plans is based upon the projected unit credit method in accordance with IAS 19 "Employee Benefits". Actuarial gains and losses from changes in the amount of either the defined benefit obligation (under pension plans), the actuarial present value of earned entitlements (under other plans) as well as those variances between actual returns and returns calculated with the discount rate or from changes in other actuarial assumptions are recorded directly in the other equity components. The pension provision thus shows the net benefit obligation resulting from the difference of the defined benefit obligation and the plan assets measured at fair value. Additionally, the return on plan assets is considered with the discount rate. The accounting for obligations under defined benefit plans is based upon actuarial reports calculated as per the close of the fiscal year. The existing pension plans are detailed in Note 25.

Expenses for defined contribution plans are recorded as expense in the income statement when the premium obligation is incurred. Provisions are formed only if the payment is not made in the year the premium was incurred.

Contract liabilities and other accounts payable

Contract liabilities and other liabilities are measured at fair value upon first time recognition. Subsequent measurement is carried out at amortized cost, using the effective interest method. A contract liability is an obligation to transfer goods or services to a customer for which the customer has paid consideration.

Income taxes

Current income taxes are stated as a liability to the extent to which they have not yet been paid. General tax risks within the Group are additionally considered. Should the amounts already paid for income taxes exceed the amount owed, the difference is stated as an asset. Calculation of the amount is based upon the tax rates and tax legislation applicable at the close of the fiscal year.

Under IAS 12, "Income Taxes," deferred tax assets and liabilities are formed in the consolidated and taxation financial statements for temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases or for unused tax loss carry-forwards (liability method). In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The realizability of deferred tax assets depends on whether, at the time the temporary differences reverse, there are sufficient taxable temporary differences in relation to the same tax authority and taxable entity or it is probable that taxable income will be generated from which the temporary differences can be deducted before the loss carryforwards expire. In making this assessment, management considers the scheduled reversal of temporary differences, projected future taxable income, and tax planning strategies. Valuation of deferred tax assets and liabilities is performed using the local tax rates expected to be in effect at the time of realization of the asset or satisfaction of the liability, with the tax rates applicable at the close of the fiscal year being employed. The effects of changes in tax laws are recognized in the results of operations in the period in which the new tax rates go into effect. Deferred taxes that relate to line items recorded directly under shareholders' equity are recorded directly under equity and not in the income statement. An adjustment is recorded for deferred tax assets if it is unlikely that future tax advantages will be realized. Deferred tax assets and liabilities are offset if the entitlements and obligations relate to one and the same tax authority.

Leases

In accordance with IFRS 16 "Leases", a right-of-use asset and a lease liability have to be recognized in the balance sheet for all leases. The lease liability is measured at the present value of the remaining lease payments discounted using the lessee's incremental borrowing rate, while the right-of-use asset is generally measured at the amount of the lease liability plus initial direct costs. As the internal interest rate is often difficult to determine, the incremental borrowing rate may be used alternatively. During the lease term, the right-of-use asset is depreciated and the lease liability is recognized using the effective interest method and taking into account lease payments. The right-of-use assets recognized in the balance sheet are shown in the balance sheet items in which the assets underlying the leasing agreement would have been shown if they had been owned by the Group. As of the balance sheet date the right-of-use assets are therefore reported as property, plant and equipment within the non-current assets. Lease liabilities are reported under financial liabilities. Simplifications for short-term lease contracts or for lease contracts for which the value of the underlying asset is immaterial have not been applied.

Government grants

Government grants which compensate the Group for expenses (expense subsidies) are recorded in the income statement in other operating income in the same period the underlying expenses are incurred. To the extent government grants do not relate to benefits for short-time work and for the related refund of social security contribution government grants the Group received due to the Covid-19 pandemic are also recorded under other operating income applying the accrual principle. Benefits for short-time work are recorded with personnel expenses.

Determination of fair value

IFRS 13 "Fair Value Measurement" includes uniform regulations for fair value measurement and rules the determination of fair value in cases where other standards allow or require measurement at fair value. Pfeiffer Vacuum Group did not apply any fair value measurement options.

Use of estimates

The process of preparing financial statements requires the use of estimates and assumptions on the part of the management. These estimates are based upon management's historical experience, are verified regularly, and adjusted if necessary. Certain of the Group's accounting policies are considered critical, as they can have a major impact on the profitability, financial position, and liquidity of the Corporate Group and necessitate significant or complex judgement on the part of management. These estimates and assumptions could differ from the actual results. As of December 31, 2021, based on current estimate, no judgement uncertainties existed that could lead to the significant risk of the need for a material adjustment of book values in the 2022 fiscal year.

Material forward-looking estimates and assumptions exist, among others, in estimating the cash flows in connection with the good-will impairment test, with regard to the formation of pension and warranty provisions, in forecasting the useful lives of fixed assets, in determining the fair values of assets identified and liabilities assumed in connection with acquisitions, in the determination of individual selling prices within the meaning of IFRS 15 that are not directly observable, in determining the lease term or the amount of leasing rates or in connection with deferred tax assets. The major assumptions are detailed in the Notes relating to the individual line items of the balance sheet or in the accounting principles. With regard to the assumptions the goodwill impairment test is based on, please refer to Note 11. The parameters underlying the pension accounting are detailed in Note 25. Information concerning the estimated useful life of tangible and intangible assets is included in Note 4, section "Property, plant and equipment, and intangible assets". With regard to sales revenues please refer to Note 4, section "Income recognition" and with regard to the composition of sales revenues to Note 7. Further details for provisions are described in Note 29 and for deferred tax assets in Note 24.

NOTES TO THE SCOPE OF CONSOLIDATION

5. Composition of consolidated companies

In addition to Pfeiffer Vacuum Technology AG, four German and 27 foreign subsidiaries are fully consolidated in the Group's Consolidated Financial Statements as at December 31, 2021.

6. Changes in consolidated companies

The company Nor-Cal Products Europe Ltd., Great Britain has been liquidated in June 2021.

Pfeiffer Vacuum Shared Service Center GmbH, Germany, was founded in mid 2021 and was recorded in the commercial register on June 24, 2021.

As of December 31, 2021, Pfeiffer Vacuum Korea, Ltd., Republic of Korea, was merged into Pfeiffer Vacuum Semi Korea, Ltd., Republic of Korea.

Besides, there have been no further changes in consolidated companies in 2021 or 2020.

[1 and 2] Group shareholding in total 100.0 %

THE PFEIFFER VACUUM GROUP AS AT DEC. 31, 2021	Headquarters	Holdings (in %)
Pfeiffer Vacuum Technology AG	Germany	
Pfeiffer Vacuum GmbH	Germany	100.0
Pfeiffer Vacuum Austria GmbH	Austria	100.0
Pfeiffer Vacuum (Schweiz) AG	Switzerland	100.0
Pfeiffer Vacuum (Shanghai) Co., Ltd.	China	100.0
Pfeiffer Vacuum (India) Private Ltd.	India	27.0[1]
Pfeiffer Vacuum Ltd.	Great Britain	100.0
Pfeiffer Vacuum Scandinavia AB	Sweden	100.0
Pfeiffer Vacuum Singapore Pte. Ltd.	Singapore	100.0
Pfeiffer Vacuum Taiwan Corporation Ltd.	Taiwan	100.0
Pfeiffer Vacuum Benelux B. V.	Netherlands	100.0
Pfeiffer Vacuum (Xi'an) Co., Ltd.	China	100.0
Pfeiffer Vacuum Malaysia SDN. BHD.	Malaysia	100.0
Pfeiffer Vacuum (Wuxi) Co., Ltd.	China	100.0
Pfeiffer Vacuum Shared Services GmbH	Germany	100.0
Pfeiffer Vacuum Inc.	USA	100.0
Pfeiffer Vacuum New Hampshire Realty Holdings, LLC.	USA	100.0
Pfeiffer Vacuum Indiana Realty Holdings, LLC.	USA	100.0
Nor-Cal Products Holdings, Inc.	USA	100.0
Nor-Cal Products, Inc.	USA	100.0
Nor-Cal Products Viet Nam Co., Ltd.	Vietnam	100.0
Nor-Cal Products Korea Co., Ltd.	Republic of Korea	100.0
Nor-Cal Products Asia Pacific Pte. Ltd.	Singapore	100.0
Pfeiffer Vacuum California Realty Holdings, LLC.	USA	100.0
Pfeiffer Vacuum Holding B. V.	Netherlands	100.0
Pfeiffer Vacuum Italia S. p. A.	Italy	100.0
Pfeiffer Vacuum (India) Private Ltd.	India	73.0[1]
Pfeiffer Vacuum Semi Korea, Ltd.	Republic of Korea	11.9[2]
Pfeiffer Vacuum Components & Solutions GmbH	Germany	100.0
Pfeiffer Vacuum SAS	France	100.0
Pfeiffer Vacuum Romania S. r. l.	Romania	100.0
Pfeiffer Vacuum Semi Korea, Ltd.	Republic of Korea	88.1[2]
Dreebit GmbH	Germany	100.0

NOTES TO THE CONSOLIDATED STATEMENTS OF INCOME

7. Net sales

Pfeiffer Vacuum derives revenue from contracts with customers from the transfer of goods and services at a point in time and over time. The revenue, which is recognized at a point in time, is the major part of Pfeiffer Vacuum's net sales.

Presented below are the group sales with customers by regions and markets:

REVENUE BY REGIONS

	Asia	Europe	The Americas	Rest of world	Total
	in K€	in K€	in K€	in K€	in K€
2021	322,468	253,389	195,414	102	**771,373**
2020	231,263	227,310	159,991	101	**618,665**

REVENUE BY MARKETS

	Analytics, Industry and Research & Development	Semi-conductors and Coating	Total
	in K€	in K€	in K€
2021	378,200	393,173	**771,373**
2020[1]	334,040	284,626	**618,665**

[1] adjusted

In order to bundle resources as well as the dedicated know-how and to gain further growth in particular areas the previous market segment structure in the areas Industry, Coating and Semiconductor has been transferred into the two new areas "Industry" and "Semiconductor and Emerging Technologies". In this context, a reclassification of the respective customers and sales has been done. This new classification has been reflected in the presentation of sales by market. For comparability reasons, the prior year figures were retroactively adjusted accordingly.

Revenue with material customers (>10 % of total revenue) was in 2021 in total € 103.3 million and was realized in the segments Republic of Korea, USA and rest of Asia. In prior year revenues with material customers (>10 % of total revenue) totaled € 62.8 million and were realized in the segments Republic of Korea, USA and rest of Asia.

For further analysis of revenues we refer to the segment reporting in Note 32.

The order backlog as of December 31, 2021 was € 316.2 million (2020: € 123.3 million) and represents the extent of performance obligations which have not been fulfilled yet or are partially unfulfilled.

8. Functional expenses

Cost of Sales

Cost of sales predominantly include the manufacturing costs for the products sold as well as the costs for the services rendered. This includes all directly attributable material and production costs as well as indirect production costs (including depreciation on production buildings and machines). In addition, freight costs, expenses for inventory valuation, and warranty expenses are included here.

Selling and marketing expenses

Selling and marketing expenses predominantly include wages and salaries, marketing and advertising costs, costs relating to trade shows and conventions, as well as other merchandising costs (such as catalogs, brochures, etc.).

General and administrative expenses

General and administrative expenses predominantly include wages and salaries, expenses related to allowances for doubtful accounts, IT-expenses, audit and other general consulting fees, as well as all costs relating to the Group as a whole.

Research and development expenses

Research and development expenses include personnel and material expenses allocated to this functional section. Amortization expenses for developed technology recognized in connection with the purchase price allocations totaled € 0.7 million in 2021 (2020: € 1.0 million) and are also included in research and development expenses.

For further analysis of operating expenses, please refer to Note 15 (relating to cost of sales), to Note 24 (relating to income tax expenses), to Note 25 (relating to the development of pension expenses), to Note 38 (relating to development of personnel expenses) and to Note 11 and Note 12 (relating to development of depreciation and amortization).

9. Other operating income and other operating expenses

Other operating income and expenses are comprised as follows:

COMPOSITION OF OTHER OPERATING INCOME AND EXPENSES

	2021	2020
	in K€	in K€
Foreign exchange gains	6,817	5,442
Expense allowance	4,110	3,163
Gains from disposals of assets	82	110
Government grants (Covid 19)	87	459
Other	299	175
Other operating income	**11,395**	**9,349**
Foreign exchange losses	– 6,004	– 8,403
Impairment losses	– 16,407	– 8,833
Others	– 1,250	– 286
Other operating expenses	**– 23,661**	**– 17,522**

In respect to government grants reported under other operating income, there are no unfulfilled conditions or other contingencies existing.

Further details regarding impairment losses please refer to Note 11).

The claiming of various governmental support in relation with the Covid 19 situation (e.g. short time work, social security allowance, other grants) led to an overall effect of € 0.3 million, of which € 0.2 million was recognized in the opposite way within personnel expenses.

10. Financial expenses and financial income

Financial expenses and financial income as recorded in 2021 and the previous year comprises as follows:

COMPOSITION OF FINANCIAL INCOME AND FINANCIAL EXPENSES

	2021	2020
	in K€	in K€
Interest expenses and similar	-843	-902
Total financial expenses	**-843**	**-902**
Interest income	251	147
Total financial income	**251**	**147**
Financial result	**-592**	**-755**

Interest income and interest expenses only related to financial assets or financial liabilities recorded at amortized costs.

NOTES TO THE CONSOLIDATED BALANCE SHEETS

11. Intangible assets

The intangible assets item mainly includes software purchased within the consolidated Group and intangible assets recognized in connection with acquisitions (amongst others developed technology, customer base, trademark right) as well as goodwill. The development of intangible assets in 2021 and 2020 was as follows:

DEVELOPMENT OF INTANGIBLE ASSETS IN 2021

	Software	Software before implementation	Goodwill	Customer base	Other intangible assets	Total
	in K€	in K€	in K€	in K€	in K€	in K€
Acquisition cost						
Balance as at January 1, 2021	11,658	9,452	78,369	39,725	31,913	171,117
Currency changes	27	–	2,604	1,623	405	4,659
Additions	2,239	4,782	–	–	46	7,067
Disposals	-90	–	–	–	-99	-189
Balance as at December 31, 2021	13,834	14,234	80,973	41,348	32,265	182,654
Amortization						
Balance as at January 1, 2021	8,694	–	6,193	25,997	29,497	70,381
Currency changes	19	–	-1	551	255	824
Additions	1,432	–	–	1,636	601	3,668
Impairment losses	–	–	16,407	–	–	16,407
Disposals	-68	–	–	–	-83	-151
Balance as at December 31, 2021	10,077	–	22,599	28,184	30,270	91,129
Net book value as at December 31, 2021	**3,757**	**14,234**	**58,374**	**13,164**	**1,995**	**91,524**
Thereof with an unlimited useful life	–	–	58,374	–	244	58,618

As of December 31, 2021, development projects of Pfeiffer Vacuum SAS in the amount of € 1.9 million were capitalized as internally generated intangible assets before first-time operation and allocated to other intangible assets.

DEVELOPMENT OF INTANGIBLE ASSETS IN 2020

	Software	Software before implemen-tation	Goodwill	Customer base	Other intangible assets	Total
	in K€	in K€	in K€	in K€	in K€	in K€
Acquisition cost						
Balance as at January 1, 2020	10,659	4,222	81,373	42,105	33,740	172,099
Currency changes	– 21	–	– 3,005	– 2,380	– 526	– 5,932
Additions	1,085	5,230	1	–	162	6,478
Disposals	– 65	–	–	–	– 1,463	– 1,528
Balance as at December 31, 2020	11,658	9,452	78,369	39,725	31,913	171,117
Amortization						
Balance as at January 1, 2020	7,399	–	–	25,386	27,070	59,855
Currency changes	– 13	–	–	– 1,085	– 282	– 1,380
Additions	1,364	–	–	1,697	1,194	4,255
Impairment losses	–	–	6,193	–	2,640	8,833
Disposals	– 56	–	–	–	– 1,126	– 1,182
Balance as at December 31, 2020	8,694	–	6,193	25,997	29,497	70,381
Net book value as at December 31, 2020	**2,964**	**9,452**	**72,176**	**13,728**	**2,417**	**100,736**
Thereof with an unlimited useful life	–	–	72,176	–	267	74,593

For the purpose of testing the recoverability, goodwill and trademark rights with indefinite useful life recognized in connection with acquisitions, were tested on December 31, 2021 by means of an impairment test.

The determination of the cash-generating units to be used as a basis for the impairment test is carried out in accordance with the segment definition according to IFRS 8 and is therefore company-related. The recoverable amounts (values in use) were determined as of December 31, 2021 for the cash-generating units to which goodwill was allocated. The basis for determining the value in use was cash flow forecasts for the years 2022 to 2024. These result from detailed sales and cost plans approved by management for each year of this detailed planning period and the operating results derived from them. Both, the respective current results and the expected market, economic and competitive developments are taken into account and tested against past experience. In addition, assumptions are made regarding the development of working capital and future investments for the cash flow forecasts. The cash flows occurring after the detailed planning period were extrapolated using individual growth rates. Cash flows are discounted using the weighted average cost of capital (WACC), taking country-specific risks into account.

The recoverable amount (value in use) as of December 31, 2021 was determined on the basis of cash-generating units for the total goodwill recognized as part of various acquisitions (€ 58.4 million; previous year: € 72.2 million).

The allocation of this goodwill to the cash-generating units and the main assumptions on which the determination of the recoverable amount was based are shown in the table below.

ALLOCATION OF GOODWILL AND MAJOR VALUATION ASSUMPTIONS

	Dec. 31, 2021			Dec. 31, 2020		
	Goodwill	**Pre-tax discount rate**	**Long-term growth rate**	**Goodwill**	**Pre-tax discount rate**[1]	**Long-term growth rate**
	in € millions	in %	in %	in € millions	in %	in %
Germany	13.1	11.9	1.5	13.1	11.5	1.5
Thereof Pfeiffer Vacuum Components & Solutions GmbH	8.2	11.9	1.5	8.2	11.5	1.5
France (Pfeiffer Vacuum SAS)	23.0	12.6	1.5	23.0	12.2	1.5
Rest of Europe	0.4	11.5 – 14.0	1.5	0.4	11.1 – 13.5	1.5
USA	15.4	11.4	1.5	29.3	11.0	1.5
Thereof Nor-Cal Products Inc.	4.2	11.4	1.5	19.0	11.0	1.5
Thereof Pfeiffer Vacuum Inc.	11.2	11.4	1.5	10.3	11.0	1.5
Republic of Korea (Pfeiffer Vacuum Semi Korea, Ltd.)	4.2	12.1	1.5	4.2	11.7	1.5
China	–	–	–	–	12.1	1.5
Rest of Asia	2.3	10.1 – 16.7	1.5	2.2	9.7 – 16.2	1.5
Total	**58.4**			**72.2**		

[1] partially adjusted

As of December 31, 2021, the valuation of the aforementioned goodwill resulted in an impairment amount totaling K € 16,407, which is attributable to the Nor-Cal Products Inc. cash-generating unit. The reason for the devaluation is in particular a lower expected sustainable EBIT margin, which reflects past experience and the future expected market development, but also the focus of the unit. As a result, the book value before depreciation exceeded the value in use.

The value in use of the unit amounted to € 44.1 million as of December 31, 2021 and corresponded to the book value. After the impairment, a residual goodwill of € 4.2 million remained. Key assumptions when evaluating the unit, which within the Pfeiffer Vacuum Group is responsible for the production of valves and chambers as well as local sales and service tasks, were the discount rate (11.4 %), the sustainable EBIT margin (6.0 %), sustained sales growth (1.5 %) and sustained free cash flow (€ 3.4 million). The 2021 impairment for the said unit is included in the United States (Production) segment (see Note 32).

The valuation of goodwill as of December 31, 2020 resulted in an impairment totaling K € 6,193, which was attributable to the cash-generating units in China (K € 3,953) and Italy (K € 2,240). The reasons for the depreciation were lower values in use as a result of future lower profitability as a result of falling local margins, so that the book value before depreciation exceeded the value in use. The value in use of the units in China and Italy as of December 31, 2020 was € 14.3 million and € 6.8 million, respectively, and corresponded to the carrying amount in each case. No residual goodwill remained with these units after the devaluation in the previous year. Key assumptions when evaluating the unit in China, which handles all local sales and service tasks within the Pfeiffer Vacuum Group, were the discount rate (12.1 %), the sustainable EBIT margin (4.0 %), the sustainable sales growth (1.5 %) and sustainable free cash flow (€ 1.3 million). Key assumptions for the unit in Italy, which also handles all local sales and service tasks, are the discount rate (11.4 %), the sustainable EBIT margin (5.0 %), the sustainable revenue growth (1.5 %) and a sustainable free cash flow (€ 0.5 million). The 2020 impairments for the units in Italy and China are included in the "Rest of Europe" and "Rest of Asia" segments (see Note 32).

For a trademark right recognized in connection with an acquisition (former net book value € 3.2 million; 2020: € 3.3 million) a remaining useful life of three years was recognized in the previous year as a result of a change in the expected use (previously: indefinite useful life). This resulted in an impairment loss of € 2.6 million in 2020. As of December 31, 2021, the remaining net book value was € 0.4 million (previous year: € 0.6 million), the scheduled amortization for 2021 amounted to € 0.2 million. The value in use was determined in the previous year on the basis of our own calculations using the expected discounted net license payments over the estimated remaining useful life of three years and an interest rate of 14.9 % (level 3 of the hierarchy levels according to IFRS 13). The impairment was recognized in the segments South Korea (€ 1.0 million), France (€ 0.8 million), Rest of Asia (€ 0.5 million), Germany (€ 0.2 million) and Rest of Europe (€ 0.1 million) (see Note 32).

As of December 31, 2021, no reasonably possible change in a material assumption on which the valuation was based would result in the carrying amount of this unit exceeding its recoverable amount. As of December 31, 2020, if the discount rate had increased by 1.1 percentage points to 12.1 % for the goodwill allocated to Nor-Cal Products Inc., all other assumptions remaining constant, the recoverable amount (value in use) would have corresponds to the book value. The result would have been the same if the long-term EBIT margin used in the cash flow forecast had been reduced by 1.1 percentage points to 7.9 % or the long-term sales growth by 0.9 percentage points or the long-term free cash flow by K € 540 to K € 3,755.

12. Property, plant and equipment

DEVELOPMENT OF PROPERTY, PLANT AND EQUIPMENT IN 2021

	Land and Buildings	Technical Equipment and Machinery	Other Equipment, Factory and Office Equipment	Construction in Progress	Total
	in K€	in K€	in K€	in K€	in K€
Acquisition or manufacturing cost					
Balance as at January 1, 2021	127,940	125,396	45,920	16,386	315,642
Currency changes	2,787	983	531	177	4,478
Additions	7,508	7,376	6,305	18,555	39,744
Disposals	– 2,657	– 1,000	– 1,941	– 1,788	– 7,386
Reclassifications	5,970	2,405	549	– 8,938	– 14
Balance as at December 31, 2021	141,548	135,160	51,364	24,392	352,464
Depreciation					
Balance as at January 1, 2021	53,490	74,720	29,149	90	157,449
Currency changes	688	543	371	–	1,602
Additions	8,381	8,720	5,308	2	22,411
Disposals	– 2,236	– 966	– 1,748	–	– 4,950
Balance as at December 31, 2021	60,323	83,017	33,080	92	176,512
Net book value as at December 31, 2021	**81,225**	**52,143**	**18,284**	**24,300**	**175,952**

In fiscals 2021 and 2020, no buildings and machinery were used as collateral to secure the Group's financial liabilities.

Neither in 2021 nor in the previous year there were any impairment losses or related reversals for property, plant, and equipment.

DEVELOPMENT OF PROPERTY, PLANT AND EQUIPMENT IN 2020

	Land and Buildings	Technical Equipment and Machinery	Other Equipment, Factory and Office Equipment	Construction in Progress	Total
	in K€	in K€	in K€	in K€	in K€
Acquisition or manufacturing cost					
Balance as at January 1, 2020	125,662	120,604	42,773	8,245	297,284
Currency changes	– 2,468	– 1,450	– 388	– 64	– 4,370
Additions	4,612	5,164	5,653	13,208	28,637
Disposals	– 999	– 2,544	– 2,328	– 40	– 5,911
Reclassifications	1,131	3,622	210	– 4,963	–
Balance as at December 31, 2020	127,940	125,396	45,920	16,386	315,642
Depreciation					
Balance as at January 1, 2020	46,858	69,323	26,402	–	142,583
Currency changes	– 429	– 644	– 231	–	– 1,304
Additions	7,995	8,567	5,092	–	21,654
Disposals	– 934	– 2,526	– 2,114	90	– 5,484
Balance as at December 31, 2020	53,490	74,720	29,149	90	157,449
Net book value as at December 31, 2020	**74,450**	**50,676**	**16,771**	**16,296**	**158,191**

Afterwards the development of right of use assets is detailed. The right of use assets are included in property, plant & equipment.

DEVELOPMENT OF RIGHT OF USE ASSETS IN 2021

	Land and Buildings	Technical Equipment and Machinery	Other Equipment, Factory and Office Equipment	Total
	in K€	in K€	in K€	in K€
Acquisition or manufacturing cost				
Balance as at January 1, 2021	18,265	579	3,961	22,805
Currency changes	672	31	170	873
Additions	4,078	269	844	5,191
Disposals	– 2,220	– 136	– 252	– 2,608
Balance as at December 31, 2021	20,795	743	4,723	26,261
Depreciation				
Balance as at January 1, 2021	5,911	326	1,839	8,076
Currency changes	207	23	113	343
Additions	3,748	297	1,204	5,249
Disposals	– 1,795	– 136	– 243	– 2,174
Balance as at December 31, 2021	8,071	510	2,913	11,494
Net book value as at December 31, 2021	**12,724**	**233**	**1,810**	**14,767**

The group leases various land, buildings and cars (reported under "Other Equipment, Factory and Office Equipment") as well as other assets (copiers, printers, coffee machines, water dispensers and machinery). Rental/lease contracts are typically made for fixed periods of 1 to 4 years and can include extension options. Lease terms are negotiated on an individual contract basis and contain a wide range of different terms and conditions. The lease agreements do not include any covenants, but leased assets may not be used as security for borrowing purposes.

Extension and termination options are included in a number of property, car and equipment leases. These terms are used to maximize operational flexibility in terms of managing contracts. Except for rare case, the extension and termination options are exercisable only by the Group and not by the respective lessor.

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or to not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

Further information regarding leasing please refer to Note 23, Note 31 and Note 33.

DEVELOPMENT OF RIGHT OF USE ASSETS IN 2020

	Land and Buildings	Technical Equipment and Machinery	Other Equipment, Factory and Office Equipment	Total
	in K€	in K€	in K€	in K€
Acquisition or manufacturing cost				
Balance as at January 1, 2020	16,365	609	2,876	19,850
Currency changes	– 382	– 34	– 142	– 558
Additions	3,199	36	1,437	4,672
Disposals	– 917	– 32	– 210	– 1,159
Balance as at December 31, 2020	18,265	579	3,961	22,805
Kumulierte Abschreibungen				
Balance as at January 1, 2020	3,331	167	966	4,464
Currency changes	– 124	– 18	– 73	– 215
Additions	3,586	209	1,160	4,955
Disposals	– 882	– 32	– 214	– 1,128
Balance as at December 31, 2020	5,911	326	1,839	8,076
Net book value as at December 31, 2020	**12,352**	**253**	**2,122**	**14,729**

13. Investment properties

DEVELOPMENT OF INVESTMENT PROPERTIES

	2021	2020
	in K€	in K€
Acquisition or manufacturing cost		
Balance as at January 1	861	861
Additions	–	–
Disposals	–	–
Reclassifications	–	–
Balance as at December 31	861	861
Depreciation		
Balance as at January 1	485	461
Additions	24	24
Disposals	–	–
Reclassifications	–	–
Balance as at December 31	509	485
Net book value as at December 31	**352**	**376**

The real estate shown in this line item was rented out in fiscal 2021 and 2020. Rental revenues amounted to K € 56 (2020: K € 56) and direct operating expenses amounted to K € 26 (2020: K € 28). There were no impairment losses or reversals to be recognized in the year under review or in the previous year.

The fair value of investment properties amounts to € 0.4 million as per December 31, 2021 (2020: € 0.4 million). Fair values were derived on the basis of the Group's own calculations by discounting expected net rental revenues during the estimated remaining life by an appropriate discount rate (level 3 of the fair value hierarchy according to IFRS 13).

14. Other financial assets and other assets

Other financial assets include mainly non-current cash items K € 1,208 (2020: K € 1,421) and deposits K € 689 (2020: K € 675). The short-term-part of cash items and deposits is reported under current financial assets.

The amount of other assets end of 2021 relates particularly to prepaid expenses in connection with sales activities.

15. Inventories

COMPOSITION OF INVENTORIES

	2021	2020
	in K€	in K€
Raw materials	55,537	43,446
Work in process	40,069	31,610
Finished products	66,572	58,198
Total inventories, net	**162,178**	**133,254**

Dec. 31

Materials consumption in fiscal 2021 amounted to € 320.5 million, (2020: € 242.6 million) and is included in cost of sales.

In 2021, an amount of K € 5,531 (2020: K € 4,584) from the valuation of inventories at net realizable value was recorded as expense. This expense was shown under cost of sales.

16. Trade accounts receivable and contract assets

Trade receivables and contract assets do not bear interest and have a remaining term of less than one year. They are generally recognized upon initial recognition at the amount of the unconditional consideration. If they contain significant financing components, they are to be recognized at fair value instead. The Group holds trade receivables to collect the contractual cash flows and subsequently measures them at amortized cost using the effective interest method. Details on the Group's impairment methods and the calculation of the allowance are presented below.

COMPOSITION OF TRADE ACCOUNTS RECEIVABLE AND CONTRACT ASSETS

	2021	2020
	in K€	in K€
Trade accounts receivable	120,809	84,473
Contract assets	1,392	1,501
Loss allowances	– 1,222	– 872
Trade accounts receivable and contract assets, net	**120,979**	**85,102**

Dec. 31

The closing loss allowances for trade accounts receivable and contract assets as at January 1, 2021 and its further development until December 31, 2021 reconcile to the opening loss allowances as follows:

DEVELOPMENT OF LOSS ALLOWANCES

	2021	2020
	in K€	in K€
Balance as at January 1	872	1,238
Currency changes	53	– 41
Additions	730	507
Utlization	– 433	– 832
Balance as at December 31	**1,222**	**872**

Contract assets of K € 1,392 represent contractual rights to receive a consideration from customers, in such cases where Pfeiffer Vacuum fulfilled its obligations in according to IFRS 15 but the consideration did not become due. In this respect, Pfeiffer Vacuum recognizes revenue based on the group's progress to satisfy the performance obligation. The amount of contract assets was netted with customer's considerations which were already paid (K € 1,629).

To measure expected credit losses the Group applies the simplified approach under IFRS 9. Accordingly, the credit losses expected over the term are used for all trade accounts receivable and contract assets.

To measure the expected credit losses, trade receivables and contract assets have been grouped based on shared credit risk characteristics and the days past due. The contract assets relate to unbilled work in progress and have substantially the same risk characteristics as the trade receivables for the same types of contracts. The group has therefore concluded that the expected loss rates for trade receivables are a reasonable approximation of the loss rates for the contract assets.

The expected loss rates are based on the payment profiles of sales over a period of 60 months before December 31, 2021 or January 1, 2021 respectively and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables. The group has identified the GDP (Gross Domestic Product) of the countries in which it sells its goods to be the most relevant factor, and accordingly adjusts the historical loss rates based on expected changes in this factor.

On that basis, the loss allowance was determined as follows for both trade receivables and contract assets:

COMPOSITION OF LOSS ALLOWANCES

	Not overdue	Less than 30 days past due	More than 30 days past due	More than 60 days past due	More than 90 days past due	Total
	in K€	in K€	in K€	in K€	in K€	in K€
December 31, 2021						
Expected loss rate	0.00 %	0.19 %	0.50 %	2.93 %	15.26 %	
Gross carrying amount – trade accounts receivable	83,783	21,760	5,837	2,323	7,106	**120,809**
Gross carrying amount – contract assets	1,392	–	–	–	–	**1,392**
Loss allowance	0	41	29	68	1,084	**1,222**
December 31, 2020						
Expected loss rate	0.00 %	0.00 %	0.00 %	0.21 %	24.08 %	
Gross carrying amount – trade accounts receivable	59,320	13,618	5,086	2,850	3,599	**84,473**
Gross carrying amount – contract assets	1,501	–	–	–	–	**1,501**
Loss allowance	–	–	–	6	866	**872**

17. Other accounts receivable

This line item totaled K € 15,924 as at December 31, 2021 (December 31, 2020: K € 10,265). As in the year before, this position was characterized by expense subsidies of K € 4,388 (December 31, 2020: K € 4,183) and VAT claims of K € 8,337 (December 31, 2020: K € 2,934).

18. Cash and cash equivalents

The cash and cash equivalents item consists of cash at banks and cash on hand. Additionally, the Group records all bank deposits having an original maturity of three months or less as cash equivalents. The fair value of cash and cash equivalents corresponds to their net book value.

19. Share capital and additional paid-in capital

Unchanged compared to the previous year end, the share capital of Pfeiffer Vacuum Technology AG (parent company) consisted of 9,867,659 issued and outstanding no-par ordinary shares.

The Annual Shareholders Meeting on May 23, 2018, authorized the Management Board to increase the Group's share capital by K € 12,631, or 4,933,829 shares, in consideration for contributions in cash and/or kind once or in partial amounts (authorized capital). This authorization is valid through May 23, 2023, and is subject to the consent of the Supervisory Board.

According to the resolution of the Annual Shareholders Meeting on May 23, 2019, the Management Board is authorized to issue fractional bonds with option or conversion rights or option or conversion obligations, profit participation rights or participating bonds (or combinations of these instruments) with an aggregate nominal value of up to € 200,000,000.00 and to grant the holders conversion rights for up to 2,466,914 no-par bearer shares of the Group having a pro-rata amount of up to € 6,315,299.84 of the share capital. This authorization is valid until May 22, 2024, and requires the consent of the Supervisory Board.

There were no changes of the additional paid-in capital in 2021 or 2020.

20. Paid and proposed dividends

The Annual General Meeting on May 12, 2021, resolved to pay a dividend of € 1.60 per share (Annual Shareholders Meeting on May 23, 2020: 1.25 per share). The dividend payment carried out thereunder amounted to K € 15,778 in 2021 (2020: K € 12,335).

The Management Board proposes to let shareholders participate in the Group's success via a dividend in the amount of € 4.08 per share. This proposal is subject to the approval of the Supervisory Board and the Annual General Meeting. Because the proposal must be approved by the Annual General Meeting, the resulting payment of K € 40,260 has not been recorded as a liability in the balance sheet for the fiscal year ended December 31, 2021.

21. Other equity components

Other equity components comprise unrealized gains/losses on hedges and actuarial gains/losses resulting from valuation of defined benefit obligations and plan assets at fair value. Furthermore this position comprises foreign currency translation adjustments.

DEVELOPMENT OF OTHER EQUITY COMPONENTS

	Valuation of Defined Benefit Plans	Results from Cash Flow Hedges	Currency Changes	Total
	in K€	in K€	in K€	in K€
Balance as at January 1, 2020	**-40,136**	**30**	**7,493**	**-32,613**
Changes in actuarial gains/losses (net of tax)	-6,804	–	–	-6,804
Changes in fair value of cash flow hedges (net of tax)	–	-30	–	-30
Changes in foreign currency translation	–	–	-14,133	-14,133
Balance as at December 31, 2020	**-46,940**	**0**	**-6,640**	**-53,580**
Changes in actuarial gains/losses (net of tax)	7,586	–	–	7,586
Changes in fair value of cash flow hedges (net of tax)	–	7	–	7
Changes in foreign currency translation	–	–	13,850	13,850
Balance as at December 31, 2021	**-39,354**	**7**	**7,210**	**-32,137**

TAX EFFECT ON OTHER COMPREHENSIVE INCOME

	2021			2020		
	Gross Amount	Tax Effect	Net Amount	Gross Amount	Tax Effect	Net Amount
	in K€	in K€	in K€	in K€	in K€	in K€
Valuation of Defined Benefit Plans	10,401	– 2,815	7,586	– 8,950	2,146	– 6,804
Results from cash flow hedges	10	– 3	7	– 30	–	– 30
Currency changes	13,850	–	13,850	– 14,133	–	– 14,133
Total other comprehensive income	**24,261**	**– 2,818**	**21,443**	**– 23,113**	**2,146**	**– 20,967**

Dec. 31

Due to the fact that the terms of all cash flow hedges are less than one year, the reported year-end balances as at December 31 of the respective years will be reclassified to the income statement the next year. The new year-end amounts result form changes during the respective year and thus not from prior years.

22. Treasury shares

At the Annual Shareholders Meeting on May 20, 2020, the shareholders authorized the Management Board to acquire treasury shares pursuant to § 71, Sub-Para. 1, No. 8, German Stock Corporation Act ("AktG"). This authorization allows the Group to acquire treasury shares representing up to € 2,526,120.70 of the capital stock (986,766 shares equal to 10 % of capital stock at the time of the resolution), requires the consent of the Supervisory Board for execution, and is valid through May 19, 2025.

23. Long-term financial liabilities

Long term financial liabilities are comprised as follows:

LONG-TERM FINANCIAL LIABILITIES

	2021	2020
	in K€	in K€
Liabilities to banks	5,000	60,000
Leasing liabilities	8,876	9,614
Total	**13,876**	**69,614**

Liabilities to banks

In connection with the acquisition of Nor-Cal Products Holdings Inc. and its subsidiaries, long-term financial liabilities having a net cash inflow of € 70.0 million were taken out in the course of 2017. With it, an existing credit line was amended. These liabilities have an Euribor-based variable interest rate including an arm's-length margin. Interest clearing is made quarterly. There were changes in the financial liabilities drawn during the year of 2021, the balance totaled € 5.0 million as of December 31, 2021 (previous year € 60,0 million). In fiscal year 2021, interest expenses totaling € 0.4 million were recorded (prior year: € 0.5 million). Under the loan agreement, the Group has committed to comply with a determined financial ratio. The Group has complied with this ratio in 2021 and 2020.

Pfeiffer Vacuum and its subsidiaries have various lines of credit available for operating purposes, totaling approximately € 16.6 million (December 31, 2020: € 16.2 million).

Financial obligations as shown under short and long-term financial liabilities may result in cash flows from financing activities in future reporting periods.

Leasing liabilities were recorded in 2021 and the previous year as follows:

LEASING LIABILITIES

	2021	2020
	in K €	in K €
Short-term	4,279	3,437
Long-term	8,876	9,614
Total	**13,155**	**13,051**

In 2021 interest expenses relating to leasing liabilities were totaled € 0.3 million (2020: € 0.2 million).

In addition, provision for dismantling obligations resulting from leases totaling € 0.1 million (2020: € 0.5 million) were recorded (please refer to Note 29).

Potential future cash outflows of K € 166 (2020: K € 528) have not been included in the lease liability because it is not reasonably certain that the leases will be extended (or not terminated). The assessment is reviewed if a significant event or a significant change in circumstances occurs which affects this assessment and which is within under the Group's control. During the current financial year, the financial effect of revising lease terms to reflect the effect of exercising extension and termination options was an increase in recognized lease liabilities and right-of-use assets of K € 256 (2020: K € 865).

The amount of K € 5,505 (2020: K € 4,930) shown in the Consolidated Statements of Cash Flows under redemptions of leasing liabilities represents the total cash outflow from leases in fiscal 2021.

24. Income taxes

INCOME BEFORE TAX WAS TAXABLE IN THE FOLLOWING JURISDICTIONS

	2021	2020
	in K €	in K €
Germany	42,269	7,252
Outside Germany	50,232	37,289
Total	**92,501**	**44,541**

COMPOSITION OF INCOME TAX EXPENSE

	2021	2020
	in K €	in K €
Current taxes		
Germany	– 13,071	– 6,592
Outside Germany	– 17,932	– 8,110
	– 31,003	**– 14,702**
Deferred taxes		
Germany	– 563	1,270
Outside Germany	1,052	482
	489	**1,752**
Income tax expense	**– 30,514**	**– 12,950**

K € 29,858 of current tax expense are related to earnings in 2021 (2020: K € 14,792). This line item additionally contained tax expenses for prior years amounting to K € 763 (2020: tax repayments of K € 68).

Under current German corporate tax law, taxes on the income of German companies comprise corporate taxes, trade taxes, and an additional surtax.

RECONCILIATION FROM EXPECTED TO ACTUAL INCOME TAX EXPENSE

	2021	2020
	in K€	in K€
Earnings before taxes	92,501	44,451
Expected tax expense using the tax rate of the parent company (29.30 %; 2020: 28.95 %)	– 27,103	– 12,895
Non-deductible expenses	– 7,177	– 2,809
Effects due to dividend payments	– 409	– 151
Difference foreign tax rates	3,328	2,031
Non-taxable income	1,714	1,005
Tax credits/debits due to tax filings in prior years	– 763	68
Other	– 104	– 199
Income tax expense	**– 30,514**	**– 12,950**

As opposed to 29.1 % the year before, the tax ratio for the Pfeiffer Vacuum Group amounted to 33.0 % in 2021.

DEFERRED TAXES RELATE TO THE FOLLOWING BALANCE SHEET ITEMS

	2021	2020
	in K€	in K€
Deferred tax assets		
Pensions	17,743	21,812
Inventories	7,512	6,489
Financial liabilities	3,713	3,979
Provisions and contract liabilities	4,940	3,781
Tax credits	1,036	956
Tax loss carry forwards	136	851
Receivables	561	405
Intangible assets	275	359
Property, plant and equipment	185	194
Derivatives	45	–
Other	21	99
Total deferred tax assets	**36,167**	**38,925**
Thereof long-term deferred tax assets	19,375	24,172
Thereof short-term deferred tax assets	16,792	14,753
Deferred tax liabilities		
Property, plant and equipment	– 5,912	– 6,462
Intangible assets	– 5,721	– 5,396
Provisions and contract liabilities	0	– 11
Receivables	– 307	– 221
Inventories	– 14	–
Other	-	– 6
Total deferred tax liabilities	**– 11,954**	**– 12,096**
Thereof long-term deferred tax liabilities	– 11,633	– 11,858
Thereof short-term deferred tax liabilities	– 321	– 238
Total deferred taxes, net	**24,213**	**26,829**

Dec. 31

AMOUNTS RECORDED IN THE BALANCE SHEET

	2021	2020
	in K€	in K€
Deferred tax assets	28,650	31,306
Deferred tax liabilities	– 4,437	– 4,477
Total deferred taxes, net	**24,213**	**26,829**

Dec. 31.

DEFERRED TAXES RECORDED IN THE INCOME STATEMENT

	2021	2020
	in K€	in K€
Property, plant and equipment	447	1,028
Intangible assets	10	799
Derivatives	51	– 16
Pension	– 1,185	– 1,224
Provisions and contract liabilities	947	473
Receivables (including contract assets)	106	367
Tax loss carry forwards	– 741	79
Inventories	853	245
Other	1	1
Total deferred taxes	**489**	**1,752**

As at December 31, 2021, the total deferred tax assets included income taxes recorded directly in equity in the amount of K € 15,064 (December 31, 2020: K € 17,915). The total deferred tax liabilities included no income taxes recorded directly in equity. The amount recorded directly in equity in 2021 as in 2020 related to actuarial gains/losses and derivatives/hedging.

For taxable losses totaling K € 1,235 (thereof K € 238 deductible until 2022), no deferred tax assets have been recorded as these losses will presumably not be offset against taxable gains until the expiration.

Provisions have not been established for additional taxes on the undistributed earnings of non-German subsidiaries. These earnings are considered to be permanently reinvested and could become subject to additional tax if remitted or deemed remitted as dividends. Under current German law, dividends from non-German and German subsidiaries are 95 % tax-exempt, i.e. 5 % of dividend income is not deductible from income for corporate tax purposes. The management estimates that the effects of this rule in Germany will be negligible.

On temporary differences in connection with shares in affiliated companies over the amount of € 8.5 million at December 31, 2021 (2020: € 5.8 million) no deferred tax liability has been recorded, since the company is able to monitor the reversal of the temporary differences and in all probability these temporary differences will not reverse in the foreseeable future.

25. Pensions and similar obligations

Defined benefit pension plans

COMPOSITION OF THE NET LIABILITY RECORDED IN THE BALANCE SHEET

	2021	2020
	in K€	in K€
Present value of funded defined benefit obligation	118,417	123,663
Present value of unfunded defined benefit obligation	11,257	12,384
Total present value of defined benefit obligation	129,674	136,050
Fair value of plan assets	– 69,334	– 65,702
Net liability recognized on the balance sheet	**60,340**	**70,348**
Of which: prepayments of pension funds	– 162	–
Of which: pension provision	60,502	70,348

Dec. 31

REGIONAL SPLIT OF THE NET LIABILITY RECORDED IN THE BALANCE SHEET

	2021	2020
	in K€	in K€
Germany	47,165	56,129
Europe (excluding Germany)	9,934	11,114
Rest of world	3,241	3,105
Net defined benefit liability	**60,340**	**70,348**

Dec. 31

For Pfeiffer Vacuum GmbH, there are plans in place consisting of old-age, invalidity, and surviving dependents benefits. These obligations are based upon plans reflecting period of service and final salary. However, these plans are closed for new employees since many years. For new employees, there is a retirement arrangement in place since December 31, 2007 which has been implemented as a direct commitment on a period of service and funded basis. Accordingly for all employees of Pfeiffer Vacuum GmbH an employer funded pension scheme is in place which is partially funded via the Pfeiffer Vacuum Trust e.V. There are no legally binding minimum funding requirements for these plans.

For former members of the Pfeiffer Vacuum Technology AG Management Board there are individually agreed plans in place, consisting of old-age, invalidity, and surviving dependents benefits. These obligations are based on period of service as well as final salary commitments and are also largely funded via the Pfeiffer Vacuum Trust e.V. Again, there are no legally binding minimum funding requirements.

For Pfeiffer Vacuum Inc., USA, there is a plan in place consisting of old-age, invalidity, and surviving dependents benefits with the obligations being based upon period of service and final salary. These benefits are partially funded via a trust arrangement. There are no legally binding minimum funding requirements.

For Pfeiffer Vacuum SAS, France, and for Pfeiffer Vacuum Semi Korea, Ltd., Republic of Korea, there are plans in place with the obligations being based upon period of service and final salary to be paid as a one-time installment due at the beginning of the retirement. The plan of Pfeiffer Vacuum Semi Korea, Ltd. is partially funded. There are no legally binding minimum funding requirements in France or the Republic of Korea.

COMPOSITION OF THE NET PENSION EXPENSES

	2021	2020
	in K€	in K€
Current service cost	3,746	3,857
Net interest expense	544	312
Net pension expenses	**4,290**	**4,169**

Net pension expenses were allocated to the functional expenses according to the input involved.

DEVELOPMENT OF THE DEFINED BENEFIT OBLIGATION

	2021	2020
	in K€	in K€
Present value of defined benefit obligation as at January 1	136,050	128,799
Current service cost	3,746	3,857
Interest cost on the defined benefit obligation	1,377	1,185
Actuarial gains/losses from changes in demographic assumptions	– 2,685	614
Actuarial gains/losses from changes in financial assumptions	– 6,783	5,613
Actuarial experience gains/losses	894	1,186
Benefits paid	– 4,017	– 4,082
Currency changes	1,092	– 1,122
Present value of defined benefit obligation as at December 31	**129,674**	**136,050**
Thereof attributable to:		
Active employees	63,810	69,673
Deferred employees	13,665	15,678
Pensioners	52,199	50,696

DEVELOPMENT OF PLAN ASSETS

	2021	2020
	in K€	in K€
Fair value of plan assets as at January 1	65,702	64,696
Interest income	727	873
Experience gains/losses	2,024	– 1,652
Group contributions	3,431	5,776
Benefit payments	– 3,411	– 3,219
Currency changes	861	– 772
Fair value of plan assets as at December 31	**69,334**	**65,702**

ACTUARIAL ASSUMPTIONS

	2021	2020
	in %	in %
Germany		
Discount rate	1.10	0.65
Wage and salary trend	3.00	3.00
Pension trend	2.00	2.00
Mortality tables	Heubeck 2018 G	Heubeck 2018 G
United States		
Discount rate	3.15	2.90
Wage and salary trend	5.00	2.00
Mortality tables	MP-2021	MP-2020
France, Republic of Korea		
Discount rate (weighted average)	1.79	1.38
Wage and salary trend (weighted average)	3.37	3.16
Mortality tables France	Insee M/F 2007–2060	Insee M/F 2007–2060
Mortality tables Republic of Korea	Insurance Development Institute of Korea	Insurance Development Institute of Korea

Dec. 31

COMPOSITION OF PLAN ASSETS

	2021		2020	
	in K€	in %	in K€	in %
Equity securities	19,372	27.9	11,382	17.3
Debt securities	41,352	59.6	47,115	71.7
Cash and cash equivalents	1,417	2.0	760	1.2
Other	7,193	10.5	6,445	9.8
Total	**69,334**	**100.0**	**65,702**	**100.0**

Dec. 31

With the exemption of plan assets in the category “Other” totaling K € 6,025 (December 31, 2020: K € 5,519), all plan assets are traded on an active market.

Plan assets do not contain financial instruments issued by the Group or other assets owned by the Group.

Accounting for 75 % the vast majority of plan assets related to the funding of the German benefit plans. To invest these funded amounts fiducially and insolvency protected, Pfeiffer Vacuum Trust e.V. was founded. Pfeiffer Vacuum Trust e.V. issued a mutual fund with a pursued target equity allocation of up to 30 % as well as a pursued fixed-income securities and cash allocation of at least 70 %. The fund is managed by an unrelated third-party asset management company with the major conditions regarding the asset allocation being given and adjusted when necessary.

Funds are invested conservatively using also a value safe-guarding approach. Underlying risks in connection with the investment of plan assets, for example fair value and default risks, are minimized accordingly.

The risks relating to the defined benefit plans within Pfeiffer Vacuum Group predominantly relate to the determination of discount rates. Changes to this parameter impact disproportionately the present value with the current relatively low interest rate level leading to a comparably high benefit obligation. In addition, benefit obligation is impacted by the other actuarial assumptions (for example life expectancy, wage and salary trend, pension trend). Depending on the elements of the pension plan life expectancy or pension trend are of subordinate importance.

SENSITIVITY ANALYSIS 2021

	Change in actuarial assumption	Impact on defined benefit obligation	
		in K€	in %
Present value of defined benefit obligation as at December 31, 2021		129,674	
Discount rate	1.0 %-point increase	– 10,152	– 7.8
	1.0 %-point decrease	26,333	20.3
Pension trend	0.25 %-point increase	2,842	2.2
	0.25 %-point decrease	– 2,715	– 2.1
Wage and salary trend	0.5 %-point increase	7,677	5.9
	0.5 %-point decrease	4,146	3.2
Life expectancy	increase by 1 year	5,253	4.1
	decrease by 1 year	– 5,228	– 4.0

Dec. 31

SENSITIVITY ANALYSIS 2020

	Change in actuarial assumption	Impact on defined benefit obligation	
		in K€	in %
Present value of defined benefit obligation as at December 31, 2020		136,050	
Discount rate	1.0 %-point increase	– 17,874	– 13.1
	1.0 %-point decrease	24,084	19.2
Pension trend	0.25 %-point increase	3,349	2.4
	0.25 %-point decrease	– 3,193	– 2.3
Wage and salary trend	0.5 %-point increase	1,963	1.4
	0.5 %-point decrease	– 1,849	– 1.4
Life expectancy	increase by 1 year	6,106	4.3
	decrease by 1 year	– 3,840	– 2.8

Dec. 31.

The opposite table shows the respective impact of an isolated adjustment of individual assumptions with all other parameters including the basic methodology kept constant compared to the original calculation.

EXPECTED MATURITY OF UNDISCOUNTED PENSION PAYMENTS

	2021	2020
	in K€	in K€
Less than 1 year	4,231	3,900
Between 1 and 2 years	4,656	4,304
Between 2 and 3 years	5,283	4,922
Between 3 and 4 years	5,357	5,446
Between 4 and 5 years	5,450	5,115
More than 5 until 10 years	33,261	30,369

Dec. 31

The weighted average duration of the defined benefit obligation at December 31, 2021 amounted to 15.9 years (December 31, 2020: 16.7 years). The expected contributions for defined benefit plans in 2022 will be approximately € 3.0 million €.

In 2021, the IFRIC issued a new position regarding the accounting for lump sum pension payments. As a result, the provision for the pension obligation of Pfeiffer Vacuum SAS, Annecy, was revalued and the result was a reduction in the scope of the obligation by € 0.9 million (change in accounting method according to IAS 8). Due to materiality considerations, the amount was recognized directly in equity as an actuarial gain for 2021 within other components of equity. The effects of this change on the asset, financial and earnings position in future periods are also immaterial.

Defined contribution plans

Employees of the Group in certain countries are covered by defined contribution plans. Generally, contributions are based upon a percentage of the employee's wages or salaries. The costs of these plans charged to operations amounted to K € 14,308 in 2021 (2020: K € 14,057).

26. Trade accounts payable

Trade accounts payable do not bear any interest and, as in the year before, have maturities of less than one year.

27. Contract liabilities

Contract liabilities as of December 31, 2021 include obligations to transfer vacuum products or render services to Pfeiffer Vacuum's customers from whom payments have already been received. Presumably K € 1,321 of the contract liabilities will be realized or fulfilled after more than 12 months.

Short term contract liabilities recorded as at December 31, 2020 have been mainly realized as revenues in the fiscal year 2021.

28. Other payables

Other payables (K € 27,742 as at December 31, 2021, and K € 21,478 as at December 31, 2020) mainly consist of payroll taxes and VAT, as well as payables from social security contributions and legally binding participation programs. They do not bear any interest and, as in the year before, have maturities of less than one year.

29. Provisions

Provisions for employee-related expenses primarily include provisions for profit-sharing obligations and bonuses.

Warranty provisions include the amounts expected due to claims in connection with product warranties. They are recorded as per the close of the fiscal year for realized revenues based on management's estimates and experience.

Other provisions include € 0.1 million provision for dismantling obligations resulting from leases.

COMPOSITION OF PROVISIONS

	2021	2020
	in K€	in K€
Personnel provisions	30,801	22,381
Warranty provisions	13,916	13,441
Other provisions	3,464	3,680
Total	**48,181**	**39,502**

Dec. 31

DEVELOPMENT OF PROVISIONS

	Personnel	Warranty	Other	Total
	in K€	in K€	in K€	in K€
Balance as at January 1, 2021	**22,381**	**13,441**	**3,680**	**39,502**
Currency changes	577	149	100	826
Additions	29,874	3,981	3,786	37,641
Utilization	– 21,677	– 3,548	– 4,105	– 29,330
Releases	– 354	– 107	2	– 458
Balance as at December 31, 2021	**30,801**	**13,916**	**3,464**	**48,181**

30. Short-term financial liabilities

Short-term financial liabilities included short-term leasing liabilities in the amount of K € 4,279 (2020: K € 3,437).

31. Commitments and other financial obligations

The Group has entered into leases and maintenance agreements which expire on various dates, some of which are renewable. The tables below present the maximum amount of the contractual commitments as at year end, classified by the periods in which the contingent liabilities or commitments will expire.

Purchase obligations include long-term arrangements for future supplies of materials. For 2021, no rental and leasing expenses from leases that do not meet the criteria of IFRS 16 were recognized (2020: € 0.1 million). Only leases which do not meet the criteria of IFRS 16 are reported in the above table.

32. Segment reporting

The Group's business operations include the development, manufacture, sale and service of vacuum pumps, vacuum components and instruments, as well as vacuum systems. The subsidiaries in the individual countries are independent legal entities with their own management, which distribute products and provide services. Some entities within the Group additionally execute production functions. The entire product portfolio is offered by all sales subsidiaries.

CONTRACTUAL OBLIGATIONS AS AT DECEMBER 31, 2021

		Payments Due by Period			
	Total	**< 1 Year**	**1–3 Years**	**3–5 Years**	**> 5 Years**
	in K€	in K€	in K€	in K€	in K€
Operating leases (not IFRS 16)	–	–	–	–	–
Purchase obligations	79,957	70,939	9,018	–	–
Repair and maintenance	11,281	5,950	5,185	145	1
Total	**91,238**	**76,889**	**14,203**	**145**	**1**

CONTRACTUAL OBLIGATIONS AS AT DECEMBER 31, 2020

		Payments Due by Period			
	Total	**< 1 Jahr**	**1 – 3 Jahre**	**3 – 5 Jahre**	**> 5 Jahre**
	in K€	in K€	in K€	in K€	in K€
Operating leases (not IFRS 16)	139	44	95	–	–
Purchase obligations	27,181	24,067	3,114	–	–
Repair and maintenance	4,830	3,376	1,403	49	2
Total	**32,150**	**27,487**	**4,612**	**49**	**2**

Controlling of business development by corporate management is carried out on the level of the legal entities. Accordingly, the Group identifies its primary operating segments by legal entity. Due to the similarity of their economic environment, the same product portfolio sold, same sales markets, same cost structures and same sales channels, the Group basically aggregates its European and Asian subsidiaries into one reporting segment, "Europe (excluding Germany and France)" and "Rest of Asia".

In contrast, the production companies in Germany, France and the Republic of Korea were presented separately each as an individual segment. This was caused by the different functions of these entities, predominantly resulting from the existing production function. For this reason the prerequisites for an aggregation with the other segments are

SEGMENT REPORTING AS AT DECEMBER 31, 2021

	Germany	France	Rest of Europe	USA	USA (Production)	Republic of Korea	Rest of Asia	All Others	Con-solidation	Gesamt
	in K€	in K€	in K€	in K€	in K€	in K€	in K€	in K€	in K€	in K€
Net sales	266,609	255,526	110,291	149,308	56,897	121,614	158,419	52,040	– 399,331	771,373
Thereof: Third party	127,288	57,852	109,990	148,020	45,594	116,903	141,202	24,324		771,373
Thereof: Intercompany	139,321	197,674	301	1,288	11,303	4,711	17,017	27,716	– 399,331	–
Operating profit[1]	39,754	22,525	8,518	5,745	– 18,061	16,617	12,459	5,536	–	93,093
Financial income, net	– 25	– 193	– 20	925	– 736	24	– 191	– 376	–	– 592
Earnings before taxes[1]	39,729	22,332	8,498	6,670	– 18,797	16,641	12,268	5,160	–	92,501
Segment assets	159,137	163,394	42,598	78,361	52,156	67,904	93,299	51,027	–	707,876
Thereof: Assets according to IFRS 8.33 (b)[2]	62,136	80,768	1,437	26,622	23,908	18,681	14,746	28,056	–	256,354
Segment liabilities	79,571	90,049	14,436	12,032	7,640	15,095	19,714	9,963	–	248,500
Capital expenditures:									–	
Property, plant and equipment[3]	8,322	10,025	410	3,971	402	3,819	2,246	5,358	–	34,553
Intangible assets	3,527	2,088	4	23	–	–	47	1,365	–	7,054
Depreciation									–	
Property, plant and equipment[4]	5,532	5,542	1,252	1,874	799	1,503	3,263	2,670	–	22,435
Intangible assets	857	675	9	243	18,022	2	32	235	–	20,075

[1] Including the results of intercompany profit elimination (€ – 2,4 million) which were allocated to the segments.
[2] Non-current assets other than financial instruments, deferred tax assets and prepaid pension cost
[3] Including investment properties excluding addition of right-of-use-assets from leases
[4] Including right-of-use assets from leases and investment property

not given. The purely sales-oriented entity in the US is thus also presented separately. All operating segments that individually or as a group do not have to be reported separately are included in the segment "All others". Accordingly this segment mainly includes the entities producing instruments and components. Unchanged compared to previous year, all information is based upon the geographic location of the Group in question.

Transactions between segments are based upon the arm's length principle. The internal reporting on which the disclosures are based is IFRS. Segment sales and segment results in the primary reporting format initially include the effects of inter-segment transactions. These effects are eliminated in connection with the consolidation process.

SEGMENT REPORTING AS AT DECEMBER 31, 2020

	Germany	France	Rest of Europe	USA	USA (Production)	Republic of Korea	Rest of Asia	All Others	Con-solidation	Gesamt
	in K€	in K€	in K€	in K€	in K€	in K€	in K€	in K€	in K€	in K€
Net sales	220,833	204,398	107,467	123,953	47,471	82,720	123,465	42,642	– 334,284	618,665
Thereof: Third party	97,652	40,201	107,435	122,502	39,531	77,583	112,541	21,220	–	618,665
Thereof: Intercompany	123,181	164,197	32	1,451	7,940	5,137	10,924	21,422	– 334,284	–
Operating profit[1]	21,026	7,432	– 33	4,018	– 2,181	7,701	5,685	1,648	–	45,296
Financial income, net	– 17	– 212	– 7	922	– 760	23	– 291	– 413	–	– 755
Earnings before taxes[1]	21,009	7,220	– 40	4,940	– 2,941	7,724	5,394	1,235	–	44,541
Segment assets	153,774	147,790	43,012	70,844	64,044	56,001	80,161	46,219	–	661,845
Thereof: Assets according to IFRS 8.33 (b)[2]	57,864	73,868	1,480	22,031	39,381	15,948	13,176	23,854	–	247,602
Segment liabilities	135,179	71,648	13,515	12,213	7,341	10,885	13,060	6,270	–	270,111
Capital expenditures:										
Property, plant and equipment[3]	5,701	12,357	464	600	1,939	590	1,219	1,094	–	23,964
Intangible assets	5,913	457	12	3	–	–	45	47	–	6,477
Depreciation										
Property, plant and equipment[4]	5,167	5,282	1,163	1,915	817	1,526	3,195	2,613	–	21,678
Intangible assets	993	1,543	2,361	1,070	1,774	749	4,386	212	–	13,088

[1] Including the results of intercompany profit elimination (€ – 1,6 million) which were allocated to the segments.
[1] Non-current assets other than financial instruments, deferred tax assets and prepaid pension cost
[3] Including investment properties excluding addition of right-of-use-assets from leases
[4] Including right-of-use assets from leases and investment property

33. Financial instruments

Fair value

The net book value of financial instruments (e.g. cash and cash equivalents, trade accounts receivable and trade accounts payable, other accounts receivable and payable) essentially equals their fair value.

Interest rate risks

The interest-bearing portion of cash and cash equivalents involves interest rate risks. All investment forms have variable interest rates and are invested on a short-term basis. There are no further investment forms that result in interest rate risks within the Pfeiffer Vacuum Group.

Due to the short investment period for cash and cash equivalents, the agreed interest rate equals the market rate. Even if the market rate should change significantly, there will be no material impact on the fair value of cash and cash equivalents because the interest rate can be adjusted after only a short period of time.

At December 31, 2021, as in the year before, there were no more interest-sensitive financial assets. As a result of cash and cash equivalents as at December 31, 2021 an increase (decrease) in interest rate by 50 basis points would increase (decrease) earnings by K € 497 (December 31, 2020: increase/decrease by K € 614). As a result of financial liabilities shown as at December 31, 2021, an increase (decrease) in interest rate by 50 basis points would decrease (increase) earnings by K € 25 (December 31, 2020: increase (decrease) by K € 366.

Credit risks

Due to the Group's vastly heterogeneous customer structure, there are no material credit risk concentrations within the Group. Credit risks are additionally minimized through rigorous accounts receivable management and by monitoring our customers' payment patterns. Furthermore, deliveries to new customers are essentially made only after credit assessment, against payment in advance or credit limit. As a result, Pfeiffer Vacuum is able to keep the level of its allowance for doubtful accounts low, even in difficult economic times. The maximum theoretical credit risk equates the gross book value less already recognized allowance. For further details in respect to risk provision for trade accounts receivables please refer to Note 16.

Liquidity risks

Due to the above-average level of cash and cash equivalents, no liquidity risks can be identified.

Foreign exchange rate risks

Approximately 58 % (2020: 54 %) of the Group's net sales are denominated in currencies other than the euro, primarily in US dollars and in KRW. The Group enters into foreign currency forward contracts and options to hedge the exposure of its forecasted sales against currency fluctuations. All derivative financial instruments are entered into only within this scope.

The derivatives that qualify for cash flow hedges under IFRS 9/IAS 39 are recognized either as assets or liabilities at their fair values. Changes in the values of these cash flow hedges are recorded in equity under other equity components, net of applicable taxes. These amounts are subsequently reclassified as earnings (foreign exchange gains/losses) in the same period as the underlying transactions affect operating income. For the fiscal years ended December 31, 2021, and 2020, there were no amounts that were recognized in earnings due to hedge ineffectiveness. For the same periods, no gains or losses had to be reclassified to earnings from other equity components as a result of the discontinuance of cash flow hedges. If derivatives are kept, these derivatives are marked to market at period end using quoted forward rates. The positive fair values of the cash flow hedges recorded under other accounts receivable for the period ended December 31, 2021, totaled K € 10. Because the changes in fair value for cash flow hedges are recorded directly in equity, other equity components increased by K € 10, net of taxes of K € -3, as at December 31, 2021.

The derivatives classified as fair value hedges totaled K € 171 as at December 31, 2021, were recorded through the income statement, and shown with an amount of K € 171 under other accounts payable (December 31, 2020: other receivables of K € 27). The Group does not engage in speculative hedging for investment purposes. As at December 31, 2021, and at December 31, 2020, no contracts held by the Group had a maturity date greater than one year.

As at December 31, 2021, the Group has entered into foreign currency forward contracts (US dollar) totaling € 14.5 million (December 31, 2020: US dollar € 4.0 million) with a remaining term of less than one year. Pfeiffer Vacuum performs ongoing credit evaluations of the parties to these contracts and enters into contracts only with well-established financial institutions. Currency risks as defined by IFRS 7 arise as a result of financial instruments being denominated in a currency that is not the functional currency and being of a monetary nature; differences resulting from the translation of financial statements into the Group's presentation currency are not taken into consideration. Relevant risk variables are generally all non-functional currencies in which Pfeiffer Vacuum has entered into financial instruments. The vast majority of non-derivative monetary financial instruments within the Pfeiffer Vacuum Group are directly denominated in functional currency. In variance thereto, exchange rate risks arise from the securities available-for-sale, from a portion of trade accounts receivable, and from derivative financial instruments. If derivative financial instruments classify as cash flow hedges, changes in the exchange rate do not impact the income statement but are recorded directly in equity. Exchange rate-based changes in securities available-for-sale are also recorded directly in equity.

Had the euro, as at December 31, 2021, depreciated 10 %, net income and the total equity would have been higher by K € 6,416. A 10 % appreciation in the euro as at that balance sheet date would have decreased net income and the total equity by K € 5,259. Had the euro, as at December 31, 2020, depreciated 10 %, net income would have been higher by K € 4,394. A 10 % appreciation in the euro as at that balance sheet date would have decreased net income by K € 3,321. In all cases, net income and equity were affected mostly by the sensitivity of the US dollar which is predominantly material for the Consolidated Financial Statements.

Composition of financial instruments

The following tables show the composition of financial instruments by balance sheet line item and valuation category and fair value as well as net results by valuation category.

COMPOSITION OF FINANCIAL INSTRUMENTS AS AT DECEMBER 31, 2021

			Amounts Recognized According to IFRS 9			
	Category According to IFRS 9	Net Book Value	Amortized Cost	Fair Value Recognized in Equity	Fair Value Through Profit and Loss	Fair Value
		in K€	in K€	in K€	in K€	in K€
Assets						
Cash and cash equivalents	AC	99,371	99,371	–	–	99,371
Trade accounts receivable and contract assets	AC	120,979	120,979	–	–	120,979
Other financial assets	AC	2,670	2,670	–	–	2,670
Derivative financial instruments (excl. hedges)	FVPL	0	–	–	0	0
Derivative financial instruments (incl. hedges)	FVOCI	10	–	10	–	10
Liabilities						
Trade accounts payable	AC	58,046	58,046	–	–	58,046
Financial liabilities (excl. leasing)	AC	5,000	5,000	–	–	5,000
Derivative financial instruments (excl. hedges)	FVOCI	–	–	–	–	–
Derivative financial instruments (incl. hedges)	FVPL	171	–	–	171	171
Totals by valuation categories:						
Amortized Costs (AC)[1]		159,974	159,974	–	–	159,974
Fair Value through Profit or Loss (FVPL)[2]		– 171	–	–	– 171	– 171
Fair Value through other Comprehensive Income (FVOCI)[3]		10	–	10	–	10

[1] AC = Amortized Costs;
[2] FVPL = Fair Value through Profit or Loss;
[3] FVOCI = Fair Value through other Comprehensive Income

COMPOSITION OF FINANCIAL INSTRUMENTS AS AT DECEMBER 31, 2020

		Amounts Recognized According to IFRS 9				
	Category According to IFRS 9	Net Book Value	Amortized Cost	Fair Value Recognized in Equity	Fair Value Through Profit and Loss	Fair Value
		in K€	in K€	in K€	in K€	in K€
Assets						
Cash and cash equivalents	AC	122,883	122,883	–	–	122,883
Trade accounts receivable and contract assets	AC	85,102	85,102	–	–	85,102
Other financial assets	AC	3,795	3,795	–	–	3,795
Derivative financial instruments (excl. hedges)	FVPL	27	–	–	27	27
Derivative financial instruments (incl. hedges)	FVOCI	18	–	18	–	18
Liabilities						
Trade accounts payable	AC	44,937	44,937	–	–	44,937
Financial liabilities (excl. leasing)	AC	60,064	60,064	–	–	60,064
Derivative financial instruments (excl. hedges)	FVPL	–	–	–	–	–
Derivative financial instruments (incl. hedges)	FVOCI	–	–	–	–	–
Totals by valuation categories:						
Amortized Costs (AC)[1]		106,783	106,783	–	–	106,783
Fair Value through Profit or Loss (FVPL)[2]		27	–	–	27	27
Fair Value through other Comprehensive Income (FVOCI)[3]		18	–	18	–	18

[1] AC = Amortized Costs;
[2] FVPL = Fair Value through Profit or Loss;
[3] FVOCI = Fair Value through other Comprehensive Income

NET RESULTS BY VALUATION CATEGORY 2021

	From subsequent valuation					Net result
	From Interest/ Dividends	At Fair Value	Currency Translation	Impairment/ Reversal of Impairment	From Derecognition	2021
	in K€	in K€	in K€	in K€	in K€	in K€
Financial Instruments (AC)[1]	- 592	–	813	- 730	430	**- 79**
Derivative Financial Instruments (incl. hedges) (FVOCI)[2]	–	10	–	–	–	**10**
Derivative Financial Instruments (excl. hedges) (FVPL)[3]	–	- 171	–	–	–	**- 171**

[1] AC = Amortized Costs
[2] FVOCI = Fair Value through other Comprehensive Income
[3] FVPL = Fair Value through Profit or Loss

NET RESULTS BY VALUATION CATEGORY 2020

	From subsequent valuation					Net result
	From Interest/ Dividends	At Fair Value	Currency Translation	Impairment/ Reversal of Impairment	From Derecognition	2020
	in K€	in K€	in K€	in K€	in K€	in K€
Financial Instruments (AC)[1]	- 755	–	- 2,961	- 507	832	**- 3,391**
Derivative Financial Instruments (incl. hedges) (FVOCI)[2]	–	- 30	–	–	–	**- 30**
Derivative Financial Instruments (excl. hedges) (FVPL)[3]	–	18	–	–	–	**18**

[1] AC = Amortized Costs
[2] FVOCI = Fair Value through other Comprehensive Income
[3] FVPL = Fair Value through Profit or Loss

Determination of fair values of financial instruments

Determination of the fair value of derivative financial instruments (K € -161 as at December 31, 2021; K € 45 as at December 31, 2020) was done according to level 2 of the fair value hierarchy as set out in IFRS 13 "Fair Value Measurement" using accepted valuation principles and directly obtainable and up-to-date market parameters. A significant default risk is not given for these financial instruments.

In respect to the determination of fair value of financial liabilities the agreed variable interest rates are equal to the current rates customary in the market. Accordingly, the net book values correspond to their fair values.

Maturity of financial instruments

The following table shows the maturity of finance liabilities according to expiry date classes based on the maturity as of the balance sheet date. This analysis only relates to financial instruments and finance lease liabilities and includes undiscounted cash-flows. Reconciliation to the amounts in the balance sheet is thus basically not possible.

MATURITIES AS OF DEC. 31, 2021

	up to 1 year	1 year up to 5 years	> 5 years	Total
	in K€	in K€	in K€	in K€
Financial liabilities	–	5,000	–	**5,000**
Finance lease liabilities	4,279	7,415	1,461	**13,155**
Trade accounts payable	58,046	–	–	**58,046**

MATURITIES AS OF DEC. 31, 2020

	up to 1 year	1 year up to 5 years	> 5 years	Total
	in K€	in K€	in K€	in K€
Financial liabilities	64	60,000	–	**60,064**
Finance lease liabilities	4,129	7,521	1,734	**13,384**
Trade accounts payable	44,937	–	–	**44,937**

The following table shows the changes in financial liabilities that were deemed as financing activities in the Consolidated Statements of Cash-flows.

NET DEBT RECONCILIATION

	Loans	Lease liabilities	Other liabilities	Total
	in K€	in K€	in K€	in K€
Net book value as at January 1, 2020	**60,000**	**13,495**	**122**	**73,617**
Proceeds from financial liabilities	–	4,628	–	4,628
Thereof cash flow-relevant	**–**	**200**	**–**	**200**
Repayment of financial liabilities	–	-4,930	-56	-4,986
Thereof cash flow-relevant	**–**	**-4,930**	**-56**	**-4,986**
Foreign exchange differences	–	-142	-2	-144
Net book value as at December 31, 2020	**60,000**	**13,051**	**64**	**73,115**
Proceeds from financial liabilities	–	5,191	–	5,191
Thereof cash flow-relevant	**–**	**–**	**–**	**–**
Repayment of financial liabilities	-55,000	-5,505	-64	-60,569
Thereof cash flow-relevant	**-55,000**	**-5,505**	**-64**	**-60,569**
Foreign exchange differences	–	418	–	418
Net book value as at December 31, 2021	**5,000**	**13,155**	**–**	**18,155**

34. Management of financial risks

With an equity ratio of 64.9 % as at December 31, 2021 Pfeiffer Vacuum still has an equity base that is high. Additionally, cash and cash equivalents totaled € 99.4 million as at December 31, 2021. Despite the financial liabilities taken out totaling € 18.2 million as of December 31, 2021 (December 31, 2020: € 73.1 million) the Group shows no indebtedness on a net basis. Again, the required liquidity range to successfully develop Pfeiffer Vacuum does exist.

Liquid assets are invested on a short-term conservative basis. Due to its high equity ratio and its good liquidity, Pfeiffer Vacuum will not depend upon interest-bearing liabilities to fund its capital expenditures for replacement and expansion or the dividend payment. Moreover, there are sufficient liquidity reserves to respond to changes in the economic situation.

35. Earnings per share

COMPUTATION OF EARNINGS PER SHARE

	2021	2020
Net income (in K €)	61,987	31,591
Weighted average number of shares	9,867,659	9,867,659
Number of conversion rights	–	–
Adjusted weighted average number of shares	9,867,659	9,867,659
Earnings per share in € (basic/diluted)	6.28	3.20

There were no transactions with ordinary shares or ordinary shares issued during the period between the balance sheet date of December 31, 2021, and the preparation of the Consolidated Financial Statements.

ADDITIONAL NOTES AND SUPPLEMENTAL INFORMATION

36. Related party disclosures

Please refer to Note 5 with regard to shareholdings in affiliates. Details on the volume of business transactions carried out between the Group companies are disclosed in the segment reporting in Note 32, which also includes intercompany sales. All transactions are carried out at conditions that are usual and customary in the market and are entirely eliminated during the consolidation process. Therefore, there is no impact on financial position or results.

Related parties and persons particularly are natural persons who have control or joint control of the reporting entity, who have significant influence over the reporting entity or who are a member of the key management personnel of the reporting entity or of a parent of the reporting entity. This also applies to close members of that person's family. Moreover, all companies belonging to the same Group of companies are related parties.

Pfeiffer Vacuum Group does not have holdings in any jointly controlled entities. Furthermore, no control exists with respect to special purpose entities. Thus, particularly key management personnel and close family members, parent companies as well companies belonging to the same group of companies have been identified as related parties.

Please refer to Note 40 and Note 41 regarding the compensation paid to the members of the Management and Supervisory Boards, as well as regarding potential transactions with members of these corporate bodies. Aside from their activities on the Supervisory Board, the members of the Supervisory Board do not provide individual services for the Group or any of its companies. In contrast thereto, the employee representatives on the Supervisory Board receive salaries under the rules of the respective employment contracts for their work at the Group.

As of December 31, 2021, Dr. Karl Busch, Ms. Ayhan Busch, Ms. Ayla Busch, Mr. Sami Busch, and Mr. Kaya Busch, all Germany, together had 62.96 % of the voting rights of the Group according to the data available (December 31, 2020: 62.96 %). The shares are indirectly held through Pangea GmbH, Maulburg, Germany, which is therefore the direct parent company of Pfeiffer Vacuum Group, and further independent legal entities belonging to the family-run Busch group. Busch Holding GmbH & Co. KG, Maulburg, Germany, prepares Consolidated Financial Statements for the largest group of companies. Pfeiffer Vacuum Technology AG prepares Consolidated Financial Statements for the smallest group of companies. According to our knowledge, Dr. Karl Busch, Ms. Ayhan Busch, Ms. Ayla Busch, Mr. Sami Busch, and Mr. Kaya Busch, all Germany, together owned 100% of Busch Holding GmbH & Co. KG.

Based on a stake of 62.96 %, a dividend of € 9.9 million was paid to Pangea GmbH following the Annual General Meeting on May 12, 2021 and the resolution passed there on the appropriation of profits.

In the reporting period there were no transactions with Busch Holding GmbH & Co. KG, or Pangea GmbH or any other indirect parent company. The composition of further transactions of Pfeiffer Vacuum Group companies with other companies from the Busch group was as follows:

COMPOSITION OF FURTHER TRANSACTIONS

	Income	Expenses	Receivables Dec. 31	Liabilities Dec. 31
	in K€	in K€	in K€	in K€
2021	**3,697**	**2,528**	**2,036**	**1,273**
2020	1,071	2,479	360	594

All transactions in 2021 and 2020 predominantly related to the purchase and sale of goods and to a smaller degree to services received or provided. Unchanged to previous years all transactions were carried out at arm's length conditions.

Members of the Management and Supervisory Boards held an aggregate total of 6,212,967 shares of the Group as at December 31, 2021 (2020: 6,212,967). The change resulted from the shareholdings of Busch group which are also attributable to the Chairwoman of the Supervisory Board, Ms. Ayla Busch.

In 2021, the reimbursements from Pfeiffer Vacuum Trust e. V. amounted to € 2.9 million (2020: € 2.3 million). Contributions to Pfeiffer Vacuum Trust e. V. totaled € 2.1 million in 2021 (2020: € 2.9 million).

37. Events after the balance sheet date

Since the beginning of the 2022 fiscal year, there have not been any significant changes in the company situation or the industry environment.

38. Personnel expenses

PERSONNEL EXPENSES

	2021	2020
	in K€	in K€
Wages and salaries	– 196,546	– 178,047
Social security, pension and other benefit cost	– 42,724	– 39,017
Thereof for pensions	– 18,598	– 18,226
Total	**– 239,270**	**– 217,064**

39. Number of employees

The number of employees was as follows as at December 31, 2021, and 2020:

NUMBER OF EMPLOYEES

	2021	2020
Annual average		
Male	2,760	2,717
Female	613	598
Total	**3,373**	**3,315**
Balance sheet date		
Male	2,809	2,705
Female	635	604
Total	**3,444**	**3,309**

The number of employees includes apprentices (December 31, 2021: 85, December 31, 2020: 82).

40. Management Board

In the 2021 fiscal year, the Management Board consisted of

- Dr. Britta Giesen, Diploma in Industrial Engineering, (Chairwoman of the Management Board)

and

- Wolfgang Ehrk, Diploma in Industrial Engineering (Chief Operations Officer).

With effect from January 1, 2021 Dr. Britta Giesen has taken the function of CEO upon the scheduled retirement of the previous Chief Executive Officer, Dr. Eric Taberlet, as of December 31, 2020.

In the previous year, Nathalie Benedikt also resigned from her position as a member of the Management Board and Chief Financial Officer on September 30, 2020 in agreement with the Supervisory Board.

In 2021, the Supervisory Board concluded on a system for the remuneration of the Management Board, which was approved by the Annual General Meeting on May 12, 2021 with a majority of 99.04 %. According to this system, which the service contracts of the incumbent members of the Board of Management already largely correspond to, the remuneration of the Management Board consists of short-term fixed remuneration, variable remuneration and benefits in kind. In the case of variable remuneration, a distinction is made between an annual, short-term variable remuneration ("target bonus") and a long-term variable remuneration component that is based on a three-year assessment period (long-term incentive, or "LTI" for short). In order to determine the variable remuneration, individual targets related to the responsibilities of the members of the Management Board are set, which are supplemented by uniform financial targets for the Management Board, essentially based on EBIT or EBITDA. Target achievement is determined by the Supervisory Board after the end of the financial year. The target bonus is paid out after the Annual General Meeting that decides on the approval of the respective financial year for which the remuneration is to be paid. The long-term variable remuneration is only paid out after the Annual General Meeting that decides on the last year of the three-year assessment period. Deviating from this, there are different due dates upon the termination of the contract.

The target bonus is a maximum of K € 220 for Dr. Britta Giesen as CEO and a maximum of K € 140 for Wolfgang Ehrk as a board member. The maximum amount of the LTI is K € 230 for Dr. Britta Giesen as CEO and a maximum of K € 160 for Wolfgang Ehrk as a board member. The amount of the LTI can also be increased by 25 % through an outperformance rule.

In addition, the service contracts with the members of the Management Board include a non-competition clause, malus and clawback rules, a severance payment cap and clauses for determining the maximum remuneration.

Total compensation recorded in the income statement for the aforesaid members of the Management Board for fiscal 2021 totaled € 1.3 million (2020: € 1.9 million). € 0.7 million thereof related to short-term fixed compensation (2020: € 1.1 million) and € 0.3 million to short-term variable benefits (2020: 0.4 million) and € 0.2 million to long-term variable benefits (2020: € 0.3 million). The total compensation paid to members of the Executive Board in 2021 (including payments to Executive Board members who have since left) amounted to € 1.8 million (2020: € 1.9 million). Of this amount, € 0.8 million relates to short-term fixed compensation (previous year: € 1.1 million), € 0.4 million to short-term variable compensation (previous year: € 0.4 million) and € 0.6 million € on the long-term variable compensation (previous year: € 0.3 million).

Open balances with the Board Members as of December 31, 2021, only related to the provisions for the variable compensation and totaled € 0.7 million (2020: € 0.7 million). In 2021, pension expenses totaled € 0.1 million (2020: € 0.1 million) and include defined contribution plans. As of December 31, 2021 and unchanged compared to the previous year, there were no pension benefits granted to active Board Members to be recorded under pensions provisions.

Benefits to former members of the Management Board (pensions) again amounted unchanged to € 0.4 million. As of December 31, 2021, the net benefit obligation recorded for this group totaled € 8.0 million (2020: € 7.7 million).

41. Supervisory Board

Pursuant to § 96, Sub-Para. 1, § 101, Sub-Para. 1, German Stock Corporation Act ("AktG"), § 4, German One-Third Participation Act ("DrittelbG") of 2004, and § 9, Sub-Para. 1, Articles of Association and Bylaws, the Supervisory Board comprises four members elected by the Annual General Meeting and two members elected by the Group's employees.

In 2021, periodic elections were held for all members of the Supervisory Board. As a result, the composition of the Supervisory Board changed from that of the previous year with effect from the date of the Annual General Meeting on May 12, 2021.

Membership during the course of the year 2021 was therefore as follows:

- Ayla Busch (Chairwoman)
  Co-CEO of Busch SE, Maulburg
- Götz Timmerbeil (Vice Chairman),
  Certified Public Accountant and Tax Advisor
- Timo Birkenstock (Employee Representative),
  Development Engineer, from May 12, 2021
- Filippo Th. Beck,
  Attorney of Swiss law, until May 12, 2021
- Minja Lohrer,
  Director, from May 12, 2021
- Matthias Mädler (Employee Representative),
  Development Engineer, until May 12, 2021
- Henrik Newerla,
  self-employed management consultant,
- Stefan Röser (Employee Representative),
  Chairman of the Employee Council

The following members exercised further mandates. These are supervisory board mandates unless otherwise indicated:

- Götz Timmerbeil:
  - Richard Stein GmbH & Co. KG, Engelskirchen, (Chairman of the Advisory Board),

For the members of the Supervisory Board a fixed short-term remuneration of K € 454 (2020: K € 315) was recorded in the income statement in the period under review. Beginning in 2021, when determining the amount of remuneration work in Supervisory Board committees was also be taken into account. A distinction is now also made between a committee chair and simple committee membership. In accordance with the resolution of the Annual General Meeting on May 12, 2021, according to which the remuneration is only due after the end of the respective financial year, there were outstanding balances towards members of the Supervisory Board as of the December 31, 2021 in the amount of the total remuneration of K € 454 (2020: K € 108).

42. Exempting provision under § 264 Sub-Para. 3, German Commercial Code ("HGB")

Pfeiffer Vacuum GmbH, Asslar, Germany, and Pfeiffer Vacuum Shared Services GmbH, Asslar, Germany, is included in the Consolidated Financial Statements of Pfeiffer Vacuum Technology AG. Accordingly, these companies have made use of the exempting provision under § 264, Sub-Para. 3, German Commercial Code.

43. Audit fees for independent auditors

The expenses for services rendered by the auditor of the Consolidated Financial Statements recorded in the statements of income were as follows for fiscal 2021 and 2020:

AUDIT FEES FOR THE AUDITOR OF THE CONSOLIDATED FINANCIAL STATEMENTS

	2021	2020
	in K€	in K€
Fees resulting from:		
Audit services	-939	-853
Other certification and consulting services	-45	-36
Tax advisory services	-6	-11
Other services	–	-48
Total	**-990**	**-948**

The total for the year 2021 comprised also fees to PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft, Frankfurt am Main in the amount of K € 479 for audit services, K € 0 for tax advisory services, K € 45 for other certification services and K € 0 for other services (2020: K € 412 for audit services, K € 8 for tax advisory services, K € 36 for other certification services and K € 48 for other services).

The audit of the Consolidated Financial Statements as of December 31, 2021, was carried out by Pricewaterhouse-Coopers GmbH, Wirtschaftsprüfungsgesellschaft, Frankfurt/Main. Other certification services related to the audit of the Group's non-financial declaration. Other services rendered in 2020 related to advisory in connection with the enhancement of the compliance management system.

44. German Corporate Governance Code/ Declaration pursuant to § 161, German Stock Corporation Act ("AktG")

On November 4, 2021, the Management and Supervisory Boards of Pfeiffer Vacuum Technology AG submitted the declaration of compliance for the year 2021 pursuant to § 161 of the German Stock Corporation Act ("AktG"), The declaration of compliance has been made permanently accessible to shareholders on the Corporation's website.

45. Authorization for issuance of Consolidated Financial Statements

Through a resolution by the Management Board on March 4, 2021, the Consolidated Financial Statements were authorized for issuance.

Asslar, March 04, 2022

The Management Board

Dr. Britta Giesen Wolfgang Ehrk

Dr. Britta Giesen Wolfgang Ehrk

CERTIFICATION OF LEGAL REPRESENTATIVES 2021

To the best of our knowledge, and in accordance with the applicable reporting principles, the Consolidated Financial Statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group management report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

Asslar, March 04, 2022

The Management Board

Dr. Britta Giesen   Wolfgang Ehrk

Dr. Britta Giesen   Wolfgang Ehrk

INDEPENDENT AUDITOR'S REPORT

To Pfeiffer Vacuum Technology AG, Aßlar

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

Audit Opinions

We have audited the consolidated financial statements of Pfeiffer Vacuum Technology AG, Aßlar, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2021, and the consolidated statement of comprehensive income, consolidated statement of profit or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from 1 January to 31 December 2021, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Pfeiffer Vacuum Technology AG, which is combined with the Company's management report, – which comprise the content included to comply with the German legal requirements as well as the remuneration report pursuant to § [Article] 162 AktG [Aktiengesetz: German Stock Corporation Act], including the related disclosures, included in section "Compensation Report 2021" of the group management report – for the financial year from 1 January to 31 December 2021. In accordance with the German legal requirements, we have not audited the content of those parts of the group management report listed in the "Other Information" section of our auditor's report.

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 § 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2021, and of its financial performance for the financial year from 1 January to 31 December 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. Our audit opinion on the group management report does not cover the content of those parts of the group management report listed in the "Other Information" section of our auditor's report.

Pursuant to § 322 Abs. 3 Satz [sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation") 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 European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January to 31 December 2021. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matter of most significance in our audit was as follows:

1. Recoverability of goodwill

Our presentation of this key audit matter has been structured as follows:

1. Matter and issue
2. Audit approach and findings
3. Reference to further information

Hereinafter we present the key audit matter:

1. Recoverability of goodwill

1. In the Company's consolidated financial statements goodwill amounting in total to EUR 58.4 million (8,2 % of total assets) is reported under the Intangible assets balance sheet item. Goodwill is tested for impairment by the Company once a year or when there are indications of impairment to determine any possible need for write-downs. The impairment test is carried out at the level of the cash-generating units to which the relevant goodwill is allocated. The carrying amount of the relevant cash-generating unit, including goodwill, is compared with the corresponding recoverable amount in the context of the impairment test. The recoverable amount is generally determined using the value in use. The present value of the future cash flows from the respective cash-generating unit normally serves as the basis of valuation. Present values are calculated using discounted cash flow models. For this purpose, the adopted medium-term business plan of the Group forms the starting point which is extrapolated based on assumptions about long-term rates of growth. Expectations relating to future market developments and assumptions about the development of macroeconomic factors are also taken into account. The discount rate used is the weighted average cost of capital for the respective cash-generating unit. The impairment test determined that even after taking into account the fair value less costs of disposal, it was necessary to recognize write-downs amounting to a total of EUR 16.4 million with respect to the cash-generating unit "Nor-Cal Products Inc".

   The outcome of this valuation is dependent to a large extent on the estimates made by the executive directors with respect to the future cash inflows from the respective cash-generating unit, the discount rate used, the rate of growth and other assumptions, and is therefore subject to considerable uncertainty. Against this background and due to the complex nature of the valuation, this matter was of particular significance in the context of our audit.

2. As part of our audit, we assessed the methodology used for the purposes of performing the impairment test, among other things. After matching the future cash inflows used for the calculation against the adopted medium-term business plan of the Group, we assessed the appropriateness of the calculation, in particular by reconciling it with general and sector-specific market expectations. We discussed and examined supplementary adjustments to the medium-term business plan for the purposes of the impairment test with the members of the Company's staff responsible. In the knowledge that even relatively small changes in the discount rate applied can have a material impact on the value of the entity calculated in this way, we focused our testing in particular on the parameters used to determine the discount rate applied, and assessed the calculation model. In order to reflect the uncertainty inherent in the projections, we evaluated the sensitivity analyses performed by the Company. We verified that the necessary disclosures were made in the notes to the consolidated financial statements relating to cash-generating units for which a reasonably possible change in an assump-

tion would result in the recoverable amount falling below the carrying amount of the cash-generating units including the allocated goodwill.

Overall, the valuation parameters and assumptions used by the executive directors are in line with our expectations and are also within the ranges considered by us to be reasonable.

3. The Company's disclosures on the balance sheet item Intangible assets are contained in section 11 of the notes to the consolidated financial statements.

Other Information

The executive directors are responsible for the other information. The other information comprises the following non-audited parts of the group management report, which we obtained prior to the date of our auditor's report:

- the statement on corporate governance pursuant to § 289f HGB and § 315d HGB included in section "Declaration on Corporate Governance" of the group management report
- the non-financial group statement pursuant to § 315b Abs. 1 HGB included in section "Non-Financial Consolidated Statement 2021" of the group management report

The other information comprises further all remaining parts of the annual report, which we obtained prior to the date of our auditor's report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information mentioned above and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report disclosures audited in terms of content or with our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

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

The executive directors and the supervisory board are further responsible for the preparation of the remuneration report, including the related disclosures, which is included in a separate section of the group management report and complies with the requirements of § 162 AktG. They are also responsible for such internal control as they determine is necessary to enable the preparation of a remuneration report, including the related disclosures, that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

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

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

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

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

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB

Assurance Opinion

We have performed assurance work in accordance with § 317 Abs. 3a HGB to obtain reasonable assurance as to whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in the electronic file *Pfeiffer-Vacuum_Technology_AG_KA_KLB_ESEF-2021-12-31.zip* and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained within these renderings nor to any other information contained in the electronic file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the electronic file identified above and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the financial year from 1 January to 31 December 2021 contained in the "Report on the Audit of the Consolidated Financial Statements and on the Group Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the electronic file identified above.

Basis for the Assurance Opinion

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the electronic file identified above in accordance with § 317 Abs. 3a HGB and the IDW Assurance Standard: Assurance Work on the Electronic Rendering, of Financial Statements and Management Reports, Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB (IDW AsS 410 (10.2021)) and the International Standard on Assurance Engagements 3000 (Revised). Our responsibility in accordance therewith is further described in the "Group Auditor's Responsibilities for the Assurance Work on the ESEF Documents" section. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibilities of the Executive Directors and the Supervisory Board for the ESEF Documents

The executive directors of the Company are responsible for the preparation of the ESEF documents including the electronic renderings of the consolidated financial statements and the group management report in accordance with § 328 Abs. 1 Satz 4 Nr. [number] 1 HGB and for the tagging of the consolidated financial statements in accordance with § 328 Abs. 1 Satz 4 Nr. 2 HGB.

In addition, the executive directors of the Company are responsible for such internal control as they have considered necessary to enable the preparation of ESEF documents that are free from material non-compliance with the requirements of § 328 Abs. 1 HGB for the electronic reporting format, whether due to fraud or error.

The supervisory board is responsible for overseeing the process for preparing the ESEF documents as part of the financial reporting process.

Group Auditor's Responsibilities for the Assurance Work on the ESEF Documents

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error. We exercise professional judgment and maintain professional skepticism throughout the assurance work. We also:

- Identify and assess the risks of material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.

- Obtain an understanding of internal control relevant to the assurance work on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.

- Evaluate the technical validity of the ESEF documents, i.e., whether the electronic file containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815 in the version in force at the date of the consolidated financial statements on the technical specification for this electronic file.

- Evaluate whether the ESEF documents provide an XHTML rendering with content equivalent to the audited consolidated financial statements and to the audited group management report.

- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, in the version in force at the date of the consolidated financial statements, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on 12 May 2021. We were engaged by the supervisory board on 14 December 2021. We have been the group auditor of the Pfeiffer Vacuum Technology AG, Aßlar, without interruption since the financial year 2018.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

REFERENCE TO AN OTHER MATTER – USE OF THE AUDITOR'S REPORT

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the assured ESEF documents. The consolidated financial statements and the group management report converted to the ESEF format – including the versions to be published in the Federal Gazette – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the "Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB" and our assurance opinion contained therein are to be used solely together with the assured ESEF documents made available in electronic form.

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Christian Kwasni.

Frankfurt am Main, March 4, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Christian Kwasni Wirtschaftsprüfer [German Public Auditor]	ppa. Samuel Artzt Wirtschaftsprüfer [German Public Auditor]

INDEPENDENT PRACTITIONER'S REPORT ON A LIMITED ASSURANCE ENGAGEMENT ON NON-FINANCIAL REPORTING[1]

To Pfeiffer Vacuum Technology AG, Aßlar

We have performed a limited assurance engagement on the non-financial group statement of Pfeiffer Vacuum Technology AG, Aßlar, (hereinafter the "Company") for the period from 1 January to 31 December 2021 (hereinafter the "Non-financial Group Statement") included in section "Non-financial Statement" of the group management report.

Not subject to our assurance engagement are the external sources of documentation or expert opinions mentioned in the Non-financial Group Statement.

Responsibility of the Executive Directors

The executive directors of the Company are responsible for the preparation of the Non-financial Group Statement in accordance with §§ (Articles) 315c in conjunction with 289c to 289e HGB ("Handelsgesetzbuch": "German Commercial Code") and Article 8 of REGULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2020 on establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (hereinafter the "EU Taxonomy Regulation") and the Delegated Acts adopted thereunder, as well as for making their own interpretation of the wording and terms contained in the EU Taxonomy Regulation and the Delegated Acts adopted thereunder, as set out in section "EU Taxonomy" of the Non-financial Group Statement.

This responsibility includes the selection and application of appropriate non-financial reporting methods and making assumptions and estimates about individual non-financial disclosures of the Group that are reasonable in the circumstances. Furthermore, the executive directors are responsible for such internal controls as the executive directors consider necessary to enable the preparation of a Non-financial Group Statement that is free from material misstatement whether due to fraud or error.

The EU Taxonomy Regulation and the Delegated Acts issued thereunder contain wording and terms that are still subject to considerable interpretation uncertainties and for which clarifications have not yet been published in every case. Therefore, the executive directors have disclosed their interpretation of the EU Taxonomy Regulation and the Delegated Acts adopted thereunder in section "EU Taxonomy" of the Non-financial Group Statement. They are responsible for the defensibility of this interpretation. Due to the immanent risk that indeterminate legal terms may be interpreted differently, the legal conformity of the interpretation is subject to uncertainties.

[1] PricewaterhouseCoopers GmbH has performed a limited assurance engagement on the German version of the Non-financial Group Statement and issued an independent practitioner's report in German language, which is authoritative. The following text is a translation of the independent practitioner's report.

Independence and Quality Control of the Audit Firm

We have complied with the German professional provisions regarding independence as well as other ethical requirements.

Our audit firm applies the national legal requirements and professional standards – in particular the Professional Code for German Public Auditors and German Chartered Auditors ("Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer": "BS WP/vBP") as well as the Standard on Quality Control 1 published by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany; IDW): Requirements to quality control for audit firms (IDW Qualitätssicherungsstandard 1: Anforderungen an die Qualitätssicherung in der Wirtschaftsprüferpraxis - IDW QS 1) – and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Responsibility of the Assurance Practitioner

Our responsibility is to express a conclusion with limited assurance on the Non-financial Group Statement based on our assurance engagement.

We conducted our assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised): Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the IAASB. This Standard requires that we plan and perform the assurance engagement to obtain limited assurance about whether any matters have come to our attention that cause us to believe that the Company's Non-financial Group Statement, other than the external sources of documentation or expert opinions mentioned in the Non-financial Group Statement, are not prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the interpretation by the executive directors disclosed in section "EU Taxonomy" of the Non-financial Group Statement.

In a limited assurance engagement the procedures performed are less extensive than in a reasonable assurance engagement, and accordingly a substantially lower level of assurance is obtained. The selection of the assurance procedures is subject to the professional judgement of the assurance practitioner.

In the course of our assurance engagement, we have, amongst other things, performed the following assurance procedures and other activities:

- Gain an understanding of the structure of the Group's sustainability organisation and stakeholder engagement
- Inquiries of the executive directors and relevant employees involved in the preparation of the Non-financial Group Statement about the preparation process, about the internal control system relating to this process and about disclosures in the Non-financial Group Statement
- Identification of likely risks of material misstatement in the Non-financial Group Statement
- Analytical procedures on selected disclosures in the Non-financial Group Statement
- Reconciliation of selected disclosures with the corresponding data in the consolidated financial statements and group management report
- Evaluation of the presentation of the Non-financial Group Statement
- Evaluation of the process to identify taxonomy-eligible economic activities and the corresponding disclosures in the Non-financial Group Statement
- Inquiries on the relevance of climate-risks

In determining the disclosures in accordance with Article 8 of the EU Taxonomy Regulation, the executive directors are required to interpret undefined legal terms. Due to the immanent risk that undefined legal terms may be interpreted differently, the legal conformity of their interpretation and, accordingly, our assurance engagement thereon are subject to uncertainties.

Assurance Opinion

Based on the assurance procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Non-financial Group Statement of the Company for the period from 1 January to 31 December 2021 is not prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the inter pretation by the executive directors disclosed in section "EU Taxonomy" of the Non-financial Group Statement.

We do not express an assurance opinion on the external sources of documentation or expert opinions mentioned in the Non-financial Group Statement.

Restriction of Use

We draw attention to the fact that the assurance engagement was conducted for the Company's purposes and that the report is intended solely to inform the Company about the result of the assurance engagement. Consequently, it may not be suitable for any other purpose than the aforementioned. Accordingly, the report is not intended to be used by third parties for making (financial) decisions based on it. Our responsibility is to the Company. We do not accept any responsibility to third parties. Our assurance opinion is not modified in this respect.

Frankfurt am Main, March 04, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Nicolette Behncke	ppa. Claudia Niendorf-Senger
Wirtschaftsprüfer	Wirtschaftsprüferin
German public auditor	German public auditor

REPORT OF THE INDEPENDENT AUDITOR ON THE FORMAL AUDIT OF THE REMUNERATION REPORT PURSUANT TO § 162 ABS. 3 AKTG

To Pfeiffer Vacuum Technology AG, Aßlar

Opinion

We have formally audited the remuneration report of the Pfeiffer Vacuum Technology AG, Aßlar, for the financial year from January 1 to December 31, 2021 to determine whether the disclosures pursuant to § [Article] 162 Abs. [paragraphs] 1 and 2 AktG [Aktiengesetz: German Stock Corporation Act] have been made in the remuneration report. In accordance with § 162 Abs. 3 AktG, we have not audited the content of the remuneration report.

In our opinion, the information required by § 162 Abs. 1 and 2 AktG has been disclosed in all material respects in the accompanying remuneration report. Our opinion does not cover the content of the remuneration report.

Basis for the opinion

We conducted our formal audit of the remuneration report in accordance with § 162 Abs. 3 AktG and IDW [Institut der Wirtschaftsprüfer: Institute of Public Auditors in Germany] Auditing Standard: The formal audit of the remuneration report in accordance with § 162 Abs. 3 AktG (IDW AuS 870). Our responsibility under that provision and that standard is further described in the "Auditor's Responsibilities" section of our auditor's report. As an audit firm, we have complied with the requirements of the IDW Quality Assurance Standard: Requirements to quality control for audit firms [IDW Qualitätssicherungsstandard – IDW QS 1]. We have complied with the professional duties pursuant to the Professional Code for German Public Auditors and German Chartered Auditors [Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer – BS WP/vBP], including the requirements for independence.

Responsibility of the Management Board and the Supervisory Board

The management board and the supervisory board are responsible for the preparation of the remuneration report, including the related disclosures, that complies with the requirements of § 162 AktG. They are also responsible for such internal control as they determine is necessary to enable the preparation of a remuneration report, including the related disclosures, that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibilities

Our objective is to obtain reasonable assurance about whether the information required by § 162 Abs. 1 and 2 AktG has been disclosed in all material respects in the remuneration report and to express an opinion thereon in an auditor's report.

We planned and performed our audit to determine, through comparison of the disclosures made in the remuneration report with the disclosures required by § 162 Abs. 1 and 2 AktG, the formal completeness of the remuneration report. In accordance with § 162 Abs 3 AktG, we have not audited the accuracy of the disclosures, the completeness of the content of the individual disclosures, or the appropriate presentation of the remuneration report.

Frankfurt am Main, March 04, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Christian Kwasni	ppa. Samuel Artzt
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

CONSOLIDATED STATEMENTS OF INCOME

6-YEAR-OVERVIEW

	2021	2020	2019	2018	2017	2016
	in K€	in K€	in K€	in K€	in K€	in K€
Net sales	**771,373**	**618,665**	**632,865**	**659,725**	**586,962**	**474,244**
Cost of sales	– 490,965	– 401,671	– 416,995	– 424,517	– 376,945	– 293,769
Gross profit	**280,408**	**216,994**	**215,870**	**235,208**	**210,017**	**180,475**
Selling and marketing expenses	– 79,371	– 70,795	– 71,669	– 68,371	– 63,313	– 55,330
General and administrative expenses	– 61,448	– 57,595	– 52,293	– 49,106	– 48,976	– 35,733
Research and development expenses	– 34,230	– 35,135	– 29,620	– 28,663	– 27,763	– 26,282
Other operating income	11,395	9,349	7,768	11,302	10,345	10,818
Other operating expenses	– 23,661	– 17,522	– 4,904	– 5,240	– 8,924	– 5,972
Operating profit	**93,093**	**45,296**	**65,152**	**95,130**	**71,386**	**67,976**
Financial expenses	– 843	– 902	– 853	– 727	– 693	– 662
Financial income	251	147	216	208	347	301
Earnings before taxes	**92,501**	**44,541**	**64,515**	**94,611**	**71,040**	**67,615**
Income taxes	– 30,514	– 12,950	– 16,158	– 25,732	– 17,192	– 20,583
Net income	**61,987**	**31,591**	**48,357**	**68,879**	**53,848**	**47,032**
Earnings per share (in €)	**6.28**	**3.20**	**4.90**	**6.98**	**5.46**	**4.77**
Number of shares (weighted average)	9,867,659	9,867,659	9,867,659	9,867,659	9,867,659	9,867,659

CONSOLIDATED STATEMENTS OF INCOME

6-YEAR-OVERVIEW

	2021	2020	2019	2018	2017	2016
	in K€	in K€	in K€	in K€	in K€	in K€
Profitability figures						
Gross margin	36.4 %	35.1 %	34.1 %	35.7 %	35.8 %	38.1 %
Operation profit margin	12.1 %	7.3 %	10.3 %	14.4 %	12.2 %	14.3 %
After-tax return on sales	8.0 %	5.1 %	7.6 %	10.4 %	9.2 %	9.9 %
Sales by region						
Asia	322,468	231,263	231,050	246,624	220,304	174,604
Europe	253,389	227,310	232,043	246,971	222,547	188,860
The Americas	195,414	159,991	169,664	165,942	143,808	110,542
Rest of world	102	101	108	188	303	238

Further Information

Addresses Worldwide

Pfeiffer Vacuum

GERMANY

Pfeiffer Vacuum Technology AG
Pfeiffer Vacuum GmbH
Berliner Straße 43
35614 Asslar
T +49 64 41 802 0
F +49 64 41 802 1202
info@pfeiffer-vacuum.de

Pfeiffer Vacuum Components & Solutions GmbH
Anna-Vandenhoeck-Ring 44
37081 Göttingen
T +49 551 99963 0
F +49 551 99963 10
info-cs@pfeiffer-vacuum.de

DREEBIT GmbH
Zur Wetterwarte 50, Haus 301
01109 Dresden
T +49 351 2127001 0
F +49 351 2127001 80
info@dreebit.com

BENELUX

Pfeiffer Vacuum Benelux B. V.
Newtonweg 11
4104 BK Culemborg
The Netherlands
T +31 345 478 400
F +31 345 531 076
office@pfeiffer-vacuum.nl

CHINA

Pfeiffer Vacuum (Shanghai) Co., Ltd.
Unit C, 3rd Floor,
Building 2 Youyou
Century Plaza
428 South Yanggao Road
200127 Shanghai
T +86 21 3393 3940
F +86 21 3393 3944
info@pfeiffer-vacuum.cn

Pfeiffer Vacuum (Wuxi) Co., Ltd.
Pfeiffer Vacuum (WuXi) Co., Ltd.,
No. 5 and 7 plants in Zhongtong
Industrial Park, No. 168,
Xixie Road, Shuofang Street,
Xinwu District, Wuxi City

FRANCE

Pfeiffer Vacuum SAS
BP N° 2069 – 98,
Avenue de Brogny
74009 Annecy CEDEX
T +33 4 50 65 77 77
F +33 4 50 65 77 89
info@pfeiffer-vacuum.fr

UNITED KINGDOM

Pfeiffer Vacuum Ltd.
16 Plover Close,
Interchange Park
Newport Pagnell, MK16 9PS
England
T +44 1908 500 600
F +44 1908 500 601
sales@pfeiffer-vacuum.co.uk

INDIA

Pfeiffer Vacuum (India)
Private Ltd.
25/5 Nicholson Road, Tarbund
Secunderabad 500 009
T +91 40 2775 0014
F +91 40 2775 7774
pvin@pfeiffer-vacuum.in

ITALY

Pfeiffer Vacuum Italia S. p. A.
Via Luigi Einaudi 21
20037 Paderno Dugnano (MI)
T +39 02 939905 1
F +39 02 939905 33
contact@pfeiffer-vacuum.it

MALAYSIA

Pfeiffer Vacuum Malaysia Sdn. Bhd.
Lot 10, SMI Park Phase 2
Jalan Hi-Tech 4 Sambungan
09000 Kulim
Malaysia

AUSTRIA

Pfeiffer Vacuum Austria GmbH
Diefenbachgasse 35
1150 Vienna
T +43 1 8941704
F +43 1 8941707
office@pfeiffer-vacuum.at

ROMANIA

Pfeiffer Vacuum Romania S.r.l.
Parc industrial Nervia
Str. Constructorilor nr. 38
407035 Apahida, jud. Cluj
T +40 372 649 614
F +40 372 649 601
info@pfeiffer-vacuum.ro

SWITZERLAND

Pfeiffer Vacuum (Schweiz) AG
Förrlibuckstrasse 30
8005 Zurich
T +41 44 444 2255
F +41 44 444 2266
info@pfeiffer-vacuum.ch

SINGAPORE

Pfeiffer Vacuum Singapore Pte. Ltd.
49 Jalan Pemimpin
#01-01/04 APS Industrial
Building
Singapore 577203
T +65 6254 0828
F +65 6254 7018
info@pfeiffer-vacuum.sg

SCANDINAVIA

Pfeiffer Vacuum Scandinavia AB
Johanneslundsv.gen 3
19461 Upplands V.sby
Sweden
T +46 8 590 748 10
F +46 8 590 748 88
sales@pfeiffer-vacuum.se

REPUBLIC OF KOREA

Pfeiffer Vacuum Semi Korea, Ltd.
12F, 53, Metapolis-ro,
Hwasung-si, Gyeonggi-do 18454
T +82 31 8014 7200
F +82 31 8014 7227
sales@pfeiffer-vacuum.kr

TAIWAN

Pfeiffer Vacuum Taiwan Corporation Ltd.
No. 169-9, Sec. 1,
Kang-Leh Road
Song-Lin Village,
Hsin-Feng 30444
Hsin-Chu County – Taiwan,
R.O.C.
T +886 3 559 9230
F +886 3 559 9232
info@pfeiffer-vacuum.tw

USA

Pfeiffer Vacuum Inc.
24 Trafalgar Square
Nashua, NH 03063-1988
T +1 603 578 6500
F +1 603 578 6550
contact@pfeiffer-vacuum.com

4037 Guion Lane
Indianapolis, IN 46268
T +1 317 328-8492
F +1 317 328-2686
atc@atcinc.net

Nor-Cal Products, Inc.
1967 South Oregon Street
Yreka, CA 96097
T +1 800 824-4166
F +1 530 842-9130
ncsales@n-c.com

Glossary

Cash and cash equivalents
Indicates the cash and cash equivalents provided by the various capital flows and is the result of the cash flow accounting.

Cash flow from financing activities
Indicates the balance of cash and cash equivalents provided to or used by a company in connection with transactions involving shareholders' equity or outside capital.

Cash flow from investment activities
Indicates the balance of cash and cash equivalents that a company has invested or received in connection with the acquisition or sale of financial and tangible assets.

Cash flow from operating activities
Indicates the change in cash and cash equivalents resulting from operative business during the period under review.

CMRT
The Conflict Minerals Reporting Template is a standardized template from the Reporting Minerals Initiative that facilitates the exchange of information on conflict minerals in the supply chain

CO_2e
CO_2 equivalents (CO_2e) are a measurement unit for standardizing the climate impact of the different greenhouse gases. The largest portion of the greenhouse effect from companies that produce such gases, such as Pfeiffer Vacuum, is attributable to carbon dioxide (CO_2).

Corporate governance
The organizational structure and systems used in the way companies are managed and controlled.

CSR
Corporate Social Responsibility describes the economy's voluntary contribution to sustainable development, beyond what is legally required

Dividend yield
Indicates the ratio between a dividend and a defined share trading price – typically the year-end trading price. The dividend yield expresses the magnitude of the effective yield of the capital invested in shares.
Calculation:
Dividend ÷ Trading Price x 100

Equity ratio
Describes the relationship between shareholders' equity and total capital. The more shareholders' equity that is available to a company, the better its credit rating will typically be.
Calculation:
Shareholders' Equity
÷ Balance Sheet Total x 100

FAR
Fatal Accident Rate: Number of fatal accidents at work per 100 million working hours

Free float
The free float includes all shares that are not held by major shareholders; i. e. shares that can be acquired and traded by the general public. Under Deutsche Börse's definition, shares totaling over 5 percent of total equity or over 25 percent held by investment funds are not considered to be part of the free float.

Gross margin
Indicates the ratio between gross profit and net sales, enabling conclusions to be drawn regarding a company's production efficiency.
Calculation:
Gross Profit
÷ Net Sales x 100

Greenhouse Gas Protocol
Comprehensive global standardized framework to measure and manage greenhouse gas emissions (GHG) from private and public sector operations, value chains and mitigation actions.

GRI
Independent, non-profit organization. Leading international standard setter for sustainability performance providing a Global comparable reporting and accounting framework.

Gross profit
The result of net sales less cost of sales.
Calculation:
Net Sales – Cost of Sales

ICS
Internal Control System

ISO 14001
a standard for environmental management systems that is used and accepted worldwide

ISO 50001
a globally valid standard of the International Organization for Standardization (ISO), which is intended to support organizations and companies in the development of systematic energy management

LPG
liquefied petroleum gas, also known as liquid gas

LTI
Lost Time Injuries: accident requiring at least one day of absence

LTIFR
Lost Time Injuries Frequency Rate: number of accidents per one million working hours

Market capitalization
Indicates the current market value of a company's shareholders' equity on the stock exchange.
Calculation:
Number of Shares Outstanding
x Trading Price

OHSAS 18001
is used in many countries as a certification basis for management systems for occupational health and safety (OSH)

Operating profit (EBIT)
Operating profit (earnings) before interest and taxes.
Calculation:
Net Income ± Financial Income /
Expenses ± Income Taxes ± Gain /
Loss from Financial Investment

Operating profit margin (EBIT margin)
The ratio between operating profit and net sales – the higher the ratio, the higher the profitability of operating activities.
Calculation:
Operating Profit (EBIT)
÷ Net Sales x 100

PV
Pfeiffer Vacuum

Research and development expense ratio
Is an expression of the relationship between the volume of research and development expenses and the volume of net income generated. Is thus considered to be an indicator of a company's willingness to invest in its own innovation activities.
Calculation:
R & D Expenses
÷ Net Income x 100

Return on capital employed (ROCE)
Ratio between operating profit and the total capital employed during a period.
Calculation:
EBIT ÷ (Net) Assets
+ Working Capital x 100

Return on equity
Provides information about the yield on the equity provided by shareholders.
Calculation:
Net Income
÷ Shareholders' Equity x 100

Whilstleblowing system
Option to report potential violations of compliance guidelines

Working capital
A measure that indicates the surplus of a company's assets that are capable of being liquidated short term (within one year) over its short-term liabilities.

ALLOCATION OF THE GRI STANDARDS TO THE MATERIAL TOPICS

Material Topic	Management approach (GRI 103-1, 103-2, 103-3) and GRI Standard
Environment	
Energy & Emissions	Management approach p. 76
	GRI 302: Energy 2016
	GRI 305: Emissions 2016
Resource Efficiency	Management approach p. 77
	GRI 301: Materials 2016
	GRI 303: Water and effluents 2018
	GRI 306: Waste 2020
Employees	
Training & Education	Management approach p. 85
	GRI 404: Training and education 2016
Occupational Health & Safety	Management approach p. 88
	GRI 403: Occupational health and safety 2018
Employer of Choice	Management approach p. 83
	GRI 401: Employment 2016
	GRI 406: Non-discrimination 2016
	GRI 407: Freedom of association and collective bargaining 2016
Diversity & Equal Opportunities	Management approach p. 85
	GRI 405: Diversity and equal opportunity 2016
	GRI 406: Non-discrimination 2016

Material Topic	Management approach (GRI 103-1, 103-2, 103-3) and GRI Standard
Governance	
Corporate Governance & Compliance	Management approach p. 94
	GRI 205: Anti-corruption 2016
	GRI 206: Anti-competitive behaviour 2016
	GRI 207: Tax 2019
	GRI 307: Environmental compliance 2016
	GRI 408: Child labor 2016
	GRI 409: Forced or compulsory labor 2016
	GRI 412: Human rights assessment 2016
	GRI 419: Socioeconomic compliance 2016
Digitalization & Cybersecurity	Management approach p. 97
	GRI 418: Customer privacy 2016
Stakeholder Dialogue	Management approach p. 75
	GRI 102-40: List of stakeholder groups
	GRI 102-41: Collective bargaining agreements
	GRI 102-42: Identifying and selecting stakeholders
	GRI 102-44: Key topics and concerns raised
Supply Chain Management & Human Rights	
Supply Chain Management & Human Rights	Management approach p. 81
	GRI 308: Supplier environmental assessment 2016
	GRI 411: Rights of indigenous peoples 2016
	GRI 414: Supplier social assessment 2016
Products & Costumers	
Innovation Management & Product Impact	Management approach p. 90-91
Quality Assurance & Product Safety	Management approach p. 92-93
	GRI 416: Customer health and safety 2016
Customer Satisfaction & Service	Management approach p. 93

GRI-CONTENT-INDEX

Disclosures		Section	Comments/online annexes	UNGC
GRI 101	**Foundation 2016**			
GRI 102	**General Disclosures 2016**			
Organizational profile				
GRI 102-1	Name of the organization		Pfeiffer Vacuum Technology AG	
GRI 102-2	Activities, brands, products, and services	PFEIFFER VACUUM GROUP **Corporate profile** p. 40		
GRI 102-3	Location of headquarters		Asslar, Germany	
GRI 102-4	Location of operations	PFEIFFER VACUUM GROUP **Corporate profile** p. 40 **Group structure** p. 44-45 NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS **Notes to the Scope of Consolidation** p. 152		
GRI 102-5	Ownership and legal form	SHARE PERFORMANCE **Shareholder Structure as of Dec. 31, 2021** p. 35 PFEIFFER VACUUM GROUP **Group structure** p. 44-45		
GRI 102-6	Markets served	PFEIFFER VACUUM GROUP **Corporate profile** – Markets and market position p. 40-42 BUSINESS REPORT **Profitability, financial position, and liquidity** – Sales by segment p. 50-51 – Sales by region p. 51-52 – Sales by market p. 52-53		

Disclosures		Section	Comments/online annexes	UNGC
GRI 102-7	Scale of the organization	**GROUP KEY FIGURES** p. 2 **THE YEAR 2021 AT A GLANCE** p. 38-39 **PFEIFFER VACUUM GROUP** **Corporate profile** – Global customer proximity with manufacturing, sales and service locations worldwide p. 40 **PFEIFFER VACUUM GROUP** **Group structure** p. 44-45 **CONSOLIDATED BALANCE SHEETS** p. 139-140		
GRI 102-8	Information on employees and other workers	**PFEIFFER VACUUM GROUP** **Corporate profile** – Markets and market position: Chart “Locations and employees worldwide” p. 41 **NON-FINANCIAL CONSOLIDATED STATEMENT** **Responsibility for employees** – Chart “Regional distribution of employees” p. 84		6
GRI 102-9	Supply chain	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Supply Chain Management and Human Rights** – Supply chain management p. 81-82 **Governance** – Corporate Governance & Compliance: Code of Conduct as the Group-wide basis for compliance p. 96-97 **RISK AND OPPORTUNITIES REPORT** – Procurement, supply chain, production p. 104-105		
GRI 102-10	Significant changes to the organization and its supply chain	**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS** **Notes to the Scope of Consolidation** p. 152	No significant changes in the structure of the supply chains	
GRI 102-11	Precautionary Principle or approach	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Legal framework of the non-financial consolidated statement** – Risk assessment of the non-financial reporting p. 68 **RISK AND OPPORTUNITIES REPORT** p. 98-108		
GRI 102-12	External initiatives		Governance documents ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx Membership in UN Global Compact ↗ https://www.unglobalcompact.org/what-is-gc/participants/147037-Pfeiffer-Vacuum-Technology-AG	
GRI 102-13	Membership of associations		Membership in „Blue Competence“ initiative of VDMA ↗ https://ir.pfeiffer-vacuum.com/English/csr/default.aspx	

Disclosures		Section	Comments/online annexes	UNGC
Strategy				
GRI 102-14	Statement from senior decision-maker	**LETTER FROM THE CEO** p. 7-8 **PFEIFFER VACUUM GROUP** **Company Strategy** p. 42-44		
GRI 102-15	Key impacts, risks, and opportunities	**PFEIFFER VACUUM GROUP** **Research und development** p. 46 **NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – EU Taxonomy p. 79-80 **RISK AND OPPORTUNITIES REPORT** p. 98-108		
Ethics and Integrity				
GRI 102-16	Values, principles, standards, and norms of behavior		Code of conduct and international guidelines ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx Code of conduct and supplier code of conduct ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/our-culture/ ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/	10
GRI 102-17	Mechanisms for advice and concerns about ethics		Code of conduct and supplier code of conduct ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/our-culture/	
Governance				
GRI 102-18	Governance structure	**DECLARATION ON CORPORATE GOVERNANCE** **Dual management system: Management Board and Supervisory Board** p. 114-117 **Collaboration between the Management and Supervisory Boards** p. 117-118 **Shareholders and Annual General Meeting** p. 118		
GRI 102-19	Delegating authority	**PFEIFFER VACUUM GROUP** **Group structure** p. 44-45 **DECLARATION ON CORPORATE GOVERNANCE** **Dual management system: Management Board and Supervisory Board** p. 114-117 **Collaboration between the Management and Supervisory Boards** p. 117-118		
GRI 102-20	Executive-level responsibility for economic, environmental, and social topics	**DECLARATION ON CORPORATE GOVERNANCE** **Management Board** p. 114-115	Management Board ↗ https://ir.pfeiffer-vacuum.com/English/governance/management-board/default.aspx	

Disclosures		Section	Comments/online annexes	UNGC
GRI 102-21	Consulting stakeholders on economic, environmental, and social topics	NON-FINANCIAL CONSOLIDATED STATEMENT **Stakeholder Dialogue** p. 75 DECLARATION ON CORPORATE GOVERNANCE **Shareholders and Annual General Meeting** p. 118		
GRI 102-22	Composition of the highest governance body and its committees	DECLARATION ON CORPORATE GOVERNANCE **Supervisory Board** p. 115-117 **Equality** p. 119	Profile of skills and expertise for the Supervisory Board ↗ https://ir.pfeiffer-vacuum.com/English/governance/supervisory-board/default.aspx	
GRI 102-23	Chair of the highest governance body	DECLARATION ON CORPORATE GOVERNANCE **Supervisory Board** p. 115-117		
GRI 102-24	Nominating and selecting the highest governance body	DECLARATION ON CORPORATE GOVERNANCE **Supervisory Board** p. 115-117		
GRI 102-25	Conflicts of interest	DECLARATION ON CORPORATE GOVERNANCE **Supervisory Board** p. 115-117 NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS **Related party disclosures** p. 183-184		10
GRI 102-26	Role of highest governance body in setting purpose, values, and strategy	REPORT OF THE SUPERVISORY BOARD FOR THE 2021 FISCAL YEAR p. 10-15 DECLARATION ON CORPORATE GOVERNANCE **Collaboration between the Management and Supervisory Boards** p. 117-118		
GRI 102-27	Collective knowledge of highest governance body		CVs and committees of the Supervisory Board ↗ https://ir.pfeiffer-vacuum.com/English/governance/supervisory-board/default.aspx	
GRI 102-28	Evaluating the highest governance body's performance	REPORT OF THE SUPERVISORY BOARD FOR THE 2021 FISCAL YEAR **Annual and Consolidated Financial Statements, audit, dependency report** p. 14-15 DECLARATION ON CORPORATE GOVERNANCE **Collaboration between the Management and Supervisory Boards** p. 117-118	Voting results ↗ https://ir.pfeiffer-vacuum.com/English/events/annual-general-meeting/default.aspx	
GRI 102-29	Identifying and managing economic, environmental, and social impacts	REPORT OF THE SUPERVISORY BOARD FOR THE 2021 FISCAL YEAR p. 10-15		
GRI 102-30	Effectiveness of risk management processes	RISK AND OPPORTUNITIES REPORT **Risk and opportunity management system** – Risk reporting and management p. 100-101		
GRI 102-31	Review of economic, environmental, and social topics	REPORT OF THE SUPERVISORY BOARD FOR THE 2021 FISCAL YEAR **Annual and Consolidated Financial Statements, audit, dependency report** p. 14-15		

Disclosures		Section	Comments/online annexes	UNGC
GRI 102-32	Highest governance body's role in sustainability reporting	REPORT OF THE SUPERVISORY BOARD FOR THE 2021 FISCAL YEAR **Annual and Consolidated Financial Statements, audit, dependency report** p. 14-15		
GRI 102-33	Communicating critical concerns	SHARE PERFORMANCE **Comprehensive investor relations activities** p. 36 DECLARATION ON CORPORATE GOVERNANCE **Shareholders and Annual General Meeting** p. 118		
GRI 102-34	Nature and total number of critical concerns	REPORT OF THE SUPERVISORY BOARD FOR THE 2021 FISCAL YEAR **Supervisory Board meetings and issues of Supervisory Board work** p. 11-12	Annual General Meeting ↗https://ir.pfeiffer-vacuum.com/English/events/annual-general-meeting/default.aspx	
GRI 102-35	Remuneration policies	REMUNERATION REPORT 2021 p. 120-135		
GRI 102-36	Process for determining remuneration	REMUNERATION REPORT 2021 **Remuneration for the Management Board** – Consideration of the Management Board remuneration system and approval by the shareholders p. 120-122 **Remuneration for the Supervisory Board s** p. 134-135		
GRI 102-37	Stakeholders involvement in remuneration	REMUNERATION REPORT 2021 **Remuneration for the Management Board** – Consideration of the Management Board remuneration system and approval by the shareholders p. 120-122 **Remuneration for the Supervisory Board s** p. 134-135		
GRI 102-38	Annual total compensation ratio	REMUNERATION REPORT 2021 **Remuneration for the Management Board** – Information on the relative development of the remuneration of the Management Board, the remuneration of the other employees, and the development of the Company's earnings p. 133		
GRI 102-39	Percentage increase in annual total compensation ratio	REMUNERATION REPORT 2021 **Remuneration for the Management Board** – Information on the relative development of the remuneration of the Management Board, the remuneration of the other employees, and the development of the Company's earnings p. 133		
Stakeholder engagement				
GRI 102-40	List of stakeholder groups	NON-FINANCIAL CONSOLIDATED STATEMENT **Stakeholder Dialogue** p. 75		
GRI 102-41	Collective bargaining agreements		90 % of the employees at Pfeiffer Vacuum GmbH in Asslar have a collective bargaining agreement.	3
GRI 102-42	Identifying and selecting stakeholders	NON-FINANCIAL CONSOLIDATED STATEMENT **Stakeholder Dialogue** p. 75		

Disclosures		Section	Comments/online annexes	UNGC
GRI 102-43	Approach to stakeholder engagement	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Stakeholder Dialogue** p. 75		
GRI 102-44	Key topics and concerns raised	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Governance** – Corporate Governance and Compliance: Whistleblowing system p. 97		
Reporting practice				
GRI 102-45	Entities included in the consolidated financial statements	**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS** **Notes to the Scope of Consolidation** p. 152		
GRI 102-46	Defining report content and topic boundaries	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Legal framework of the non-financial consolidated statement** – Scope of the report p. 67 – Material issues p. 68-74		
GRI 102-47	List of material topics	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Legal framework of the non-financial consolidated statement** – Material issues: Chart „Materiality of sustainability topics“ p. 69		
GRI 102-48	Restatements of information	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Legal framework of the non-financial consolidated statement** p. 66 **NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS** **Application of amended or new standards** p. 145-146		
GRI 102-49	Changes in reporting	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Legal framework of the non-financial consolidated statement** p. 66-75 **NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS** **Notes to the scope of consolidation** p. 152		
GRI 102-50	Reporting period		January 1, 2021 until December 31, 2021	
GRI 102-51	Date of most recent report		March 25, 2021	
GRI 102-52	Reporting cycle		annually	
GRI 102-53	Contact point for questions regarding the report	**CONTACTS AND IMPRINT** p. 225		
GRI 102-54	Claims of reporting in accordance with the GRI Standards	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Legal framework of the non-financial consolidated statement** p. 66		
GRI 102-55	GRI content index	**FURTHER INFORMATION** **GRI content index** p. 208-223		

Disclosures		Section	Comments/online annexes	UNGC
GRI 102-56	External assurance	**INDEPENDENT AUDITOR'S REPORT** p. 188-194 **INDEPENDENT PRACTITIONER'S REPORT ON A LIMITED ASSURANCE ENGAGEMENT ON NON-FINANCIAL REPORTING** p. 195-197		

MATERIAL TOPICS

Economics				
GRI 201	**Economic Performance 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	**PFEIFFER VACUUM GROUP** **Company strategy** p. 42-43 **Management system** p. 44		
GRI 201-1	Direct economic value generated and distributed	**BUSINESS REPORT** **Profitability, financial position, and liquidity** – Profitability p. 54-56 – Financial Position p. 58-59		
GRI 201-2	Financial implications and other risks and opportunities due to climate change	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – EU Taxonomy p. 79-80 **RISK AND OPPORTUNITIES REPORT** **Explanation of risks and opportunities** – Environmental risks and opportunities p. 107		7
GRI 201-3	Defined benefit plan obligations and other retirement plans	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Responsibility for employees** – Work-life-balance: Remuneration and incentive schemes p. 85 **NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS** **Pensions and similar obligations** p. 168-172		
GRI 205	**Anti-corruption 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Governance** – Corporate Governance and Compliance p. 94-96	Compliance organization ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/compliance-organization/	

Disclosures		Section	Comments/online annexes	UNGC
GRI 205-2	Communication and training about anti-corruption policies and procedures	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Education and training: Continuous education and training despite coronavirus p. 85-86 **Governance** – Corporate Governance and Compliance: Code of Conduct as the Group-wide basis for compliance p. 96-97		10
GRI 205-3	Confirmed incidents of corruption and actions taken	NON-FINANCIAL CONSOLIDATED STATEMENT **Governance** – Corporate Governance and Compliance: Whistleblowing system p. 97		10
GRI 206	**Anti-competitive Behavior 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Governance** – Corporate Governance and Compliance p. 94-96	Compliance organization ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/compliance-organization/	
GRI 206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices		Any risks from litigation or claims are disclosed in the Notes to the Consolidated Financial Statements	
GRI 207	**Tax 2019**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)		Fiscal transparency reporting ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx	
GRI 207-1	Approach to tax		Fiscal transparency reporting ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx	
GRI 207-2	Tax governance, control, and risk management		Fiscal transparency reporting ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx	
GRI 207-3	Stakeholder engagement and management of concerns related to tax		Fiscal transparency reporting ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx	
GRI 207-4	Country-by-country reporting		Fiscal transparency reporting ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx	

Disclosures		Section	Comments/online annexes	UNGC
Environmental				
GRI 301	**Materials 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Environment** p. 75-76 – Resource efficiency p. 77-78 **Products and customers** – Innovation management and product impact: Material efficiency p. 92		
GRI 301-1	Materials used by weight or volume		Pfeiffer Vacuum will review the relevance of this indicator.	7, 8
GRI 301-2	Recycled input materials used		The use of recycled starting materials is constantly being evaluated.	7
GRI 301-3	Reclaimed products and their packaging materials		Pfeiffer Vacuum will review the relevance of this indicator.	7
GRI 302	**Energy 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Environment** p. 75-80 – Energy and emissions p. 76-77 **Products and customers** – Innovation management and product impact: Environmental friendliness and energy efficiency of products p. 91-92	ISO certification ↗ https://group.pfeiffer-vacuum.com/en/group/iso-certification/ Sustainability ↗ https://ir.pfeiffer-vacuum.com/English/csr/default.aspx	
GRI 302-1	Energy consumption within the organization	NON-FINANCIAL CONSOLIDATED STATEMENT **Environment** – Energy and emissions p. 76-77		7, 8
GRI 302-3	Energy intensity			8
GRI 302-4	Reduction of energy consumption		Since the collection of energy-related data has been expanded, a comparison with previous years is not possible.	8, 9
GRI 302-5	Reductions in energy requirements of products and services	NON-FINANCIAL CONSOLIDATED STATEMENT **Products and customers** – Innovation management and product impact: Environmental friendliness and energy efficiency of products p. 91-92		
GRI 303	**Water & Effluents 2018**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Environment** p. 75-76 – Resource efficiency p. 77-78 – Resource efficiency: water p. 78-79	ISO certification ↗ https://group.pfeiffer-vacuum.com/en/group/iso-certification/ Sustainability ↗ https://ir.pfeiffer-vacuum.com/English/csr/default.aspx	

Disclosures		Section	Comments/online annexes	UNGC
GRI 303-1	Interactions with water as a shared resource	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Resource efficiency: water p. 78-79		7, 8
GRI 303-2	Management of water discharged-related impacts	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Resource efficiency: water p. 78-79		7, 8
GRI 303-3	Water withdrawal	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Resource efficiency: water p. 78-79		7, 8
GRI 305	**Emissions 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** p. 75-76 – Energy and emissions p. 76-77 **Products and customers** – Innovation management and product impact: Environmental friendliness and energy efficiency of products p. 91-92	ISO certification ↗ https://group.pfeiffer-vacuum.com/en/group/iso-certification/	
GRI 305-1	Direct (Scope 1) GHG emissions	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Energy and emissions p. 76-77		7, 8
GRI 305-2	Energy indirect (Scope 2) GHG emissions	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Energy and emissions p. 76-77		7, 8
GRI 305-3	Other indirect (Scope 3) GHG emissions	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Energy and emissions p. 76-77		7, 8
GRI 305-4	GHG emissions intensity	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Energy and emissions p. 76-77		8
GRI 305-5	Reduction of GHG emissions		Since the collection of energy-related data and associated CO_2e emissions has been expanded, a comparison with previous years is not possible.	8
GRI 305-7	Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Energy and emissions p. 76-77		8

Disclosures		Section	Comments/online annexes	UNGC
GRI 306	**Waste 2020**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** p. 75-76 – Resource efficiency p. 77-78 – Resource efficiency: Waste p. 79		
GRI 306-1	Waste generation and significant waste-related impacts	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Resource efficiency: Waste p. 79		7, 8
GRI 306-2	Management of significant waste-related impacts	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Products and customers** – Innovation management and product impact: Environmental friendliness and energy efficiency of products p. 91-92		7, 8
GRI 306-3	Waste generated	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Environment** – Resource efficiency: Waste p. 79		8
GRI 306-4	Waste diverted from disposal		Pfeiffer Vaccuum will review the relevance of this indicator.	
GRI 306-5	Waste directed to disposal		Pfeiffer Vaccuum will review the relevance of this indicator.	
GRI 307	**Environmental Compliance 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Governance** – Corporate Governance & Compliance: Compliance management p. 94-95		
GRI 307-1	Non-compliance with environmental laws and regulations		Any risks from litigation or claims are disclosed in the Notes to the Consolidated Financial Statements.	8
GRI 308	**Supplier Environmental Assessment 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	**NON-FINANCIAL CONSOLIDATED STATEMENT** **Supply Chain Management and Human Rights** – Supply chain management p. 81 **Governance** – Corporate Governance & Compliance: Code of Conduct as the Group-wide basis for compliance p. 96-97		
GRI 308-1	New suppliers that were screened using environmental criteria		Pfeiffer Vaccuum will review the relevance of this indicator.	8
GRI 308-2	Negative environmental impacts in the supply chain and actions taken		Pfeiffer Vaccuum will review the relevance of this indicator.	

Disclosures		Section	Comments/online annexes	UNGC
Social				
GRI 401	**Employment 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** p. 83		
GRI 401-1	New employee hires and employee turnover	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Employer of Choice: Employee structure p. 83-84		6
GRI 401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Work-life-balance p. 84 – Occupational health and safety: Preventive health protection p. 90	Careers ↗ https://group.pfeiffer-vacuum.com/en/careers/your-benefits/	6
GRI 403	**Occupational Health and Safety 2018**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety p. 88-90		
GRI 403-1	Occupational health and safety management system	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety p. 88-90		
GRI 403-2	Hazard identification, risk assessment, and incident investigation	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety p. 88-90		
GRI 403-3	Occupational health services	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety: Preventive health protection p. 90		
GRI 403-4	Worker participation, consultation, and communication on occupational health and safety	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety p. 88-90 – Occupational health and safety: Preventive health protection p. 90		
GRI 403-5	Mitarbeiterschulung zu Arbeitssicherheit und Gesundheitsschutz	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety p. 88-90 – Occupational health and safety: Preventive health protection p. 90		

Disclosures		Section	Comments/online annexes	UNGC
GRI 403-6	Worker training on occupational health and safety	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety: Preventive health protection p. 90		
GRI 403-7	Promotion of worker health	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management: Environmental and social aspects p. 82		
GRI 403-8	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety: Preventive health protection p. 90		
GRI 403-9	Work-related injuries	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Occupational health and safety p. 88-90		
GRI 404	**Training and Education 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** p. 83 – Education and training: Continuous education and training despite coronavirus p. 85-86 Vocational training for young professionals p. 86-87 Corporate management and executive training p. 87-88		
GRI 404-1	Average hours of training per year per employee	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** p. 83-90 – Education and training: Vocational training for young professionals p. 86-87		
GRI 404-2	Programs for upgrading employee skills and transition assistance programs	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** p. 83-90 – Work-life-balance p. 84-85 – Education and training: Continuous education and training despite coronavirus p. 85-86 Vocational training for young professionals p. 86-87 Corporate management and executive training p. 87-88		
GRI 405	**Diversity and Equal opportunity 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Diversity and equal opportunities p. 85	Profile of skills and expertise for the Supervisory Board ↗ https://ir.pfeiffer-vacuum.com/English/governance/supervisory-board/default.aspx	

Disclosures		Section	Comments/online annexes	UNGC
GRI 405-1	Diversity of governance bodies and employees	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Diversity and equal opportunities p. 85 DECLARATION ON CORPORATE GOVERNANCE **Supervisory Board** p. 115-117		6
GRI 406	**Non-discrimination 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Responsibility for employees** – Diversity and equal opportunities p. 85		
GRI 406-1	Incidents of discrimination and corrective actions taken	NON-FINANCIAL CONSOLIDATED STATEMENT **Governance** – Corporate Governance & Compliance: Whistleblowing system p. 97		6
GRI 407	**Freedom of association and Collective bargaining 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)		Code of conduct and international guidelines ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx Code of conduct and supplier code of conduct ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/our-culture/	
GRI 407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk		Code of conduct and international guidelines ↗ https://ir.pfeiffer-vacuum.com/English/governance/governance-documents/default.aspx Code of conduct and supplier code of conduct ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/our-culture/	3
GRI 408	**Child Labor 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management p. 81-82 **Governance** – Corporate Governance & Compliance p. 94-97		
GRI 408-1	Operations and suppliers at significant risk for incidents of child labor	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management: Environmental and social aspects p. 82 – Conflict minerals p. 82-83		5

Disclosures		Section	Comments/online annexes	UNGC
GRI 409	**Zwangs- oder Pflichtarbeit 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management: Environmental and social aspects p. 82 – Conflict minerals p. 82-83 **Governance** – Corporate Governance & Compliance: Compliance management p. 94-96 Whistleblowing system p. 97		
GRI 409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management: Environmental and social aspects p. 82 – Conflict minerals p. 82-83		4
GRI 411	**Rights of Indigenous Peoples 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Conflict minerals p. 82-83		
GRI 411-1	Incidents of violations involving rights of indigenous peoples		There were no reports of incidents in the reporting period.	1
GRI 412	**Human Rights Assessment 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management: Environmental and social aspects p. 82 – Conflict minerals p. 82-83		
GRI 412-2	Employee training on human rights policies or procedures	NON-FINANCIAL CONSOLIDATED STATEMENT **Governance** – Corporate Governance & Compliance: Code of Conduct as the Group-wide basis for compliance p. 96-97		2
GRI 414	**Supplier Social Assessment 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management: Environmental and social aspects p. 82 – Conflict minerals p. 82-83		
GRI 414-1	New suppliers that were screened using social criteria	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Supply chain management: ESG risk assessments for suppliers p. 81-82		4, 5

Disclosures		Section	Comments/online annexes	UNGC
GRI 414-2	Negative social impacts in the supply chain and actions taken	NON-FINANCIAL CONSOLIDATED STATEMENT **Supply Chain Management and Human Rights** – Conflict minerals p. 82-83		
GRI 416	**Customer Health and Safety 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Products and customers** p. 90 – Innovation management and product impact p. 90-92 – Quality assurance and product safety p. 92-93		
GRI 416-1	Assessment of the health and safety impacts of product and service categories	NON-FINANCIAL CONSOLIDATED STATEMENT **Products and customers** p. 90 – Quality assurance and product safety p. 92-93		
GRI 418	**Customer Privacy 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Governance** – Digitalization & Cybersecurity: Organization p. 97 – Digitalization & Cybersecurity: Information Security Management System (ISMS) p. 97	Compliance key areas ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/compliance-key-areas/	
GRI 418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data		Any risks from litigation or claims are disclosed in the Notes to the Consolidated Financial Statements.	
GRI 419	**Socioeconomic Compliance 2016**			
GRI 103	Management approach (including GRI 103-1, 103-2, 103-3)	NON-FINANCIAL CONSOLIDATED STATEMENT **Governance** – Corporate Governance & Compliance: Compliance management p. 94-96	Compliance key areas ↗ https://group.pfeiffer-vacuum.com/en/group/compliance/compliance-key-areas/	
GRI 419-1	Non-compliance with laws and regulations in the social and economic area		Any risks from litigation or claims are disclosed in the Notes to the Consolidated Financial Statements.	

Financial Calendar 2022

03 04 05 06 07 08 09 10 11 12

TUESDAY,
MAY 3
Q1 2022
Financial Results

THURSDAY,
MAY 19
Annual General Meeting
2022

TUESDAY,
AUG. 2
H1 2022
Financial Results

THURSDAY,
NOV. 3
Q3 2022
Financial Results

↗ Investor Relations

Contacts and Imprint

Investor Relations

Heide Erickson
Berliner Straße 43
35614 Asslar
Germany
T +49 6441 802-1360
F +49 6441 802-1365
heide.erickson@pfeiffer-vacuum.de
group.pfeiffer-vacuum.com

Public Relations

Sabine Neubrand-Trylat
Berliner Straße 43
35614 Asslar
Germany
T +49 6441 802-1223
F +49 6441 802-1500
sabine.neubrand@pfeiffer-vacuum.de
group.pfeiffer-vacuum.com

Concept and content

Pfeiffer Vacuum Technology AG,
Asslar, Germany

Photos

- André Walther, Peine, Germany
- Pfeiffer Vacuum Technology AG, Asslar, Germany
- Adobe, Dublin, Ireland
- iStock by Getty Images, Munich, Germany
- 123RF, Woerden, Netherlands

Graphic design and typesetting

wagneralliance Kommunikation GmbH,
Offenbach am Main, Germany

This version of the Annual Report is a translation from the German version. Only the German version is binding.

Published on March 29, 2022

PFEIFFER VACUUM