Gases for Life

Annual Report

of Messer Group GmbH 2020

Content

Management Board and Supervisory Board of Messer Group GmbH

Since the founding of the Messer Group GmbH in 2004, the Management Board has been supported by a supervisory board which assists with strategic decision making and always demands sustainable measures in addition to business success. The members of our Supervisory Board are considered to be experts in conducting business and always bring their experience to bear in a constructive manner. As such, they are reliable partners to the Messer family and the managing directors.

Dr. Uwe Bechtolf | **Ernst Bode** | **Dr. Karl-Gerhard Seifert** | **Heike Niehues** | **Dr. Werner Breuers** | **Dr. Nathalie von Siemens** | **Stefan Messer** | **Dr. Jürgen Heraeus** | **Dr. Bodo Lüttge**

Supervisory Board of Messer Group GmbH:

Dr. Jürgen Heraeus, Chairman
Dr. Werner Breuers
Dr. Bodo Lüttge
Heike Niehues
Dr. Karl-Gerhard Seifert
Dr. Nathalie von Siemens

Management Board of Messer Group GmbH:

Stefan Messer, Chief Executive Officer
Dr. Uwe Bechtolf, Chief Financial Officer
Ernst Bode, Chief Operating Officer Europe
Johann Ringhofer, Chief Technique & Engineering Officer
Adolf Walth, Chief Sales & Marketing Officer

Supervisory Board Report

During the reporting period, the Supervisory Board performed the tasks incumbent upon it in accordance with the statutory provisions and the articles of association and provided support and advice to the Management. The Management reported to the Supervisory Board, both verbally and in writing, concerning the performance and situation of the company within the framework of regular meetings on 21 April 2020 and 19 November 2020. Furthermore, the Supervisory Board was informed about important business transactions and decisions. Legal transactions requiring the Board's approval were submitted to the Board for its decision. The Supervisory Board satisfied itself in the plenum that the bookkeeping, the annual financial statement of Messer Group GmbH and the Group accounts for the year ending 31 December 2020, as well as the management report from Messer Group GmbH and the national subsidiaries, had been audited and certified by the auditing company KPMG AG Wirtschaftsprüfungsgesellschaft, Essen. The audit reports were discussed at the Supervisory Board meeting on 20 April 2021 with the assistance of the auditors. The Supervisory Board had no objections and expressed its agreement with the auditor's results.

The Supervisory Board would like to thank the Management as well as all employees of Messer for their efforts and successful work in the 2020 financial year.

The Supervisory Board

Dr. Jürgen Heraeus, Chairman

Group Management Report
of Messer Group GmbH 2020

General Information about the Group

Overview of the activities of the Messer Group

Messer Group GmbH ("the Company"), an industrial gases manufacturer, has its registered office in Sulzbach/Taunus near Frankfurt am Main and its postal address in Bad Soden am Taunus. It acts as a management holding company and, together with its subsidiaries, associated companies and joint ventures, forms the Messer Group ("the Group").

Messer was founded in 1898 and is today the world's largest family-run specialist for industrial, medical and specialty gases. The Group's products and services are offered in Europe, Asia and America under the 'Messer – Gases for Life' brand.
Messer Group GmbH has its own subsidiaries in Europe and Asia.

From acetylene to xenon, the Messer Group offers a comprehensive product portfolio that includes industrial gases (such as oxygen, nitrogen, argon, carbon dioxide, hydrogen and helium), shielding gases for welding, specialty gases, medical gases and a wide variety of mixed gases.

In its proprietary competence centers, the Messer Group develops application technologies for the use of gases in practically all branches of industry, in food technology and medicine as well as in the worlds of research and science.

Messer pools its application technology expertise at its competence center, which is located not far from its main site in Krefeld, Germany, where tests are performed on gases-related technologies in the fields of food, industrial cryogenic applications, welding and cutting, chemistry and the environment. Messer prides itself on taking a forward-looking approach to the application technologies it uses, tailoring them as far as possible to the needs of its customers. Gumpoldskirchen, near Vienna, Austria, is the hub for the continual development of high-temperature processes in collaboration with customers, cooperation partners and research institutes. New technologies, gas mixtures and applications for welding and cutting are developed in Hungary and China.

In connection with the merger between Linde AG and Praxair Inc., Messer and the financial firm CVC Capital Partners reached an agreement on July 16, 2018 with Linde AG and Praxair Inc. to acquire the majority of Linde's gases business in the USA, Canada, Brazil and Colombia and to take over Praxair's activities in Chile. On December 21, 2018, the U.S. Federal Trade Commission (FTC) approved the Messer Group as a "suitable buyer". Messer's operations in Western Europe and America are managed via Yeti GermanCo 1 GmbH, a joint venture between Messer Group GmbH and CVC Capital Partners. Effective February 28, 2019, Messer Group GmbH contributed its Western European operations in Spain, Portugal, Switzerland, France, Belgium, the Netherlands, Algeria, Denmark and Germany as well as a free-of-charge right to use the 'Messer – Gases for Life' brand for a period of ten years. The fair value of the contribution was measured at € 772 million.

In the consolidated balance sheet of Messer Group GmbH as of December 31, 2019, the companies concerned were treated as discontinued operations in accordance with IFRS 5 until the contribution became effective on February 28, 2019. For the purposes of analyzing the results of operations, financial position and net assets, prioryear figures only relate to continuing operations. The results of the Western European business units for the period from January 1 to February 28, 2019 were reported separately as discontinued operations.

Changes in the group reporting entity in the fiscal year 2020

The group reporting entity of Messer Group GmbH changed as follows during the year under report:

First-time consolidations

The following entities were founded and commenced operations in 2020:

- Liuyang Xianggang Messer Gas Products Co., Ltd., China, 55 %
- Mianyang Messer Gas Products Co., Ltd., China, 100 %

Acquisition of Messer CZ s.r.o. and Messer Slovensko s.r.o.

On May 4, 2020, the Messer Group acquired the Czech and Slovakian entities of Air Liquide Eastern Europe S.A., France, for a purchase price (including assumed debt) of € 33 million, the whole amount of which was fully cash-effective. Messer Technogas s.r.o. acquired all the shares of the Czech company Messer CZ s.r.o. ("Messer CZ", formerly Air Liquide CZ s.r.o.), while Messer Tatragas s.r.o. acquired all the shares of the Slovakian company Messer Slovensko s.r.o. ("Messer SL", formerly Air Liquide Slovakia s.r.o.). The investments amounted to € 17.7 million and € 6.3 million respectively. These transactions did not include any agreement for Messer CZ or Messer SL to pay contingent consideration at a future date.

The acquired operations comprise a total of four on-site plants for oxygen and nitrogen as well as a cylinder gas filling plant. With this new investment, Messer continues to expand its strong position in Central Europe, emphasizing its commitment to focusing on customers' needs at all times by ensuring reliable supplies.

Effective November 1, 2020, Messer Slovensko s.r.o. was merged with Messer Tatragas spol. s.r.o., Slovakia. The merger does not have any impact on the consolidated financial statements.

Increases in majority shareholdings

In conjunction with the sale of its minority interests in the Singapore-based joint venture Smart-Gas Pte. Ltd. in March 2020, Messer increased its majority interests in Universal Industrial Gas Sdn. Bhd. ("UIG"), Malaysia, and Messer (Thailand) Co., Ltd., Thailand, to 75 % and 100 % respectively.

In November 2020, Messer Griesheim (China) Investment Co. Ltd., China, increased its majority shareholdings in Shaoxing Messer Gas Products Co. ("Shaoxing"), China, and Messer Sunshine (Ningbo) Gas Products Co., Ltd., ("Ningbo"), China, to 100 %.

In December 2020, Messer Romania Gaz S.R.L., Romania, acquired the minority shares in Messer Energo Gaz S.R.L. ("Energo"), Romania, held by the Romanian joint venture partner Energomontaj and now holds 100 % of the shares.

Other

Effective March 12, 2020, Messer Group GmbH sold its 30 % share in the associated company Smart-Gas Pte. Ltd., Singapore, to the other shareholders.

On June 29, 2020, the associated company Balti Messer OÜ, Estonia, was merged with Elme Messer Gaas, Estonia, with retrospective effect from January 1, 2020. Effective July 31, 2020, Messer Széndioxid Kft., Hungary, was merged with Messer Hungarogáz Kft., Hungary. Neither of these mergers have an impact on the consolidated financial statements. The group reporting entity has been reduced accordingly.

An application for liquidation was filed for the company Cryogenic Engineering GmbH, Germany, on November 10, 2020.

Financial performance indicators

The Messer Group uses parameters based on operating performance indicators to manage its business. The key performance indicators (KPIs) are revenue, EBITDA, investments, net debt and ROCE. Further explanations and the composition of the indicators are provided in the sections on the results of operations and the financial position.

Non-financial performance indicators*

Safety, health, environmental protection and quality (SHEQ) have been firmly enshrined in Messer's guiding principles since its foundation in 1898 and remain key considerations in the operations of the family-owned company. Messer is aware that well-organized safety and quality guidelines form the basis for dealing safely with operational risks and improving operational performance. For this reason, employee health and safety as well as environmental protection form key aspects of the Group's global quality management system. Against the backdrop of the COVID-19 pandemic, the Messer Group adapted its standards in these fields to deal with the new situation as effectively as possible.

To take account of the growing importance of the need for a healthy environment, social justice and effective business management, a system of Corporate Social Responsibility Management ("CSRM") is in place across the Messer Group. CSRM follows a long-term approach and contributes to the sustainable development of Messer. For this reason, the Messer Group has also enhanced its SHEQ performance indicator system.

During the past fiscal year, 1,242 (2019: 721) SHEQ-related checks were carried out across the Messer Group (of which 660 in Europe), resulting in numerous improvement measures.

Moreover, 93 ideas and suggestions for improvements were submitted by Messer Group employees (of which 42 in Europe).

* The contents of this section have not been audited. The voluntary disclosures have, however, been subject to a critical review by the auditor.

Occupational health and safety

Occupational health and safety is of the utmost importance to the Messer Group. The Messer health and safety guidelines reflect our position: "All work-related illnesses, injuries and accidents are avoidable".

Messer uses its global management system to identify and control potential operational risks. The principles of this system are documented in its SHEQ Manual and cover all safety-relevant areas such as risk management, safety training, safety inspections, personal protective equipment, communication security and accident investigations. The SHEQ Manual is a constituent part of the Messer Group's Compliance Management system and is regularly updated and improved.

The success of the safety measures and initiatives is assessed by means of the following annual performance indicators: working accidents causing lost days and accident frequency (number of working accidents causing lost days per million hours worked) and accident severity (days lost per million hours worked).

In 2020, 21 working accidents causing lost days were reported. The ratio of days lost per million working hours (accident frequency) therefore went up from 1.7 (2019) to 2.2. Similarly, the number of working days lost (accident severity) per million working hours increased from 52.3 in 2019 to 86.7 in 2020.

	2016*	2017*	2018*	2019	**2020**
Working accidents causing lost days	25	15	14	16	**21**
Accident frequency	2.4	1.4	1.3	1.7	**2.2**
Accident severity	77.9	45.4	64.0	52.3	**86.7**

* Including Western Europe

Messer is an active member of the European Industrial Gases Association (EIGA), the International Oxygen Manufacturers Association ("IOMA") and of the Industrial Gases Association (AIGA) in Asia. Our experts actively exchange experiences, knowledge and lessons learned from incidents in the industrial gases sector.

Transport safety

In the gases industry, the transportation of gases and equipment by road as well as deliveries to customers involve sizable risks. For this reason, the Messer Group places particular emphasis on transport safety.

A large proportion of the drivers working for Messer are employed by external transport firms, which are responsible for training their drivers in accordance with ADR regulations (European agreement on the international carriage of hazardous goods by road). There were 7 avoidable transport-related accidents in 2020 (2019: 4), causing the ratio per million kilometers driven to increase from 0.28 to 0.45.

The number of avoidable accidents involving the transport of liquefied gases increased from 7 (2019) to 33, as a result of which the frequency rate per million kilometers driven went up from 0.13 in 2019 to 0.64 in 2020.

The Messer Group is endeavoring to reduce the number of accidents with the help of a package of measures, including suitable supplier management and providing information on defensive driving and securing loads. Messer also deploys its own modular driver training program to train its drivers. The main themes covered by the driver training program are:

- Legal requirements (European and national regulations for the carriage of hazardous goods by road)
- Technical aspects (hazards arising from product, vehicle and tank technology, vehicle checks, safety technology)
- Accident avoidance
- Defensive, economical driving

In addition, all drivers are provided with a manual specific to their work (bulk, cylinders or service vehicles) to ensure that they have immediate access to all key information relating to their work.

Digitization / IT Security

Digitization is becoming an increasingly important factor within the Messer Group. Both the Group Digital Officer (GDO) and the Group IT Security Officer (GSO) specify the standards to be applied throughout the Messer Group. In addition to their involvement in IT projects, they also advise centralized functions and national companies in the relevant areas.

At Messer Group GmbH, the GSO is responsible for coordinating security measures across the various Group companies, determining standards and building up the relevant expertise. With IT security, we are ensuring the sustainability of our digitization policy, the physical security of our information and the ability to act through the vitally necessary availability of our systems, which is key for our business processes. The IT security services are being developed by an international IT security team.

During the period under report, a contract was signed for the outsourcing of the majority of the applications previously operated at the Messer Information Services computer center in Groß-Umstadt, Germany. The aim of the collaboration is to strategically and technically reorganize the Messer Group‘s IT infrastructure in line with current, globally established standards in order to make it more efficient, more stable and more secure, thereby creating the essential conditions for further improvements in efficiency and processes. The completion of the project will ensure that uniformly high safety standards are implemented. All Messer Group locations are scheduled to be connected to the IBM data center between December 2020 and June 2021. The security-relevant infrastructure at the Group‘s various locations, which is currently quite inconsistent, will be standardized and centrally managed in a uniform manner by a team of experts from the outsourcing partner.
Outdated versions of MS Office will be replaced by Office 365. Going forward, all client PCs will be provided with central security updates and standardized, modern software and will be centrally administered – just like the Group‘s own smartphones.

As a prelude to an IT security campaign, in a first wave phishing emails were sent to management and IT heads within Europe. The phishing campaign will be continued in 2021 and employees will be trained on the dangers of cybercrime via an awareness platform in an effort to reduce potential risks and bolster the know-how of our employees.

Data protection

Messer is required to comply with all applicable data protection regulations. For this reason, Messer has created appropriate structures that are designed to ensure a high level of data protection within the organization at all times.

The Group Privacy Officer (GPO) is highly committed to the continuation and optimization of data protection and responsible for strategically coordinating the centralized data protection function at Messer as well as for implementing data protection policy at its nationally based companies. The GPO also provides numerous templates and processes that are designed to ensure a uniform data protection standard.

In addition, the GPO carried out data protection audits at a total of five Messer companies for the first time in the course of 2020. A questionnaire developed by the GPO made it possible to conduct a basic audit to determine the fundamental level of data protection practiced at each of the Group's respective companies. Corresponding data protection audits are planned at a further seven Messer Group companies during 2021.

With the aim of further raising awareness of the threat posed by cybercrime, the GPO has also developed an e-learning course on the topic of cybercrime together with the Group Legal Department and made it available to the European national companies.

Environmental management

Messer considers it essential to protect the environment at all times and in all places. In order to meet this requirement, Messer has developed its own global management system for environmental protection. Internal environmental protection guidelines are documented in the Messer Group's SHEQ Manual. These and the environmental management systems in place at all Group subsidiaries are in accordance with the ISO 14001 international standard and the recommendations set out by the European Industrial Gases Association (e.g. EIGA IGC Doc. 107 – Guidelines on Environmental Management Systems). In 2020, 21 Group subsidiaries obtained external certification of their environmental management systems, compared with 18 companies in 2019.

The efficient use of energy is in Messer's own interest. With the principal aims of cutting costs and using resources as economically as possible, energy management is an ongoing process that also bolsters the Group's decarbonization efforts.

At its production sites, Messer uses atmospheric air and electricity as the main raw materials for manufacturing the gases nitrogen, oxygen and argon. Production by means of air separation plants accounts for over 75 % of the Group's total energy consumption. It therefore places great emphasis on continually improving energy efficiency. Accordingly, Messer has assigned the specific task of enhancing the energy efficiency of the Group's air separation plants to a Global Energy Officer (GEO).

Continuous monitoring of plant efficiency highlights any variations in energy consumption and makes it possible to identify potential for improvement. Working together with local managers, projects are constantly being initiated to improve energy efficiency.

The key environmental data of Messer's production activities during the past year are as follows:

The volume of gases produced rose by 9.9 % compared to the previous year (continuing operations only). Specific energy consumption, measured in terms of energy consumption per cubic meter of gas sold, increased by a total of 1.1 % year-on-year.

Again in 2020, the Group commissioned new on-site plants with a view to reducing the cost of delivering liquefied gases and simultaneously cutting carbon emissions. These new facilities are now used for on-site gas production, saving approximately 150 truck journeys and therefore 60 tonnes of carbon dioxide per year. As a result, local customers benefit simultaneously from added flexibility and supply security.

By joining the European Clean Energy Alliance in 2020, Messer will be able to contribute its extensive know-how in the field of industrial gases to promote the efficient and effective use of green hydrogen with partners throughout Europe.

Customer satisfaction / Quality

As a responsible company, the Group naturally respects the opinions of its customers and strives to ensure their satisfaction. For this reason, it measures customer satisfaction in systematic surveys and integrates the results in its management processes. Customer satisfaction analyses are performed for each European national company every two years.

In 2020, surveys were conducted at two of the Group's Europe-based companies. Of the 630 customers of Messer companies in Hungary and Croatia that were contacted, 158 customers or 25.1 % (2019: 4.4 %) completed the questionnaires in full and were therefore evaluated as part of the survey.

The results were analyzed by region. On a scale of 1 for very dissatisfied to 10 for very satisfied, the Messer Group's overall performance was rated between 9.1 and 9.8. Overall, the results therefore point to a high level of customer satisfaction. Potential for improvement was identified and implemented for each of the individual countries.

Financial Report

General and Sector-specific Environment

Various industrial gases and their related services and technologies are used in practically all branches of industry as well as in the fields of food technology, medicine, research and science. Gross domestic product (GDP) is therefore a highly relevant indicator for measuring the Messer Group's overall performance.

On January 30, 2020, the World Health Organization (WHO) classified coronavirus (COVID-19) as a public health risk. The virus quickly developed into a pandemic with serious repercussions worldwide. The measures taken to contain the pandemic and safeguard public health led to unavoidable temporary restrictions on everyday life and therefore on business worldwide. According to the latest estimates of the International Monetary Fund (IMF)[1] and the World Bank[2], the global economy contracted by an average of 4 % in 2020. The World Bank, for instance, estimates that real GDP worldwide fell by 4.3 %, compared to a positive growth rate of 2.3 % in 2019. The massive economic slump has affected developed industrialized countries as well as emerging and developing economies. Among the developed industrialized nations, the slowdown in the eurozone was even more pronounced than in the USA. The economic slump has brought about a reversal in the two different speeds of GDP growth projected by the IMF, with emerging and developing economies set to contract by -2.4 % (2019: +3.6 %) and the developed industrialized countries now set to contract by -4.9 % (2019: +1.6 %) in 2020.1 The relatively moderate economic downturn in the emerging and developing countries is largely attributable to China, which is the only major economy expected to come out of 2020 with a bigger economy.

In Europe, economic development in 2020 was shaped first and foremost by a massive slump in industrial production and consumption that started towards the end of the first quarter and reached its low point in the course of the second quarter. Consumption increased during the subsequent recovery phase and by the end of the third quarter was back to the level seen at the beginning of 2020. By contrast, the upturn in industrial production was more sluggish, with volumes still slightly lower than at the beginning of the year. The fourth quarter saw the onset of a second wave of the pandemic, which perceptibly slowed the recovery process. According to the Organization for Economic Cooperation and Development (OECD)[3], GDP in the eurozone is expected to have shrunk by -7.5 % in 2020, compared to the slight +1.3 % growth recorded one year earlier. In this context, some of the larger Western European economies (including France, Italy and Spain) suffered the most severe GDP downturns, with negative growth of between -9 % and -12 %, whereas the OECD expects Germany's GDP to have declined by an average of -5.5 %. The GDP downturn in Eastern European countries was generally less harsh than that recorded for the eurozone overall (-7.5%) and in some countries – such as Poland with -3.5 % and Bulgaria with -4.1 % – even below the OECD forecast of -5.5 %.

In China, where the COVID-19 pandemic began, the economic slump started at the beginning of the year and bottomed out at the end of the first quarter. The strict measures taken by the Chinese government to contain the pandemic already began taking effect in the second quarter and, according to the government,

[1] World Economic Outlook, Update January 2021
[2] Global Economic Prospects, January 2021
[3] OECD Economic Outlook – Volume 2020 Issue 2

the virus was largely brought under control by halfway through the year. As a result, China is still quite likely to record GDP growth for 2020 as a whole, which the World Bank estimates will be 2.0 % (2019: 6.1 %). The Chinese government's general aim of reducing dependence on exports by bolstering domestic demand, with a corresponding focus on consumption and services, has been even more strongly encouraged in view of the intensifying trade conflict with the USA. In this context, the government is more intensively promoting infrastructure projects in particular.

In the USA, the negative impact of the COVID-19 pandemic on economic development was similar to that witnessed in Europe, i.e. a massive economic slump in the first half of 2020 was followed in the third quarter by an economic revival on the part of private households supported by fiscal policy measures. The IMF[4] estimates the slump in GDP for the full year 2020 to be -3.4 %, compared with growth of 2.2 % in 2019. The trade conflict with China, which intensified in 2020, and to some extent also with Europe, has had a further dampening impact, particularly in the manufacturing sector.

In Brazil, the IMF forecasts a sharper slump of -4.5 % in GDP in 2020 after the country recorded modest growth of 1.4 % in 2019.

Course of business

The industrial gases business is characterized by pronounced, multi-layered diversification across economic sectors, customer segments and country activities. Moreover, the business is locally focused, which means there is no direct dependence on global supply chains. The partially massive restrictions imposed in an effort to contain the COVID-19 pandemic increasingly focused on the leisure and travel sectors of the economy during 2020 and less on the industrial activities that are of greater significance for the industrial gases sector. In addition, the medical, food and electronics sectors experienced a certain economic boom. Geographical diversification has also proven beneficial for the Messer Group, particularly due to the relatively high proportion of business it conducts in Asia, where the pandemic was already largely brought under control by mid-year. For the Messer Group, the financial year 2020 was therefore once again characterized by unexpectedly strong momentum in the industrial gases business in China, which was positively impacted in particular by steel production running at almost full capacity. This positive aspect stood in contrast to an economic slump in Europe, which was generally more severe in Western Europe than in most Eastern European countries. These business conditions, which are still relatively good overall in the economic regions and sectors relevant for the Messer Group, enabled it to exceed its own forecast of a year-on-year slight increase in revenue in 2020. For the fiscal year 2020, the Messer Group recorded revenue growth of a good 5 %. Similar to its revenue performance, the Messer Group's EBITDA turned out better than its original expectations for the twelve-month period. Instead of the sharp decline in EBITDA predicted for 2020, in actual fact the Group registered 4 % year-on-year growth to achieve € 335 million (2019: € 322 million). This outcome was mainly attributable to the continued dynamic growth of business in China on the one hand and successful pricing measures in Europe on the other.

[4] World Economic Outlook, Update January 2021

Thanks to the Group's good earnings performance in 2020 and contrary to its original prediction, Messer again managed to reduce its net debt over the twelve-month period under report, this time from € 205 million to € 159 million. ROCE significantly exceeded the Group's prediction, also reflecting the combined impact of continued dynamic business growth in China and successful pricing measures in Europe. At around € 216 million, capital expenditure on tangible and intangible assets was in line with forecast.

Overall position of the Group

Results of operations

Adjusted for revenue from discontinued operations, the Messer Group generated worldwide revenue of K€ 1,162,723 in the fiscal year under report (2019: K€ 1,104,322), which can be analyzed by region as follows:

Revenue	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019	Change in 2020
China, Vietnam, ASEAN	635,838	612,742	3.8 %
South Eastern Europe	237,912	227,234	4.7 %
Central Europe	221,731	216,338	2.5 %
Western Europe	67,242	48,008	40.1 %
Continuing operations	**1,162,723**	**1,104,322**	**5.3 %**
Discontinued operations	–	57,323	
	1,162,723	**1,161,645**	**0.1 %**

In the fiscal year 2020, the Messer Group's revenue from continuing operations was 5.3 % up on the previous year. Business developed in the various regions as follows:

China, Vietnam, ASEAN
Expressed in local currency, revenue generated in China rose by 1.7 % year-on-year. The revenue downturn seen in the early part of the year due to the COVID-19 pandemic recovered in later quarters. Messer Group companies benefited above all from steel production running at almost full capacity and unbroken brisk demand for liquefied gases combined with continued high selling prices.

Expressed in local currency, Group revenue generated in Vietnam rose by 40.3 % year-on-year, driven by increased demand from our on-site customer, Hoa Phat, especially due to the newly built steel plant in Dung Quat, and by improved production capacity utilization in the north of the country resulting in greater demand for liquefied gases.

The Group's other activities in the ASEAN region, with companies in Malaysia and Thailand, contributed € 4.9 million (2019: € 5.6 million) to total revenue.

South Eastern Europe
Messer Group revenue in South Eastern Europe increased by 4.7 %. Nearly all countries in the area achieved revenue growth in local currency terms, including increases of between 9 % and 21 % recorded for North Macedonia, Albania, Romania and Serbia.

Central Europe
Revenue generated by the Central Europe region was also slightly up year-on-year (+2.5 %). The negative impact of partial lockdowns in the period from March onwards was more than offset by strong performance in the fourth quarter, enabling nearly all of the Group's companies in the region to report slight year-on-year growth.

Western Europe
Following the spin-off of the operating companies to the Yeti GermanCo 1 Group in 2019, this region only includes the industrial gases operations of ASCO Kohlensäure AG and those of the service companies Messer GasPack GmbH, Messer Information Services GmbH and Messer Finance B.V. as well as Messer Group GmbH. Revenue generated by these companies rose by 40.1 % year-on-year, mainly driven by the contribution of Messer Group GmbH, which more than doubled its revenue in 2020 on the back of a variety of projects performed by its central engineering department.

The Group recorded EBITDA of K€ 335,353 for the fiscal year 2020 (2019: K€ 321,560).

EBITDA	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019 Continuing operations
Operating profit	205,245	199,075
Depreciation, amortization and impairment losses on intangible on intangible assets and property, plant and equipment	130,108	122,485
EBITDA	**335,353**	**321,560**
: Revenue	1,162,723	1,104,322
Margin:	**28.8 %**	**29.1 %**

Operating profit improved by 3.1 % in the fiscal year under report, mainly reflecting the 5 % rise in revenue, despite the slightly more pronounced increase in the cost of sales. Impairment allowance expenses recognized for trade receivables were offset by savings in general administrative expenses and exchange gains from operating activities.

The financial result includes a net negative interest result of K€ 13,582, representing an improvement of K€ 1,359 compared to the previous year. Gross financial debt less ancillary costs fell slightly by 2.6 % compared to the previous year. For more information, please see our comments in the section "Financial position" below.

Other investment result (net) improved by K€ 23,888 year-on-year, mainly due to the Group's at-equity share of the profit of the Yeti GermanCo 1 Group amounting to K€ 28,176 (2019: K€ 5,389 for the ten-month period from March to December).

Overall, the Group posted a net profit for the fiscal year 2020 (including minority interests) of K€ 169,578 (2019: K€ 569,867). Of this amount, K€ 131,786 (2019: K€ 532,789) is attributable to the shareholders of the parent company. The previous year's figure included the result from discontinued operations amounting to K€ 420,584, most of which (K€ 413,222) related to the deconsolidation gain arising on the contribution of the Western European business operations to the Yeti GermanCo 1 Group.

Financial position

Group Treasury is responsible for overall liquidity, interest rate and currency management. The primary objective of Group Treasury is to ensure that a minimum level of liquidity is always available, in order to guarantee solvency at all times. High levels of liquid funds help to improve the Group's flexibility, security and independence. If necessary, it can draw on further liquidity from various additional credit lines (currently not utilized) amounting to € 70.7 million.

Financing

The contribution of the operational Western European companies to Yeti GermanCo 1 GmbH in February 2019 triggered a contractually defined reason to terminate all the Messer Group's existing financing arrangements. The USD-denominated USPP II and USPP III were repaid on January 29, 2019 using proceeds from a new USPP III tranche amounting to € 87.8 million. All euro-denominated USPPs, however, remained in place.
In order to ensure a continuation of the Group's sound financing, a new Term and Revolving Facilities Agreement (RFA II) was agreed with the Group's banks, originally for a total of € 520 million, of which only one revolving credit line remains, which can be used on a variable basis. Interest on the RFA II facility is based on IBOR (Inter Bank Offered Rate) in the currency in which amounts are drawn down plus a margin, depending on the ratio of net debt to EBITDA.

Collateral for the entire financing was provided by a number of Group entities as well as in form of a pledge of the shares held in Messer Griesheim China Holding GmbH, the Germany-based holding company for the Group's activities in China.

Net debt as of December 31, 2020 stood at K€ 159,280 (2019: K€ 204,825) and is broken down as follows:

	Dec. 31, 2020	Dec. 31, 2019	Change in 2020
Financial debt	412,966	423,780	(2.6 %)
Cash and cash equivalents	(253,686)	(218,955)	15.9 %
Net debt	**159,280**	**204,825**	**(22.2 %)**

In 2020, the Messer Group's net debt decreased by K€ 45,545 year-on-year. The ratio of gross financial debt (K€ 412,966) to total assets (K€ 2,735,865) was 15.1 % at the end of the reporting period (2019: 15.7 %).

The change in gross financial debt less ancillary transaction costs is shown below:

Gross financial debt as of January 1, 2020	**423,780**
Cash-relevant changes:	
New debt raised	9,343
Repayments	(21,829)
Non-cash-relevant changes:	
Additions to lease liabilities	9,270
Changes due to currency translation	(8,265)
Other non-cash-relevant changes	667
Gross financial debt as of December 31, 2020	**412,966**

Cash flow statement

Cash flows from continuing and discontinued operations were as follows:

Abridged version in K€	**Jan. 1 – Dec. 31, 2020**	Jan. 1 – Dec. 31, 2019
Profit before taxes	212,095	613,935
Cash flows from operating activities	311,207	275,738
Cash flows from investing activities	(203,899)	(160,963)
Cash flows from financing activities	(67,158)	(178,282)
Changes in cash and cash equivalents	**40,150**	**(63,507)**
Cash and cash equivalents		
at the beginning of the period	**218,955**	**277,476**
Exchange rate impact on cash and cash equivalents	(5,419)	1,594
Cash, change in group reporting entity	–	(10,403)
Cash classified as held for sale	–	13,795
at the end of the period	**253,686**	**218,955**

At K€ 311,207 the total of cash flows from operating activities was K€ 35,469 higher than in the previous year. The increase was mainly attributable to the lower amount of income tax paid in 2020 and the higher amount of other non-cash financial result recorded in the fiscal year 2020. The increase in the value of the Group's interests in associated companies and joint ventures had an offsetting impact.

Cash flows from investing activities again reflected the continued high level of investments made by the Messer Group. The majority of the outflows related to investments in property, plant and equipment. The main reason for the year-on-year increase in cash flows from investing activities amounting to K€ 42,936 was the purchase of shares in two companies from Air Liquide Eastern Europe S.A.

Cash flows from financing activities amounted to K€ (67,158) and were therefore K€ 111,124 lower than one year earlier. In the previous fiscal year, financial debt was repaid in conjunction with the contribution of Western Europe operations and the associated refinancing for the new joint venture Yeti GermanCo 1 GmbH.

Liquid funds held by the Messer Group on December 31, 2020 totaled K€ 253,686.

In 2021, the Messer Group will again require further capital to fund its steadily expanding business operations, to finance scheduled capital expenditure and acquisitions, to repay loans and interest as they fall due and to pay dividends, while keeping its medium-term focus on consolidating net debt levels relating to operations outside China. The required funds will be generated out of cash flows from operating activities, existing funds and credit lines available to the Group.

The Messer Group has committed itself to investing in the purchase, construction and maintenance of various production facilities. Obligations under these agreements represent commitments to purchase plant and equipment at market prices in the future. The Group is also party to long-term contracts that give rise to obligations. As of December 31, 2020, purchase and capital expenditure commitments and long-term contracts amounted to K€ 91,438 (2019: K€ 85,796).

Capital expenditure
Capital expenditure is aimed at safeguarding existing business and opening up viable opportunities for growth. In accordance with normal business principles, the Messer Group invests primarily in projects that will secure product supply capabilities and/or which create opportunities for profitable growth. Furthermore, the Group regularly invests in modernizing its production plants as well as in its distribution channels.

In 2020, the Messer Group invested approximately € 216 million in tangible and intangible assets, a significant proportion of which related to the construction of air separation plants (ASPs) and production facilities in China, Vietnam, the Czech Republic and Hungary, as well as to the acquisition of Air Liquide's business operations in Slovakia and the Czech Republic.

Capital expenditure by region was as follows:

Capital expenditure in K€	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
China, Vietnam, ASEAN	102,448	103,888
Central Europe	65,950	24,056
South Eastern Europe	40,038	34,379
Western Europe	7,638	15,756
	216,074	**178,079**

In China, the Group's main focus is on investment projects that will further strengthen its position in the liquified gases market and help promote a good balance in terms of customer diversification based on the existing business model. Systematic endeavors to broaden customer diversification also include investments in gas supply plants that produce high-purity industrial gases for an on-site customer from the electronics industry, particularly in Sichuan province, as well as a specialty gases plant in Anhui province for the electronics industry.

Further investments in Vietnam will focus primarily on expanding production capacity for atmospheric gases to support the growth of our existing customers and drive growth in the liquefied gases market.

Capital expenditure in Europe remains focused on investment in distribution channels and selected growth projects, which include construction work started to replace an old ASP for an on-site customer and to expand liquid gas market capacities in the Czech Republic as well as a new customer-based nitrogen plant located in Hungary.

The acquisition of Air Liquide's local business operations will also serve to fortify its market position in Slovakia and the Czech Republic. For more information, please see our comments in the section "Changes in the group reporting entity".

Net assets

The balance sheet total went up by K€ 28,904 during the fiscal year under report and stood at K€ 2,735,865 as of December 31, 2020. On the assets side of the balance sheet, the increase was mainly due to the higher level of cash and cash equivalents (up by K€ 34,731).

At 80.6 % (2019: 81.9 %), non-current assets again accounted for the largest proportion of the balance sheet total.

Fixed assets, (comprising property, plant and equipment, right-of-use assets and intangible assets), continued to represent the largest combined item on the assets side, accounting for 52.4 % of the balance sheet total. The total carrying amount of fixed assets increased by K€ 46,553 as a result of additions in 2020.

The equity ratio (including non-controlling interests) fell slightly to 71.7 % (2019: 72.3 %).

Gross financial debt decreased by K€ 11,482 and accounted for 15.2 % of the balance sheet total. For more information, please see our comments in the section "Financial position".

Return on capital employed

The return on capital employed (ROCE) in the past fiscal year was 16.35 % and is calculated as follows:

ROCE	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019 Continuing operations
EBIT	205,245	199,075
+ Amortization/impairment of goodwill	–	–
EBIT adjusted	**205,245**	**199,075**
: Average capital employed	1,255,614	1,176,984
ROCE in %	**16.35 %**	**16.91 %**
Derivation of capital employed from the balance sheet:		
Right-of-use assets, other intangible assets and property, plant and equipment	1,167,675	1,116,255
Lease receivables	9,034	10,951
Net working capital	111,445	95,868
Capital employed	**1,288,154**	**1,223,074**

Operating assets

Net working capital comprises the following:

Net working capital	Dec. 31, 2020	Dec. 31, 2019 Continuing operations
Inventories	76,099	60,254
Trade receivables	161,258	149,537
Trade payables	(101,589)	(93,424)
Advance payments received	(24,323)	(20,499)
	111,445	**95,868**

The 16.2 % rise in net working capital was primarily attributable to the increase in inventories (K€ 15,845), mainly at the Group's German companies.

The ratio of inventories (less advance payments from customers) plus trade receivables less trade payables was approximately 2:1, the same as one year earlier. The ratio of net working capital to revenue was 9.6 %.

Overall statement on the Group's financial condition

Revenue generated by the Messer Group increased by 5.3 % year-on-year, despite the impact of COVID-19, with good contributions coming from its operations in China and Vietnam as well as projects performed by Messer Group GmbH's engineering department.

The EBITDA margin deteriorated very slightly to 28.8 % (2019: 29.1 %), while EBITDA improved from € 322 million to € 335 million year-on-year.

The return on capital employed (ROCE) also fell slightly to 16.35 % (2019: 16.91 %), mainly reflecting the higher level of capital employed, due in particular to an increase in right-of-use assets recognized in accordance with IFRS 16 and a higher level of net working capital.

Good progress was also made in consolidating net debt during the fiscal year under report. In 2020, for instance, net debt was reduced by a further € 46 million to € 159 million year-on-year. For more information, please see our comments in the section "Financing".

Capital expenditure in the fiscal year 2020 increased by € 38 million to € 216 million, which, as a percentage of revenue, corresponded to a capital expenditure ratio of 18.6 % (2019: 16.1 %).

These overall highly favorable developments represent good progress and testify to the stability and sustainability of the Group's business model. Operating in its two principal regions of China and Europe, the Messer Group has a global presence and good regional diversification in a number of countries or provinces within the two core regions, which means that falling demand in individual markets or downturns in specific sectors can often be offset.

Outlook

Macroeconomic situation

The progress made in terms of COVID-19 vaccine development worldwide in recent months makes leading economic institutions fundamentally optimistic with regard to global GDP growth in 2021. In addition, leading economic powers such as the USA, Japan and the EU have recently either adopted or launched fiscal policy measures and economic programs aimed at further stimulating the global economy. Accordingly, noticeable catch-up effects in the pace of global GDP growth are expected in both 2021 and 2022, which are likely to exceed the average level seen in recent years. For example, the World Bank[1] and the International Monetary Fund (IMF)[2] expect global GDP growth of 4.0 % to 5.5 % in 2021 compared to a projected -4.3 % to -3.5 % in 2020. The return of global economic momentum is expected to be driven by significantly stronger GDP growth in emerging and developing countries as well as in developed industrialized nations, although growth rates in developed industrialized nations are unlikely to match those of emerging and developing countries. For 2021, for example, the IMF forecasts GDP growth of 4.3 % overall for developed industrialized nations, up from a projected -4.9 % in 2020, but GDP growth of 6.3 % overall for emerging and developing economies, up from -2.4 % in 2020.

[1] Global Economic Prospects, January 2021
[2] World Economic Outlook, Update January 2021

China is expected to leverage the head start in economic development gained in 2020 through its early entry into the recovery phase to further advance its claim to worldwide economic importance. The World Bank and the IMF expect economic momentum in China to drive GDP growth by as much as 8.3 % in 2021, compared with the weaker figure of around 6.0 % recorded in 2019. The risk of an escalation in the trade conflict with the USA is seen as less relevant following the recent change of government. In the USA, fiscal policy measures, the resolution of political uncertainties and comprehensive COVID-19 vaccination measures are expected to have a supportive impact on further GDP growth. Economic research institutes[1,2] predict a significantly higher GDP growth rate of up to 5.1 % in 2021 compared with the contraction of more than -3 % seen in 2020. According to World Bank forecasts, continued favorable financing conditions and increased efforts to vaccinate the population against COVID-19 are likely to lead to a moderate resurgence of economic growth in Brazil in 2021, where a GDP growth rate of 3.0 % is expected.

However, the World Bank and the IMF point to distinct risks regarding their forecasts for 2021, this time primarily due to the still uncertain outcome of attempts to control the COVID-19 pandemic.

Outlook for the Messer Group

The Messer Group has again exceeded its own forecasts for all key financial performance indicators for the year ended December 31, 2020. The Messer Group's medium-term forecast continues to reflect its endeavors to boost profitability, coupled with a moderate increase in net financial debt. By investing on a sound basis, the Group is targeting further growth in revenue, while simultaneously stabilizing or improving profitability.

Regarding future economic development in Europe, after the first quarter 2021 the Group forecasts a gradual end to the partial economic shutdowns implemented to combat the COVID-19 pandemic. In Europe, the Group will continue to focus on improving the profitability of its operations by optimizing the utilization of production capacities built up in recent years and engaging selectively in customer projects as well as targeted capacity expansions.

The China region accounted for almost one half of revenue and 60 % of the Messer Group's EBITDA in 2020. Moreover, the net cash / EBITDA ratio for the China region was negative, reflecting the fact that available cash funds exceeded financial debt. These figures underscore the continuing importance of the Messer Group's operations in China in terms of total revenue, profitability and internal financing.

Looking to the future, the Group expects China's growth rate to remain above the global average. Thanks to the excellent progress the Group has already made in diversifying its business, it remains convinced of its ability to participate in China's market growth across its entire product range. The country's economic policy efforts on its pathway towards achieving an increasingly important position in the global economy, alongside the infrastructural measures it has pushed ahead with for this purpose, are likely to result in sustained high production levels in heavy industry and particularly in the steel industry, a key factor for the Messer Group. However, as part of its forecast, the Group expects selling prices in the liquefied gases market to continue dropping to more normal levels compared with the extraordinarily high market prices seen in recent years. In addition, the loss of government support and the residual risk of an economic downturn caused by a COVID-19 pandemic that could resurface both intermittently and regionally must be taken into account.

[1] Global Economic Prospects, January 2021
[2] World Economic Outlook, Update January 2021

The Group expects the cost of energy, which is vital for its industry, to continue increasing, especially in Europe.

Future investment decisions will be taken in line with the Messer Group's stated strategy of maintaining a good balance with net financial debt.

The key financial performance indicators for the Messer Group's continuing operations are forecast to develop as follows in the coming year:

	2021 compared to 2020
Revenue	Slightly increasing
EBITDA	Moderately decreasing
Capital expenditure	Sharply rising
Net debt	Sharply rising
ROCE	Sharply decreasing

For forecasting purposes, the Group assumes that the new fiscal year 2021 will see a successful response to the COVID-19 pandemic and an end to the partial economic shutdowns. The improved situation should therefore result in corresponding catch-up effects and growing economic momentum for Group business in Europe in the course of the year. In China, the Group expects the pace of growth to remain high, accompanied by a general trend towards normalization in terms of selling prices. While economic conditions worldwide are largely expected to remain positive, a high degree of uncertainty remains in terms of successfully controlling the COVID-19 pandemic. Further risks and uncertainties that could possibly affect the global economic situation relevant for the Messer Group relate primarily to global trade conflicts and increasing nationalistic tendencies worldwide. Other risks are posed by the still uncertain outcome of economic restructuring and socio-economic developments in China as well as the economic consequences of Brexit for European markets, which remain unclear. These potentially adverse factors could be accompanied by unforeseeable negative developments in the classic trouble spots, particularly in North Africa and the Arab world.

The Messer Group considers itself well positioned in business terms, but remains generally cautious in its short-term expectations. The decline in EBITDA forecast for 2021 is due in particular to the assumption that business performance in the industrial gases market in China will return to normal after the exceptional momentum seen in the second half of 2020. The equally expected decline in ROCE is likely to be determined by the aforementioned decline in EBITDA and a higher level of capital expenditure.

Future investment decisions will be taken in line with the stated strategy of maintaining a good balance with net financial debt. Capital expenditure levels will be determined on an appropriate selective basis to underpin solid earnings growth for the Messer Group in the long term. Currently, there is an increasing number of good investment options in China and Vietnam as well as suitable opportunities to selectively expand the Group's production capacities in Eastern Europe.

Forward-looking assertions

The Outlook Report contains forward-looking assertions that are based on the management's current appraisal of future developments and should not be interpreted as a guarantee that these expectations will in fact be met. The Messer Group's future business performance and earnings depend on a number of risks and uncertainties and may therefore diverge significantly from the forward-looking assertions made here.

Opportunities Report

As an international supplier of industrial gases, opportunities basically arise for the Messer Group from the multifarious uses of industrial gases to manufacture products needed for a broad range of markets and in all countries of the world. Investment enables the Messer Group to exploit any available opportunities to realize the full potential of the business and to maintain as well as strengthen its market position. The Group also takes advantage of the additional opportunities that generally arise from internationalization and the pent-up demand of emerging markets by expanding its locations in these countries. The strategy also enables the Group to engage in selected new markets with long-term growth potential.

The following opportunities in particular may have a positive impact on business performance and on the Group's net assets, financial position and results of operations:

Macroeconomic opportunities

The general economic environment is a key factor in determining the success of the Messer Group's operations, financial and earnings position and cash flows. The Group's forecast for 2021 is based on the expectation that future macroeconomic conditions will correspond to the description provided in the Outlook Report section of the management report. If the world economy as a whole or in regions or countries of relevance for our business performs better than described in this forecast, our revenue and earnings could exceed the predicted amounts.

Market opportunities

We expect the market to continue growing strongly, especially in China, but without assuming further market price increases in the 2021 forecast, which would otherwise have a positive impact on our revenue and earnings.

We expect the catch-up effect to drive growth in Europe and the USA. A faster-than-expected economic recovery in specific countries or a general economic upturn could have a positive impact on the Group's revenue and earnings.

Opportunities arising from industrial gases applications

The Group's products are deployed worldwide in a variety of production processes. In the field of application technology, the Messer Group continuously analyzes a wide range of production processes with the aim of boosting its customers' efficiency through the use of industrial gases. New applications identified via this strategy may open up fresh business opportunities that could have a positive impact on revenue and earnings.

Opportunities arising from optimization measures

The Messer Group continuously implements targeted optimization measures aimed at improving business performance. If the various measures are implemented more quickly or more successfully than expected, they could have a positive impact on revenue and earnings.

Opportunities created by our employees

The Messer Group promotes "ideas management" throughout the organization; employees are encouraged to submit improvement proposals with local and/or international relevance. Moreover, human resources development programs and further training options are available to encourage the systematic development and exploitation of our employees' potential. If we achieve better progress with these measures and methods than currently expected, this could also have a positive impact on revenue and earnings.

Risk Report

As an international supplier of industrial gases, the Messer Group is exposed to a variety of risks, which inevitably arise in connection with commercial activities. Moreover, future earnings performance depends not only on the fluctuating demand for industrial gases and their related products, but also on economic trends in individual markets, a factor over which the Messer Group has no influence.

The principal risks capable of having an unfavorable impact on the Messer Group's net assets, financial position and results of operations are discussed below. Risks are presented on a gross basis, i.e. mitigating factors are not taken into account.

Macroeconomic risks

The industrial gases business is highly competitive and even more so in the face of increasing globalization, a factor that could have a dampening impact on earnings and cash flows going forward. The Messer Group operates on a global basis, thus making it susceptible to local political, social and economic conditions as well as to the resulting risks arising in each market.

Market risks

We supply a wide range of industries and sectors (including steel, metal processing, chemicals, petrochemicals, food and beverages, healthcare and glass) on the basis of long-term contracts over periods of up to 15 years in Europe, up to 20 years in the Americas and up to 30 years in Asia. A significant decline in market demand in any one of these key industries or sectors – and particularly in the steel industry in light of worldwide overcapacities – could adversely affect future earnings. The Messer Group generates around 50 % of its revenue in China. The region therefore makes a disproportionately large contribution to Group earnings. The Group's strong position in China means that it may not be able to fully compensate for the negative impact of periods of economic weakness in that country, even if other markets develop more favorably. However, its presence in several provinces of China could help to offset any negative impact in the event of regional variations. The Group currently classifies market risks as medium. At the same time, it is aware that, following its indirect entry into the American market, it could also be affected by future measures – some of them far-reaching – if the trade conflict between the USA and China were to escalate.

Health risks

The Group supplies to a broad range of industries and sectors that nowadays produce on a largely global scale. These global supply chains can be severely disrupted by epidemics of infectious diseases in major producing countries or by a pandemic. In 2020, the Messer Group was forced to contend with the impacts of the COVID-19 pandemic, although their severity varied according to region and industrial focus. Whereas China and Vietnam were able to ramp up or even expand their industrial capacities again after a brief slump in spring 2020, Europe found itself having to cope with significant losses in the steel processing industry, although these were offset by higher sales figures in the medical technology, electronics, food and beverages industries. In 2021, a positive development is therefore expected overall, partially due to the increasing availability of vaccines. However, the current spread of virus mutations points to the possibility of ongoing restrictions, which could have an unpredictable impact on the economic situation. The Group therefore currently classifies the respective risk of a temporary economic downturn as high. However, in view of the well-developed healthcare systems in large parts of the world, it classifies the resulting risk of long-term economic disruption risks as medium.

Cost risks

Regulatory or government changes or interventions in the energy sector may lead to rising energy prices in some countries. The repeated occurrence of crisis situations within oil-producing countries and the growing demand for energy in emerging economies, particularly in China and India, give reason to assume that oil and energy prices will continue to show a rising trend, with a corresponding impact on the supplies and primary products necessary for the Messer Group to conduct its business operations. Purchase prices of some important bought-in products, such as helium, fluctuate considerably. Although Messer is often able to pass on cost increases partially to its customers via price escalation clauses in supply contracts (in particular for electricity price increases) or reduce the risk by entering into long-term purchase agreements, it is possible that price increases for energy and bought-in items could adversely affect the profitability of the Messer Group. It currently classifies cost risks as high.

Selling price risks

In certain countries, intense competition may lead to disproportionate downward price trends, which could have a negative impact on revenue and earnings going forward. The integration of member states that have only recently joined the EU entails risks, as many previously state-run businesses will need to be privatized and restructured in accordance with EU and IMF requirements. Both the number and the scale of state subsidies could be drastically reduced, culminating in numerous closures and mergers in these countries with a corresponding adverse impact on Group revenue. In these circumstances, the downward pressure on selling prices would be likely to increase. The Group currently classifies selling price risks as medium to high.

Operational risks

An operational interruption at one of the Group's production facilities could result in a failure to supply its customers. The Group therefore endeavors to avoid this situation by regularly maintaining and monitoring its equipment. In the event of breakdowns or defects, contingency plans and instruments are in place to mitigate the financial consequences of a business interruption at any of its customers' plants. The Messer Group is currently working to expand its supply structure and maximize flexibility in order to ensure that supplies to customers are ensured, even in emergency situations. The range and the quality of the Group's products depend on the availability of bought-in hardware components and on the production equipment used (e.g. cylinders and tanks) on the one hand and on the quality of the products and services of its suppliers and business partners on the other. The Group currently classifies operational risks as medium.

Acquisition risks

The Messer Group is continually developing new strategies. Apart from expanding and strengthening its existing business and continually optimizing its sourcing and logistics processes, the Group is intent on achieving growth both organically and through other means, such as acquisitions and joint ventures. Its aim is to consolidate operations on existing markets and to divest operations that are no longer core to its business. The sale of entities or business activities can, however, result in retrospective risks for the Group. Appropriate provision is recognized if a risk is classified as probable. When deciding to make acquisitions or enter into new partnerships, there is always a risk that future market potential and the feasibility of projects being implemented may have been wrongly predicted. For this reason, the Messer Group has internal committees that analyze the development potential of a project prior to its approval and process any information that has a bearing on decisions that need to be made. In order to be as certain as possible that M&A projects have potential for development going forward, due diligence assessments are conducted by experienced staff in specialist departments before any acquisitions are made. The level of risk is also reduced by including relevant terms of agreement in purchase contracts. The Group currently classifies acquisition risks as medium.

IT risks

The use of state-of-the-art information technology plays a decisive role in handling and securing business processes within the Messer Group.

The security and compliance of the information systems are set out in the IT strategy objectives, based on which Messer Group GmbH designs, implements and reviews measures to ensure the protection of data, applications, systems and networks on a permanent basis. Both preventive and corrective measures are considered in this process.

The Group deploys preventive vulnerability scans to check the externally accessible IT communication points of its European companies. Any weaknesses identified are dealt with according to their risk categories and deadlines and resolved with appropriate measures.

Using a checklist jointly defined by the IT security team for performing IT security self-audits, the Group analyzes the current status and recommends measures for avoiding or mitigating risk. The analysis focuses on questions regarding the IT systems and applications used, and also examines areas of the infrastructure or the network. This tool also serves to raise awareness and avoid potential risks in IT operations. The Group currently classifies IT risks as medium.

Financial risks

The Messer Group requires funding to finance its growth and investments and is therefore dependent on the finance sector remaining both stable and liquid. The Messer Group relies on cash flows from operating activities to settle its obligations, including compliance with covenants arising from borrowings, which, in turn, depends largely on its ability to generate positive cash flows from operating activities.

The Group has recognized goodwill in the consolidated balance sheet. The application of IAS 36 (i.e. the requirement to perform impairment tests) could result in the need to recognize impairment losses on goodwill if the business and market prospects of a Group subsidiary, associated company or cash-generating unit significantly deteriorate compared to the original date of measurement. Impairment losses could have a significant adverse impact on earnings as well as on balance sheet and performance ratios. The resulting identifiable uncertainties were taken into account in the forecast through corresponding allowances on receivables and adjusted business assumptions.

There is always a risk that financial and debt crises could result in global economic downturns or slowdowns. The Messer Group is closely monitoring current developments and is ready to counter them with cost-cutting and investment-reducing programs if the need arises. A potential deterioration in the Group's customers' creditworthiness due to crises increases the risk of bad debts and delays to joint projects.

It is essential to ensure compliance with the covenants attached to the USPPs and the RFA financing arrangements. Particularly worthy of mention is the net debt (i.e. gross debt less liquid funds) / EBITDA covenant, for which compliance is mandatory, both for the Messer Group as a whole and for the Messer Group excluding its subsidiaries in China. Financial risks for the Messer Group can also arise from changes in exchange and interest rates. The management of interest rate, currency and liquidity risks is handled by Group Treasury in compliance with guidelines approved by executive management. Group Treasury identifies, measures and hedges financial risks. The Messer Group currently employs marketable forward currency contracts and interest swaps as hedging instruments. Treasury guidelines contain general risk management principles and specific rules for defined areas, such as the exchange rate risk, the interest rate risk, the use of derivative financial instruments and the investment of surplus cash. The related risks are monitored on a continuous basis and the scope of hedging adjusted to the extent considered necessary. The Group currently classifies the impact of financial risks on a relevant scale as low to medium.

Currency risks

Transaction risks arising in conjunction with the export of products are generally hedged as soon as the order is received. At an operating level, for the most part the individual Group entities transact their business locally in their functional currency. For this reason, the currency risk element of transaction risks is generally considered to be low. However, some Group entities are exposed to foreign currency risks that arise on transactions that are not denominated in their functional currency. These transactions relate mainly to payments for imported products or services and are hedged to the maximum extent possible. Like any other market participant, Messer may be confronted with the unexpected appreciation of a functional currency that weakens the international competitiveness of the country in terms of its ability to export products as well as the Group's local operations. Translation risks that may arise when converting foreign currency exposures into euros are classified as customary for the business. Exchange rate losses against the euro can lead to a reduction in Group equity and earnings as a result of valuing foreign currency-denominated net asset positions in the relevant countries. The Group currently classifies currency risks as high.

Legal and contractual risks

From time to time, enterprises are confronted with allegations such as having infringed industrial rights or legal obligations, supplied defective products, or failing to comply with environmental protection laws. Regardless of their prospects of success, allegations of this type can result in very high defense costs. In cases like these, the Messer Group defends itself energetically with the support of both in-house and external experts.

The Group's international operations are subject to a wide range of country-specific environmental legislation and regulations in areas such as emissions, groundwater pollution, the use and treatment of hazardous substances and also ground surveys and decontamination. These can occasionally give rise to liability risks in conjunction with either past or current operations. New environmental requirements, partially resulting from the adoption of EU directives in the new EU member states, may also necessitate changes in the standards applied at Group locations, which may result in higher production costs and modifications to the production process. The recent past shows, however, that the implementation of stricter environmental regulations often results in a more efficient production process and a higher quality product. The Group currently classifies legal and contractual risks as medium.

Overall conclusion

The above-mentioned opportunities show that potential can be leveraged both internally and externally. The Group endeavors to develop in-house potential on a targeted basis and make the most of external potential whenever the opportunity arises. The risks presented above are not the only ones to which the Messer Group is exposed. Some risks, which have not yet been identified or which are not considered significant from today's perspective, could have an adverse impact on the Messer Group if general business or economic conditions were to change. However, no risks were identified in 2020, either individually or in aggregate, which could have a material adverse impact on the going-concern status of the Messer Group. Similarly, based on the Executive Management's assessment and on the latest information, no risks have been identified that could pose a risk in the fiscal year 2021. Market developments and production remained the principal operational risks during the period under report. Organizational measures are in place to identify potential risks at an early stage. The Group's vigil risk management system (described below) and proactive management of risks enables it to mitigate risk.

Risk Management

The principles that dictate the Group's approach to risk management are stipulated by the Executive Management. Risk management is directed at safeguarding the going-concern status of Group entities and increasing the value of the business. It therefore plays a crucial role in all decision-making and business processes. The existing management structure and the reporting processes in place throughout the Messer Group ensure that not only developments that could jeopardize its going-concern status are reported regularly and promptly to the relevant managers, but also that other developments which pose a threat to the achievement of short-term performance targets (such as EBITDA) are reported. The strategy enables management to initiate measures at an early stage to mitigate any operating and/or financial risks. Risk managers have been designated at each of the subsidiaries, who are responsible for ensuring the proper functioning of local reporting systems. Working together with local risk managers, the Messer Group Risk Manager prepares a Group-wide risk report at the beginning of each year, which is discussed by the Executive Management and promptly communicated to the Supervisory Board of Messer Group GmbH. The risks recorded in the risk report are categorized by their nature and classified by their probability of occurrence. The current risk situation has not changed significantly compared with previous fiscal years.

Messer is adequately insured against potential claims or liability risks to which it is exposed. These policies ensure that any financial impact can be kept within defined limits or completely avoided. The scale of insurance coverage is continuously optimized in response to the specific requirements of Group companies operating in various countries.

Messer Group GmbH's internal audit department and the centralized organization of Messer China conducted a total of 15 status audits (all follow-up audits, eight of which were performed in Europe and seven in China) at Messer Group companies in the course of the fiscal year 2020. All audits conducted by the internal audit department also include advisory activities in the sense that information on best practice is passed on and international assistance is organized, effectively taking account of the respective current standards of Group entities based in the various countries. Where necessary, other centralized functions are also called upon in an advisory capacity (such as SHEQ, Corporate Logistics, Central Sales Functions). Compliance with corporate guidelines is tested and sample testing of voucher/document controls performed within the various business processes, in order to check the effectiveness and viability of processes as well as the accuracy and reliability of financial reporting. Findings were clarified and recommendations made to improve the transparency of business processes. The Supervisory Board of the Messer Group regularly reviews the quality and appropriate intensity of the audits.

The Group's Safety, Health, Environment, Quality (SHEQ) department will continue to conduct audits and risk analyses in order to reduce the injury rate.

State-of-the-art technologies are deployed in the Group's IT systems in order to keep electronic data processing risks to a minimum, effectively ruling out unauthorized access to data and systems as well as any significant data losses to the greatest extent possible. The efficiency, operational availability and reliability of the Group's systems are constantly being monitored and improved. Messer's IT security concept also includes a detailed contingency plan. In order to minimize risks of all kinds, the various technologies employed by the Messer Group are regularly tested to ensure that IT-based business processes are secure.

Tax laws and competition regulations can also give rise to business risks. In order to mitigate these risks, the Messer Group calls upon the advice of both in-house and external experts.

Income and operating cash flows are, to a large extent, unrelated to market interest rates, since the Group does not hold any significant interest-bearing assets. Loans or credits subject to variable interest rates are hedged partly with the aid of interest rate swaps (cash flow hedges of future interest payments). Under these arrangements, loans with variable interest rates are converted in substance to ones with fixed or maximum rates. In conjunction with the interest rate swaps, the difference between fixed-contract interest rates and variable interest rates is settled at specified intervals (computed by reference to an agreed amount). At the balance sheet date, derivative financial instruments had only been entered into with international financial institutions with an investment-grade rating.

Corporate Governance at Messer Group GmbH encompasses a whole range of in-house rules and measures aimed at preventing the occurrence of risks. The first stage of the risk management system is to assess risks throughout the organization. This risk assessment is conducted by the Group's corporate departments for the respective areas of responsibility and by each consolidated subsidiary for its own business. The assessment of risks is updated each year. On this basis, training is organized and carried out to cover identified risk areas and to highlight best practice for avoiding the occurrence of a risk as far as possible. Messer Group GmbH has mandatory compliance guidelines in place for its companies, including in particular the "Code of Conduct" and "Group Guidelines". All first- and second-tier managers at Messer Group GmbH and its consolidated subsidiaries have confirmed that they have received these guidelines, examined their content and comply with the regulations contained therein. Furthermore, all Group employees have been informed of the content of compliance guidelines relevant to them and have also confirmed their compliance with them. Management and staff are regularly informed about and given training on the content of these guidelines, other policies and the rules contained in the Code of Conduct.

On the basis of a matrix structure, the Compliance department cooperates closely with the SHEQ, Medical, IT, Audit, Legal and Insurance departments. Internal audits are carried out to check that compliance guidelines – in particular the Group Guidelines – have been appropriately implemented, thus ensuring good risk management procedures throughout the organization, including conduct and reporting rules, the requirement for approval at the appropriate level as well as application of the dual control principle for legally binding agreements with third parties. Any compliance violations are followed up and appropriate action taken as deemed necessary. At the same time, any such incidences are used to reflect on how additional preventive measures could reduce the risk of non-compliance in the future.

The annual compliance report drawn up by the Chief Compliance Officer for Executive Management is also discussed with the Supervisory Board.

Bad Soden am Taunus, April 16, 2021

Messer Group GmbH

Consolidated Financial Statements

of Messer Group GmbH 2020

Consolidated Income Statement

of Messer Group GmbH, Sulzbach (Taunus) for the Year Ended December 31, 2020 (in K€)

	Notes	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Revenue	4	1,162,723	1,104,322
Cost of sales	5	(680,278)	(630,925)
Gross profit		**482,445**	**473,397**
Distribution and selling expenses	6	(198,358)	(203,618)
(Impairment)/reversal of impairment allowances on trade receivable	33	(9,223)	5,264
General administrative expenses	7	(80,539)	(85,310)
Other operating income	8	19,564	16,269
Other operating expenses	9	(8,644)	(6,927)
Operating profit		**205,245**	**199,075**
Income from investments accounted for using the equity method	10,16	32,261	8,373
Other investment result, net	10	(49)	1,275
Financial income	10	14,849	16,474
Financing expense	10	(36,211)	(34,352)
Financial result, net		**10,850**	**(8,230)**
Result from continuing operations before tax		**216,095**	**190,845**
Income taxes	11	(42,517)	(41,562)
Result from continuing operations after tax		**173,578**	**149,283**
Result from discontinued operations after tax	23	**(4,000)**	**420,584**
Group net profit for the year		**169,578**	**569,867**
of which attributable to:			
shareholders of the parent company		131,786	532,789
non-controlling interests		37,792	37,078

Consolidated Statement of Comprehensive Income

of Messer Group GmbH, Sulzbach (Taunus) for the Year Ended December 31, 2020 (in K€)

	Notes	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Group net profit for the year		**169,578**	**569,867**
Items which were or may be reclassified to profit or loss			
Change in translation adjustments relating to foreign subsidiaries	31	(39,784)	4,156
of which: *Reclassification of currency translation differences in conjunction with deconsolidations*		–	*5,362*
Derivative financial instruments			
Change in fair value of derivatives employed for hedging purposes [1]	33	–	–
Reclassification to profit and loss	33	–	–
Deferred taxes	11	–	–
From companies accounted for using the equity method	16, 31	(84,222)	(15,445)
		(124,006)	**(11,289)**
Items which will never be reclassified to profit or loss			
FVOCI equity instruments	33	–	434
Deferred taxes	11	–	(76)
Remeasurement of net defined benefit obligation for pension plans and other employee benefits			
Change in remeasurement of the net defined obligation for pension plans	26	(1,487)	(9,493)
Deferred taxes	11	(75)	332
From companies accounted for using the equity method	16, 31	(1,581)	(2,905)
		(3,143)	**(11,708)**
Other comprehensive income for the year		**(127,149)**	**(22,997)**
Total comprehensive income for the year		**42,429**	**546,870**
of which attributable to:			
shareholders of the parent company		9,057	509,263
non-controlling interests		33,372	37,607

[1] Gains/losses on financial instruments in effective hedging relationships

For further details regarding equity, see the following Consolidated Statement of Changes in Equity and note 31 ("Equity") to the Consolidated Financial Statements.

Consolidated Statement of Financial Position

of Messer Group GmbH, Sulzbach (Taunus) as of December 31, 2020 (in K€)

Assets	Notes	Dec. 31, 2020	Dec. 31, 2019
Goodwill	14	266,032	270,899
Right-of-use assets	14	51,719	21,804
Other intangible assets	14	81,417	71,000
Property, plant and equipment	15	1,034,539	1,023,451
Investments accounted for using the equity method	16	741,601	798,907
Investments in other companies and financial investments	17, 18	2,536	4,305
Deferred tax assets	11	15,921	12,747
Other non-current financial assets	19	9,587	11,963
Non-financial assets	19	831	887
Non-current assets		**2,204,183**	**2,215,963**
Inventories	20	76,099	60,254
Trade receivables	21	161,258	149,537
Income tax assets		319	25,124
Other current financial assets	24	14,311	13,501
Non-financial assets	24	26,009	23,627
Cash and cash equivalents	25	253,686	218,955
Current assets		**531,682**	**490,998**
Total assets		**2,735,865**	**2,706,961**

Consolidated Statement of Financial Position

of Messer Group GmbH, Sulzbach (Taunus) as of December 31, 2020 (in K€)

Equity and Liabilities	Notes	Dec. 31, 2020	Dec. 31, 2019
Subscribed capital	31	100,000	100,000
Capital reserves	31	536,937	536,937
Other reserves	31	(7,430)	(5,620)
Revenue reserves	31	1,258,233	1,134,767
Other components of equity	31	(110,097)	9,312
Equity attributable to owners of the parent company		**1,777,643**	**1,775,396**
Non-controlling interests	31	**185,090**	**180,709**
Equity		**1,962,733**	**1,956,105**
Provisions for employee benefits	26	55,775	55,100
Other provisions	27	5,407	5,592
Non-current financial debt	28	225,442	398,776
Non-financial liabilities	29	927	519
Deferred tax liabilities	11	15,433	14,638
Non-current liabilities		**302,984**	**474,625**
Other provisions	27	31,218	30,993
Current financial debt	28	187,524	25,004
Trade payables	33	101,589	93,424
Income tax liabilities		17,291	17,135
Other current financial liabilities	30	31,654	24,651
Non-financial liabilities	30	100,872	85,024
Current liabilities		**470,148**	**276,231**
Total equity and liabilities		**2,735,865**	**2,706,961**

Consolidated Statement of Changes in Equity

of Messer Group GmbH, Sulzbach (Taunus) for the Year Ended December 31, 2020 (in K€)

		Reserves			Other components of equity					
	Share capital	Capital reserves	Revenue reserves	Revenue reserves	Translation differences	Hedge accounting reserve	Reserve for fair value changes	Equity attributable to owners of the parent company	Non-controlling interests	Total Equity
Jan.1, 2019	**100,000**	**536,937**	**1,446**	**616,422**	**21,443**	**(85)**	**(237)**	**1,275,926**	**158,597**	**1,434,523**
Group net profit for the year	–	–	–	532,789	–	–	–	532,789	37,078	569,867
Other comprehensive income for the year	–	–	–	(11,717)	(8,666)	(3,501)	358	(23,526)	529	(22,997)
Total comprehensive income	**–**	**–**	**–**	**521,072**	**(8,666)**	**(3,501)**	**358**	**509,263**	**37,607**	**546,870**
Other	–	–	–	(227)	–	–	–	(227)	–	(227)
Distributions	–	–	–	(2,500)	–	–	–	(2,500)	(21,305)	(23,805)
Additions/disposals of non-controlling interests	–	–	(7,066)	–	–	–	–	(7,066)	5,810	(1,256)
Dec. 31, 2019	**100,000**	**536,937**	**(5,620)**	**1,134,767**	**12,777**	**(3,586)**	**121**	**1,775,396**	**180,709**	**1,956,105**
Jan.1, 2020	**100,000**	**536,937**	**(5,620)**	**1,134,767**	**12,777**	**(3,586)**	**121**	**1,775,396**	**180,709**	**1,956,105**
Group net profit for the year	–	–	–	131,786	–	–	–	131,786	37,792	169,578
Other comprehensive income for the year	–	–	–	(3,320)	(116,831)	(2,578)	–	(122,729)	(4,420)	(127,149)
Total comprehensive income	**–**	**–**	**–**	**128,466**	**(116,831)**	**(2,578)**	**–**	**9,057**	**33,372**	**42,429**
Other	–	–	–	–	–	–	–	–	–	–
Dividends paid	–	–	–	(5,000)	–	–	–	(5,000)	(26,968)	(31,968)
Additions/disposals of non-controlling interests	–	–	(1,810)	–	–	–	–	(1,810)	(2,023)	(3,833)
Dec. 31, 2020	**100,000**	**536,937**	**(7,430)**	**1,258,233**	**(104,054)**	**(6,164)**	**121**	**1,777,643**	**185,090**	**1,962,733**

For further details regarding equity, See note 31 “Equity” to the Consolidated Financial Statements.

Consolidated Statement of Cash Flows

of Messer Group GmbH, Sulzbach (Taunus) for the Financial Year 2020 (in K€)

	Notes	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Group profit before tax		**212,095**	**613,935**
Income taxes paid		(22,418)	(60,337)
Depreciation, amortization and impairment losses on property, plant and equipment and intangible assets	14; 15	130,108	122,485
Impairment losses on non-current financial assets	18	–	6
Gains arising as a result of changes in the group reporting entity		–	(413,222)
Losses/(gains) on disposal of fixed assets		(1,043)	(2,189)
Changes in investments in associated companies	16	(32,261)	(8,330)
Interest result, net	10	13,582	15,142
Other non-cash financial result	10	19,804	480
Changes in assets resulting from finance lease arrangements		1,917	1,656
Changes in inventories		(16,140)	(16,232)
Changes in receivables and other assets		(24,657)	(20,381)
Changes in provisions		(64)	7,172
Changes in trade payables and other liabilities		30,284	35,553
Cash flows from operating activities		**311,207**	**275,738**
Purchase of property, plant and equipment and intangible assets		(178,883)	(181,570)
Purchase of investments and other non-current assets		–	(27)
Disbursements for the acquisition of subsidiaries		(31,794)	–
Capital reductions at the level of associated companies		–	(330)
Proceeds from disposals of property, plant and equipment and intangible assets		2,349	9,344
Proceeds from disposals of subsidiaries and loans		2,002	8,774
Interest received		2,427	2,846
Cash flows from investing activities		**(203,899)**	**(160,963)**
Distributions to shareholders of Messer Group GmbH		(5,000)	(2,500)
Proceeds from non-current financial debt		3,801	129,404
Proceeds from current financial debt		5,542	477
Repayments of non-current financial debt		–	(40,680)
Repayments of current financial debt		(16,224)	(221,603)
Repayment of lease liabilities		(5,605)	(7,698)
Dividends paid to minority shareholders		(26,715)	(21,303)
Decrease/(increase) of majority shareholdings without loss of control and acquisition of non-controlling shareholdings		2,036	1,534
(Disbursements from)/contributions to other shareholders		(4,637)	(1,226)
Interest paid		(16,149)	(18,830)
Other financial result, net		(4,207)	4,143
Cash flows from financing activities		**(67,158)**	**(178,282)**
Changes in cash and cash equivalents		**40,150**	**(63,507)**
Cash and cash equivalents at the beginning of the period		**218,955**	**277,476**
Exchange rate impact on cash and cash equivalents		(5,419)	1,594
Cash classified as held for sale		–	13,795
Derecognition of cash and cash equivalents as a result of changes in the group reporting entity		–	(10,403)
at the end of the period		**253,686**	**218,955**

Notes to the Consolidated Financial Statements
of Messer Group GmbH 2020

1. General disclosures

Messer Group GmbH ("Company") is a holding company, with its business address at Messer-Platz 1, 65812 Bad Soden am Taunus. It has its registered office in Sulzbach/Taunus, Germany, and is entered in the commercial register of the District Court of Frankfurt am Main under the number HRB 73307. It is the parent company of the Messer Group ("Messer Group" or "Group"), which manufactures and markets industrial gases (in particular oxygen, nitrogen, argon, helium, carbon dioxide, hydrogen and specialty gases), gas application processes and customer-site gas systems (so-called "on-site facilities"). The main customers of the Messer Group include major enterprises in the manufacturing, chemical, steel-production, pharmaceutical and food processing industries and the waste disposal sector.

As of December 31, 2020, Messer Industrie GmbH ("Messer Industrie"), in which the Messer family has bundled its industrial gases activities, is the sole shareholder of Messer Group GmbH via its investment in Messer Holding GmbH. Messer Industrie is the ultimate group parent company and is required to prepare consolidated financial statements. Messer Group GmbH therefore prepares sub-consolidated financial statements. The requirements of § 315e (3) HGB relating to the preparation of the Consolidated Financial Statements of Messer Group GmbH in accordance with International Financial Reporting Standards ("IFRS") have been met.

The year-end reporting date of Messer Group GmbH and its consolidated subsidiaries is 31 December.

The Executive Management approved the Consolidated Financial Statements for the year ended December 31, 2020 for issue and submission to the Supervisory Board on April 16, 2021. It is the responsibility of the Supervisory Board to examine and authorize the Consolidated Financial Statements.

The two fully consolidated German subsidiaries, Messer GasPack GmbH and Messer Information Services GmbH, intend to apply the exemption provisions permitted by § 264 (3) HGB and will therefore not publish their separate financial statements for the financial year 2020. Similarly, they will not, for the most part, draw up notes to the financial statements (HGB) or a management report for the financial year 2020.

2. Accounting principles and policies

Basis of preparation

The Consolidated Financial Statements have been drawn up in euros. Unless otherwise stated, all amounts are rounded to thousands (K€). Differences may arise due to rounding.

Statement of compliance with IFRS

The Consolidated Financial Statements for the year ended December 31, 2020 have been drawn up in accordance with International Financial Reporting Standards (IFRS) and the Interpretations of the IFRS Interpretations Committee (IFRIS IC), as applicable in the European Union (EU). The accounting principles and polices used in the 2020 Consolidated Financial Statements have been applied consistently in all material respects.

The Consolidated Financial Statements have been prepared on the basis of historical and amortized cost and the fair value of available-for-sale financial assets and financial liabilities (including derivative financial instruments).

The drawing up of consolidated financial statements in accordance with IFRS and the Interpretations issued by the IFRS Interpretations Committee, as applicable in the EU, requires the use of estimations. Moreover, the application of uniform group accounting policies requires management to make judgments.

New financial reporting rules

The following new or revised Standards and Interpretations were mandatory for the first time in the consolidated financial statements for the year-ended December 31, 2020:

- Amendments in References to the Conceptual Framework in IFRS Standards
- Amendments to IFRS 3 – Definition of a Business
- Amendments to IFRS 9, IAS 39 and IFRS 7 – IBOR (Interbank Offered Rates) Reform
- Amendments to IAS 1 and IAS 8 – Definition of Material
- Amendments to IFRS 16 – COVID-19-related Rental Concessions (applicable with effect from June 1, 2020)

Amendments in References to the Conceptual Framework in IFRS Standards

The revised Framework consists of a new overarching section “Status and Purpose of the Conceptual Framework” and eight fully contained sections. Sections relating to “The reporting entity” and “Presentation and disclosure” are now “included and “Derecognition” has “been“ added to the “Recognition” section.
In addition, contents have also been changed: For example, the attempt to distinguish between “revenue and “gains” within income has been abandoned.
As a consequence of the changes made to the Conceptual Framework, references to it have been revised in various Standards.

The amendments did not have any significant impact on the Consolidated Financial Statements of Messer Group GmbH.

Amendments to IFRS 3 – Definition of a Business

The amendment clarifies that to be considered a business, an integrated set of activities and assets must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create output. Furthermore, output is now defined in terms of the provision of goods and services to customers: the reference to cost reductions no longer applies. The new requirements also include an optional "concentration test" to facilitate the identification of a business.

The amendments did not have any significant impact on the Consolidated Financial Statements of Messer Group GmbH.

Amendments to IFRS 9, IAS 39 and IFRS 7 – IBOR (Interbank Offered Rates) Reform – Phase 1

The amendments address uncertainties relating to the IBOR reform. Under existing hedge accounting rules, the upcoming changes in benchmark interest rates would in many cases result in the termination of hedging relationships. It is now permitted to continue existing hedge accounting relationships for a transitional period by providing for a number of mandatory exceptions from the previous hedge accounting requirements, e.g. the assessment of the "highly probable" criterion for expected transactions designated as part of cash flow hedges.

The amendments did not have any significant impact on the Consolidated Financial Statements of Messer Group GmbH.

Amendments to IAS 1 and IAS 8 – Definition of Material

The amendments create a uniform and more precise definition of the materiality of financial statement information and include illustrative examples. In this context, the definitions contained in the Framework Concept, IAS 1, IAS 8 and IFRS Practice Statement 2 "Making Materiality Judgements" have been harmonized.

The amendments did not have any significant impact on the Consolidated Financial Statements of Messer Group GmbH.

Amendments to IFRS 16 – COVID-19-related Rental Concessions

IFRS 16 addresses the presentation of modifications to lease payments (including lease concessions) at the level of the lessee. As a general rule, a lessee is required to assess for each lease whether any lease concessions it receives constitute a lease modification that necessitates the lease liability to be reassessed.

The amendment to IFRS 16 provides for a time-limited relief (practical expedient) that is subject to specific conditions and which allows the lessee not to treat lease concessions received in connection with the corona pandemic as lease modifications and hence in divergence to the usual requirement for lease modifications. The amendments are mandatory for annual periods beginning on or after June 1, 2020.

The amendments did not have any significant impact on the Consolidated Financial Statements of Messer Group GmbH.

Newly issued pronouncements which have not yet been applied:

The following new Standards and Amendments to Standard were not mandatory for application in the accompanying Consolidated Financial Statements and were therefore not applied; however, they have already been endorsed by the EU and become mandatory with effect from the beginning of the financial year 2021 or later:

- Amendments to IFRS 4 – Extension of the Temporary Exemption from Applying IFRS 9 (applicable from financial year 2021)
- Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 – IBOR Interest Rate Benchmark Reform – Phase 2 (applicable from financial year 2021)
- IFRS 17 (including amendments to IFRS 17) – Insurance Contracts (applicable from financial year 2023)
- Amendments to IFRS 3 – Reference to the Conceptual Framework (applicable from financial year 2022)
- Amendments to IFRS 10 and IAS 28 – Sale or Contribution of Assets between an Investor and its Associate or Joint Venture (mandatory effective date deferred for an indefinite period)
- Amendments to IAS 1 – Classification of Liabilities as Current or Non-current (applicable from financial year 2023)
- Amendments to IAS 16 – Property, Plant and Equipment - Revenue before Intended Use (applicable from financial year 2022)
- Amendments to IAS 37 – Onerous Contracts – Cost of Fulfilling a Contract (applicable from financial year 2022)
- Improvements to IFRS 2018 - 2020 – Amendments to IFRS 1, IFRS 9, IFRS 16, IAS 41 (applicable from financial year 2022)
- Amendments to IAS 1 and IFRS Practice Statement 2 – The amendments deal with the disclosure of significant accounting policies and the application of the materiality concept (applicable from financial year 2023)
- Amendments to IAS 8 – The amendments clarify how entities should distinguish changes in accounting policies from changes in accounting estimates (applicable from financial year 2023)

The Group does not plan to apply early any of the new or amended Standards and Interpretations which do not become mandatory until subsequent financial years. Unless stated otherwise, the impact on the Consolidated Financial Statements of Messer Group GmbH is still being investigated.

Consolidation principles

A full list of the Group's investments is provided as an appendix to the notes to the Consolidated Financial Statements. The principal subsidiaries as of December 31, 2020 were:

Name and registered office of subsidiary	Country	Shareholding in percent Dec. 31, 2020	Shareholding in percent Dec. 31, 2019
Hunan Xianggang Messer Gas Products Co., Ltd., Xiangtan City, Hunan Province	China	55 %	55 %
Messer Polska Sp. z o.o., Chorzów	Poland	99.97 %	99.97 %
Messer Haiphong Industrial Gases Co., Ltd., Hai Phong City	Vietnam	100 %	100 %
Messer Tehnogas AD, Belgrade	Serbia	81.94 %	81.94 %
Sichuan Pangang Messer Gas Products Co., Ltd., Panzhihua, Sichuan Province	China	60 %	60 %
Messer Hungarogáz Kft., Budapest	Hungary	100 %	100 %
Foshan MS Messer Gas Co., Ltd., Foshan City, Guangdong Province	China	85 %	85 %
Xichang Pangang Messer Gas Products Co., Ltd., Xichang City	China	60 %	60 %
Sichuan Messer Gas Products Co., Ltd., Chengdu	China	100 %	100 %
Messer Gas Products (Zhangjiagang) Co., Ltd., Zhanjiagang City, Jiangsu Province	China	100 %	100 %
Messer Austria GmbH, Gumpoldskirchen	Austria	100 %	100 %
Messer Technogas s.r.o., Prague	Czech Republic	100 %	100 %
Messer Tatragas spol.s.r.o., Bratislava	Slovakia	100 %	100 %
Messer Croatia Plin d.o.o., Zapresic	Croatia	99.96 %	99.96 %
Chongqing Messer Gas Products Co., Ltd., Chongqing, Sichuan Province	China	100 %	100 %
ASCO Kohlensäure AG, Romanshorn	Switzerland	70 %	70 %
Messer Slovenija d.o.o., Ruse	Slovenia	74.76 %	74.76 %
Messer Romania Gaz S.R.L., Bucharest	Romania	100 %	100 %

The Consolidated Financial Statements comprise the financial statements of Messer Group GmbH and its subsidiaries as of December 31, 2020. The financial statements of subsidiaries are drawn up to the same balance sheet date and using the same accounting policies as applied by the parent company.

As part of the acquisition of the majority of Linde's gases business in the USA in 2019, the Linde companies in Canada, Brazil and Colombia and the acquisition of Praxair's activities in Chile, Messer Group GmbH and CVC Capital Partners founded the joint venture company Yeti GermanCo 1 GmbH with the aim of taking over the management of Messer's operations in Western Europe and America. As of December 31, 2020, Messer Group GmbH's shareholding in the joint venture was unchanged at 54.46 %. The Yeti GermanCo 1 Group is jointly controlled by Messer Group GmbH and CVC Capital Partners and is included in the Consolidated Financial Statements of Messer Group GmbH as a joint venture using the equity method.

a. Subsidiaries

The Consolidated Financial Statements as of December 31, 2020 include Messer Group GmbH and the subsidiaries it controls. The Group controls a subsidiary if it is exposed to and has the right to fluctuating returns from its investment in the subsidiary concerned and is able to influence these returns by means of its control over the subsidiary. Subsidiaries are included in the Consolidated Financial Statements from the date on which control is gained and until the date on which control ceases.

All receivables and payables, revenue, income and expenses arising in conjunction with intragroup transactions are eliminated on consolidation. Intragroup sales of goods or services are transacted on the basis of full cost transfer prices.

Subsidiaries are accounted for in accordance with the acquisition method. Acquisition cost corresponds to the fair value of the consideration given and liabilities assumed or arising as well as of equity instruments issued by the acquirer at the transaction date. In addition, it includes the fair value of any recognized assets or liabilities resulting from a conditional consideration arrangement. Assets, liabilities and contingent liabilities identified in conjunction with a business combination are measured as a general rule at their fair value on first-time consolidation at the acquisition date.

Acquisition-related costs are recognized as expense in the period in which they are incurred.

In the case of business combinations achieved in stages, any previously held equity interest of an entity is re-measured at its fair value on the new acquisition date. Any fair value gain or loss arising is recognized in profit or loss.

The excess of the aggregate of (a) the consideration transferred, the amount of any non-controlling interest in the acquired entity and the acquisition-date fair value of the equity interest previously held in the acquired entity over (b) the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed, measured at their fair value, is recognized as goodwill in the consolidated balance sheet. The Group has not applied the option to account for goodwill using the full goodwill method. If the acquisition cost is lower than the fair value of the net assets of the acquired subsidiary, measured at their fair value, the difference is recognized directly in profit or loss after re-assessment. The results of subsidiaries acquired or disposed in the course of a financial year are included in the consolidated income statement as of the date on which control is acquired or up to the date on which control is lost.

b. Transactions with non-controlling interests where control is not lost

Transactions with non-controlling interests where control is not lost are treated in the same way as transactions with the Group's equity owners. Any difference between the consideration paid and the relevant share of the carrying amount of the net assets of the subsidiary arising on the acquisition of a non-controlling interest is recognized through other comprehensive income (OCI). Gains and losses arising on the sale of non-controlling interests are also recognized through OCI.

c. Disposals of subsidiaries
If the Group loses control of an entity, the Group's remaining interest is re-measured at its fair value and the difference recognized in profit or loss. In addition, any amounts previously reported through OCI relating to this entity are accounted for as would be necessary if the parent company had sold the related assets and liabilities directly. This means that any amounts previously recognized through OCI must be reclassified either to profit or loss or to revenue reserves.

d. Associated companies and joint ventures
Investments in entities, over which the Group has a significant influence, but which it does not control or manage jointly in terms of its financial and operating policies, and in joint ventures which the Group manages jointly, are accounted for using the equity method. These investments are initially measured at cost (including transaction costs). It is assumed that a significant influence is exerted if the Group holds 20 % or more or the voting rights but does not control the entity. The Group's share of equity method accounted investments is included in the line item "Result from investments accounted for using the equity method". The carrying amount of equity method investments is written down if their value is impaired. The Group's interest in associated companies or joint ventures includes goodwill arising on acquisition (net of accumulated impairment losses).

If the percentage of the investment in an associated company or joint venture decreases, but still remains an associated company or joint venture, then only the proportionate amount of the gains and losses previously recognized in OCI are reclassified to profit or loss, provided that this would also be the case if the individual assets and liabilities were sold.

The Group's share of gains and losses relating to associated companies or joint ventures is recognized in profit or loss as from the date of acquisition. Changes in reserves are recognized proportionately in Group reserves. Accumulated changes after acquisition are added to / deducted from the carrying amount of the investment. If the Group's share of the loss of an associated company or joint venture corresponds to, or exceeds, the Group's interest in the entity, including other unsecured receivables, the Group ceases to record any further losses, unless obligations have been entered into for the associated company or joint venture or payments have been made on their behalf.

The Group tests at the end of each reporting period, whether there are any indications that it should recognize any impairment losses on its investments in associated companies or joint ventures. In this case, the difference between the carrying amount and the recoverable amount is recognized as an impairment loss and reported in the income statement as part of the result from investments accounted for using the equity method.

To the extent that a Group entity is engaged in transactions with an associated company or joint venture, any unrealized gains or losses are eliminated on the basis of the Group's interest in the entity concerned.

Currency translation

a. Functional currency and reporting currency

The Consolidated Financial Statements are prepared in euro, the Group's reporting currency. The functional currency of individual foreign operations is determined on the basis of the primary economic environment in which the relevant entity operates. The items included on the financial statements of each entity are measured on the basis of this functional currency.

b. Transactions and balances

Foreign currency transactions are translated initially using the spot exchange rate, applicable at the date of the transaction, between the functional currency and the foreign currency. Monetary assets and liabilities denominated in a foreign currency are translated into the functional currency at the closing rate. All exchange differences are recognized in profit or loss. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction. Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rate at the date when the fair value was determined.

Exchange gains and losses on foreign currency trade receivables and payables are included in the line items "Other operating income" and "Other operating expenses".

c. Group entities

The functional currency of foreign operations not based within the area of the European Currency Union (ECU) is the relevant local currency in each country. As of the balance sheet date, assets and liabilities of these subsidiaries are translated at the closing rate into Messer Group's reporting currency. Income and expenses are translated at average exchange rates for the financial year. The resulting exchange differences are recognized through other comprehensive income and included in currency translation reserves within equity. Accordingly, they have no impact on profit or loss for the year. On the deconsolidation of a foreign operation, the cumulative amount of the exchange differences recognized through other comprehensive income relating to that foreign operation is recognized in profit or loss when the gain or loss on disposal is recognized.

The following summary shows the exchange rates used for the principal currencies:

Selected currencies	ISO code	Average exchange rates		Closing rates	
		Jan. 1 – Dec. 31, 2020 €1	Jan. 1 – Dec. 31, 2019 €1	Dec. 31, 2020 €1	Dec. 31, 2019 €1
Chinese renminbi	CNY	7.89	7.74	8.02	7.82
Polish zloty	PLN	4.45	4.30	4.56	4.26
Serbian dinar	RSD	117.57	117.86	117.56	117.53
Czech crowns	CZK	26.41	25.66	26.24	25.41
Hungary forint	HUF	352.24	325.38	363.89	330.53
US dollar	USD	1.15	1.12	1.23	1.12
Vietnamese dong	VND	26,602.77	26,054.77	28,331.00	26,018.00

Intangible assets and goodwill

The difference between the cost to the Messer Group of acquired entities and the fair values of the identifiable assets, liabilities and contingent liabilities acquired is recognized in accordance with IFRS 3.32 et seq. Goodwill, the residual amount arising from the above procedure, is tested for impairment at least once a year in accordance with IAS 36.

Other intangible assets such as brands, patents, licenses, customer bases, software, etc. are measured on initial recognition at cost. Patents, licenses, customer lists and software, etc. are amortized on a straight-line basis over expected useful lives of 3 to 20 years. The amortization expense on other intangible assets is included within the related expense line item, usually cost of sales or distribution and selling expenses. The brand-names "Messer" and "ASCO" are well-established in the markets in which the Group operates and will continue to be promoted. For this reason, it is considered that the brand-names "Messer" and "Asco" have indefinite useful lives. An impairment test is carried out at least once a year in accordance with IAS 36 to determine whether these brand-names have been impaired. The amortization period and amortization method applied for intangible assets with a finite useful life is performed, at a minimum, at the end of each financial year.

Property, plant and equipment

Property, plant and equipment are recognized initially at acquisition or manufacturing cost and depreciated over their estimated useful lives. Acquisition cost includes all costs directly attributable to an acquisition. The manufacturing costs of self-constructed assets include all directly attributable costs and an appropriate portion of overheads, including depreciation, and are therefore measured taking account of all cost components required to construct the assets. In the event that there is a statutory requirement to restore an item to its original condition, cost also includes the present value of future expected payments for disassembly and recultivation. In the case of major inspections, costs which satisfy the relevant recognition requirements are included in the carrying amount of the item of property, plant and equipment as a replacement in accordance with IAS 16.14.

Subsequent acquisition/construction costs are only recognized as part of the cost of the asset or as a separate asset, if it is probable that future economic benefits will flow to the Group and if the cost of the asset can be measured reliably.

Expenditure for repairs and maintenance, which does not represent significant replacement investment, is recognized as expense in the period in which it is incurred.

Gains and losses on disposal are determined as the difference between sales proceeds and the carrying amount of the asset and recognized in the group income statement.

Scheduled depreciation is computed using the straight-line method over the following useful lives:

Depreciation	Useful life in years
Buildings	10 - 50
Plant and machinery thereof air separation units	5 - 20 15
Other operational and office equipment	3 - 10

Residual values and useful lives are reviewed at each reporting date and amended where necessary. If the carrying amount of an item of property, plant and equipment exceeds the estimated recoverable amount, it is written down immediately to that amount.

Borrowing costs are recognized as expense in the period in which are incurred, except when they relate to qualifying assets. Within the Messer Group, this applies primarily to air separation plants. Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized as part of the cost of that asset up to the date on which all work has been completed for it to be ready for its intended use or sale. A qualifying asset is an asset that necessarily takes a substantial period of time to get ready for its intended use or sale.

Leases

a. Leases where the Group is the lessee

The Group leases various office and warehouse buildings as well as equipment and vehicles. Leases are generally concluded for fixed periods of 6 months to 10 years for movable assets, and for 10 years to indefinite periods for immovable assets. Contracts may, however, include renewal options.

At the inception of a contract, the Group assesses whether the contract is, or contains, a lease. This is the case if the contract conveys the right to control the use of an identifiable asset for a specified period of time in exchange for consideration. In order to assess whether a contract conveys the right to control an identified asset, the Group uses the definition of a lease in accordance with IFRS 16.

Contracts can contain both lease and non-lease components. The Group allocates the transaction price to these components based on their relative stand-alone prices. An exception to this is applied for leases where the Group is the lessee. In such cases, the Group applies the option to account for the lease as a whole rather than separating into lease and non-lease components.

Lease terms and conditions are negotiated individually and can vary significantly. The leases entered into by the Messer Group do not contain any credit terms with the exception that the leased items generally serve as collateral for the lessee’s liabilities. For this reason, leased assets may not be used as collateral for borrowing.

Leases are recognized when the leased asset is available for use by the Group, at which stage a right-of-use asset and a corresponding lease liability are recognized. Assets and liabilities arising from leases are initially recognized at their net present value. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments) less any lease incentives receivable
- variable lease payments that depend on an index or an (interest) rate, measured initially using the index or (interest) rate as at the commencement date
- amounts expected to be payable by the Group under residual value guarantees
- the exercise price of a purchase option if the Group is reasonably certain to exercise the option
- payments for penalties for terminating one lease, if the lease term reflects the Group exercising an option to terminate the lease.

The lease liability also takes into account lease payments that will arise during extension period if it is reasonably certain that an extension option will be exercised. Lease payments are discounted using the implicit interest rate in the lease, if readily determinable. If the implicit interest rate in the lease is not readily determinable (the normal case for the Group), they are discounted using the lessee's incremental borrowing rate, i. e. the interest rate that a lessee would have to pay if it had to raise funds to acquire a similar asset in a comparable economic environment (value, term, collateral and conditions).

The Group determines the incremental borrowing rate as follows:

The starting point is to analyze the individual lessee's financing arrangements with third parties. Lessees are allocated to regions on the basis of geographical segments. Based on the remaining terms of the contracts, financing is divided into levels (up to 1, 2, 3, 4, 5 years and more than 5 years). The average interest rates calculated for each level and region are used to measure the right-of-use asset and lease liability.

The Group is exposed to potential future increases in variable lease payments that may result from changes in an index or interest rate. The potential adjustments to the lease payments are not included in the lease liability they take effect. As soon as adjustments to an index or interest rate affects the amount of lease payments, the lease liability is remeasured with a corresponding adjustment to the right-of-use asset.

Lease installments are split into principal and interest payments. The interest portion is recognized in the income statement over the lease term in order to give a constant periodic rate of interest on the remaining amount of the liability for each period.

Right-of-use assets are measured at acquisition cost, which comprises the following:
- the amount of the initial measurement of the lease liability
- any lease payments made on or before the commencement date, less any lease incentives received
- any initial direct costs incurred by the lessee, and
- an estimate of costs to be incurred by the lessee in dismantling or removing the underlying asset, restoring the site on which it is located, or restoring the underlying asset to the condition required by the terms and conditions of the lease.

Right-of-use assets are amortized on a straight-line basis over the shorter of the relevant useful life and lease term. If the exercise of a purchase option is reasonably certain from the Group's perspective, the asset is amortized over the useful life of the underlying asset.

Scheduled depreciation is computed using the straight-line method over the following useful lives:

Depreciation	**Useful life in years**
Land	2 - 99
Buildings	1 - 60
Plant and machinery	1 - 23
Other operational and office equipment	1 -12

Payments for short-term leases of plant, machinery, equipment, vehicles and low-value leases are recognized as an expense on a straight-line basis. A lease qualifies as short-term if it has a term of less than 12 months. The Group has elected not to apply the recognition exemption for leases with underlying assets of a low value. This applies in particular to IT equipment and other equipment.

A number of the Group's leases for property and equipment contain renewal and termination options. Terms and conditions of this kind are used by give the Group maximum operational flexibility with respect to the assets it uses. For the purposes of measuring right-of-use assets and lease liabilities, these options are taken into account when it is reasonably certain that they will be exercised.

The evaluation is reviewed if a renewal option is actually exercised (or not exercised) or if the Group is required to do so. The original evaluation is reviewed if a significant event or a significant change in circumstances occurs that could influence the previous assessment, provided this is within the control of the lessee.

b. Leases where the Group is the lessor

In the case where the Group is the lessor, each lease is classified as either a finance lease or an operating lease at the commencement date of the lease. In the case of the Messer Group, this includes in particular certain gas supply contracts, in particular those that involve gas production plants leased out on a long-term basis.

Leases which transfer substantially all of the risks and rewards incidental to ownership to the lessee are classified as finance leases.

In this case, it is assumed that the asset has been sold at the commencement of the lease term and revenue is recognized equivalent to the present value of the lease payments due. At the same time, a receivable from the customer is recognized which is reduced over the term of the contract. Interest income earned on finance leases is reported as other operating income.

Lease arrangements, where a substantial part of the risks and rewards incidental to ownership remain with the lessor, are classified as operating leases. Payments made in conjunction with an operating lease are recognized as expense in the income statement on a straight line basis over the term of the lease.

Impairment losses and gains on intangible assets, goodwill and property, plant and equipment

An impairment test for goodwill, other intangible assets and property, plant and equipment involves comparing the recoverable amount of the asset with its carrying amount in order to determine whether an impairment loss needs to be recognized. In accordance with IAS 36, goodwill is allocated to the smallest cash-generating unit for which goodwill is monitored by management. The recoverable amount is defined as the higher of the asset’s fair value less costs to sell and its value in use. Fair value less costs to sell is defined as the amount obtainable from the sale of an asset or cash-generating unit in an arm’s length transaction between knowledgeable, willing parties, less the costs of disposal. Value in use corresponds to the present value of future cash flows which the Group expects to generate from using the asset and from its disposal at the end of its useful life. In the event of impairment, the first step is to reduce the carrying amount of goodwill. If the impairment loss amount exceeds the carrying amount of goodwill, the difference is normally spread proportionately over the remaining relevant non-current assets. Impairment losses on assets (excluding goodwill) are reversed when the reasons for impairment no longer exist. Impairment losses and gains are disclosed in the Analysis of Changes in Fixed Assets together in the column “additions to amortization, depreciation and impairment losses for the year” and disclosed and described in the notes to the Consolidated Financial Statements.

Inventories

Inventories are stated at the lower of cost (acquisition or manufacturing cost) or net realizable value at the balance sheet date, using the average cost method. Manufacturing cost includes all directly attributable costs and an appropriate portion of material and production overheads, including depreciation.

Trade and other receivables

Trade receivables are recognized as of the date on which they arise. Items that do not contain a significant financing component are initially measured at the transaction price. The corresponding impairment allowance is measured at an amount equal to lifetime expected credit losses, based on an analysis of historical default data and forecasts of future economic conditions. Expected credit losses are a probability-weighted estimate of credit losses.

Non-current assets, liabilities and disposal groups held for sale and discontinued operations

Non-current assets held for sale in accordance with IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations" are classified as held for sale if the related carrying amount is to be recovered principally through sale rather than through continuing use. As a general rule, a sale must be planned and feasible with a high degree of probability within the next twelve months.

Immediately prior to initial classification as held for sale, the carrying amounts of the asset must be measured in accordance with the relevant IFRSs. At the date of reclassification, assets held for sale are measured at the lower of their carrying amount and fair value less costs to sell and reported separately in the balance sheet. Liabilities in conjunction with assets held for sale are also reported separately in the balance sheet.

An operation is accounted for as a discontinued operation in accordance with IFRS 5 if it is held for sale or has already been sold.

A discontinued operation is defined as a component of the Group, whose operations and cash flows can be clearly distinguished from the rest of the Group, and which:
- represents a separate major line of business or geographical area of operations,
- is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations or
- is a subsidiary acquired exclusively with a view to resale.

If an operation is classified as a discontinued operation, the corresponding assets and liabilities are reported in the balance sheet in the line item "Assets held for sale" or "Liabilities held for sale". The income statement for the prior year is restated as if the operation had been discontinued from the beginning of that year.

In the income statement, a separate amount is presented which corresponds to the sum of the post-tax current period result and measurement/disposal result of discontinued operations. The breakdown of this amount, along with additional information, is provided in the notes.

In line with customary consolidation procedures, intragroup income is eliminated at the level of the selling or performing business unit and the related expenses at the level of the receiving business unit. The elimination entries are allocated to continuing operations, taking into account the Group's future trading relationships.

Cash and cash equivalents

Cash and cash equivalents include all cash balances and demand deposits, as well as short-term liquid financial investments with a maturity of up to three months that are readily convertible to cash. The risk of fluctuations in value is insignificant.

Employee benefits

a. Pension obligations

The Group has both defined benefit and defined contribution pension plans. A pension plan qualifies as a defined contribution plan when the Group pays fixed contributions into a separate non-group entity (a fund). The Group does not have any legal or constructive obligation to pay any additional amounts if the fund does not have sufficient assets to meet the pension entitlements of all employees for the current and past financial years.

Defined benefit pension plans usually specify the amount of benefits to be paid to the employee on reaching pensionable age. The amount is normally based on one or more factors (such as age, service period and salary).

The Group's obligations under defined benefit pension plans are determined separately for each plan and measured using actuarial principles. Initially the amount of benefits earned by employees for the current period and for earlier periods (service cost) is estimated. The present value of the defined benefit obligation (i.e. the gross pension obligation) is calculated by actuaries using the projected unit credit method. Plan assets, measured at their fair value, are deducted from the gross pension obligation, giving rise to the net liability or net asset which is required to be recognized.

The Group determines the net interest expense (net interest income) resulting from the net liability (net asset) by multiplying the net liability (net asset) at the beginning of the reporting period by the interest rate used to discount the defined benefit obligation to its present value at the beginning of the reporting period.

The discount interest rate is determined by reference to market yields at each relevant period-end on high-quality corporate bonds. The currency and term of the underlying corporate bonds correspond to the currency and expected terms of the post-employment obligations.

The calculation of the net liability (net asset) is based at each reporting date on an actuarial report drawn up by a qualified actuary.

If there is a surplus of plan assets over the defined benefit obligation, the amount of the net asset recognized is capped at the present value of the economic benefits attached to the pension assets surplus, e.g. in the form of reimbursement from the plan or reductions in future amounts payable to the plan and to the extent that the Group has control over these economic benefits. Control is assumed to exist if the Group can realize the economic benefits during the term of the pension plan or in order to settle pension plan liabilities.

The calculation of the present value of the economic benefits of plan assets surplus takes account of any minimum plan funding requirements.

The amounts arising on remeasurement comprise actuarial gains and losses arising on the measurement of the defined benefit obligation on the one hand and the difference between the actual return on plan assets and the rate of return assumed at the beginning of the reporting period on the other. In the event that there is a surplus of plan assets, the amounts arising on remeasurement also include the change from applying an asset ceiling, to the extent that this has not been considered as part of the net interest component.

The Group recognizes all amounts arising on remeasurement through other comprehensive income (OCI), whereas other components of the net pension expense (service cost and net interest component) are recognized in profit or loss for the period. The interest component included in the pension-related expense for additions to the defined benefit provision is recognized as part of financial expenses. The accumulated effects of remeasurement are reported within revenue reserves as equity.

If the present value of a defined benefit obligation changes as a result of a plan change or curtailment, the Group recognizes the resulting impact as past service cost in profit or loss for the period. The amounts are recorded when the change or curtailment takes place.

Defined benefit plans expose the Group to various risks. In addition to general actuarial risks, such as longevity and interest rate risks, the Group may also be exposed currency and capital market risks and/or an investment risk.

b. Obligations relating to bonus plans
Obligations for bonus payment are recognized as a liability and expense. Provisions have been recognized in the Consolidated Financial Statements for the year-ended December 31, 2020 in those cases where there is either a contractual obligation or a constructive obligation based on past practice.

Other provisions

Other provisions are recognized for present legal and constructive obligations arising from past events that are likely to result in a future outflow of resources, provided that a reliable estimate can be made of the amount of the obligations. Where the time value of money is material, provisions are discounted using a pre-tax rate that reflects, where relevant, the specific risks of the liability. Where a provision is discounted, any increase due to the unwinding of the interest over time is recognized as interest expense.

Public sector grants

Public sector grants are recognized when there is reasonable assurance that the conditions attaching to them have been complied with and the grants will be received. Expense-dependent grants are recognized systematically as income over the period necessary to match them with the related costs. If the grant relates to an asset, it is recognized as deferred income and recognized as income on a straight-line basis over the expected useful life of the asset.

Financial instruments: principles

A financial instrument is defined as any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. A distinction is made between derivative and non-derivative financial instruments.

Derivative financial instruments can be embedded in other financial instruments or non-financial instruments. In accordance with IFRS, an embedded derivative must be separated from the host contract and measured separately at its fair value if the economic characteristics of the embedded derivative are not closely linked to those of the host contract. During the year under report, the Messer Group was not party to any embedded derivatives that required to be separated. Hybrid financial instruments issued by the entity which contain both equity and debt components are required to be accounted for on the basis of the substance of the instrument. During the year under report, the Messer Group was not party to any hybrid/structured financial instruments. As a general rule, purchases and sales of customary market financial instruments are accounted for by the Messer Group on the basis of their settlement date, while derivatives are recorded on the basis of the trade date.

Financial assets and financial liabilities are recorded initially at their fair value (including transaction costs where relevant). The fair value of a financial instrument corresponds to the price that would be achieved between market participants on the measurement date for the sale of the financial instruments.

Financial assets are derecognized fully or in part when the contractual rights to receive cash flows have expired or if control over the financial asset and the significant risks and rewards attached to the asset have been transferred to a third party. Financial liabilities are derecognized when the contractual obligations are settled, cancelled or have expired.

The classes required by IFRS 7 correspond to the measurement categories described below. Further categories for IFRS 7 purposes are lease receivables and payables and hedge derivatives used in conjunction with hedge accounting.

Financial assets

Financial assets are distinguished by the following measurement categories and classes (IFRS 9):

a. Financial assets measured at amortized cost (“AC“)

The Messer Group measures its financial assets at amortized cost if both of the following conditions are met:
- the financial asset is held under a business model that aims to hold financial assets to collect contractual cash flows; and
- the terms of the contract result in cash flows that solely represent payments of principal and interest on the principal amount outstanding.

b. Financial assets measured at fair value through profit or loss (“FVTPL“)

The Messer Group measures the following non-derivative financial assets at fair value through profit or loss:
- Investments in debt instruments that are neither measured at amortized cost nor at fair value through other comprehensive income (OCI),
- Investments in equity instruments held for trading, and
- Investments in equity instruments for which the entity has elected not to recognize changes in fair value through OCI.

The Group has not designated any non-derivative financial assets as “measured at fair value through profit or loss”.

c. Financial assets measured at fair value through other comprehensive income (“FVOCI“)

Financial assets at fair value through OCI comprise:
- Equity instruments that are not held for trading and which the Messer Group irrevocably elected at the date of initial recognition to classify to this category. This relates to strategic investments, for which the Group considers that this classification is of more informational value.
- Debt instruments for which the contractual cash flows solely represent payments of principal and interest on the principal amount outstanding and which are held under a business model whose objective is both to collect the contractual cash flows and to sell financial assets.

The results of measuring such investments in equity instruments are recognized through OCI. On the sale of debt securities, the related balances included in OCI are reclassified to revenue reserves.

Financial liabilities

a. Financial liabilities measured at amortized cost (“AC“)

Financial liabilities measured at amortized cost are non-derivative financial liabilities measured subsequent to initial recognition at amortized cost using the effective interest method. Any difference between the amount received and the amount repayable is recognized as income or expense over the term of the instrument. Transaction costs incurred are deducted from the relevant financial liabilities and amortized over the term of the underlying liability using the effective interest method. Within the Messer Group, this measurement category includes primarily debt, trade payables, non-derivative other current and non-current liabilities.

b. Financial liabilities measured at fair value through profit and loss (“FVTPL“)

Financial liabilities measured at fair value are classified either as held-for-trading or – on first time recognition – as measured at fair value through profit or loss. Derivative financial instruments with a negative fair value are also measured at fair value through profit or loss.

Subsequent to initial recognition, financial liabilities allocated to this category are measured at their fair value, with fair value gains and losses recognized as part of the net financial result in the income statement.

Derivative financial instruments and hedging

Derivative financial instruments are measured at their fair value on first time recognition, as determined at the contract date, and subsequently at their fair value at each relevant period end. The methodology applied to recognize gains and losses depends on whether the derivative financial instrument is designated as a hedge or not, and – in the event that it is designated as such – on the type of hedged item. On conclusion of a derivative contract, the Messer Group designates it either as

(1) a hedge of the estimated recoverable amount of a recognized asset or liability (a fair value hedge) or
(2) the hedge of a forecast transaction or firm commitment (a cash flow hedge).

The Messer Group only uses derivatives for hedging purposes if the underlying transaction (the hedged item) requires to be hedged. This relates, for instance, to risks arising in conjunction from exchange rate fluctuations. Hedged items are defined as obligations, receivables and anticipatory transactions entered into on a contractual basis necessary to achieve Messer Group’s objectives. Derivative instruments are only used to safeguard the Messer Group’s business success up to limits fixed in the Company’s statutes. Macro-hedging (i.e. aggregating individual items and hedging only the net amount) is not applied.

Most of the transactions for which this type of hedging could be applied are hedged in terms of scope or amount, using a variety of instruments. The selection of a specific instrument is always determined by the Executive Management taking account of the specific risk profile i.e. the potential returns associated with each risk.

Certain financial derivatives which are entered into as part of the Group’s risk management activities to hedge risks arising from hedged items do not fully meet the formal requirements and are therefore not accounted for in accordance with the requirements for hedge accounting. Instead, they are accounted for as stand-alone derivatives and allocated to in the IFRS 9 category “Financial assets and liabilities at fair value through profit or loss”.

Immediately on conclusion of a transaction, the Group documents the hedging relationship between the hedging contract and hedged item, the risk management objective and strategy for undertaking the hedge. At the inception of the hedge, and continuously thereafter, the Group formally documents its assessment of whether the derivatives included in the hedging relationship effectively offsets the exposure to changes in the hedged item's fair value or cash flows attributable to the hedged risk. Hedge accounting is only applied if effectiveness can be demonstrated. Evidence of this effectiveness is determined by matching contract specifics, maturities and volumes ("critical term match") as well as by regression analysis.

a. Cash flow hedges

Changes in the fair value of derivatives which are designated as cash flow hedges and which are highly congruent with the value of the underlying transaction, are recognized through OCI. When the forecast transaction or firm commitment results in the recognition of a non-financial asset or a non-financial liability, then the gains and losses previously recognized in equity (through OCI) are removed from equity and taken into account in the measurement of the cost of the asset or liability. In all other cases, the gains or losses previously recognized in equity (through OCI) are transferred to profit or loss in the same period as that in which the hedged forecast transaction or firm commitment impacts the income statement.

Income and operating cash flows are, to a large extent, unrelated to market interest rates, since the Group does not hold any significant interest-bearing assets. Loans or credits subject to variable interest rates are hedged partly with the aid of interest rate swaps (cash flow hedges of future interest payments). Under these arrangements, loans with variable interest rates are converted in substance to ones with fixed or maximum rates.

When a hedging instrument expires or is sold, or when a hedging instrument no longer meets the criteria for hedge accounting in accordance with IFRS 9, any cumulative gains or losses recognized up to that date in equity (through OCI) remain there and are not removed from equity until the forecast transaction or firm commitment is recognized in profit or loss. However, cumulative gains and losses previously recognized through OCI are recognized as income or expense when it is no longer expected that the forecast transaction or firm commitment will occur.

b. Fair value hedges

Changes in the fair value of derivatives which are designated as fair value hedges and which are highly congruent with the value of the underlying transaction, are recognized in profit or loss together with changes in the fair value of the hedged asset or liability that are attributable to the hedged risk.

The fair values of the various derivative financial instruments are shown in note 33 "Other disclosures relating to financial instruments".

As of December 31, 2020, no derivative financial instruments met the criteria for hedge accounting.

Management of financial risks

In conjunction with its operating activities, the Messer Group is exposed to various financial risks, in particular credit, liquidity, interest and currency risk, each of which is described in more detail in note 33. The Group's risk management system takes account of the fact that financial market developments are not foreseeable and is set up to minimize any potential negative impact on the Group's financial condition. The Group employs derivative financial instruments to hedge against specific risks.

Risk management is handled as a general rule by Group Treasury in compliance with guidelines approved by executive management. Group Treasury identifies, measures and hedges financial risks. The guidelines contain the general principles applicable for risk management and the detailed rules for specific areas, such as currency and interest rate risks, the use of derivative financial instruments and the investment of surplus cash.

Use of assumptions, estimations and judgments

The preparation of financial statements in conformity with IFRS requires management to make certain assumptions, estimations and judgments which affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the balance sheet date, as well as the reported amounts of revenues and expenses for the reporting period. Estimates and assumptions relate to the future. Actual results may therefore differ from these estimations.

Estimates and underlying assumptions are checked regularly. Changes to estimates are accounted for prospectively. If a change in an accounting-relevant estimate results in changes in assets or liabilities or relates to an item reported in equity, the changes in estimate are recognized by adjusting the carrying amounts of the corresponding assets, liabilities or equity items.

COVID-19 did not have a material impact on the estimates and assumptions used to measure items in the financial year 2020.

Judgments, future-related assumptions and sources of uncertainty due to estimation which could potentially have the greatest impact on these Consolidated Financial Statements were required in the following areas:

a. Impairment test on goodwill

The allocation of goodwill to the various cash-generating units (CGUs) or groups of CGUs and the performance of the impairment test pursuant to IAS 36 on the basis of their expected future cash flows over the detailed forecasting period of 4 years are subject to estimates made at Group level. Similarly, the derivation of discount rates is subject to judgment. Any change in influencing factors, which are used to test the recoverability of goodwill and/or other intangible assets or items of property, plant and equipment, could – under certain circumstances – result in higher or lower impairment losses or, indeed, in zero impairment losses.

b. Determination of useful lives of property, plant and equipment and assessing which cost components are eligible for capitalization

Groupwide uniform useful lives for items of property, plant and equipment were determined on the basis of past experience and are tested regularly. As part of the process of assessing whether an item is eligible for recognition as an asset and which cost components should be taken into account, we make assumptions with respect to the expected period over which the item will be available for use.

c. Assessment of the recoverability of investments accounted for using the equity method

The parameters used to assess the recoverability of investments accounted for using the equity method, such as future earnings potential, may involve the use of judgment.

d. Assessment of the need to recognize and measure allowances on doubtful receivables

Estimates relating to the creditworthiness of individual customers and market segments are required when determining the level of impairment allowances on doubtful receivables, as do general economic predictions for the various countries and experience with bad debts in the past.

e. Measurement of pension obligations

Defined benefit pension obligations are determined on the basis of actuarial assumptions, the most important of which are the discount factor, life expectancy and the future trend of pensions and salaries. The discount factor is determined by reference to market yields at the period end on high-quality corporate bonds. Sensitivity analyses with respect to the discount factor used are provided in the notes.

f. Recognition and measurement of other provisions

The recognition and measurement of other provisions is based on an assessment of the likelihood of outflows of economic resources in the future, past experience and circumstances prevailing at the end of the reporting period. The actual outflow of economic resources at a later date could be lower or higher than the amount recognized as a provision. The nature of estimates and judgments used differs for the various categories of provisions.

The recognition and measurement of provisions for legal disputes requires a high degree of judgment as to whether a current obligation exists and whether a future outflow of economic resources is probable and can be reliably estimated. As part of the process of assessing these matters, we obtain assessments from in-house and external attorneys. Changes in circumstances may result in adjustments to provisions.

g. Assessing whether control, joint control or significant influence applies when the Messer Group holds less than 100 % of the voting rights

For the purposes of assessing whether control, joint control or significant influence applies when Messer holds less than 100 % of the voting rights, it may be necessary to apply judgement. In this situation, it is necessary to determine whether other contractual rights or arrangements exist, which may mean that the Group has the ability to control decisions made by the potential subsidiary or whether the Group has joint control or a significant influence. Conclusions are reassessed whenever contractual arrangements or circumstances change.

h. Income taxes

IFRIC 23 clarifies the application of the recognition and measurement requirements of IAS 12 whenever uncertainty exists over income tax treatments. Recognition and measurement require the use of estimates and assumptions, such as whether an assessment is made separately or together with other uncertainties, the use of a probable or expected value for the uncertainty, and whether there have been changes from the previous period. The risk of detection is irrelevant when assessing tax uncertainties. For accounting purposes, it is assumed that the taxing authorities have full knowledge of all relevant information in assessing the proposed tax treatment.

Income taxes

The tax expense comprises current and deferred taxes. Current taxes and deferred taxes are recognized in the income statement, except to the extent that they relate to a business combination or to an item recognized directly in equity or though OCI.

The Group has determined that interest and penalties on income taxes, including uncertain tax items, do not meet the definition of income taxes and are therefore accounted for in accordance with IAS 37.

a. Current taxes

Current tax is amount of income taxes payable or recoverable in respect of taxable profit (tax loss) for the financial year, using the tax rates that have been enacted or substantively enacted at the balance sheet date, as well as any adjustments to income taxes payable or recoverable for prior years. The amount of income taxes expected to be payable or recoverable is measured on the basis of the best estimate, taking into account any tax-related uncertainties. Current tax liabilities also include all tax liabilities arising as a result of the resolutions to pay dividends. Current tax assets and liabilities are only offset if specific criteria are met.

b. Deferred taxes

Deferred taxes are recognized, in accordance with the balance sheet-based liability method, on temporary differences between the carrying amounts of assets and liabilities for group accounting purposes and their corresponding tax bases, and on tax losses available for carryforward. In accordance with IAS 12.15 (in conjunction with IAS 12.21B), temporary differences relating to the first-time recognition of goodwill are not taken into account in the computation of deferred taxes. Deferred taxes are measured using currently enacted or substantially enacted tax rates which will apply when the timing differences are expected to reverse. Deferred tax assets are recognized to the extent that it is probable that future taxable profits will be available against which the unused tax losses can be utilized and/or can be offset against taxable differences between the carrying amounts of assets and liabilities for accounting purposes and their corresponding tax bases.

Deferred tax assets and liabilities are only offset if they relate to taxes imposed within the same tax jurisdiction and the entity has a legal right to offset the tax assets and liabilities.

Income taxes relating to items that are recognized through OCI are also recognized through OCI and not in profit or loss. Deferred taxes are recognized though OCI if the underlying item or transaction is also recognized through OCI.

Revenue recognition

Revenue includes sales of products and services as well as rental income, less settlement discount and price deductions.

a. Revenue from on-site sales and pipeline sales
Customers requiring large volumes of industrial gases (typically oxygen, nitrogen, and hydrogen) and with a relatively constant demand are usually supplied by plants adjacent to or on their facilities. The capacities of these plants also, as a general rule, cover the liquid-gas requirements of the surrounding market. These facilities are legally owned and operated by the Messer Group. The product supply contracts usually run for 10 to 15 years and include minimum take-or-pay purchase requirements or prices as well as price escalation clauses. Revenue is recognized when the gas is delivered to the customer, which corresponds to the date of transfer of risk and passage of title of the industrial gases. If the customer does not take delivery of the minimum purchase requirements, the additional revenue is recorded generally up to the contractual minimum. Similar terms and financial accounting treatment usually apply with regard to sales made via pipelines, the only difference being that, in this case, several customers are supplied via one pipeline. Due to regular billings, no estimates are required at the year-end.

In accordance with IFRS 16, certain gas supply contracts, in particular the long-term leased gas generation plants included therein, are required to be evaluated to identify whether they constitute a lease and, if so, to be classified as such. In the event that the arrangements constitute a finance lease pursuant to IFRS 16, it is assumed that the asset has been sold at the inception of the lease arrangements and revenue is recognized equivalent to the present value of the lease payments attributable to the asset. Interest income earned on finance leases is reported as other operating income.

b. Revenue from bulk supply sales
Bulk supplies are usually stored in tanks which are owned by Messer and leased to customers on their own premises. The gases are delivered to customers in tankers, tube trailers or rail cars from which the gases are transferred to the leased-out tanks. The agreements used in the bulk supply business typically have a two- to three-year term. Revenue is recognized on bulk supply sales once the gases have been transferred to the tank. Income from the rental of tanks is recognized according to the terms of the lease agreements, taking into account the requirements of IFRS 16.

c. Revenue from cylinder sales
Customers requiring small volumes of gases (including most specialty gases) are supplied products in cylinders, which the Group typically owns and leases to the customer. Cylinder gases are generally sold by individual purchase orders or by contracts, with terms ranging between one and two years in Europe. Revenue is recognized when the cylinders are delivered to the customer. Income from the rental of cylinders is recognized according to the terms of the lease agreements, taking into account the requirements of IFRS 16.

d. Construction contracts
Depending on the type of contractual arrangement, revenue from long-term construction contracts in the Engineering division is recognized either on the basis of a point in time or over time.
In accordance with IFRS 15, revenue from engineering projects is recognized over time if it meets the criteria of IFRS 15.35. Within the Messer Group, this generally only applies to customer-specific air separation plants. For other engineering projects that do not meet the above criteria, revenue is recognized on completion of the project in accordance with IFRS 15.

3. Group reporting entity

The group reporting entity changed as follows during the year under report:

2020	Germany	Foreign countries	Total
Fully consolidated	4	57	61
Equity method	3	4	7
Number of entities as of January 1	**7**	**61**	**68**
Additions			
Business acquisitions	–	2	2
Foundations	–	2	2
Disposals			
Business disposals	–	(1)	(1)
Mergers	–	(3)	(3)
Number of entities as of December 31	**7**	**61**	**68**
Fully consolidated	4	59	63
Equity method	3	2	5

First-time consolidations

The following entities were founded and commenced operations in 2020:

- Liuyang Xianggang Messer Gas Products Co., Ltd., China, 55 %
- Mianyang Messer Gas Products Co., Ltd., China, 100 %

Acquisition of Messer CZ s.r.o. and Messer Slovensko s.r.o.

On May 4, 2020, the Messer Group acquired the Czech and Slovakian entities of Air Liquide Eastern Europe S.A., France, for a purchase price (including assumed debt) of € 33 million, the whole amount of which was fully cash effective. Messer Technogas s.r.o. acquired all the shares of the Czech company Messer CZ s.r.o.("Messer CZ", formerly Air Liquide CZ s.r.o.), while Messer Tatragas s.r.o. acquired all the shares of the Slovakian company Messer Slovensko s.r.o. ("Messer SL", formerly Air Liquide Slovakia s.r.o.). The investments amounted to € 17.7 million and € 6.3 million respectively. These transactions did not include any agreement for Messer CZ or Messer SL to pay contingent consideration in the future.

The acquired operations comprise a total of four on-site plants for oxygen and nitrogen as well as a cylinder gas filling plant. With this new investment, Messer continues to expand its strong position in Central Europe, emphasizing its commitment to focusing on customers' needs at all time by ensuring reliable supplies. The acquired assets and assumed liabilities were measured at their fair value as part of the purchase price allocation pursuant to IFRS 3. The acquisition had the following overall impact on the consolidated balance sheet:

	Messer CZ s.r.o.	Messer Slovensko s.r.o.
Intangible assets	10,669	5,472
Property, plant and equipment	7,803	6,363
Inventories	310	350
Trade receivables	1,131	1,611
Income tax assets	–	3
Other assets	345	3,386
Cash and cash equivalents	601	280
Assets	**20,859**	**17,465**
Other provisions	81	–
Financial debt	2,437	5,935
Trade payables	234	653
Deferred tax liabilities	1,874	925
Other current liabilities	1,362	6,225
Payables	**5,988**	**13,738**
Identified net assets acquired	**14,871**	**3,727**
Goodwill	2,790	2,631
Purchase price	**17,661**	**6,358**

The purchase price allocation had a significant impact on the balance sheet and income statement due to the fair value adjustments recorded for intangible assets as well as the recognition of provisions for onerous contracts. Intangible assets include customer bases. Fair value adjustments recorded as at the acquisition date in conjunction with the purchase price allocation are considered definitive.

The comparison of the relevant purchase prices and fair values gave rise to debit differences amounting to K€ 2,790 and K€ 2,631 respectively which were recognized as goodwill. In both cases, goodwill results primarily from synergy effects expected to be generated firstly in lightly of the small number of industrial gases suppliers on the Czech and Slovakian markets and secondly due to the business growth opportunities available to the acquired companies. The goodwill arising on these acquisition is not tax deductible.

Trade receivables acquired from Messer CZ had a fair value of K€ 1,131, comprising a gross amount of K€ 1,446 less an allowance of K€ 315 for balances not expected to be collected. The fair value of trade receivables acquired from Messer SL amounted to K€ 1,611. comprising a gross amount of K€ 2,035 less an allowance of K€ 424 for balances not expected to be collected.

Since joining the Group, Messer CZ has contributed K€ 4,455 to revenue and a negative amount of K€ (709) to after-tax earnings, while Messer SL has contributed K€ 3,802 to revenue and a positive amount of K€ 625 to after-tax earnings.

If the acquisition had taken place as of January 1, 2020, Messer CZ would have contributed K€ 6,986 to revenue and a negative amount of K€ (870) to after-tax earnings, while Messer SL would have contributed K€ 6,434 to revenue and a negative amount of K€ (1,702) for the full twelve-month period (based on amounts calculated from the acquired subsidiaries' results for the respective periods).

Effective November 1, 2020, Messer Slovensko s.r.o. was merged with Messer Tatragas spol.s.r.o., Slovakia. The merger does not have any impact on the consolidated financial statements.

Increases in majority shareholdings

In conjunction with the sale of its minority interests in the Singapore joint venture Smart-Gas Pte. Ltd. in March 2020, Messer increased its majority interests in Universal Industrial Gas Sdn. Bhd. ("UIG"), Malaysia, and Messer (Thailand) Co., Ltd. ("Thailand"), Thailand, to 75 % and 100 % respectively. The consolidation of the additional shareholdings gave rise to debit differences of K€ 286 and K€ 197 respectively for UIG and Thailand. These amounts were transferred to Group reserves without income statement impact.

In November 2020, Messer Griesheim (China) Investment Co. Ltd, China, increased its majority shareholdings in Shaoxing Messer Gas Products Co. ("Shaoxing"), China, and Messer Sunshine (Ningbo) Gas Products Co., Ltd, ("Ningbo"), China, to 100 %. The consolidation of the additional shareholdings gave rise to a credit difference of K€ 150 for Shaoxing and a debit difference of K€ 1,158 for Ningbo. These amounts were transferred to Group reserves without income statement impact.

In December 2020, Messer Romania Gaz S.R.L., Romania, acquired the minority shares in Messer Energo Gaz S.R.L. ("Energo"), Romania, held by the Romanian joint venture partner Energomontaj and now holds 100 % of the shares. A debit difference of K€ 19 arising on the consolidation of these additional shares was transferred to Group reserves, also without income statement impact.

Other

Effective March 12, 2020, Messer Group GmbH sold its 30 % share in the associated company Smart-Gas Pte. Ltd., Singapore, to the other shareholders. The net negative impact on earnings was K€ 81.

On June 29, 2020, the associated company Balti Messer OÜ, Estonia, was merged with Elme Messer Gaas, Estonia, with retrospective effect from January 1, 2020. Effective July 31, 2020, Messer Széndioxid Kft., Hungary, was merged with Messer Hungarogáz Kft., Hungary. Neither of these mergers have an impact on the consolidated financial statements. The group reporting entity has been reduced accordingly.

An application for liquidation was filed for the company Cryogenic Engineering GmbH, Germany, on November 10, 2020.

Explanatory Notes – Consolidated Income Statement

4. Revenue

	Jan. 1 – Dec. 31, 2020		Jan. 1 – Dec. 31, 2019	
From contracts with customers	1,102,258	95 %	1,049,981	95 %
From other revenue sources	60,465	5 %	54,341	5 %
Total	**1,162,723**	**100 %**	**1,104,322**	**100 %**

Revenue is generated primarily by the sale of bulk supply products, cylinder gases as well as on-site and pipeline supplies. Revenue in 2020 related to the following distribution channels:

	Jan. 1 – Dec. 31, 2020		Jan. 1 – Dec. 31, 2019	
Bulk	437,166	38 %	447,533	40 %
Pipeline/on Site	404,201	35 %	369,452	34 %
Cylinder gases	187,592	16 %	177,823	16 %
Hardware/other	73,299	6 %	55,173	5 %
From contracts with customers	**1,102,258**	**95 %**	**1,049,981**	**95 %**
From other revenue sources	60,465	5 %	54,341	5 %
Total	**1,162,723**	**100 %**	**1,104,322**	**100 %**

Revenue in 2020 related to the following regions:

	Jan. 1 – Dec. 31, 2020		Jan. 1 – Dec. 31, 2019	
China, Vietnam, ASEAN	635,838	55 %	612,742	55 %
South Eastern Europe	237,912	20 %	227,234	21 %
Central Europe	221,731	19 %	216,338	20 %
Western Europe	67,242	6 %	48,008	4 %
Total	**1,162,723**	**100 %**	**1,104,322**	**100 %**

5. Cost of sales

In addition to directly attributable costs (such as energy, personnel and material costs), cost of sales includes overheads that are directly attributable relating to the production process, including depreciation of air separation plants.

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Goods purchased	154,859	147,385
Production costs		
Energy	294,532	270,364
Depreciation and amortization	82,607	77,461
Personnel expense	52,644	50,418
Maintenance	20,573	19,285
Taxes and other fees	6,519	8,348
Security and insurance	3,242	3,013
Other		
Hardware	30,561	15,545
Services	7,533	6,157
Raw materials and supplies	3,875	12,064
Other	23,333	20,885
Total	**680,278**	**630,925**

6. Distribution and selling expenses

Distribution and selling costs include all expenses which are related to the sale and marketing of a product, including the cost of all sales departments and logistics activities.

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Transportation costs	66,408	66,988
Personnel expense	54,499	53,187
Depreciation and amortization	38,770	36,424
Maintenance	6,886	7,409
Warehousing expenses	6,436	6,219
Insurance	1,158	1,136
Advertising	961	1,554
Other	23,240	30,701
Total	**198,358**	**203,618**

7. General administrative expenses

General and administrative expenses include personnel and overhead costs of management and administrative areas to the extent not recharged as an internal service to other functions.

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Personnel expense	41,055	42,433
Depreciation and amortization	8,731	8,600
IT services	4,731	5,729
Insurance and audit services	3,190	2,809
Rent	1,397	593
Other	21,435	25,146
Total	**80,539**	**85,310**

8. Other operating income

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Income from related parties	4,526	3,822
Insurance claims	2,782	2,060
Exchange rate gains from operating activities	2,627	867
Gains on the disposal of non-current assets	1,493	1,883
Derecognition of liabilities	710	275
Other reimbursements	456	805
Other income relating to prior periods	406	314
Other	6,564	6,272
Total	**19,564**	**16,269**

9. Other operating expenses

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Exchange rate losses from operating activities	2,400	1,338
Other taxes	711	44
Losses on the disposal of non-current assets	409	1,030
Bank charges	272	285
Expenses relating to prior periods	133	251
Other	4,719	3,979
Total	**8,644**	**6,927**

10. Financial result, net

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Income from investments accounted for using the equity method	**32,261**	**8,373**
Other investment result, net	**(49)**	**1,275**
Financial income	**14,849**	**16,474**
Interest income earned on		
cash at bank	2,015	2,154
Foreign currency exchange gains	12,411	13,696
Other financial income	423	624
Financing expense	**(36,211)**	**(34,352)**
Interest expense for		
liabilities to banks	(13,808)	(16,524)
leases	(1,117)	(1,050)
Expense arising on the discounting of provisions	(415)	(713)
Capitalized borrowing costs	121	1,571
Foreign currency exchange losses	(15,444)	(12,005)
Losses arising on the fair value measurement of derivatives	(2,936)	(1,389)
Other financial expenses	(2,612)	(4,242)
Total	**10,850**	**(8,230)**

Further information on interest expenses arising in connection with financing from banks and on derivatives is provided in note 28 "Financial debt" and note 33 "Other disclosures relating to financial instruments".

11. Income tax expense

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Current tax expense	(47,379)	(40,887)
Deferred taxes on income	4,862	(675)
Total	**(42,517)**	**(41,562)**

Deferred taxes on items recognized though OCI were as follows:

	Dec. 31, 2020	Dec. 31, 2019
Balance of deferred income taxes on results from financial assets held for sale	(22)	(22)
Balance of deferred taxes relating to the remeasurement of the net defined benefit liability	775	850
Deferred tax assets arising on first-time adoption of IFRS Standards	157	157
Deferred tax assets / (liabilities) recognized though OCI	**910**	**985**

In the previous financial year, in conjunction with the deconsolidation of the Western European companies, deferred income taxes on the remeasurement of the net defined benefit liability of K€ 1,995 recognized through OCI were reclassified to revenue reserves.

In the following table, the computations of deferred taxes of consolidated companies based on specific-company local tax rates are aggregated with the effects of consolidation procedures and the expected tax expense is reconciled to the actual tax expense reported in the income statement. For the purposes of computing the expected tax expense for 2020, income before tax has been multiplied by the group income tax rate applicable to the group parent company of 30 % (2019: 30 %).

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Tax rate	30.00 %	30.00 %
Result from continuing operations before Income taxes	**216,095**	**190,845**
Expected tax expense	64,829	57,254
Impairment losses on goodwill	–	–
Valuation allowance/non-recognition of deferred taxes on temporary differences	(277)	(180)
Valuation allowance/non-recognition of deferred taxes on tax losses available for carryforward	3,924	5,683
Effect of tax credits	(802)	(859)
Non-deductible interest expenses	1,651	2,040
Non-deductible withholding taxes/other taxes	3,339	3,220
Effect of changed tax rates	64	(3,484)
Equity method accounting for associated companies	(9,681)	(2,353)
Tax-exempt income from investments/tax-exempt gains on disposals of subsidiaries	–	–
Tax expense/(income) for prior years	244	(2,551)
Expenses not deductible for tax purposes/tax-exempt income	2,748	676
Tax rate differences at foreign subsidiaries	(22,033)	(17,543)
Other	(1,489)	(341)
Actual tax expense	**42,517**	**41,562**
Effective tax rate	**19.68 %**	**21.78 %**

On December 31, 2020, the Messer Group had tax losses available for carryforward amounting to K€ 171,041 (2019: K€ 159,504) and tax credits in the form of interest carryforwards amounting to K€ 41,780 (2019: K€ 36,454).

The tax losses of the Messer Group expire as follows:

Expiry within	Dec. 31, 2020	Dec. 31, 2019*
1 year	10,039	4,913
2 years	8,116	11,625
3 years	8,790	7,737
Unrestricted carryforward	144,096	135,229
Total	**171,041**	**159,504**

* Continuing operations only

Deferred tax assets amounting to K€ 1,766 (2019: K€ 572) were recognized for Group entities which recorded losses in 2020 or earlier periods, the utilization of which is dependent on future taxable profits in excess of profits arising from the reversal of existing taxable temporary differences. The recognition of deferred tax assets is justified in that its realization is probable on the basis of forecast results for tax purposes.

No deferred taxes were recognized on tax losses and interest expense available for carryforward totaling K€ 195,667 (2019: K€ 173,394) and on temporary differences totaling K€ 36,889 (2019: K€ 46,545), since it seems likely – on the basis of forecast results for tax purposes – that it will not be possible to utilize the tax loss carryforwards and temporary differences. Whereas the interest expense available for carryforward for tax purposes amounting to K€ 41,780 (for which no deferred tax asset has been recognized) and temporary differences amounting to K€ 36,889 will not expire, the expiry date of tax losses available for carryforward (for which no deferred tax asset has been recognized) are as follows:

Expiry within	**Dec. 31, 2020**
1 year	9,742
2 years	6,675
3 years	6,846
Unrestricted carryforward	130,624
Total	**153,887**

In accordance with IAS 12.39, deferred taxes are required to be recognized on the difference between the Group's share of equity recognized in the consolidated balance sheet for a subsidiary and the tax base of the cost of investment for this subsidiary at the level of the parent company (so-called "outside basis differences"), if it is probable that the difference will be realized. These differences are mainly due to retained earnings of German and foreign subsidiaries. No deferred taxes have been recognized on these retained earnings as they are re-invested indefinitely or are not subject to corresponding taxation. Distributions made by subsidiaries would be subject to dividend taxation. Distributions from abroad could also trigger withholding taxes. As of December 31, 2020, no deferred tax liabilities from outside basis differences for planned dividend payments were recognized, given that there is no plan to realize such amounts.

Deferred taxes as of December 31, 2020 related to the following balance sheet items:

	Dec. 31, 2020	Dec. 31, 2019	Recognized through profit or loss*	Recognized through OCI	Change in group reporting entity
Deferred tax assets					
Tax losses and tax credits	3,967	5,228	(1,261)	–	–
Intangible assets and property, plant and equipment	8,392	8,793	(401)	–	–
Inventories	1,378	1,584	(206)	–	–
Trade receivables	2,811	1,566	1,245	–	–
Provisions for employee benefits	10,386	10,031	430	(75)	–
Sundry other	17,175	13,170	3,629	–	376
Total	**44,109**	**40,372**	**3,436**	**(75)**	**376**
Offset	**(28,188)**	**(27,625)**			
Deferred tax assets, net	**15,921**	**12,747**			
Deferred tax liabilities					
Intangible assets	(24,539)	(24,751)	3,387	–	(3,175)
Property, plant and equipment	(11,854)	(11,159)	(695)	–	–
Other non-current receivables and assets	(2,365)	(2,915)	550	–	–
Inventories	(95)	(20)	(75)	–	–
Other current receivables and other assets	(2,435)	(588)	(1,847)	–	–
Non-current and current financial debt	(10)	–	(10)	–	–
Other current provisions	–	–	–	–	–
Sundry other	(2,323)	(2,830)	507	–	–
Total	**(43,621)**	**(42,263)**	**1,817**	–	**(3,175)**
Offset	**28,188**	**27,625**			
Deferred tax liabilities, net	**(15,433)**	**(14,638)**			
Total deferred taxes, net	**488**	**(1,891)**	**5,253**	**(75)**	**(2,799)**

* of which translation differences amounting to K€ 391 recognized without income statement impact

Deferred tax assets and liabilities, after offset at an individual company level, are made up as follows:

Deferred taxes	Dec. 31, 2020	Dec. 31, 2019
Deferred tax assets	15,921	12,747
Deferred tax liabilities	(15,433)	(14,638)
Deferred tax liabilities, net	**488**	**(1,891)**

Deferred tax assets and liabilities in the balance sheet and deferred taxes in the income statement can be reconciled as follows:

	Dec. 31, 2020	Dec. 31, 2019
Change in deferred tax assets in the balance sheet	3,174	(2,907)
Change in deferred tax liabilities in the balance sheet	(795)	2,524
Difference	2,379	(383)
of which:		
Recognized in the income statement	4,862	(675)
Change in group reporting entity	(2,799)	–
Recognized through OCI	(75)	228
Translation differences	391	64

12. Personnel expense

Personnel expense comprises wages, salaries, social security and other employee benefits (e.g. pensions).

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Personnel expense	160,139	158,238

The amounts stated above comprise wages and salaries amounting to K€ 136,481 (2019: K€ 130,647), pension and welfare expenses amounting to of K€ 3,270 (2019: K€ 3,273), social security amounting to K€ 19,955 (2019: K€ 24,215) and other personnel expenses amounting to K€ 433 (2019: K€ 103). The cost of defined contribution plans (mainly for the German statutory pension insurance scheme) amounted to K€ 2,011 for the financial year under report (2019: K€ 1,878).

13. Number of employees (annual average)

The average number of employees was as follows:

By region	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
China, Vietnam, ASEAN	2,668	2,591
South Eastern Europe	1,340	1,369
Central Europe	791	776
Western Europe	329	302
Total number of employees	**5,128**	**5,038**

By function	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Production and filling	1,905	1,838
Administration	984	980
Logistics	959	972
Engineering	659	638
Sales and marketing	621	610
Total number of employees	**5,128**	**5,038**

Explanatory Notes – Consolidated Balance Sheet

14. Intangible assets

2020	Goodwill	Right-of-use assets	Other intangible assets	Total
Acquisition cost				
Balance as of Jan. 1, 2020	**357,518**	**26,761**	**176,336**	**560,615**
Additions	5,421	18,397	1,988	25,806
Change in group reporting entity	–	–	16,141	16,141
Reclassifications	–	24,942	246	25,188
Disposals	–	(2,448)	(3,616)	(6,064)
Translation differences	(10,883)	(999)	(3,237)	(15,119)
Balance as of Dec. 31, 2020	**352,056**	**66,653**	**187,858**	**606,567**
Accumulated amortization and impairment losses				
Balance as of Jan. 1, 2020	**(86,619)**	**(4,957)**	**(105,336)**	**(196,912)**
Additions	–	(6,662)	(7,545)	(14,207)
Change in group reporting entity	–	–	–	–
Reclassifications	–	(5,686)	–	(5,686)
Disposals	–	2,154	3,579	5,733
Translation differences	595	217	2,861	3,673
Balance as of Dec. 31, 2020	**(86,024)**	**(14,934)**	**(106,441)**	**(207,399)**
Carrying amount as of Jan. 1, 2020	**270,899**	**21,804**	**71,000**	**363,703**
Carrying amount as of Dec. 31, 2020	**266,032**	**51,719**	**81,417**	**399,168**

Changes in the group reporting entity include the addition of the assets and liabilities of Messer CZ s.r.o., Czech Republic, and Messer Slovensko s.r.o., Slovakia. We refer to the disclosures made in note 3 "Group reporting entity".

2019	Goodwill	Right-of-use assets	Other intangible assets	Total
Acquisition cost				
Adjustment due to first-time application of IFRS 16	–	23,027	–	23,027
Balance as of Jan. 1, 2019	**357,611**	**23,027**	**172,397**	**553,035**
Additions	–	6,442	5,476	11,918
Change in group reporting entity	–	–	(3)	(3)
Reclassifications	–	–	87	87
Disposals	–	(2,709)	(1,717)	(4,426)
Translation differences	(93)	1	96	4
Balance as of Dec. 31, 2019	**357,518**	**26,761**	**176,336**	**560,615**
Accumulated amortization and impairment losses				
Balance as of Jan. 1, 2019	**(86,514)**	**–**	**(100,409)**	**(186,923)**
Additions	–	(5,625)	(6,403)	(12,028)
Change in group reporting entity	–	–	1	1
Reclassifications	–	–	1	1
Disposals	–	673	1,651	2,324
Translation differences	(105)	(5)	(177)	(287)
Balance as of Dec. 31, 2019	**(86,619)**	**(4,957)**	**(105,336)**	**(196,912)**
Carrying amount as of Jan. 1, 2019	**271,097**	**23,027**	**71,988**	**366,112**
Carrying amount as of Dec. 31, 2019	**270,899**	**21,804**	**71,000**	**363,703**

Goodwill

Goodwill is subjected to an annual impairment test as of December 31. In accordance with IAS 36, goodwill is allocated to the smallest cash-generating unit, at which it is monitored. It is tested for impairment at this level by comparing the discounted amount of expected future cash flows against the carrying amount of the relevant cash-generating unit. The separate legal entities of the Messer Group operating in various countries have been identified as the smallest group of assets generating cash flows that are largely independent of the cash inflows from other assets or groups of assets (cash-generating units). If production and selling companies complement each other in business terms, they are aggregated into cash-generating units. These cash-generating units exist specifically for Poland, Romania, Serbia and neighboring countries, the Czech Republic, Hungary and the Foshan and Ningbo regions in China.

The following table shows the analysis of goodwill as of December 31, 2020:

	Dec. 31, 2020	Dec. 31, 2019
Cash-generating unit Hungary	46,369	51,049
Hunan Xianggang Messer Gas Products Co., Ltd., China	44,930	46,091
Cash-generating unit Czech Republic	38,996	37,301
Cash-generating unit Poland	25,384	27,449
Messer Tatragas spol.s.r.o., Slovakia	22,516	19,884
Yunnan Messer Gas Products Co., Ltd., China	22,166	22,739
Cash-generating unit Serbia	19,380	19,384
Messer Austria GmbH, Austria	9,782	9,782
Cash-generating unit Foshan, China	9,145	9,381
Messer Croatia Plin d.o.o., Croatia	9,004	9,140
Cash-generating unit Romania	6,688	6,807
Wujiang Messer Industrial Gas Co., Ltd., China	6,083	6,240
Messer Slovnaft s.r.o., Slovakia	3,200	3,200
Cash-generating unit Ningbo	1,842	1,890
Messer Mostar Plin d.o.o., Bosnia and Herzegovina	345	345
Universal Industrial Gas. Sdn. Bhd., Malaysia	202	217
	266,032	**270,899**

The recoverable amount computed for each operating entity is derived from its value in use, which is defined as the present value of the future cash flows expected to be derived from the operating entity. The cash flow forecast is based on the most recent financial plans of the relevant cash-generating unit which have been authorized by management. Using analyzed past actual results as the starting point, values in use were calculated on the basis of detailed forecasts of sustainable cash flows through to 2024. Cash flows for periods subsequent to the detailed forecasting period were based on the final period of the detailed forecasts (using the perpetual annuity model). Forecast cash flows were discounted to their present value at the valuation date using an appropriate, country-specific capitalization interest rate. This rate was determined, in turn, using the Capital Asset Pricing Model“ (“CAPM”), whereby the capitalization interest rate is analyzed into the following components: basis interest rate, risk uplift and growth knock-down. The risk-free basis interest rate was derived from yields on long-term government bonds and taking account of the relevant country rating (“Moody’s”). The risk uplift was determined as the product of the market risk premium and the so-called “beta factor” which reflects the relative risk of a specific share compared to the market as a whole. The market risk premium was calculated using the Damodaran model, taking account of the relevant country rating (“Moody’s”). The beta factor was determined on the basis of an analysis of a peer group of stockmarket-listed companies comparable to the Messer Group.

Country-specific rates used were as follows:

	Dec. 31, 2020	Dec. 31, 2019
Bosnia and Herzegovina	14.43 %	14.22 %
Serbia	10.32 %	10.21 %
Croatia	9.47 %	9.38 %
Hungary	8.41 %	8.35 %
Romania	8.37 %	8.31 %
Slovenia	7.51 %	7.47 %
Poland	6.48 %	6.47 %
Slovakia	6.48 %	6.46 %
China	6.26 %	6.24 %
Czech Republic	6.14 %	6.27 %
Austria	5.84 %	5.84 %

The detailed forecasts used to determine the value in use of cash-generating units are based through 2024 on, among other things, the principal assumptions applied for revenue growth, the EBITDA margin trend and, after the detailed forecasting period, the sustainable growth rate. The assumptions applied for the main cash-generating units to which more than 5 % of the carrying amount of goodwill is allocated were as follows:

Entity	Carrying amount	Principal forecasting assumptions			
	Dec. 31, 2020		Revenue growth (CAGR)	Trend in EBITDA margin*	Growth rate**
Cash-generating unit Hungary	46,369	17 %	Moderately rising	Moderately rising	1.0 %
Hunan Xianggang Messer Gas Products Co., Ltd., China	44,930	17 %	Stable	Slightly falling	1.0 %
Cash-generating unit Czech Republic	38,996	15 %	Moderately rising	Significantly rising	1.0 %
Cash-generating unit Poland	25,384	10 %	Moderately rising	Significantly rising	1.0 %
Messer Tatragas spol.s.r.o., Slovakia	22,516	9 %	Significantly rising	Slightly falling	1.0 %
Yunnan Messer Gas Products Co., Ltd., China	22,166	8 %	Moderately rising	Significantly falling	1.0 %
Cash-generating unit Serbia	19,380	7 %	Slightly rising	Significantly rising	1.0 %
Other entities	46,291	17 %			
Messer Group	**266,032**	**100 %**			

* End of the detailed forecasting period in comparison to the current financial year
** Growth rate after the detailed forecasting period

The growth rate used to extrapolate cash flows beyond the detailed forecast period was 1.0 % (2019: 0.5 %).

Impairment testing in 2020 did not give rise to any requirement to recognize an impairment loss for the Group's operating companies.

The following three scenarios were simulated for sensitivity analysis purposes:

(a) Increase in the country-specific discount factors by 1 percentage point.
(b) The sustainable growth rate after the detailed forecast period is reduced from 1.0 % to 0.0 %.
(c) The forecast EBIT of the cash-generating units is 10 % lower than expectations over the whole of the forecasting period and the subsequent assumed sustainable growth rate for the final financial year 2024.

None of these scenarios would result in any additional impairment of goodwill for entities for whom the allocated goodwill exceeds € 10 million.

Right-of-use assets

Right-of-use assets relate to assets capitalized in accordance with IFRS 16 (Leases). These items comprise:

2020	Land and buildings	Plant and machinery	Other operational and office equipment	**Total**
Cost				
Balance as of Jan. 1, 2020	**19,138**	**6,221**	**1,402**	**26,761**
Additions	15,163	3,030	204	18,397
Reclassifications	24,473	469	–	24,942
Disposals	(1,493)	(614)	(341)	(2,448)
Translation differences	(809)	(187)	(3)	(999)
Balance as of Dec. 31, 2020	**56,472**	**8,919**	**1,262**	**66,653**
Accumulated amortization and impairment losses				
Balance as of Jan. 1, 2020	**(3,064)**	**(1,560)**	**(333)**	**(4,957)**
Additions	(4,150)	(2,082)	(430)	(6,662)
Reclassifications	(5,485)	(201)	–	(5,686)
Disposals	1,302	542	310	2,154
Translation differences	158	59	–	217
Balance as of Dec. 31, 2020	**(11,239)**	**(3,242)**	**(453)**	**(14,934)**
Carrying amount as of Jan. 1, 2020	**16,074**	**4,661**	**1,069**	**21,804**
Carrying amount as of Dec. 31, 2020	**45,233**	**5,677**	**809**	**51,719**

2019	Land and buildings	Plant and machinery	Other operational and office equipment	Total
Cost				
Adjustment due to first-time application of IFRS 16	15,800	6,189	1,038	23,027
Balance as of Jan. 1, 2019	**15,800**	**6,189**	**1,038**	**23,027**
Additions	4,121	1,754	567	6,442
Disposals	(787)	(1,720)	(202)	(2,709)
Translation differences	4	(2)	(1)	1
Balance as of Dec. 31, 2019	**19,138**	**6,221**	**1,402**	**26,761**
Accumulated amortization and impairment losses				
Balance as of Jan. 1, 2019	**–**	**–**	**–**	**–**
Additions	(3,274)	(1,821)	(530)	(5,625)
Disposals	212	263	198	673
Translation differences	(2)	(2)	(1)	(5)
Balance as of Dec. 31, 2019	**(3,064)**	**(1,560)**	**(333)**	**(4,957)**
Carrying amount as of Jan. 1, 2019	**15,800**	**6,189**	**1,038**	**23,027**
Carrying amount as of Dec. 31, 2019	**16,074**	**4,661**	**1,069**	**21,804**

Interest expenses totaling K€ 1,117 (2019: K€ 1,050) were recognized in connection with leases. In addition, the following expenses were recognized that were not taken into account in the measurement of right-of-use assets and corresponding lease liabilities:

	2020	2019
Expenses for leases for which the underlying asset is of low value	–	–
Expenses for short-term leases	944	276
Expenses for variable lease payments	309	195
	1,253	**471**

Overall, leases resulted in cash outflows totaling K€ 7,745 (2019: K€ 6,392) in the year under report.

Other intangible assets

Other intangible assets comprise mainly customer bases and licenses, with carrying amounts as of December 31, 2020 of K€ 25,872 (2019: K€ 14,301) and K€ 48,619 (2019: K€ 48,671) respectively and sundry other intangible assets.

The customer bases relate primarily to the purchase price allocations made as of May 7, 2004 and in connection with the acquisition of the Air Liquide companies in the Czech Republic and Slovakia in 2020. These assets are being amortized on a straight-line basis over the remaining amortization period of a maximum of 3.3 and 19 years, respectively, as of December 31, 2020. The useful life of the customer bases is set at a maximum of 20 years; this is higher than the original maximum contractual periods of 15 years, since it is highly probable that the relevant contract extension clauses will be applied by customers. The amortization expense for the year is included in distribution and selling costs.

Licenses include rights to the "Messer – Gases for Life" brand name (K€ 48,333, 2019: K€ 48,333). The carrying amount of the "ASCO" brand name was written down to zero in previous financial years.

Due to the fact that these intangible assets have indefinite useful lives, as defined by IAS 38, they are not amortized systematically, they are subjected at least once a year to an impairment test in accordance with IAS 36. The impairment test for the "Messer – Gases for Life" brand name is performed using the relief-from-royalty method, based on an asset-specific discount rate of 5.28 %.

For all companies of the Group, the value in use determined according to the principles described above exceeded the net assets of the cash-generating units. As a result, there was no requirement to recognize impairment losses for other intangible assets in the financial year 2020.

15. Property, plant and equipment

2020	Land and buildings	Plant and machinery	Other operational and office equipment	Assets under construction	Total
Cost					
Balance as of Jan. 1, 2020	**265,663**	**1,663,401**	**302,822**	**108,474**	**2,340,360**
Additions	3,141	21,211	9,090	135,171	168,613
Change in group reporting entity	905	9,761	2,698	801	14,165
Reclassifications	(9,276)	86,561	6,120	(108,593)	(25,188)
Transfers	–	(1,255)	1,188	–	(67)
Disposals	(779)	(11,850)	(9,951)	(295)	(22,875)
Translation differences	(7,351)	(54,102)	(6,818)	(3,378)	(71,649)
Balance as of Dec. 31, 2020	**252,303**	**1,713,727**	**305,149**	**132,180**	**2,403,359**
Accumulated depreciation and impairment losses					
Balance as of Jan. 1, 2020	**(116,543)**	**(983,011)**	**(217,146)**	**(209)**	**(1,316,909)**
Additions	(8,778)	(91,251)	(15,788)	(84)	(115,901)
Change in group reporting entity	–	–	–	–	–
Reclassifications	5,422	(476)	740	–	5,686
Transfers	–	2,364	(2,299)	–	65
Disposals	486	10,869	9,494	–	20,849
Translation differences	3,009	29,727	4,651	3	37,390
Balance as of Dec. 31, 2020	**(116,404)**	**(1,031,778)**	**(220,348)**	**(290)**	**(1,368,820)**
Carrying amount as of Jan. 1, 2020	**149,120**	**680,390**	**85,676**	**108,265**	**1,023,451**
Carrying amount as of Dec. 31, 2020	**135,899**	**681,949**	**84,801**	**131,890**	**1,034,539**

Changes in the group reporting entity include the addition of the assets and liabilities of Messer CZ s.r.o., Czech Republic, and Messer Slovensko s.r.o., Slovakia. We refer to the disclosures made in note 3 "Group reporting entity".

2019	Land and buildings	Plant and machinery	Other operational and office equipment	Assets under construction	Total
Cost					
Balance as of Jan. 1, 2019 (adjusted)	**251,010**	**1,507,422**	**290,728**	**154,481**	**2,203,641**
Additions	1,534	32,880	11,121	127,427	172,962
Change in group reporting entity	438	2,359	(41)	(1)	2,755
Reclassifications	13,764	152,502	6,927	(173,282)	(89)
Disposals	(1,623)	(34,656)	(6,125)	(1,828)	(44,232)
Translation differences	540	2,894	212	1,677	5,323
Balance as of Dec. 31, 2019	**265,663**	**1,663,401**	**302,822**	**108,474**	**2,340,360**
Accumulated depreciation and impairment losses					
Balance as of Jan. 1, 2019 (adjusted)	**(108,699)**	**(926,170)**	**(206,930)**	**(211)**	**(1,242,010)**
Additions	(8,707)	(86,341)	(15,409)	–	(110,457)
Change in group reporting entity	(219)	(1,266)	6	–	(1,479)
Reclassifications	–	18	(19)	–	(1)
Disposals	1,298	32,188	5,232	–	38,718
Translation differences	(216)	(1,440)	(26)	2	(1,680)
Balance as of Dec. 31, 2019	**(116,543)**	**(983,011)**	**(217,146)**	**(209)**	**(1,316,909)**
Carrying amount (adjusted) as of Jan. 1, 2019	**142,311**	**581,252**	**83,798**	**154,270**	**961,631**
Carrying amount as of Dec. 31, 2019	**149,120**	**680,390**	**85,676**	**108,265**	**1,023,451**

Borrowing costs amounting to K€ 121 were recognized as a cost component for qualifying assets in 2020 (2019: K€: 1,571). The average interest rate was 3.5 % (2019: 4.2 %).

In the financial year 2020, impairment losses amounting to K€ 1,215 were recognized on property, plant and equipment in Austria. These are included in the additions to depreciation and impairment losses on "Plant and machinery" and "Other operational equipment, office equipment" for the financial year 2020. The expense is reported in the line items "cost of sales" and "general administrative expenses" in the income statement.

Property, plant and equipment also includes technical equipment, including tanks and gas cylinders, in conjunction with operating leases, where the Messer Group acts as the lessor.

The future lease payments to be received from customers from such operating leases fall due as follows:

	Dec. 31, 2020	Dec. 31, 2019
due up to 1 year	32,560	30,664
due within 1 to 5 years	90,696	86,778
due later than 5 years	62,883	77,485
	186,139	**194,927**

Income of K€ 79 (2019: K€ 101) for contingent rental payments from operating leases was recognized during the reporting period.

16. Investments accounted for using the equity method

The following investments in associated companies and joint ventures are stated on the basis of Messer's interest in the equity of the relevant entity as of December 31, 2020:

Name and registered office of company	Shareholding in percent		Carrying amount	
	Dec. 31, 2020	Dec. 31, 2019	Dec. 31, 2020	Dec. 31, 2019
Significant entities				
Yeti GermanCo 1 GmbH, Sulzbach (Taunus)/Germany	54.46	54.46	693,635	751,262
Non-significant entities				
Elme Messer Gaas A.S., Tallinn/Estonia	50.00	50.00	41,256	38,056
Yeti Warehouse GmbH, Bad Soden/Germany	58.05	58.05	3,725	937
Sichuan Meifeng Messer Gas Products Co., Ltd., Mianyang City/China	50.00	50.00	2,725	2,516
Cryogenic Engineering GmbH, Sulzbach (Taunus)/Germany	49.00	49.00	260	262
Balti Messer OÜ, Tallinn/Estonia	–	50.00	–	2,452
Smart-Gas Pte. Ltd./Singapore	–	30.00	–	3,422
			741,601	**798,907**

As part of the acquisition in 2019 of the major part of Linde's gases business in the USA, the Linde companies in Canada, Brazil and Colombia and the acquisition of Praxair's activities in Chile, Messer Group GmbH and CVC Capital Partners founded the joint venture company Yeti GermanCo 1 GmbH with the aim of taking over the management of Messer's operations in Western Europe and America.

As part of the contribution of the Western European operations, Messer agreed to a number of guarantees in the Contribution Agreement. The liability resulting from these guarantees is limited in time to a period of up to 5 years, depending on the guarantee, and to specific amounts, up to a maximum of € 772 million. In principle, the liability arising from the guarantees only tales effect after a contractually fixed threshold of € 10 million has been exceeded.

Yeti GermanCo 1 GmbH's employee participation program is bundled within the Yeti Warehouse GmbH Group. It is jointly controlled by Messer Group GmbH and CVC Capital Partners. Elme Messer Gaas A.S. is the parent company of our investee entities in the Baltic, Russia, Ukraine and in Kaliningrad. This group produces and sells industrial gases in the relevant region and has its own production facilities.

Investments in associated companies and joint ventures developed as follows:

	2020	2019
Acquisition cost		
Balance as of January 1	**809,745**	**54,245**
Additions	–	773,594
Group's share of results	32,261	8,373
Reclassifications	–	(714)
Disposals	(10,260)	(7,415)
Group's share of changes in OCI	(85,803)	(18,492)
Translation differences	(342)	154
Balance as of December 31	**745,601**	**809,745**
Accumulated impairment losses		
Balance as of January 1	**(10,838)**	**(10,838)**
Disposals	6,838	–
Balance as of December 31	**(4,000)**	**(10,838)**
Carrying amount as of January 1	**798,907**	**43,407**
Carrying amount as of December 31	**741,601**	**798,907**

Additions in the previous financial year mainly included the contribution of the investments in Western European operations to Yeti GermanCo 1 GmbH totaling K€ 772,000.

Disposals in 2020 relate to the sale of the investment in Smart-Gas Pte. Ltd., Singapore and the merger of Balti Messer OÜ, Estonia. Disposals in the previous financial year mainly comprised the sale of shares of Yeti GermanCo 1 GmbH to Yeti Warehouse GmbH in conjunction with the creation of an Employee Participation Program at the level of Yeti GermanCo 1 GmbH for senior executives, directors and other key management personnel.

The Group's negative share of changes in OCI amounting to K€ (85,803) was mainly attributable to negative currency translation effects amounting to K€ (81,644).

The Group's share in profits from our equity accounted investments in Ukraine amounting to K€ 290 (2019: K€ 113) was not recorded since the Group's share of net accumulated losses exceeds the carrying amount of the investments.

The following table shows the summarized group financial data for the principal joint venture, Yeti GermanCo 1 GmbH. Yeti GermanCo 1 GmbH is the parent company of our indirect investments in Western Europe and North and South America. This group of companies produces and sells industrial gases within its stipulated region and has its own production facilities.

	Yeti GermanCo 1 GmbH	
	2020	2019
Revenue	**1,965,492**	**1,687,608**
Net profit/net loss for the year	52,461	3,209
Other comprehensive income for the year	(158,126)	(33,924)
Total comprehensive income for the year	**(105,665)**	**(30,715)**
of which attributable to:		
shareholders of the parent company	(105,815)	(31,258)
non-controlling interests	150	543
Non-current assets	3,720,144	4,178,210
Current assets	936,467	1,156,516
Non-current liabilities	2,909,906	3,133,014
Current liabilities	542,928	891,573
Net assets	**1,203,777**	**1,310,139**
Net assets less non-controlling interests	**1,200,129**	**1,305,944**
of which attributable to:		
the Messer Group's share of net assets	653,593	711,220
the joint venture partners' share of net assets	546,536	594,724

Additional financial information for significant joint ventures is summarized in the following table:

	Yeti GermanCo 1 GmbH	
	2020	2019
Cash and cash equivalents	410,807	577,422
Non-current financial debt	2,333,741	2,505,734
Current financial debt	23,375	23,521
Scheduled depreciation and amortization	(343,871)	(292,604)
Interest income	5,566	11,906
Interest expense	(91,351)	(95,640)
Income tax (expense)/income	(16,939)	6,970

	Yeti GermanCo 1 GmbH	
	2020	2019
Group's share of net assets as of January 1	**711,220**	1
Group's share of other comprehensive income	(57,627)	(13,448)
Dividends received	–	–
Group's share of capital proceeds/reductions	–	724,667
Impairment loss recognized on carrying amount	–	–
Group's share of net assets as of December 31	**653,593**	**711,220**
Other	–	–
Group's share of net assets exceeding shareholding percentage	40,042	40,042
Carrying amount as of December 31	**693,635**	**751,262**

The following table shows summarized financial information for associated companies that are not individually material:

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Net profit for the year	1,872	7,473
Other comprehensive income for the year	(465)	3,309
Total comprehensive income for the year	**1,407**	**10,782**

17. Investments in other companies

The item "Investments in other companies" comprises equity investments in various entities that are not consolidated or accounted for using the equity method.

	2020	2019
Acquisition cost		
Balance as of January 1	**2,806**	**3,484**
Additions	3	–
Disposals	–	(621)
Translation differences	(219)	(57)
Balance as of December 31	**2,590**	**2,806**
Accumulated impairment losses		
Balance as of January 1	**(221)**	**(654)**
Additions	–	–
Disposals	–	440
Translation differences	–	(7)
Balance as of December 31	**(221)**	**(221)**
Carrying amount as of January 1	**2,585**	**2,830**
Carrying amount as of December 31	**2,369**	**2,585**

18. Other financial investments

Other financial investments developed as follows:

2020	Non-current loan receivables	Sundry other financial investments	Total
Acquisition cost			
Balance as of January 1, 2020	**1,630**	**133**	**1,763**
Additions	–	8	8
Disposals	(1,538)	(4)	(1,542)
Translation differences	(17)	(2)	(19)
Balance as of December 31, 2020	**75**	**135**	**210**
Accumulated impairment losses			
Balance as of January 1, 2020	–	**(43)**	**(43)**
Additions	–	–	–
Disposals	–	–	–
Translation differences	–	–	–
Balance as of December 31, 2020	–	**(43)**	**(43)**
Carrying amount as of January 1, 2020	**1,630**	**90**	**1,720**
Carrying amount as of December 31, 2020	**75**	**92**	**167**

The previous year's figure for non-current loan receivables included a loan receivable from an associated company amounting to K€ 1,278 which was reclassified to current assets in the financial year 2020.

2019	Non-current loan receivables	Sundry other financial investments	Total
Acquisition cost			
Balance as of January 1, 2019	**1,722**	**136**	**1,858**
Additions	28	–	28
Change in group reporting entity	(1)	–	(1)
Disposals	(129)	(3)	(132)
Translation differences	10	–	10
Balance as of December 31, 2019	**1,630**	**133**	**1,763**
Accumulated impairment losses			
Balance as of January 1, 2019	–	**(40)**	**(40)**
Additions	–	(6)	(6)
Disposals	–	3	3
Translation differences	–	–	–
Balance as of December 31, 2019	–	**(43)**	**(43)**
Carrying amount as of January 1, 2019	**1,722**	**96**	**1,818**
Carrying amount as of December 31, 2019	**1,630**	**90**	**1,720**

19. Other non-current receivables and assets

	Dec. 31, 2020	Dec. 31, 2019
Lease receivables	7,621	9,482
Other receivables	1,802	1,797
Trade receivables	154	669
Other financial assets	10	15
Financial assets	**9,587**	**11,963**
Sundry non-financial assets	831	887
Non-financial assets	**831**	**887**
Total	**10,418**	**12,850**

Lease receivables relate to long-term leases of gas production plants, measured at the present value of the future lease payments. The present value of lease payments can be derived from the following summary:

	Dec. 31, 2020	Dec. 31, 2019
Gross investment in leases	**10,233**	**12,640**
due within 1 year	1,764	1,906
due within 1 to 5 years	6,398	7,003
due later than 5 years	2,071	3,731
Unrealized finance income	(1,199)	(1,689)
Net investment in leases	**9,034**	**10,951**
due within 1 year	1,413	1,469
due within 1 to 5 years	5,619	5,935
due later than 5 years	2,002	3,547

20. Inventories

	Dec. 31, 2020	Dec. 31, 2019
Raw materials and supplies	20,188	17,435
Work in progress	24,006	9,871
Finished goods and goods for resale	31,905	32,948
Total	**76,099**	**60,254**

Of the net inventories reported as of December 31, 2020, K€ 11,012 (2019: K€ 11,496) are being carried at net realizable value. Write-downs of K€ 3,819 (2019: K€ 4,547) have been recognized to reduce inventories to their net realizable value. The write-downs were recorded as cost of sales. The total amount of inventories recognized during the reporting period as expense totaled K€ 197,588 (2019: K€ 185,586).

21. Trade receivables

	Dec. 31, 2020	Dec. 31, 2019
Trade receivables	199,429	180,376
Impairment allowances	(38,171)	(30,839)
Total	**161,258**	**149,537**

22. Contract balances

All work relating to engineering contracts was billed during the financial year 2020 or 2019 and the corresponding amounts reported as trade receivables.

Performance obligations arising from contracts with customers

The following table shows the Group's performance obligations arising from long-term gas supply contracts with customers:

	Dec. 31, 2020	Dec. 31, 2019
due in 1st year	65,221	58,288
due in 2nd year	79,278	82,355
due in 3rd year	82,799	85,244
due later than 3 years	311,035	291,986
Total	**538,333**	**517,873**

The amounts shown above mainly relate to contractually agreed fixed payments, so-called "take-or-pay instalments". Variable obligations were not taken into account. Revenue is recognized as a general rule based on the point in time of delivery of the gases.

23. Discontinued operations

On July 16, 2018, Messer and the finance company CVC Capital Partners reached an agreement with Linde AG and Praxair Inc. to acquire the majority of Linde's gases business in the USA, the Linde companies in Canada, Brazil and Colombia and to take over Praxair's activities in Chile. In conjunction with the acquisition transaction, the joint venture company Yeti GermanCo 1 GmbH was founded by Messer Group GmbH and CVC Capital Partners with the aim of taking over the management of Messer's operations in Western Europe and America. In this context, Messer Group GmbH contributed to the joint venture its Western European operations in Spain, Portugal, Switzerland, France, Belgium, the Netherlands, Algeria, Denmark and Germany.

Following the receipt of merger clearance, the acquisition of the above-mentioned parts of the gases business of Linde AG and Praxair Inc. was classified as "highly probable", with the consequence that, with effect from that date, the Western European operations within the meaning of IFRS 5 were accounted for as discontinued operations until the contribution took effect in law on February 28, 2019.

In the previous financial year, the result from discontinued operations, net of consolidation procedures recognized in profit or loss, was therefore reclassified within the consolidated income statement to the line item "Result from discontinued operations after tax". Amounts relating to consolidation procedures have been reported in the income statement as part of the result from continuing operations.

Result from discontinued operations

The information presented on the earnings from discontinued operations relates to the financial periods ended December 31, 2020 and December 31, 2019. The result from discontinued operations after tax therefore includes the following components:

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Revenue	–	57,323
Cost of sales	–	(25,294)
Gross profit	–	**32,029**
Other operating income	–	413,766
Other expenses	(4,000)	(22,196)
Operating (loss)/profit	**(4,000)**	**423,599**
Investment result, net	–	(43)
Interest result, net	–	(201)
Financial result, net	–	(265)
Current result from discontinued operations before income tax	**(4,000)**	**423,090**
Income tax expense	–	(2,506)
Current result from discontinued operations after tax	**(4,000)**	**420,584**
of which attributable to:		
shareholders of the parent company	(4,000)	420,259
non-controlling interests	–	325

Other expenses in the financial year 2020 relate to the addition to the provision for legal matters in Spain. We refer to the disclosures made in note 32 "Contingent liabilities".

In the previous financial year, other operating income totaling K€ 413,222 comprised mainly the deconsolidation gain before tax relating to discontinued operations. The related income tax expense was K€ 0.

Impact on the Group's cash flow statement

The information presented below on cash flows from discontinued operations relates to the financial years ended December 31, 2020 and December 31, 2019.

	2020	2019
Cash flows from operating activities	–	3,443
Cash flows from investing activities	–	(5,798)
Cash flows from financing activities	–	(1,388)
Net decrease in cash generated by discontinued operations	–	**(3,392)**

24. Other current financial and non-financial assets

	Dec. 31, 2020	Dec. 31, 2019
Deposits and guarantees	3,348	3,276
Receivables from related parties	2,812	2,357
Outstanding contributions	2,493	–
Lease receivables	1,413	1,469
Receivables from employees	844	792
Sundry other receivables from operating activities	456	1,171
Derivative financial instrument (no hedge relationship)	12	1,296
Sundry other	2,933	3,140
Financial assets	**14,311**	**13,501**
Other tax receivables	9,781	9,162
Deferred expenses	6,076	5,316
Payments in advance	4,370	3,648
Receivables relating to value added tax group arrangements with Messer Industrie GmbH	10	250
Sundry other	5,772	5,251
Non-financial assets	**26,009**	**23,627**
Total	**40,320**	**37,128**

The item "Deposits and guarantees" comprises mainly deposits of the Chinese companies placed with local banks in conjunction with the construction of new air separation/on-site plants and collateral deposits for future social insurance payments for employees.

The outstanding deposits are based on contractually enforceable rights as of December 31, 2020 and can be called at any time.

For further information regarding for lease receivables, we refer to the disclosures made in note 19 "Other non-current receivables and assets".

25. Cash and cash equivalents

	Dec. 31, 2020	Dec. 31, 2019
Cash, bank balances and checks	253,657	218,930
Cash equivalents	29	25
Cash and cash equivalents	**253,686**	**218,955**

26. Provisions for employee benefits

	Dec. 31, 2020	Dec. 31, 2019
Pension provisions	52,894	52,075
Provisions for other employee benefits	2,881	3,025
Provisions for employee benefits	**55,775**	**55,100**

Pension benefits are provided to employees in a number of countries through both defined benefit and defined contribution pension plans. These benefits vary according to the legal, tax and economic circumstances prevailing in each relevant country. Plan benefits are generally based on years of service and the level of employee compensation. Provisions for other employee benefits relate mainly to company or statutory severance benefits and early retirement benefits. Some of the obligations for defined benefit pension plans are covered by plan assets held in independent trust funds. The net assets of these funds are invested primarily in real estate, fixed-income securities and marketable equity securities.

The amount reported in the balance sheet is derived as follows:

	Dec. 31, 2020	Dec. 31, 2019
Present value of pension benefits covered by accounting provisions	49,853	48,166
Present value of funded pension benefits	11,354	12,464
Present value of all pension benefits	**61,207**	**60,630**
Fair value of plan assets of all funds	(8,313)	(8,555)
Net liability recognized	**52,894**	**52,075**

The present value of pension benefits covered by accounting provisions includes K€ 46,381 (2019: K€ 44,826) relating to the pension plans of Messer Group GmbH.

Messer Group GmbH operates defined benefit plans which provide for the payment of an annual pension to beneficiaries equivalent to 42 % of paid-in contributions up to the date of termination of the employee's contract. The defined benefit pension plan comprises a basic benefit amount and a supplementary benefit amount. The basic benefit amount takes account of the regular remuneration of the employee up to the limit for contributions (*Beitragsbemessungsgrenze*) to the German state pension scheme. The supplementary benefit amount is paid for the portion of the regular remuneration of the employee that exceeds the limit and represents a benefit payable by the Group. Both components are paid as old-age pensions, if the employee retires after reaching the age of 60. The plans apply to all employees in an employment relationship with Messer Group GmbH on May 7, 2004 and who prior to that date had a valid employment contract with Messer Griesheim GmbH.

The defined benefit plans are administered by a pension fund (a mutual insurance association/ *Versicherungsverein auf Gegenseitigkeit*) which is legally separate from the Company. Defined benefit plans expose the Group to various risks. In addition to general actuarial risks, such as longevity and interest rate risks, the Group may also be exposed to currency and capital market risks and/or an investment risk. The risk exposures from the relevant plans are not materially different.

The following table reconciles the funded status of defined benefit pension plans with the amounts recognized in the Consolidated Financial Statements as of December 31, 2020 and 2019:

	Dec. 31, 2020		Dec. 31, 2019	
	Pension benefits covered by accounting provisions	Pension benefits with external funds	Pension benefits covered by accounting provisions	Pension benefits with external funds
Change in the present value of defined benefit plan obligations				
Present value of all pension benefits as of Jan. 1	**48,166**	**12,464**	**38,743**	**10,972**
Current service cost	812	382	939	252
Past service cost	65	–	204	–
Interest expense on obligations	413	46	714	121
Employee contributions	–	242	–	236
Actuarial losses (gains)	2,046	(410)	8,272	1,219
Pension payments	(597)	(1,017)	(701)	(663)
Translation differences	–	53	(5)	327
Other	(1,052)	(406)	–	–
Present value of all pension benefits as of Dec. 31	**49,853**	**11,354**	**48,166**	**12,464**
Change in plan assets of all funds				
Fair value of plan assets of all funds as of Jan. 1	**–**	**8,555**	**–**	**8,387**
Interest income / (losses)	–	38	–	101
Gains / (losses) (excluding interest income / losses)	–	149	–	(2)
Contributions paid in - employer	–	334	–	317
Contributions paid in - employee	–	242	–	236
Pension payments	–	(991)	–	(684)
Unrecognized plan assets surplus	–	–	–	–
Translation differences	–	29	–	200
Other	–	(43)	–	–
Fair value of plan assets of all funds as of Dec. 31	**–**	**8,313**	**–**	**8,555**

The fair value of plan assets relates to the following asset classes. The amounts shown are weighted averages:

	Dec. 31, 2020 Fair value		Dec. 31, 2019 Fair value	
Shares and fund assets	1,408	17 %	1,350	16 %
Bonds	1,342	16 %	1,436	17 %
Real estate	1,194	15 %	1,366	16 %
Cash funds	270	3 %	419	5 %
Other assets	4,099	49 %	3,984	46 %
Total	**8,313**	**100 %**	**8,555**	**100 %**

Market price quotations on active markets exist for all investments in the categories "Shares and fund assets", "Bonds" and "Cash funds".

All plan assets are held for the sole purpose of settling defined benefit obligations. Setting aside funds in this way – based on statutory requirements in some countries and on a voluntary basis in other – represents a precautionary measure to enable the Messer Group to finance future cash flows. Due to the diversity of pension entitlements within the Messer Group, the interest rate is not hedged by the deployment financial instruments. Following guidelines stipulated by local management, the bodies responsible for the various pension funds decide on the best possible investment strategy commensurate with the age of beneficiaries and the timing of future payments, in accordance with applicable legislation. Most of the plans are not set on maximizing profit, but rather on ensuring optimal provision for the entities and employees concerned. Our largest fund, in Switzerland, follows the principles of sustainability. Capital entrusted to the fund there is invested on the basis of ecological, ethical and social criteria. Funds held to pay future benefits are invested responsibly.

Actuarial losses / (gains) arising on the remeasurement of the present value of pension benefits comprise the following:

	Jan. 1 – Dec. 31, 2020		Jan. 1 – Dec. 31, 2019	
	Benefit obligations financed by provisions	Benefit obligations financed by funds	Benefit obligations financed by provisions	Benefit obligations financed by funds
Experience adjustments	(112)	(331)	989	291
Change in financial assumptions	2,158	(79)	7,283	928
Change in biometric assumptions	–	–	–	–
Actuarial losses / (gains) arising on the remeasurement of the present value of pension benefits	**2,046**	**(410)**	**8,272**	**1,219**

The following items were recognized in the year under report with profit/loss impact:

	Jan. 1 – Dec. 31, 2020	Jan. 1 – Dec. 31, 2019
Current service cost	1,194	1,191
Past service cost	65	204
Interest expense on obligations	459	835
Expected return on plan assets	(38)	(101)
Other	–	–
Total of amounts recognized with profit/loss impact	**1,680**	**2,129**

The calculation of obligations and (in certain cases) the related plan assets is based on the following actuarial assumptions (reported as a weighted average):

	Dec. 31, 2020 in percent	Dec. 31, 2019 in percent
Discount rate	0.45	0.77
Expected rate of salary increases	2.57	1.26
Expected return on plan assets	0.32	0.45
Expected rate of pension increases	1.57	1.70

The pension obligations of the Group's German entities were measured on the basis of the mortality tables (Richttafeln 2018 G) issued by Prof. Dr. Klaus Heubeck. Pension obligations were measures in Switzerland using the BVG 2015 GT mortality tables (*Generationentafeln*) and elsewhere on the basis of country-specific mortality tables.

The present value of the defined benefit obligation relates to the following groups of beneficiaries:

	Dec. 31, 2020		Dec. 31, 2019	
Current employees	48,417	79 %	48,034	79 %
Ex-employees	2,324	4 %	2,175	4 %
Pensioners	10,466	17 %	10,421	17 %
Total	**61,207**	**100 %**	**60,630**	**100 %**

The weighted average term of the defined benefit obligation as of December 31, 2020 is 16.6 years (2019: 16.2 years).

An increase/decrease of 50 basis points to the discount rate used would have the following impact on pension obligations as of December 31, 2020:

Change in discount rate in basis points	- 50	-/+ 0	+ 50
Present value of all pension benefits	67,570	61,207	57,461

The sensitivity calculations are based on the average term of the pension obligations as measured on December 31, 2020 and take account of changes in the discount rate (considered the most important actuarial assumption). Since the sensitivity analyses are based on the average duration of the expected benefit obligations (and not on the actual expected disbursement dates), they only provide approximations or give an indication of trends.

The Group expects an expense for contributions to defined benefit plans of K€ 2,029 in 2021.

27. Other provisions

	Jan. 1, 2020	Allocated	Utilized	Reversed	Changes in group reporting entity	Translation differences	Dec. 31, 2020
Non-current							
Litigation	**2,340**	13	–	(346)	–	–	**2,007**
Personnel	**2,606**	275	(38)	–	–	(78)	**2,765**
Sundry other	**646**	160	(61)	(75)	–	(35)	**635**
Total	**5,592**	**448**	**(99)**	**(421)**	**–**	**(113)**	**5,407**
Current							
Personnel	**13,958**	11,539	(9,720)	(2,541)	81	(172)	**13,145**
Sundry other	**17,035**	7,567	(4,030)	(1,965)	–	(534)	**18,073**
Total	**30,993**	**19,106**	**(13,750)**	**(4,506)**	**81**	**(706)**	**31,218**

Contracts for which provisions have been recognized have a broad range of remaining terms of between one and 10 years.

Non-current personnel-related provisions as of December 31, 2020 mainly cover obligations for long-service awards. The unwinding of interest amounting to K€ 7 is included in the allocation for the year (2019: K€ 12). Current provisions for personnel-related expenses reported as of December 31, 2020 related mainly to bonuses and holiday pay.

Current sundry other provisions mainly include the provision for risks in connection with legal matters in Spain. We refer to the disclosures made in note 32 "Contingent liabilities".

Also included in current sundry other provisions is an amount of K€ 2,872 relating to obligations to dismantle a pipeline in the Qingbaijiang Industrial Park, China. Chengdu Chenggang Messer Gas Products Co., Ltd., China, operates a customer supply pipeline in the Qingbaijiang industrial estate, which was laid across the property of the largest on-site customer and which has now discontinued steel production. Our subsidiary was informed in 2017 that the pipeline is required to be removed.

Changes in the group reporting entity include provisions taken over in conjunction with the acquisition of Messer CZ s.r.o. We refer to the disclosures made in note 3 "Group reporting entity".

28. Financial debt

The contribution of the Western European companies to Yeti GermanCo 1 GmbH in February 2019 gave some debtholders a contractually defined right to terminate the Messer Group's financing arrangements. For this reason, the Messer Group concluded a new Term and Revolving Facilities Agreement (RFA II) with its banks on February 26, 2019. The lenders remain UniCredit Bank AG, Bayerische Landesbank, ING Bank (a branch of ING-DiBa AG) and Landesbank Hessen-Thüringen Girozentrale. RFA II comprised originally tranche A for € 40 million (Term Loan), tranche B for € 100 million (Revolving Credit) and a USPP backstop facility (BSF) for € 380 million. Tranche A was repaid on July 17, 2019 and is therefore no longer available. The purpose of the BSF was to secure the possible repayment of the portion of financial debt financed by US private placements. The BSF was not needed in conjunction with the repayment of the USPPs and is therefore also no longer available.
RFA II, which now comprises only tranche B for € 100 million (Revolving Credit), fall due for payment December 18, 2023. The interest rate for RFA II comprises IBOR (Inter Bank Offered Rate) in the currency in which amounts are drawn down plus a margin, depending on the ratio of net debt/EBITDA.

The Messer Group also finances itself via US private placements (USPPs), provided by two insurance companies:

USPP II dated June 8, 2011 between Pricoa (€ 80.0 million at 4.55 % p. a.) and MetLife (€ 80.0 million at 4.6975 % p. a.) on the one hand and Messer Group GmbH and Messer Finance BV on the other, with a term of 10 years and falling due for repayment at the end of the term.

USPP III dated July 12, 2012 between Pricoa (€ 46.3 million at 3.68 % p.a.) on the one hand and Messer Finance BV on the other. This part of USPP III has an original term of 10 years and falls due for repayment at the end of the term.
On January 29, 2019, the Messer Group refinanced the USD 100 million MetLife USPP with a new tranche of € 87.8 million at 1.49 % p.a. as part of the USPP III arrangements. Cash for the new tranche, which has a term of 5 years and is due at the end of the term, was provided to the Messer Group by various funds led by Prudential Management Inc.

Collateral for the entire financing was provided by a number of Group entities as well as in form of a pledge of the shares held in Messer Griesheim China Holding GmbH (the German holding company for the Group's Chinese activities).

Credit lines not utilized as of December 31, 2020 amounted to € 70.7 million (2019: € 69.5 million).

Loan balances and maturities as of December 31, 2020 and December 31, 2019 were as follows:

2020	Interest rate p. a.	Credit line	Utilized	Maturity
€ 80.0 million USPP II	4.550 %	80,000	80,000	June 14, 2021
€ 80.0 million USPP II	4.698 %	80,000	80,000	June 14, 2021
€ 46.3 million USPP III	3.680 %	46,296	46,296	August 2, 2022
€ 87.8 million USPP III	1.490 %	87,758	87,758	January 29, 2024
€ 14.7 million RFA II	0.000 %	14,656	–	December 18, 2023
€ 10.0 million RFA II – Ancillary Facility [1]	0.000 %	4,852	–	December 18, 2023
€ 20.0 million RFA II – Ancillary Facility [2]	1.100 %	20,000	18,203	December 18, 2023
€ 21.5 million RFA II – Ancillary Facility	0.500 %	21,500	3,134	December 18, 2023
€ 14.0 million RFA III – Ancillary Facility	0.000 %	14,000	–	December 18, 2023
€ 11.0 million RFA II – Ancillary Facility [3]	0.762 %	10,376	1,408	December 18, 2023
€ 8.0 million RFA II – Ancillary Facility	0.000 %	8,000	–	December 18, 2023
€ 0.8 million RFA II – Ancillary Facility [4]	0.000 %	82	–	December 18, 2023
Other local credit lines [5]	1.254 %	72,024	72,024	various
Lease liabilities [5]	3.843 %	n/a	25,685	various
		459,544	**414,508**	
Transaction costs			(1,542)	
			412,966	

[1] K€ 5,148 utilized as guarantee
[2] Interest rate (PLN) as of December 31, 2020; foreign currency amounts translated using the closing rate as of December 31, 2020
[3] K€ 624 utilized as guarantee, variable weighted interest rate (PLN) as of December 31, 2020, foreign currency amounts translated using the closing rate as of December 31, 2020
[4] K€ 762 utilized as guarantee, foreign currency amounts translated using the closing rate as of December 31, 2020
[5] Weighted interest rate as of December 31, 2020; foreign currency amounts translated using the closing rate as of December 31, 2020

2019	Interest rate p. a.	Credit line	Utilized	Maturity
€ 80.0 million USPP II	4.550 %	80,000	80,000	June 14, 2021
€ 80.0 million USPP II	4.698 %	80,000	80,000	June 14, 2021
€ 46.3 million USPP III	3.680 %	46,296	46,296	August 2, 2022
€ 87.8 million USPP III	1.490 %	87,758	87,758	January 29, 2024
€ 14.7 million RFA II	0.000 %	14,656	–	December 18, 2023
€ 10.0 million RFA II – Ancillary Facility [1]	0.000 %	5,949	–	December 18, 2023
€ 20.0 million RFA II – Ancillary Facility [2]	2.600 %	20,000	19,498	December 18, 2023
€ 21.5 million RFA II – Ancillary Facility	0.000 %	21,500	–	December 18, 2023
€ 14.0 million RFA III – Ancillary Facility	0.000 %	14,000	–	December 18, 2023
€ 11.0 million RFA II – Ancillary Facility [3]	2.165 %	10,283	5,417	December 18, 2023
€ 8.0 million RFA II – Ancillary Facility	0.000 %	8,000	–	December 18, 2023
€ 0.8 million RFA II – Ancillary Facility [4]	0.000 %	67	–	July 28, 2020
Other local credit lines [5]	2.897 %	84,669	84,669	various
Lease liabilities [5]	4.480 %	n/a	22,352	various
		473,178	**425,990**	
Transaction costs			(2,210)	
			423,780	

[1] K€ 4,051 utilized as guarantee
[2] Interest rate (PLN) as of December 31, 2019; foreign currency amounts translated using the closing rate as of December 31, 2019
[3] K€ 717 utilized as guarantee, variable weighted interest rate (PLN) as of December 31, 2019, foreign currency amounts translated using the closing rate as of December 31, 2019
[4] K€ 777 utilized as guarantee, foreign currency amounts translated using the closing rate as of December 31, 2019
[5] Weighted interest rate as of December 31, 2019; foreign currency amounts translated using the closing rate as of December 31, 2019

Transaction costs relate to the arrangement fees paid to the financing banks and various legal and advisory costs directly attributable to the new financing. These costs are being recognized as expense over the terms of the liabilities using the effective interest method in accordance with IFRS 9.

The following table summarizes the Group's financial debt, measured on the basis of nominal amounts:

	Dec. 31, 2020	Dec. 31, 2019
Non-current		
Liabilities to banks/insurance companies	204,297	381,944
Lease liabilities	20,567	17,354
Sundry other	1,553	956
Less: transaction costs	(975)	(1,478)
	225,442	**398,776**
Current		
Liabilities to banks/insurance companies	179,808	18,307
Lease liabilities	5,118	4,998
Sundry other	3,165	2,431
Less: transaction costs	(567)	(732)
	187,524	**25,004**
Total financial debt, net	**412,966**	**423,780**
Liabilities with a fixed interest rate	323,591	318,662
Financial debt with variable interest rates (hedged)	60,305	78,334
Financial debt with variable interest rates (not hedged)	30,612	28,994
Total financial debt, gross	**414,508**	**425,990**
The weighted average nominal interest rates for debt are:		
Due to banks/insurance companies (including hedges)	3.80 % p. a.	3.69 % p. a.
Leasing	3.84 % p. a.	4.48 % p. a.
Other loans	0.25 % p. a.	1.44 % p. a.

The average interest rate on debt (including interest rate swap agreement) as of December 31, 2020 was 3.77 % p. a. (2019: 3.72 %).

Financial debt (excluding transaction costs) falls due as follows:

2021	188,091
2022	100,116
2023	24,252
2024	92,138
2025	2,278
After 2025	7,633
	414,508

	2020	2019
Non-current financial debt as of Jan. 1	**398,776**	**346,809**
Cash-relevant changes		
New debt raised	3,801	129,404
Repayments	(3,002)	(45,811)
Non-cash-relevant changes		
Additions to lease liabilities	8,713	5,601
Changes in maturities	(176,716)	(38,187)
Currency translation	(5,185)	1,756
Translation differences	(1,448)	659
Transaction costs	503	(1,455)
Non-current financial debt as of Dec. 31	**225,442**	**398,776**

	2020	2019
Current financial debt as of Jan. 1	**25,004**	**217,986**
Cash-relevant changes		
New debt raised	5,542	477
Repayments	(18,827)	(233,323)
Non-cash-relevant changes		
Additions to lease liabilities	557	1,127
Changes in maturities	176,716	38,187
Currency translation	(1,382)	165
Translation differences	(250)	502
Transaction costs	164	(117)
Current financial debt as of Dec. 31	**187,524**	**25,004**

As part of the conditions of USPP II, USPP III and the RFA, the Company is required to comply with various financial covenants. For example, the ratio of net debt to operating profit before interest, tax, depreciation and amortization (EBITDA) is not permitted to exceed a predefined level.

In addition, EBITDA as a ratio of consolidated net interest is not permitted to exceed an agreed level. Equity must be maintained at a minimum of € 800 million.

29. Other non-current liabilities

	Dec. 31, 2020	Dec. 31, 2019
Public-sector grants	927	519
Non-financial liabilities	**927**	**519**
Total	**927**	**519**

This item is being released via "Other operating income" in the income statement.

30. Other current liabilities

	Dec. 31, 2020	Dec. 31, 2019
Deposits received for hardware	4,501	4,544
Derivative financial instruments without an effective hedging relationship	4,193	2,540
Interest payable	2,082	2,233
Liabilities to related companies	1,509	1,333
Other liabilities to customers	213	115
Sundry other liabilities	19,156	13,886
Financial liabilities	**31,654**	**24,651**
Deferred income and other deferred liabilities	35,103	28,708
Advance payments received on orders	22,670	20,499
Payroll liabilities	20,687	19,142
Liabilities to social security providers	14,281	12,261
Other taxes payable	5,927	4,414
Advance payments received from related parties	1,653	–
Other obligations	551	–
Non-financial liabilities	**100,872**	**85,024**
Total	**132,526**	**109,675**

Derivative financial instruments without a hedging relationship include the negative fair values of forward currency contracts as well as of the interest rate swap in place at the end of the reporting period.

Other financial liabilities include K€ 7,506 relating to an outstanding dividend payable to a Chinese joint venture partner.

Deferred income includes public sector grants amounting to K€ 421 (2019: K€ 496). The income from the release of these grants is reported in the income statement line item "cost of sales".

31. Equity

Subscribed capital

Subscribed capital is unchanged from the previous year and is fully paid up.

Capital reserves

Capital reserves (additional paid in capital) comprise amounts paid in by the shareholder, totaling K€ 536,937 as of December 31, 2020.

Other reserves

During the financial year 2005, Messer GmbH acquired further shares (approximately 14 %) of Tehnogas AD, Serbia-Montenegro, from the minority shareholders of that entity. A credit difference of K€ 5,905 arose on the consolidation of these additional shares and was recorded in “Other reserves”.

In 2011, we increased our majority holding in Messer Haiphong Industrial Gases Co. Ltd., Vietnam, to 100 %. A debit difference of K€ 1,798 arose on the consolidation of these additional shares and was offset (without income statement impact) against Group reserves.

Our majority shareholding in Messer MOL Gáz Kft., Hungary was increased to 100 % in the financial year 2013. A debit difference of K€ 462 arose on the consolidation of these additional shares and was offset (without income statement impact) against Group reserves.

Our 100 % investment in ASCO Kohlensäure AG, Switzerland, was reduced to 70 % during the financial year 2014. A debit difference of K€ 1,317 arose on the consolidation of these non-controlling interests and was offset (without income statement impact) against Group reserves.

During the financial year 2015, Messer Group GmbH acquired the remaining 50 % of the shares of Messer Information Services GmbH, Groß-Umstadt, from MEC Holding GmbH, Bad Soden. Since both Messer Group GmbH and MEC Holding GmbH continue to be controlled by the same party at the highest level, the purchase of shares does not entail a business combination as defined by IFRS 3, but rather a “transaction under joint control”. A debit difference of K€ 2,400 arose on the consolidation of these additional shares and was offset against “Other reserves”.

During the financial year 2016, Messer Griesheim (China) Investment Co. Ltd., China, increased its majority holdings in Shaoxing Messer Gas Products Co., Ltd. (“Shaoxing”) and Messer Sunshine (Ningbo) Gas Products Co., Ltd, (“Ningbo”) to 100 %. A credit difference of K€ 474 for Shaoxing and a debit difference of K€ 357 for Ningbo, arising on the consolidation of these additional shares, were transferred to Group reserves without income statement impact.

In November 2018, Messer Griesheim (China) Investment Co. Ltd., China reduced its 100 % holdings in Shaoxing Messer Gas Products Ltd. (“Shaoxing”) and Messer Sunshine (Ningbo) Gas Products Co., Ltd. (“Ningbo”) in each case by 30 % to 70 %. A debit difference of K€ 336 for Shaoxing and a credit difference of K€ 1,737 for Ningbo arose as a result of reducing the shareholding, which, in both bases, was transferred to Group’s reserves without income statement impact.

In January 2019, Messer Griesheim (China) Investment Co. Ltd, China, acquired all of the shares of Chongqing Pangang Messer Gas Products Co, Ltd, China, from Sichuan Pangang Messer Gas Products Co, Ltd, China, 60 % of whose shares are held by Messer Griesheim (China) Investment Co. A debit difference of K€ 7,066 arose on the increase in the majority shareholding and was offset (without income statement impact) against Group reserves.

In March 2020, Messer increased its majority interests in Universal Industrial Gas Sdn. Bhd. ("UIG"), Malaysia, and Messer (Thailand) Co., Ltd. ("Thailand"), Thailand, to 75 % and 100 % respectively. The consolidation of the additional shareholdings gave rise to debit differences of K€ 286 and K€ 197 respectively for UIG and Thailand. These amounts were transferred to Group reserves without income statement impact.

In November 2020, Messer Griesheim (China) Investment Co. Ltd, China, increased its majority shareholdings in Shaoxing Messer Gas Products Co. ("Shaoxing"), China, and Messer Sunshine (Ningbo) Gas Products Co., Ltd, ("Ningbo"), China, to 100 %. The consolidation of the additional shareholdings gave rise to a credit difference of K€ 150 for Shaoxing and a debit difference of K€ 1,158 for Ningbo. These amounts were transferred to Group reserves without income statement impact.

In December 2020, Messer Romania Gaz S.R.L., Romania, acquired the minority shares in Messer Energo Gaz S.R.L. ("Energo"), Romania, held by the Romanian joint venture partner Energomontaj and now holds 100 % of the shares. A debit difference of K€ 19 arising on the consolidation of these additional shares was transferred to Group reserves, also without income statement impact.

Revenue reserves

Revenue reserves comprise the post-acquisition and non-distributed earnings of consolidated group companies as well as the impact of the remeasurement of the net defined benefit pension liability, net of deferred taxes.

Other components of equity

All changes in equity that do not have an income statement impact and which do not relate to capital transactions with equity holders (e.g. share capital increases or distributions) are reported here. This includes currency translation differences (recognized without income statement impact) as well as changes in the hedge reserve reported in the statement of changes in equity. Of the total change in the hedge reserve reported in the financial year 2020, K€ 2,578 related to companies accounted for using the equity method. In the consolidated statement of comprehensive income, this amount is included in the aggregated line item "From companies accounted for using the equity method".

Non-controlling interests

This item comprises the portion of third-party shareholders’ interest in the equity of consolidated subsidiaries. The main minority interests are held by third-party shareholders in Serbia, the Czech Republic and China.

Dividend payments to other shareholders include distributions of the previous year’s results as well as other payments to shareholders made in proportion to shareholdings.

The following entities have significant non-controlling interests:

Name and registered office of subsidiary	Country	Shareholding in percent	
		Dec. 31, 2020	Dec. 31, 2019
Hunan Xianggang Messer Gas Products Co., Ltd., Xiangtan City, Hunan Province - sub-group	China	45 %	45 %
Sichuan Pangang Messer Gas Products Co., Ltd., Panzhihua, Sichuan Province - sub-group	China	40 %	40 %

The following table shows the aggregated financial data for the main subsidiaries with significant non-controlling interests:

	Hunan Xiangang Messer Gas Products Co., Ltd.		Sichuan Pangang Messer Gas Products Co., Ltd.	
	2020	2019	**2020**	2019
Revenue	**189,907**	**180,821**	**118,541**	**122,015**
Net profit for the year	36,470	34,069	30,015	21,707
of which attributable to other shareholders	16,239	15,336	12,800	9,501
Other comprehensive income for the year	(5,099)	990	(4,187)	(758)
Total comprehensive income for the year	**31,371**	**35,059**	**25,828**	**20,949**
of which attributable to other shareholders	14,298	15,683	11,125	9,198
Non-current assets	171,436	158,649	82,569	92,252
Current assets	103,178	86,440	130,076	106,844
Non-current liabilities	2,657	1,146	2,591	2,960
Current liabilities	45,953	33,646	30,816	11,046
Net assets	**226,004**	**210,297**	**179,238**	**185,090**
of which attributable to other shareholders	60,256	55,623	53,095	56,630
Dividends paid to non-controlling interests	**(6,843)**	**(5,817)**	**(12,672)**	**(5,171)**
Cash flows from operating activities	37,369	27,998	44,962	5,741
Cash flows from investing activities	(25,304)	(17,483)	557	(435)
Cash flows from financing activities	(16,000)	(15,796)	(32,034)	(15,220)
Changes in cash and cash equivalents	**(3,935)**	**(5,281)**	**13,485**	**(9,914)**

Proposal for the appropriation of profit by the parent company

Executive management proposes that a partial amount of K€ 10,000 be distributed to the shareholder out of net profit for the year and that the remaining amount be carried forward.

Capital management

In order to be able to safeguard its going-concern status in the long-term, it is important that Messer Group GmbH has a strong equity base. Equity corresponds to all line items reported within equity in the balance sheet. Other items which have the legal status of equity or other instruments similar in character to equity are not employed.

The owners, the Executive Management and the Supervisory Board ensure that the lending banks and insurance companies, creditors and the market in general retain their trust in the Messer Group by maintaining that strong equity base. Under the terms of the USPP II, USPP III and the RFA II, the Group is required to maintain a minimum capital of € 800 million. Equity (including non-controlling interests) amounted to K€ 1,962,733 at the end of the reporting period (2019: K€ 1,956,105). The required minimum capital was therefore well exceeded.

The Executive Management and the Supervisory Board regularly check that this and other targets are met and report to the lending banks / insurance companies accordingly.

32. Contingent liabilities

Contingent liabilities

Obligations from issuing guarantees were as follows:

in € million	Dec. 31, 2020		Dec. 31, 2019	
	Maximum potential obligation	Amount recognized as liability	Maximum potential obligation	Amount recognized as liability
Financial guarantees	8.5	–	7.6	–

Financial guarantees relate mainly to commitments to cover the contractual obligations of principal debtors. Pledges given to secure the liabilities of group companies were eliminated on consolidation and are thus not included in the above amounts.

For guarantees in connection with the contribution of the Western European business, please refer to our comments under item 16 "Investments accounted for using the equity method".

The Messer Group has committed itself to investing in the purchase, construction and maintenance of various production facilities. Obligations under these agreements represent commitments to purchase plant and equipment at market prices in the future. The Group is also party to long-term contracts which give rise to obligations. As of December 31, 2020, purchase and capital expenditure commitments and long-term contracts amounted to K€ 91,438 (2019: K€ 85,796).

Litigation

Messer sold its shares in Messer Gases del Perú S.A., Peru, to an Air Products Group company in accordance with a contract dated December 22, 2017. Messer has indemnified the buyer in full against any claims made by Siderperu relating to the period before closing (February 1, 2018). For payment claims relating to the period after the closing date, Messer has indemnified the purchaser against claims made by Siderperu if the amount exceeds K'USD 700.

An amount of K'USD 2,000 of the agreed purchase price has been paid into an escrow account to cover possible risks arising from the sale of the shares in Messer Gases del Perú S.A. A provision amounting to K€ 2,105 was recognized for the buyer's warranty and indemnity claims. The arbitration proceedings pending between Messer Gases del Perú S.A. and Siderperu were decided in favor of Siderperu in 2019. The outstanding cost assessment orders relating to proceedings that have already been decided are expected to be received in 2021. Similarly, pending labor law proceedings are expected to be concluded in 2021.

Other legal matters

In November 2017, a search was made at Messer Ibérica de Gases S.A., Spain, during which documents relating to permits to build and operate our air separation plants and to a donation for the renovation of a city hall were sequestered. A ruling is expected in 2021.
In February 2019, another search was conducted at the company as part of a second investigation. The investigation focused on the purchase, use and distribution of electricity to Carburos Metallicos.
A third investigation is pending. Access to the investigation files has not yet been given, so that neither the subject of the investigation is known, nor against whom the investigation is directed.

Currently, it is believed that the likelihood of a criminal conviction is low. Fines could be imposed, however, in the event that separate administrative proceedings are initiated at a later stage. Messer Group GmbH has recognized a provision for fines and legal costs totaling € 5 million as a precautionary measure and without recognizing any specific obligation in this matter.

Following the issuance of a payment notice for grid usage fees by the Spanish regulatory authority, the Spanish energy supplier Endesa has filed a supplementary claim for the same amount of € 35.6 million against Messer Ibericas for allegedly underpaid grid usage fees during the period from 2008 to February 2020. In the opinion of our local Spanish lawyers, Endesa and Messer Ibericas have strong arguments for successfully defending the Spanish regulatory authority's claim for payment under the original decision and thus also the claim for payment asserted by Endesa against Messer Ibericas in appeal proceedings.

Even if one were to assume a claim for payment, our local lawyers see good arguments for a reduction of the amount claimed to less than € 10 million, based on a statute-of-limitations defense and the fact that only portion of the electricity was passed on to Carburos Metallicos.

Messer Ibericas has recognized a provision of € 5 million for possible fines arising from applications not submitted in accordance with formal legal requirements and the resulting lack of formal approvals. Under the Contribution Agreement between Messer Group GmbH and Messer Industries GmbH, breaches of warranty are only subject to reimbursement by Messer Group GmbH above a threshold value of € 10 million, with a deductible of € 5 million.

Proceedings are expected to take between 4 and 7 years.

Messer Group companies are parties to legal and arbitration proceedings in various countries. Adequate risk provisions have been recognized for these proceedings, provided that the obligation is sufficiently specified.

33. Other disclosures relating to financial instruments

The following table shows the carrying amounts and fair values of the individual financial assets and financial liabilities for each category of financial instrument as of December 31, 2020. It does not include any fair value information for financial assets and financial liabilities that are not measured at fair value if the carrying amount is a reasonable approximation of fair value.

	Measurement category pursuant to IFRS 9	Carrying amount Dec. 31, 2020	Measurement in acc. with IFRS 9			Measurement in acc. with IFRS 16	Fair value Dec. 31, 2020
			Amortized cost	Fair value through OCI	Fair value through profit or loss		
Financial assets							
Non-current loans receivable	**AC**	**75**	75	–	–	–	**75**[1)]
Sundry other financial investments	**FVOCI**	**92**	–	92	–	–	**92**[1)]
Other non-current receivables and assets	**AC**	**1,966**	1,966	–	–	–	**1,280**[1)]
Non-current lease receivables	**n/a**	**7,621**	–	–	–	7,621	**15,056**[1)]
Trade receivables	**AC**	**161,258**	161,258	–	–	–	
Other current receivables and other assets	**AC**	**12,886**	12,886	–	–	–	
Current lease receivables	**n/a**	**1,413**	–	–	–	1,413	
Derivative financial assets							
Derivatives not in effective hedging relationships	**FVTPL**	**12**	–	–	12	–	**12**[1)]
Cash and cash equivalents	**AC**	**253,686**	253,686	–	–	–	

[1] Hierarchy Level 2

	Measurement category pursuant to IFRS 9	Carrying amount Dec. 31, 2020	Measurement in acc. with IFRS 9			Measurement in acc. with IFRS 16	Fair value Dec. 31, 2020
			Amortized cost	Fair value through OCI	Fair value through profit or loss		
Financial liabilities							
Non-current financial debt	**AC**	**204,875**	204,875	–	–	–	**204,852[1)]**
Non-current lease liabilities	**n/a**	**20,567**	–	–	–	20,567	
Current financial debt	**AC**	**182,406**	182,406	–	–	–	
Current lease liabilities	**n/a**	**5,118**	–	–	–	5,118	
Trade payables	**AC**	**101,589**	101,589	–	–	–	
Other current liabilities	**AC**	**27,461**	27,461	–	–	–	
Derivative financial liabilities							
Derivatives not in effective hedging relationships	**FVTPL**	**4,193**	–	–	4,193	–	**4,193[1)]**

[1] Hierarchy Level 2

The following table shows the carrying amounts and fair values of the individual financial assets and financial liabilities for each category of financial instrument as of December 31, 2019 in accordance with IFRS 9:

	Measurement category pursuant to IFRS 9	Carrying amount Dec. 31, 2019	Measurement in acc. with IFRS 9			Measurement in acc. with IFRS 16	Fair value Dec. 31, 2019
			Amortized cost	Fair value through OCI	Fair value through profit or loss		
Financial assets							
Non-current loans receivable	**AC**	**1,630**	1,630	–	–	–	**1,630**[1]
Sundry other financial investments	**FVOCI**	**90**	–	90	–	–	**90**[1]
Other non-current receivables and assets	**AC**	**2,481**	2,481	–	–	–	**2,341**[1]
Non-current lease receivables	**n/a**	**9,482**	–	–	–	9,482	**18,677**[1]
Trade receivables	**AC**	**149,537**	149,537	–	–	–	
Other current receivables and other assets	**AC**	**10,736**	10,736	–	–	–	
Current lease receivables	**n/a**	**1,469**	–	–	–	1,469	
Derivative financial assets							
Derivatives not in effective hedging relationships	**FVTPL**	**1,296**	–	–	1,296	–	**1,296**[1]
Cash and cash equivalents	**AC**	**218,955**	218,955	–	–	–	

[1] Hierarchy Level 2

	Measurement category pursuant to IFRS 9	Carrying amount Dec. 31, 2019	Measurement in acc. with IFRS 9			Measurement in acc. with IFRS 16	Fair value Dec. 31, 2019
			Amortized cost	Fair value through OCI	Fair value through profit or loss		
Financial liabilities							
Non-current financial debt	**AC**	**381,422**	381,422	–	–	–	**393,040[1)]**
Non-current lease liabilities	**n/a**	**17,354**	–	–	–	17,354	
Current financial debt	**AC**	**20,006**	20,006	–	–	–	
Current lease liabilities	**n/a**	**4,998**	–	–	–	4,998	
Trade payables	**AC**	**93,424**	93,424	–	–	–	
Other current liabilities	**AC**	**22,111**	22,111	–	–	–	
Derivative financial liabilities							
Derivatives not in effective hedging relationships	**FVTPL**	**2,540**	–	–	2,540	–	**2,540[1)]**

[1] Hierarchy Level 2

The following hierarchy of input factors is used to measure fair value:

Level 1: Prices quoted in active markets accessible to the entity at the measurement date for identical assets or liabilities
Level 2: Market prices other than those quoted in Level 1 that are observable, either directly or indirectly, for the asset or liability
Level 3: Input factors that are not observable for the asset or liability

Non-consolidated participations which are classified as non-financial items are not measured as a general rule at their fair value. The fair value measurement of participations is based on the market value quoted in the relevant market.

Non-current receivables, non-current lease receivables and other non-current assets on the one hand and non-current financial liabilities and payables on the other are discounted to their present value. For these purposes, the valuation model is based on interest rate curves and exchange rates for the respective maturities applicable at the end of the reporting period.

Due to their short remaining terms, the carrying amounts of current receivables, trade payables and cash funds corresponds to fair value. These is no requirement to disclose the fair values of non-financial items, since the items involved are not financial instruments as defined by IFRS 7.

Net gains and losses arising on financial instruments comprise all earnings impacts from financial instruments, including currency translation gains/losses, fair value gains/losses and impairment losses/reversals of impairment losses.

The following table shows net gains and losses from financial instruments by IFRS 9 measurement categories:

2020	From interest	Net gains and net losses			
		At fair value	Currency translation	Reversal of impairment losses/(Impairment losses)	From disposals
Financial assets measured at fair value through profit or loss	–	(2,936)	171	–	–
Financial liabilities measured at amortized cost	(8,258)	–	(4,419)	–	–
Financial assets measured at amortized cost	1,071	–	3,734	(9,223)	–
Financial assets measured at fair value through OCI	–	–	–	–	–

The following table shows net gains and losses from financial instruments by IFRS 9 measurement categories in 2019:

2019	From interest	Net gains and net losses			
		At fair value	Currency translation	Reversal of impairment losses/(Impairment losses)	From disposals
Financial assets measured at fair value through profit or loss	–	(1,389)	–	–	–
Financial liabilities measured at amortized cost	(9,352)	–	(731)	–	62
Financial assets measured at amortized cost	2,721	–	419	4,098	–
Financial assets measured at fair value through OCI	–	–	–	–	(1)

Derivative financial instruments

The Messer Group uses derivative financial instruments primarily to hedge currency and interest rate exposures in order to reduce currency and interest rate risks. Foreign currency risks pertaining to transactions recognized in the financial statements are mostly hedged. The Messer Group currently employs marketable forward currency contracts and interest swaps as hedging instruments.

The following table shows the nominal volumes and fair values of derivatives at the end of the reporting period:

	Nominal amounts		Fair value	
	Dec. 31, 2020	Dec. 31, 2019	**Dec. 31, 2020**	Dec. 31, 2019
Hedging contracts not in cash flow or fair value hedging relationships	**121,153**	**140,190**	**(4,181)**	**(1,244)**
Interest-rate hedges (negative fair value)	60,305	78,334	(2,499)	(1,912)
Currency hedges (positive fair value)	3,993	49,341	12	1,296
Currency hedges (negative fair value)	56,855	12,515	(1,694)	(628)
	121,153	**140,190**	**(4,181)**	**(1,244)**

The nominal amount corresponds to the total of all purchases and sales of derivative financial instruments. Fair value is based on measurement of outstanding items at their market price without taking account of offsetting changes in the value of underlying items. Contracts are measured on the basis of current market data provided by appropriate information services.

The Group is exposed to a credit risk in the case of OTC derivatives with a positive fair value. We minimize this risk by only concluding derivative transactions with banks of first-class standing.

Hedging contracts (nominal amount) had the following remaining terms at the end of the reporting period:

	Remaining term up to 1 year	Remaining term more than 1 year	**Total Dec. 31, 2020**	Remaining term up to 1 year	Remaining term more than 1 year	Total Dec. 31, 2019
Forward currency contracts	19,816	41,032	**60,848**	22,111	39,745	**61,856**
Interest swaps	–	60,305	**60,305**	–	78,334	**78,334**
	19,816	**101,337**	**121,153**	**22,111**	**118,079**	**140,190**

The Messer Group enters into derivatives based on the International Swaps and Derivative Association (ISDA) Agreement. This agreement does not meet the criteria for offsetting in the consolidated balance sheet, since it only provides for offsetting rights in the case of future events (such as default or insolvency of the Group or counterparty). The following table shows the potential financial impact of offsetting pursuant to the agreement, irrespective of whether the items are offset in the consolidated statement of financial position in accordance with IAS 32.42.

	Dec. 31, 2020			Dec. 31, 2019		
	Gross amounts of derivatives in consolidated statement of financial position	Amounts with netting arrangements	Net amounts	Gross amounts of derivatives in consolidated statement of financial position	Amounts with netting arrangements	Net amounts
Derivative assets	12	(12)	–	1,296	(1,296)	–
Derivative liabilities	(4,193)	12	**(4,181)**	(2,540)	1,296	**(1,244)**

Management of financial risks

In conjunction with its operating activities, the Messer Group is exposed to various financial risks, in particular credit, liquidity, interest and currency risk, each of which is described in more detail below. The Group's risk management system takes account of the fact that financial market developments are not foreseeable and is set up to minimize any potential negative impact on the Group's financial condition. The Group employs derivative financial instruments to hedge against specific risks.

Risk management is handled as a general rule by Group Treasury in compliance with guidelines approved by executive management. Group Treasury identifies, measures and hedges financial risks. The guidelines contain the general principles applicable for risk management and the detailed rules for specific areas, such as currency and interest rate risks, the use of derivative financial instruments and the investment of surplus cash. Further comments on risk management are provided in the risk report section of the Group Management Report.

Credit risk

Credit risk is the risk of financial losses if a customer or counterparty to a financial instrument fails to meet its contractual obligations.

No impairment allowances were recognized on other financial assets and financial investments, such as bank balances, marketable securities and the positive fair values of derivatives since credit risk on these items is considered to be very low. Such risks are limited by the Corporate Treasury department by selecting counterparties with good credit standing and by limiting the amounts invested.
Credit risk in the Messer Group arises mainly from trade receivables.

The corresponding impairment allowance is measured at an amount equal to lifetime expected credit losses, based on an analysis of historical default data and forecasts of future economic conditions. Expected credit losses are a probability-weighted estimate of credit losses.

The Messer Group's credit risk is primarily influenced by the individual characteristics of its customers.

For risk management purposes, each customer is initially individually analyzed for creditworthiness before the Group company involved offers its standardized supply and payment terms. The analysis includes – where available – annual financial statements, information from credit agencies, sector information and, in some cases, credit reports from banks. As a general rule, customer limits are set individually for each customer and represent the maximum outstanding amount that can be allowed without the approval of the Risk Management Committee. The limits are reviewed at least once a quarter.

Due regard is also given to whether the customer is a natural person or a legal entity. Other factors taken into account are geographical location, market sector, age structure of receivables and the occurrence and duration of payment problems.

The total credit loss expected to arise over a receivable's lifetime is taken into account for measurement purposes, determined using the simplified impairment model.

In order to assess the expected credit risk, receivables are grouped on the basis of the existing credit risk and maturity structure of the receivables concerned. Furthermore, customers are allocated to groups for the purposes of monitoring credit risk. Within the Messer Group, customer groups with comparable credit risks are determined on the basis of the line of business and the registered office of the customers concerned.

A receivable is classified as impaired if there is any objective evidence that the expected future cash flows relating to that receivable are impaired, e.g. imminent insolvency or a breach of contract due to default. As a general rule, a credit loss arises if it is unlikely that a debtor will be able to settle its liabilities in full.

Each Messer Group company therefore analyzes whether there is objective evidence of impairment for customer receivables that are overdue by more than a certain number of days, which is taken to indicate the existence of increased credit risk. An increased credit risk is deemed to exist at the latest when the number of days overdue significantly exceeds the average turnover rate, which can vary between 90 and 270 days depending on the company.

The following table provides information on the estimated credit risk and expected credit losses for trade receivables as of December 31, 2020, based on default events:

2020	Receivables	Default rate in percent	Expected credit loss
Impairment allowance on individual basis	73,747	34.4 %	25,355
Impairment allowance on collective basis due to default event			
Days overdue:			
Not overdue	84,168	3.8 %	3,164
between 1 and 30 days	20,286	6.3 %	1,273
between 31 and 60 days	7,032	10.0 %	700
between 61 and 90 days	2,854	14.7 %	419
between 91 and 120 days	698	49.4 %	345
between 121 and 180 days	957	40.2 %	385
between 181 and 270 days	659	49.8 %	328
more than 271 days	9,182	67.5 %	6,202
	199,583		**38,171**

Impairment allowances on non-current and current trade receivables developed as following during the year under report:

	2020	2019
Balance as of January 1	**30,839**	**36,272**
Net change recognized through profit or loss	9,223	(5,264)
Net change recognized through OCI	(1,774)	(342)
Changes in group reporting entity and reclassifications to "held for sale"	354	(3)
Translation differences	(471)	176
Balance as of December 31	**38,171**	**30,839**

The impairment allowance relates to trade receivables and was calculated exclusively on the basis of life-time expected credit losses.

The following table provides information on the estimated default risk and expected credit losses recognized on trade receivables as of December 31, 2019:

2019	Receivables	Default rate in percent	Expected credit loss
Impairment allowance on individual basis	75,476	34.2 %	25,786
Impairment allowance on collective basis due to default event			
Days overdue:			
Not overdue	69,451	1.1 %	765
between 1 and 30 days	20,793	2.9 %	599
between 31 and 60 days	7,069	6.5 %	463
between 61 and 90 days	2,256	15.2 %	342
between 91 and 120 days	1,081	39.9 %	431
between 121 and 180 days	961	39.2 %	377
between 181 and 270 days	1,027	39.6 %	407
more than 271 days	2,931	56.9 %	1,669
	181,045		**30,839**

Liquidity risk

The liquidity risk (defined as the risk that the Messer Group will not be able to meet its financial commitments as and when they fall due) is limited partly by creating the necessary financial flexibility and partly by efficient cash management procedures. In addition to cash funds, the Messer Group also has access to long-term, freely available credit facilities in order to safeguard liquidity. There are no indications that any of the credit facilities in place at the end of the reporting period are not fully available. Liquidity risks are regularly monitored and reported to management, in particular with respect to compliance with the financial covenants described in note 28 "Financial debt".

Trade payables and other current liabilities have remaining terms of less than one year. Information relating to the maturities of financial liabilities is provided in note 28 "Financial debt". Other non-current liabilities have remaining terms of more than one year and less than five years.

The following table shows the expected cash flows for financial liabilities:

Description	Carrying amount Dec. 31, 2020	Expected cash flow	Cash flows 2021		Cash flows 2022 - 2025		Cash flows from 2026	
			Interest	Principal	Interest	Principal	Interest	Principal
Financial liabilities measured at amortized cost	**516,331**	**(532,683)**	**(9,020)**	**(312,023)**	**(5,790)**	**(205,850)**	**–**	**–**
Financial debt [1]	387,281	(403,633)	(9,020)	(182,973)	(5,790)	(205,850)	–	–
Trade payables	101,589	(101,589)	–	(101,589)	–	–	–	–
Other current liabilities	27,461	(27,461)	–	(27,461)	–	–	–	–
Financial liabilities measured at fair value through profit or loss	**4,193**	**(4,280)**	**(1,319)**	**(1,434)**	**(1,267)**	**(260)**	**–**	**–**
Forward exchange contracts [2]	1,694	(1,694)	–	(1,434)	–	(260)	–	–
Interest rate swaps [2]	2,499	(2,586)	(1,319)	–	(1,267)	–	–	–
Lease liabilities	**25,685**	**(32,440)**	**(883)**	**(5,118)**	**(2,124)**	**(12,934)**	**(3,748)**	**(7,633)**

[1] Financing transaction fees have already been reported as cash outflows and are therefore not a component of future cash flows.
[2] In the case of financial derivatives, repayment is based on contractual cash flows.

All instruments are included that were held on December 31, 2020 and for which payments have already been contractually agreed. Forecasted figures for future new liabilities are not included. Foreign currency amounts are converted using the relevant closing exchange rate as of December 31, 2020. Cash flows relating to the interest-rate swaps were calculated on the basis of netted interest payments, using interest rate curves provided by the banks concerned.

Description	Carrying amount Dec. 31, 2019	Expected cash flow	Cash flows 2020		Cash flows 2021-2024		Cash flows from 2025	
			Interest	Principal	Interest	Principal	Interest	Principal
Financial liabilities measured at amortized cost	**516,963**	**(549,006)**	**(13,258)**	**(136,273)**	**(16,575)**	**(382,900)**	**–**	**–**
Financial debt [1]	401,428	(433,471)	(13,258)	(20,738)	(16,575)	(382,900)	–	–
Trade payables	93,424	(93,424)	–	(93,424)	–	–	–	–
Other current liabilities	22,111	(22,111)	–	(22,111)	–	–	–	–
Financial liabilities measured at fair value through profit or loss	**2,540**	**(2,784)**	**(693)**	**(294)**	**(1,463)**	**(334)**	**–**	**–**
Forward exchange contracts [2]	628	(628)	–	(294)	–	(334)	–	–
Interest rate swaps [2]	1,912	(2,156)	(693)	–	(1,463)	–	–	–
Lease liabilities	**22,352**	**(26,905)**	**(838)**	**(4,998)**	**(1,873)**	**(11,283)**	**(1,843)**	**(6,070)**

[1] Financing transaction fees have already been reported as cash outflows and are therefore not a component of future cash flows.
[2] In the case of financial derivatives, repayment is based on contractual cash flows

Interest rate risk

Interest rate risk can arise when liabilities subject to interest are not hedged in terms of maturity or amount by either corresponding assets or derivative instruments. The objective is to optimize the net interest result and minimize interest risks. The Company uses fixed interest-rate arrangements and derivatives to hedge against the risk of interest rate change on a significant proportion (93 %) of its total financial debt.

Variable financial instruments are subject to a cash flow risk in terms of the uncertainties pertaining to future interest payments. The cash flow risk is measured on the basis of sensitivity analyses which assume a shift in interest rate curves for all currencies of +/- 100 basis points as of December 31, 2020.

Changes in interest-rate derivatives are recognized through profit or loss based on market rates at the end of the reporting period. If the market interest rate as of December 31, 2020 had been 100 basis points higher (lower), the net group profit would have been K€ 1,252 (2019: K€ 1,941) higher (lower).

In the case of variable financial liabilities and cash deposits, the result would have been K€ 1,616 (2019: K€ 1,116) higher (lower) if market interest rates had been 100 basis points higher (lower) as of December 31, 2020. The underlying exposure for interest risk as of December 31, 2020 amounted to K€ 161,607 (2019: K€ 111,627).

Currency risk

The currency risk for the Messer Group arises from both financing and operating activities in an international environment. Foreign currency risks are hedged to the extent that they have a significant influence on group cash flows.

Foreign currency risks relating to financing activities result from foreign currency financial and loans used to finance group companies. The Group Treasury department hedges these risks. Foreign exchange derivatives are employed to convert foreign currency financial obligations and intragroup loans into the functional currency of the parent company.

As far as operating activities are concerned, the individual group companies conduct their business for the most part in their own functional currency. The Messer Group's currency risk from operating activities is therefore considered overall to be small. A number of group companies are, however, exposed to foreign currency risks in connection with operating transactions which are not denominated in their own functional currency. This relates mainly to payments in conjunction with a long-term supply agreement and payments in conjunction with investments. The Messer Group uses foreign exchange derivatives to hedge these risks.

Currency risks as defined in IFRS 7 result from financial instruments which are denominated in a currency other than the functional currency and which are monetary in nature; exchange differences arising on the translation of financial statements into the group currency are not taken into account.

The currency risk is measured on the basis of sensitivity analyses. For this purpose, it is assumed that all currencies could appreciate/depreciate by 10 % compared to the Euro.

If the euro gained (lost) in value by 10 % against the main currencies, the hypothetical result would be K€ 2,205 lower (higher) (2019: K€ 4,264). The net currency risk from balance sheet exposures was as follows:

in K€, balance as of December 31, 2020	CNY	CZK	HUF	PLN	RSD	USD	VND
Foreign currency risk from balance sheet exposures	(355)	(24,101)	(12,013)	(652)	21,264	(75,970)	(7)
Foreign currency risk from forecasted transactions	(5,627)	(9,088)	4,000	(15,074)	72,406	(24,291)	141
Transaction-related foreign currency exposures	**(5,982)**	**(33,189)**	**(8,013)**	**(15,726)**	**93,670**	**(100,261)**	**134**
Exposures hedged in economic terms by derivatives	–	–	–	–	–	47,321	–
Unhedged foreign currency exposures	**(5,982)**	**(33,189)**	**(8,013)**	**(15,726)**	**93,670**	**(52,940)**	**134**
Change in foreign currency exposures as a result of a 10 % appreciation in value of the euro	598	3,319	801	1,573	(9,367)	5,294	(13)

34. Related parties

Transactions with the following entities and individuals are treated as transactions with related parties.

Related parties (entities)

The highest-level controlling entity is Messer Industrie GmbH. The highest-level controlling party is the Messer family. Associated companies, joint ventures and non-consolidated subsidiaries classified as related entities are shown in the List of Investments.

The following entities qualify as other related parties:

- Messer Management SE
  Messer Management SE is the general partner (*Komplementär*) of the future Messer SE & Co. KGaA. We refer to the additional disclosures provided in note 35 "Events after the end of the reporting period".

- Messer Holding GmbH
  Messer Holding GmbH has held 100 % of the shares of Messer Group GmbH since January 1, 2016.

- MIG Holding GmbH and Messer Eutectic Castolin Group (MEC Group)
  100 % of the shares in MEC Holding GmbH are held by MIG Holding GmbH, a fellow subsidiary of Messer Industrie GmbH.

- Messer Medical Home Care Holding GmbH (Home Care Group)
  The Messer Group spun off its Home Care activities to a separate group with effect from March 31, 2011. The parent company of this group, Messer Medical Home Care Holding GmbH, is wholly owned by MIG Holding GmbH (Messer Industrie GmbH's fellow subsidiary).

- Greenbelt Ltd., British Virgin Islands and Hardtberg Grundstücks GmbH
  Stefan Messer, director and co-shareholder of Messer Industrie, is also director and co-shareholder/sole shareholder of these entities. Messer Group GmbH rents its corporate headquarters in Bad Soden am Taunus from Hardtberg Grundstücks GmbH. The existing rental relationship meets the criteria of a lease in accordance with IFRS 16 and was reported as a right-of-use asset in the consolidated balance sheet. The corresponding lease liability amounted to K€ 5,017 as of December 31, 2020.

  Messer Group GmbH and MEC Holding GmbH are fractional owners in furbishment activities undertaken at the corporate headquarters in Bad Soden.

- Yeti GermanCo 1 GmbH Group
  Messer Group GmbH holds 54.4602 % of the joint venture company Yeti GermanCo 1 GmbH, which is responsible for managing Messer's operations in Western Europe and America. All entities included in these consolidated financial statements are considered to be related parties from the perspective of Messer Group GmbH.

- Yeti Warehouse GmbH Group
  The Messer Group holds 58.05 % of the shares of Yeti Warehouse GmbH. Yeti GermanCo 1 GmbH's Employee Participation Program has been combined within the Yeti Warehouse GmbH Group. The latter has been accounted for using the equity method since these arrangements have been in place.

The following transactions were executed with related entities:

	Dec. 31, 2020	Dec. 31, 2019
Revenue from sales to related entities		
Ultimate controlling party	5	5
Parent company	–	–
Associated companies/joint ventures	34,462	28,296
Non-consolidated subsidiaries	287	160
Other related entities	5,161	6,484
	39,915	**34,945**
Purchased goods and services		
Ultimate controlling party	23	14
Parent company	2,365	1,880
Associated companies/joint ventures	4,601	4,300
Non-consolidated subsidiaries	92	–
Other related entities	151	188
	7,232	**6,382**

	Dec. 31, 2020	Dec. 31, 2019
Trade receivables		
Associated companies / joint ventures	4,283	7,445
Non-consolidated subsidiaries	1,640	1,590
Other related entities	562	564
	6,485	**9,599**
Other financial and non-financial assets		
Ultimate controlling party	985	1,231
Parent company	–	–
Associated companies / joint ventures	22	910
Other related entities	59	217
	1,066	**2,358**
Trade payables		
Associated companies / joint ventures	2,585	1,595
Non-consolidated subsidiaries	28	10
Other related entities	349	309
	2,962	**1,914**
Other financial and non-financial liabilities		
Parent company	1,509	671
Associated companies / joint ventures	1,653	3,081
	3,162	**3,752**

Receivables from related entities result from service agreements and sales transactions with varying maturities. The receivables are not secured by collateral and do not bear interest.

	Dec. 31, 2020	Dec. 31, 2019
Loans receivable from		
Associated companies / joint ventures	623	1,278
Non-consolidated subsidiaries	1,133	1,133
	1,756	**2,411**
Loans payable to		
Associated companies / joint ventures (interest rate of 0.5 % p. a.)	–	205
Other related parties (interest rates of 0.01 % p. a.)	3,165	1,900
	3,165	**2,105**

Related parties (individuals)

Executive Board
The Executive Board (*Geschäftsführung*) of Messer Group GmbH during the reporting period comprised the following:

- Stefan Messer, Chief Executive Officer, Bad Soden/Taunus
- Dr. Uwe Bechtolf, Chief Financial Officer, Wiesbaden
- Ernst Bode, Chief Operating Officer Europe, Belgrade

The total remuneration of the Executive Management of Messer Group GmbH for the financial year 2020 amounted to K€ 2,991 (2019: K€ 3,275).

Of this amount, fixed remuneration of the Executive Management Board including benefits in kind and other benefits totaled K€ 1,228 (2019: K€ 1,226). Variable remuneration totaled K€ 1,515 (2019: K€ 1,515) and is linked to the attainment of specified performance figures. A total of K€ 248 (2019: K€ 535) was allocated to the pension provision in 2020.

Supervisory Board
The Supervisory Board (*Aufsichtsrat*) of Messer Group GmbH during the reporting period comprised the following:

- Dr. Jürgen Heraeus, Chairman, Dipl.-Kaufmann
- Dr. Bodo Lüttge, Deputy Chairman, Dipl. -Kaufmann
- Dr. Karl-Gerhard Seifert, chemist, Managing Director of Cassella GmbH
- Dr. Werner Breuers, Chemist, Managing Director of ICB Deutschland GmbH
- Dr. Nathalie von Siemens, Dipl. Philosophin, Member of the Supervisory Board of Siemens AG
- Heike Niehues, Dipl. Betriebswirtin, member of the board of directors of Webasto Thermo & Comfort SE

The remuneration of the Supervisory Board during the reporting period amounted to K€ 220 (2019: K€ : 220).

35. Events after the end of the reporting period

Messer CZ s.r.o., Czech Republic, was merged with Messer Technogas s.r.o., Czech Republic, with effect from January 1, 2021. As a result of the merger of these two Messer companies (which had been independent until December 31, 2020), all rights and obligations of Messer CZ s.r.o. were transferred to Messer Technogas s.r.o.

Helmut Kaschenz was appointed to the Executive Board of Messer Group GmbH with effect from April 1, 2021 and will be responsible for business development and strategic planning.

Messer Group GmbH will be converted into a partnership limited by shares (KGaA) – *Kommanditgesellschaft auf Aktien (KGaA)* – and will in future trade as Messer SE & Co. KGaA. The conversion takes legal effect upon entry in the commercial register. This had not yet taken place at the date on which the consolidated financial statements were authorized for issue. The legal form of a KGaA will help strengthen Messer’s position as a group of companies operating on a global scale by creating greater opportunities to act and shape the future. Under the new structure, the shareholder family will continue to have full control (100 %) and influence over the Group.

36. Prior year's financial statements

The Supervisory Board approved the Consolidated Financial Statements as of December 31, 2019 on April 21, 2020.

37. Costs of auditors

Costs incurred for the external auditors of the Messer's German entities comprised the following (in K€):

	2020	2019
Audits of financial statements	314	323
Other attestation services	2	2
Tax advisory services	75	8
Other services	154	–
	545	**333**

Bad Soden am Taunus, April 16, 2021

Appendix

List of shareholdings as of December 31, 2020

Country	Name	Registered office	Equity (in K€)	Direct / Indirect	Shareholding in %	Net result after tax (in K€)
Affiliated companies included in the consolidated financial statements						
Albania	Messer Albagaz SH.P.K	Korça	3,341	I	81.94	(9)
Austria	Messer Austria GmbH	Gumpoldskirchen	14,437	D	100.00	325
Bosnia and Herzegovina	Messer Mostar Plin d.o.o.	Mostar	4,494	D	100.00	498
	Messer Tehnoplin d.o.o.	Sarajevo	18,786	I	97.90	2,033
	Messer BH Gas d.o.o.	Sarajevo	21,640	I	81.94	1,635
Bulgaria	Messer Bulgaria EOOD	Sofia	7,655	D	100.00	367
China	Kunming Messer Gas Products Co., Ltd.	Kunming, Yunnan Province	(2,243)	I	77.16	(48)
	Sichuan Messer Gas Products Co., Ltd.	Chengdu	40,810	I	100.00	7,882
	Mianyang Messer Gas Products Co., Ltd.	Mianyang	4,270	I	100.00	541
	Foshan MS Messer Gas Co., Ltd.	Foshan City, Guangdong Province	74,563	I	85.00	12,295
	Chengdu Chenggang Messer Gas Products Co., Ltd.	Chengdu	(3,724)	I	60.00	1,347
	Hunan Xianggang Messer Gas Products Co., Ltd.	Xiangtan City, Hunan Province	152,435	I	55.00	33,790
	Sichuan Pangang Messer Gas Products Co., Ltd	Panzhihua, Sichuan Province	155,277	I	60.00	30,514
	Wujiang Messer Industrial Gas Co., Ltd.	Wujiang, Jiangsu Province	10,661	I	100.00	4,239
	Messer Sunshine (Ningbo) Gas Products Co., Ltd.	Ningbo, Zhejiang Province	6,271	I	100.00	91
	Messer Gas Products (Zhangjiagang) Co., Ltd.	Zhangjiang City, Jiangsu Province	68,662	I	100.00	7,248
	Foshan Shunde MS Messer Gas Products Co., Ltd	Foshan City, Guangdong Province	34,136	I	60.00	8,811
	Chongqing Messer Gas Products Co., Ltd.	Chongqing, Sichuan Province	17,222	I	100.00	(140)
	Messer Griesheim (Kunming) Gas Products Co.Ltd.	Kunming, Yunnan Province	11,646	I	100.00	1,796
	Shaoxing Messer Gas Products Co. Ltd.	Shaoxing City, Zhejiang Province	7,905	I	100.00	2,129
	Xichang Pangang Messer Gas Products Co. Ltd.	Xichang City	80,539	I	60.00	11,309
	Messer (Wuhu) Gas Products Co., Ltd	Wuhu City, Anhui Province	9,244	I	100.00	–
	Messer Gas Products (Nanjing) Co.,Ltd	Nanjing, Jiangsu Province	3,823	I	100.00	18
	Messer Specialty Gases (Suzhou) Co., Ltd.	Suzhou, Jiangsu Province	12,841	I	100.00	1,754
	Hengyang Xianggang Messer Gas Products Co.Ltd	Suzhou, Jiangsu Province	7,453	I	55.00	1,100

Country	Name	Registered office	Equity (in K€)	Direct / Indirect	Shareholding in %	Net result after tax (in K€)
Affiliated companies included in the consolidated financial statements						
China	Yunnan Yun Tianhua Messer Gas Products Co.,Ltd.	Suzhou, Jiangsu Province	5,278	I	65.00	463
	Foshan Sanshui MS Messer Gas Co., Ltd.	Suzhou, Jiangsu Province	4,639	I	85.00	1,218
	Dongguan Moral Strength Messer Gas Co., Ltd.	Dongguan, Guangdong Province	9,971	I	60.00	–
	Ningxiang Xianggang Messer Gas Products Co., Ltd.	Ningxiang, Hunan Province	13,667	I	55.00	3,295
	Kunming Anning Messer Gas Products Co.Ltd	Anning, Yunnan Province	7,766	I	100.00	(976)
	Messer Specialty Gases (Chuzhou) Co., Ltd.	Chuzhou, Anhui Province	10,470	I	100.00	–
	Liuyang Xianggang Messer Gas Products Co., Ltd.	Liuyang City, Hunan Province	2,743	I	55.00	–
	Yunnan Messer Gas Products Co., Ltd.	Kunming, Yunnan Province	54,075	I	100.00	4,881
	Messer Griesheim (China) Investment Co., Ltd.	Shanghai	432,388	I	100.00	77,594
	Changsha Xianggang Messer Gas Products Co, Ltd.	Changsha, Hunan Province	1,731	I	55.00	399
	Messer Management Consulting (Shanghai) Co., Ltd.	Shanghai	19,406	I	100.00	(541)
Croatia	Messer Croatia Plin d.o.o.	Zapresic	26,265	I	99.96	4,501
Czech Republic	Messer Technogas s.r.o.	Prague	34,983	D	100.00	4,650
	Messer CZ s.r.o	Prague	6,540	I	100.00	(561)
	MG Odra Gas spol.s.r.o.	Vratimov	19,867	D	70.00	1,578
Germany	Messer Griesheim China Holding GmbH	Sulzbach	178,322	D	100.00	–
	Messer Group GmbH	Sulzbach	1,143,924	–	100.00	29,640
	Messer GasPack GmbH	Krefeld	57,698	D	100.00	–
	Messer Information Services GmbH	Groß-Umstadt	2,565	D	100.00	–
Hungary	Messer Hungarogáz Kft.	Budapest	51,125	D	100.00	7,911
Malaysia	Universal Industrial Gas Sdn. Bhd.	Senai	2,068	D	75.00	52
Netherlands	Messer Finance BV	Moerdijk	4,000	D	100.00	876
North Macedonia	Messer Vardar Tehnogas d.o.o.	Skopje	7,285	D	100.00	156
Poland	Messer Polska Sp. z o.o.	Chorzów	38,713	D	99.97	1,705
	Eloros Sp. z o.o.	Chorzów	11,386	I	99.97	1,389
	MP Production Sp. z o.o.	Chorzów	3,844	I	99.97	(1,074)
Romania	Messer Romania Gaz S.R.L.	Bucharest	17,138	I	100.00	2,648
	Messer Energo Gaz S.R.L.	Mintia	1,176	I	100.00	93
Serbia	Messer Tehnogas AD	Belgrade	168,091	D	81.94	16,073
Slovakia	Messer Tatragas spol.s.r.o.	Bratislava	18,285	D	100.00	3,747
	Messer Slovnaft s.r.o.	Bratislava	3,864	D	51.00	483
Slovenia	Messer Slovenija d.o.o.	Ruse	40,484	I	74.76	1,622

Country	Name	Registered office	Equity (in K€)	Direct / Indirect	Shareholding in %	Net result after tax (in K€)
Affiliated companies included in the consolidated financial statements						
Switzerland	ASCO Kohlensäure AG	Romanshorn	1,791	I	70.00	(3,182)
Thailand	Messer (Thailand) Co., Ltd	Bangkok	3,815	D	100.00	(155)
USA	ASCO Carbon Dioxide Inc.	Jacksonville	347	I	70.00	(135)
Vietnam	Messer Haiphong Industrial Gases Co., Ltd.	Hai Phong City	65,301	D	100.00	5,036
	Messer Binh Phuoc Industrial Gases Co., Ltd.	Binh Phuoc Province	3,165	D	100.00	(262)
	Messer Vietnam Industrial Gases Co., Ltd.	Binh Duong	4,105	D	100.00	419
Companies accounted for using the equity method						
China	Sichuan Meifeng Messer Gas Products Co., Ltd.	Mianyang City, Sichuan Province	4,454	I	50.00	465
Estonia	Elme Messer Gaas A.S.	Tallinn	60,363	D	50.00	222
Germany	Cryogenic Engineering GmbH i.L.	Sulzbach	199	D	49.00	(7)
	Yeti GermanCo 1 GmbH	Sulzbach	1,327,625	D	54.46	(1,257)
	Yeti Warehouse GmbH	Sulzbach	1,615	D	58.05	(6)
Affiliated companies not included in the consolidated financial statements						
Bosnia and Herzegovina	Plin Sarajevo d.d.	Sarajevo	3,035	I	100.00	(72) [1]
Czech Republic	Messer TTD, s.r.o	Prague	4	I	90.00	– [1]
Gibraltar	Messer Primeco FZE Limited (Gibraltar)	Gibraltar	–	D	51.00	– [1]
Greece	Messer Hellas S.A. i.L.	Athens	–	D	100.00	– [1]
	Tehnogas-Hellas Ltd.	Athens	–	I	40.97	– [1]
Kosovo	Messer GTM LLC	Kosovska Mitrovica	(188)	I	81.94	(1) [1]
	Messer Medica LLC	Obiliq	–	I	49.00	– [1]
Malaysia	Excel Gas Solutions Sdn. Bhd	Kuala Lumpur	–	I	25.80	– [1]

[1] Affiliated companies not included in the consolidated financial statements owing to immateriality for the net assets, financial position and result of operations