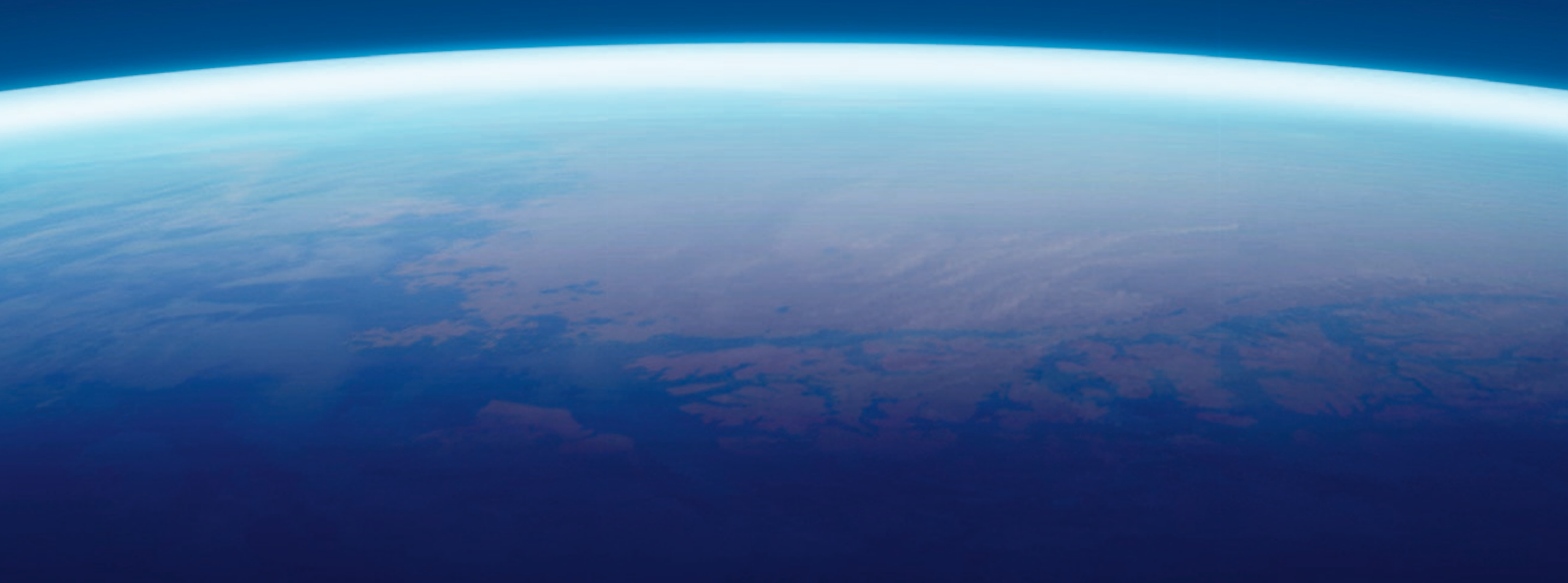
MESSER
Gases for Life

Annual Report

of Messer Group GmbH 2019



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 4 April 2019 and 14 November 2019. 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 2019, 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 21 April 2020 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 2019 financial year.

The Supervisory Board

Jürgen Heraeus

Dr Jürgen Heraeus, Chairman

GROUP MANAGEMENT REPORT OF MESSER GROUP GMBH 2019

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/Taunus. It acts as a management holding company and, together with its subsidiaries and affiliated companies, 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 offers its products and services 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 one of the most diverse product portfolios in the market, producing industrial gases such as oxygen, nitrogen, argon, carbon dioxide, hydrogen, helium, shielding gases for welding, specialty gases, medical gases and a wide variety of mixed gases.

In its state-of-the-art competence centers, the Messer Group develops application technologies for the use of gases in nearly 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 state-of-the-art competence center 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 its application technologies, which are tailored to meet the needs of its customers. Gumpoldskirchen, near Vienna, Austria, is the hub for the continual development of high-temperature processes together with customers, cooperation partners and research institutes. New technologies, gas mixtures and applications for welding and cutting are developed in Hungary and China.

In conjunction with the merger between Linde AG and Praxair Inc., on July 16, 2018, Messer and the financial 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, Canada, Brazil and Colombia and to take over Praxair's activities in Chile. The U.S. Federal Trade Commission ("FTC") approved the Messer Group as a "suitable buyer" on December 21, 2018. 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 to the joint venture its Western European operations in Spain, Portugal, Switzerland, France, Belgium, 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 at December 31, 2018, the companies concerned were treated as discontinued operations within the meaning of IFRS 5. For the purpose of analyzing the results of operations, financial position and net assets, prior-year figures are therefore broken down into continuing and discontinued operations. The result of the Western European business units for the period from January 1 to February 28, 2019 is presented separately within the "Result from discontinued operations".

The Messer Group has applied IFRS 16 „Leases" since January 1, 2019. The new Standard does not contain any special transition provisions for contracts where the Messer Group is the lessor. For this reason, the general requirements stipulated in IAS 8 „Accounting Policies, Changes in Accounting Estimates and Errors" have been applied. Comparative amounts for the year prior to first-time application have been adjusted retrospectively.

In conjunction with the analysis of existing contracts – in particular contracts for the supply of gases and the long-term lease of the related gas production facilities – it was determined that some contracts do not meet the criteria for a lease set out in IFRS 16. The corresponding receivables from customers were therefore derecognized with retrospective effect from January 1, 2018 and the relevant gas production plants recognized again as property, plant and equipment in the balance sheet. The impact of the change in accounting policy was recognized directly in equity through revenue reserves.

Changes in the group reporting entity in the fiscal year 2019

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

First-time consolidations

The following entities were either founded or acquired and commenced operations in 2019:

- Messer Specialty Gases (Chuzhou) Co., Ltd., China, 100 % (founded)

Contribution of shares with loss of control

Transfer of the Western European companies

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. The transaction was subject to the successful completion of the merger between Linde AG and Praxair Inc. and the approval of the relevant US antitrust authorities. On October 22, 2018, the U.S. Federal Trade Commission (FTC) gave its clearance for the merger between Linde AG and Praxair Inc. in accordance with merger control law. On December 21, 2018, the FTC gave its definitive approval for the Messer Group as "suitable buyer".

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. Effective March 1, 2019, Messer Group GmbH contributed to the joint venture its Western European operations in Spain, Portugal, Switzerland, France, Belgium, Netherlands, Denmark, Germany and the company in Algeria as well as a free-of-charge right to use the "Messer – Gases for Life" brand for a period of ten years, based on a total fair value of K€ 772,000.

The contribution and related deconsolidation were recorded effective February 28, 2019. As a result, the following companies ceased to be part of the group reporting entity after this date:

- bECO2 B.V.B.A., Belgium
- Messer Algérie SPA, Algeria
- Messer B.V., Netherlands
- Messer Belgium N.V., Belgium
- Messer Denmark A/S, Denmark
- Messer France S.A.S., France
- Messer GasPack II GmbH, Germany
- Messer Ibérica de Gases S.A., Spain
- Messer Industriegase GmbH, Germany
- Messer Produktionsgesellschaft mbH Salzgitter, Germany
- Messer Produktionsgesellschaft mbH Siegen, Germany
- Messer Produktionsgesellschaft mbH Speyer, Germany
- Messer Schweiz AG, Switzerland
- MesserGas Distribuicao des Gases Industriais Uip, Portugal

For more information, please see our comments in note 25 "Assets held for sale and discontinued operations" in the notes to the consolidated financial statements.

The Yeti GermanCo 1 Group is jointly controlled by Messer Group GmbH and CVC Capital Partners and accounted for in the consolidated financial statements of Messer Group GmbH as a joint venture using the equity method.
For more information, please see our comments in note 18 "Investments accounted for using the equity method" in the notes to the consolidated financial statements.

Sale of shares with loss of control

Messer Group GmbH sold its majority shareholding in PT Chemindo Inti Usaha, Indonesia, for zero consideration in the fiscal year 2019. The sale did not have any material impact on the consolidated financial statements of Messer Group GmbH.

Messer Group GmbH sold 41.95 % of its shares in Family NewCo GmbH to Yeti Investment SarL. Following the sale of the shares, Family NewCo GmbH was renamed Yeti Warehouse GmbH and is now jointly controlled by Messer Group GmbH and CVC Capital Partners. The sale did not have any material impact on the consolidated financial statements of Messer Group GmbH. Yeti GermanCo 1 GmbH’s Employee Participation Program has been combined within Yeti Warehouse GmbH. The latter has been included in the consolidated financial statements as an associated company since these arrangements have been in place.

Increases in majority shareholdings

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. Ltd. 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.

Other

Effective January 1, 2019, Messer Gaz Solutions S.R.L., Romania, was merged with Messer Romania Gaz S.R.L., Romania.

Fujian Quanhui Messer Gas Co. Ltd., China, was liquidated in April 2019.

Messer Consulting (Singapore) Pte. Ltd., Singapore, ceased operations and is in the process of being liquidated.

Financial performance indicators

The Messer Group uses parameters based on operating performance indicators to manage its business. The key indicators are revenue, EBITDA, investments, net debt and ROCE. Further explanations and the make-up 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 embedded in Messer’s guiding principles since its foundation in 1898 and remain an important consideration 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, the health and safety of our workforce and the protection of the environment are firmly integrated in the global quality management system and reflected in various standards of the Messer Group.

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

Unless otherwise stated, disclosures for the previous year in the following section cover the entire Group (continuing and discontinued operations).

During the past fiscal year, 721 (2018 including Western Europe: 899) SHEQ-related inspections and checks were carried out across the Messer Group (of which 606 in Europe), resulting in numerous improvement measures.

In addition, 108 ideas and suggestions for improvement were submitted by Messer Group staff members (of which 48 in Europe).

Occupational safety and health

Occupational health and safety are of the utmost importance to the Messer Group. The Messer safety guidelines reflect our position: "All industrial 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 carefully 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.

During the fiscal year 2019, 16 safety audits and three special-purpose audits for depots were conducted in order to underline and ensure compliance with the SHEQ standards that apply throughout the Messer Group's operations. 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 2019, 16 working accidents causing lost days were reported. The ratio of lost days per million working hours (accident frequency) therefore went up from 1.3 (2018) to 1.7. However, the number of lost working days (accident severity) per million working hours decreased sharply from 64.0 in 2018 to 52.3 in 2019.

	2015	2016	2017	2018	2019 *
Working accidents causing lost days	22	25	15	14	16
Accident frequency	2.2	2.4	1.4	1.3	1.7
Accident severity	65.1	77.9	45.4	64.0	52.3

*excluding Western Europe

Messer is an active member of the European Industrial Gases Association (EIGA) and of the Industrial Gases Association (AIGA) in China. Our experts actively exchange experiences, knowledge and lessons in order to learn 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 is signatory to the European Road Safety Charter and thereby undertakes to place 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 concerning the international carriage of hazardous goods by road). Four avoidable accidents that occurred during transportation were reported in 2019 (2018: nine), causing the ratio per million kilometers driven to decrease from 0.41 to 0.28.

The number of avoidable accidents involving the transportation of liquefied gases also fell from 14 (2018) to 7, as a result of which the frequency rate per million kilometers driven decreased from 0.19 in 2018 to 0.13 in 2019.

The Messer Group is endeavoring to reduce the number of accidents with the help of a raft of measures, including supplier management and providing information on defensive driving and securing loads. Messer also used its in-house modular driver training package to train drivers. The main themes covered by the driver training package 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 drivers have immediate access to all key information relating to their work.

IT security / Data protection

Digitization is becoming an increasingly important factor within the Messer Group. Both the Group Digital Officer ("GDO") and the Group 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.

Messer is fully committed to compliance with applicable data protection regulations. In order to underscore this commitment, Messer is creating appropriate structures 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 national companies. The GPO also provides numerous templates and processes that are designed to ensure a uniform data protection standard.

At an annual worldwide HR meeting held during the previous fiscal, the HR managers of the Group's various national companies addressed the topics of data protection and cybercrime. Appropriate training has provided a very good understanding of these complex issues for further implementation.

Environmental management

It is 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 the Group's subsidiaries are in accordance with the international standard ISO 14001 and the recommendations set out by the European Industrial Gases Association (for example, EIGA IGC Doc. 107 – Guidelines on Environmental Management Systems). In 2019, eighteen of our subsidiaries obtained external certification of their environmental management systems. Eighteen companies were also externally certified in 2018 (continuing operations only).

The efficient use of energy is in Messer's own best interest. With the principal aims of cutting costs and using resources as economically as possible, energy management is an ongoing process that also contributes to reducing our CO_2 emissions. Our energy management system, for instance, has been certified in accordance with ISO 50001 at all Messer production facilities in Germany.

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. Particular emphasis is therefore placed on the ongoing improvement of 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 continuously being initiated to improve energy efficiency.

The key environmental data for Messer's production activities during the past fiscal year were as follows:

The volume of gases produced increased by 9.5 % compared to the previous year (continuing operations only), as a result of which the electricity consumption of the Group's air separation plants also rose. On the other hand, energy efficiency, measured in terms of energy consumption per cubic meter of gas sold, improved by 1.6 % year-on-year.

Again in 2019, we commissioned new on-site plants with a view to reducing the cost of delivering liquefied gases and simultaneously cutting CO_2 emissions. These facilities are now used for on-site gas production, saving approximately 4,500 truck journeys and 800 tonnes of CO_2 per year. As a result, local customers benefit from greater flexibility and supply security.

Customer satisfaction / Quality

As a responsible company, we naturally respect the opinions of our customers and strive to ensure their satisfaction. For this reason, we measure customer satisfaction in systematic surveys and integrate the results in our management processes. Customer satisfaction analyses are performed for each of our European national companies every two years.

Following a major survey in 2018, customer satisfaction surveys were conducted at two of our Europe-based companies in 2019. Messer companies wrote to almost 7,000 customers in Austria and Serbia during the year under report. However, on average, only 4.4 % (2018: 8 %) of them completed the questionnaires in full. Questionnaires from a total of 304 customers were evaluated.

The results were analyzed by region. On a scale of 1 for highly dissatisfied to 10 for highly satisfied, the performance of the Messer Group as a whole achieved a rating of 8.8. Overall, the results are at a high level. Potential for improvement was identified and implemented for each of the individual countries.

Financial Report

General economic conditions

The various products made from industrial gases and their related services and technologies are used in almost all branches of industry, but particularly in foodstuffs technology, medicine and the fields of research and science. For this reason, gross domestic product (GDP) is a highly relevant indicator for the Messer Group's overall performance.

The slowdown in global economic growth already expected for 2019 turned out to be far more pronounced than leading economic institutes had predicted. According to the International Monetary Fund (IMF)[1] and the World Bank[2], global economic growth was around 0.6 % weaker than in 2018. The World Bank, for example, expected real GDP worldwide to rise by 2.4 % in 2019 compared with 3.0 % in 2018. The significant economic slowdown was evident in both the developed industrialized countries and the emerging and developing economies. Among the developed industrialized nations, however, the downturn in the eurozone was even more pronounced than in the USA or South Eastern Europe, where growth even gained momentum in some cases. In line with the general slowdown in growth, according to the IMF, GDP continues to grow at two different rates, i.e. in emerging and developing markets (estimated at 3.7 % for 2019 as compared with 4.5 % in 2018) and in developed industrialized countries (estimated at 1.7 % for 2019 compared with 2.2 % for 2018).[1]

In 2019, economic growth in Europe witnessed a significant slowdown. According to figures released by the Organization for Economic Cooperation and Development (OECD)[3], GDP in the eurozone is estimated to have grown by 1.2 % in 2019, which means the growth rate in the region is likely to have slowed by a further 0.7 percentage points year-on-year, on top of the previous year's 0.8 percent downturn. In this context, these figures tie in with the continuing slowdown of GDP growth in all major Western European economic regions such as Germany, France, Italy and Spain. Furthermore, estimated GDP growth in European countries outside the eurozone was stronger in 2019 than those within it. This is

[1] World Economic Outlook, Update January 20, 2020
[2] Global Economic Prospects, January 2020
[3] OECD Economic Outlook – Volume 2019 Issue 2

clearly evident, for example, in Poland (+4.3 %) and in the countries of South Eastern Europe such as Hungary (+4.9 %), Romania (+3.9 %) and Serbia (+3.3 %). In addition, economic growth accelerated at an even greater pace in certain countries, such as Bulgaria and Croatia.

In China, GDP growth continued to lose pace in line with expectations and, according to World Bank estimates, is likely to have slipped overall from 6.6 % in 2018 to 6.1 % in 2019. The Chinese government continues to pursue its goal of reducing dependence on exports by strengthening domestic demand with a corresponding focus on consumption and services, particularly in view of the intensifying trade conflict with the USA. In this context, the government continues to push ahead with implementing infrastructure projects in particular.

In the USA, the expected decline in economic growth was slightly more pronounced than economic institutions[4] had predicted[5]. After recording an exceptionally strong 2.9 % growth rate in 2018, the rate for 2019 is meanwhile forecast at 2.3 % instead of the previously expected 2.5 %. The weakening of the temporary boom driven by tax cuts, the successive withdrawal of fiscal policy support through interest rate increases up to the end of 2018, and the intensification of the trade conflict with China all left their marks, especially in the production sector. Conversely, however, private consumption remained high and the unemployment rate reached a 50-year low. In Brazil, GDP growth remained sluggish and is estimated at 0.8 % for 2019 according to the OECD.

Course of business

For the Messer Group, the fiscal year 2019 was primarily characterized by the unexpectedly sustained dynamism of the industrial gases business in China. This factor had a particularly positive impact on the liquefied gases market sector, driven by a combination of undiminished strong demand, continued high market prices, and steel production running at practically full capacity. These factors were, however, offset by a weakening of economic performance in Europe, which was less noticeable in the economic activities of the Eastern European countries than in Western Europe. Contrary to our forecast, these continuing favorable economic conditions in relevant economic areas helped the Messer Group (continuing operations) to achieve further significant revenue growth in 2019 compared to one year earlier. In the final analysis, revenue grew by 7.4 % year-on-year. In line with revenue performance, EBITDA for the Messer Group (continuing operations) also turned out better than our expectation for the fiscal year. Although we forecast a significant decline in EBITDA for 2019, we were actually able to increase it again by 2.4 % to € 322 million compared to the previous year (€ 314 million) and adjusted for the impact of IFRS 16, mainly on the back of continued dynamic business performance in China and successful pricing measures in Europe.

Contrary to our forecast, the Messer Group's net debt totaled € 205 million at the end of 2019, which was again lower than the previous year (€ 264 million), due to a combination of strong earnings achieved for the fiscal year under report and lower capital expenditure.

[4] World Economic Outlook, Update January 20, 2020
[5] Global Economic Prospects, January 2020

Overall position of the Group

Results of operations

Adjusted for revenue from discontinued operations, the Messer Group generated revenue of K€ 1,104,322 in 2019 (2018: K€ 1,028,246) worldwide, which can be analyzed by region as follows:

Revenue	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31. 2018 adjusted	Change in 2019
China, Vietnam, ASEAN	612,742	559,075	9.6 %
South Eastern Europe	227,234	218,869	3.8 %
Central Europe	216,338	209,632	3.2 %
Western Europe	48,008	40,670	18.0 %
Continuing operations	**1,104,322**	**1,028,246**	**7.4 %**
Discontinued operations	57,323	339,147	(83.1 %)
	1,161,645	**1,367,393**	**(15.0 %)**

The Messer Group's revenue from continuing operations in the financial year 2019 was 7.4 % up on the previous year. The adjustments to prior-year figures result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. Further information is provided in note 3 „Adjustments due to changes in accounting policies (IAS 8)" in the notes the consolidated financial statements. Business developed in the various regions as follows:

China, Vietnam, ASEAN
In local currency terms, revenue in China rose by 8 % year-on-year, due to a continuation of unexpectedly strong demand for all products in our industry. Our companies benefited above all from steel production running at almost full capacity nationwide and from unbroken strong demand in the liquefied gas market with market prices remaining high.

Revenue in Vietnam rose by 47 % in local currency terms year-on-year. The commissioning of two new air separation plants to supply a new steel mill operated by our on-site customer Hoa Phat, which is situated in the center of Vietnam at Dung Quat, the commissioning of a fourth air separation plant at its existing production site east of Hanoi, the commissioning of a further nitrogen generator for a new customer, and the continued full utilization of liquefied gas production capacities in the north all contributed to this outstanding result.

Our companies in the ASEAN region made a € 5.6 million (2018: € 5.3 million) contribution to overall revenue.

South Eastern Europe
Revenue in South Eastern Europe increased by 4 %, with practically all of the countries in which the Messer Group operates contributing to growth. The Group's operations in Croatia, Hungary and Slovenia in particular recorded significant growth, with revenue up by 6 to 8 % in local currency terms.

Central Europe
The Central Europe region also recorded a slight increase in revenue of 3 %. The positive business performance of Messer companies in Austria and Poland more than compensated for the slight revenue decline at most companies in the Czech Republic and Slovakia.

Western Europe

Figures for Western Europe have been adjusted for discontinued operations, so that this region now only includes the industrial gases operations of ASCO Kohlensäure AG as well as the operations of the service companies Messer GasPack GmbH, Messer Information Services GmbH, Messer Finance B.V. and Messer Group GmbH. Revenue generated by these companies rose by 18 % year-on-year, primarily due to the considerable increase in third-party revenues resulting from services provided by our service companies Messer GasPack GmbH and Messer Information Services GmbH for discontinued operations.

The Group (continuing operations) recorded an EBITDA of K€ 321,560 for the fiscal year 2019 (2018: K€ 313,887) worldwide.

EBITDA	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018 (adjusted)
	Continuing operations	Continuing operations
Operating profit	199,075	193,894
Depreciation, amortization and impairment losses on intangible assets and property, plant and equipment	122,485	119,993
Dividend income[1]	–	–
EBITDA	**321,560**	**313,887**
: Revenue	1,104,322	1,028,246
Margin:	**29.1 %**	**30.5 %**

[1] Dividend income from non-consolidated companies

Operating profit increased slightly by 2.7 % in the fiscal year under report. The improved operating result was primarily attributable to the 7 % growth in revenue, which was partially offset by a disproportionately high increase in the cost of sales. The figure was boosted by reversals of allowances on trade receivables and income from costs recharged to associated companies. In the previous year, operating profit was impacted by a positive effect of K€ 8,477 from the deconsolidation of our subsidiary, Messer Gases del Perú S.A, Peru, accompanied by an offsetting negative impact of impairment losses on goodwill (K€ 4,400) and property, plant and equipment and intangible assets (K€ 3,854). The previous year's EBITDA was adjusted upwards as a result of the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. The impact for continuing operations totaled K€ 11,188.

The financial result primarily includes a net negative interest result of K€ 14,941, an improvement of K€ 5,296 year-on-year. In the previous year, as a consequence of the contribution of Western European operations to Yeti GermanCo 1 GmbH, the USD-denominated US private placements (USPPs), which had been issued to finance the Messer Group, were terminated before their due date. The resulting early repayment penalty of K€ 5,580 was reported as part of the net interest result in 2018.

Gross financial debt less ancillary acquisition financing costs fell by 21.8 % compared with the previous year, mainly due to the early termination of some existing loans in conjunction with the contribution of Western European operations to the Yeti GermanCo 1 Group. For further information, please see our comments below in the section "Financial position".

The net result from investments improved by K€ 14,412 year-on-year. In the previous year, the result was held down by write-downs of investments in associated companies totaling K€ 6,500. In 2019, the Group's share of the results of the Yeti GermanCo 1 Group amounting to K€ 5,389 are included in this line item. For more information, please see our comments in section 1 "Changes in the group reporting entity".

Discontinued operations gave rise to a profit of K€ 420,584 in the fiscal year 2019, whereby most of this figure (K€ 413,222) related to the gain arising on deconsolidation.

Overall, the Group posted a net profit for the year (including non-controlling interests) of K€ 569,867 (2018: K€ 139,535). Of this amount, K€ 532,789 (2018: K€ 102,358) is attributable to the shareholders of the parent company.

Financial position

Group Treasury is responsible for the management of overall liquidity, interest rates and currencies. The primary objective of Group Treasury is to ensure that a minimum level of liquidity is always available to ensure solvency at all times. High levels of liquid funds help to improve our flexibility, security and independence. If necessary, we can draw on additional liquidity from further various credit lines (currently not utilized) amounting to € 69.5 million.

Financing

The contribution of the operational Western European companies to Yeti GermanCo 1 GmbH in February 2019 (see section 1 „Changes in the group reporting entity") gave noteholders a contractually agreed right to terminate the Messer Group's financing arrangements. Notification of termination was received for the USD-denominated USPP III (USD 100 million) and USPP II (USD 57 million) and the amounts due were repaid on January 29 and February 26, 2019 respectively. All of the EUR-denominated USPPs remained in place.

On December 18, 2018, a new Term and Revolving Facilities Agreement (RFA II) totaling € 140 million (originally € 520 million) was agreed with the banks that had previously been party to the Term and Revolving Facilities Agreement (RFA I) dated July 28, 2015, thereby ensuring continuation of the Group a sound financing. 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 / EBITDA.

In addition, two US Private Placements (USPP II, USPP III) remain in place. On January 29, 2019, Messer Group GmbH refinanced the USD 100 million of USD notes by means of a new USPP III tranche for € 87.8 million.

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

Net debt as at December 31, 2019 stood at K€ 204,825 (2018: K€ 264,291) and is broken down as follows:

	Dec. 31, 2019	Dec. 31, 2018	Change
Financial debt	423,780	541,767	(21.8 %)
Cash and cash equivalents	(218,955)	(277,476)	(21.1 %)
Net debt	**204,825**	**264,291**	**(22.5 %)**

In 2019, the Messer Group's net debt decreased by K€ 59,466 year-on-year. The ratio of gross financial debt (K€ 423,780) to total assets (K€ 2,706,961) was 15.7 % at the end of the reporting period (2018: 23.0 %).

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

Gross financial debt at January 1, 2019	**541,767**
Adjustment at January 1 due to first-time application of IFRS 16	23,028
Cash-relevant changes:	
New debt raised	129,881
Repayments	(279,134)
Non-cash-relevant changes:	
Transfer to lease liabilities	6,728
Changes due to currency translation	3,082
Other non-cash-relevant changes	(1,572)
Gross financial debt at December 31, 2019	**423,780**

Cash flow statement

Cash flows from continuing and discontinued operations were as follows:

Abridged version in K€	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018 adjusted
Profit before taxes	613,935	189,578
Cash flows from operating activities	275,738	322,298
Cash flows from investing activities	(160,963)	(215,376)
Cash flows from financing activities	(178,282)	8,925
Changes in cash and cash equivalents	**(63,507)**	**115,847**
Cash and cash equivalents **at the beginning of the period**	**277,476**	**176,014**
Exchange rate impact on cash and cash equivalents	1,594	(590)
Cash, change in group reporting entity	(10,403)	–
Cash classified as held for sale	13,795	(13,795)
at the end of the period	**218,955**	**277,476**

At K€ 275,738, the total of cash flows from operating activities was K€ 46,560 lower than in the previous year. Alongside significantly higher income tax payments, the decrease was primarily attributable to changes in working capital.

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 sale of shares in Yeti GermanCo 1 GmbH to Yeti Warehouse GmbH resulted in cash inflows.

Cash outflows from financing activities in 2019 totaled K€ 178,282 and were therefore K€ 187,207 higher than one year earlier. The year-on-year change reflects the fact that, whereas financial debt had been built up in the previous year, it was reduced in the year under report in conjunction with the contribution of the Western European operations – along with the related refinancing – to the new joint venture Yeti GermanCo 1 GmbH.

Liquid funds held by the Messer Group at December 31, 2019 totaled K€ 218,955.

In 2020, the Messer Group will again require further capital to fund its steadily expanding business operations, its scheduled capital expenditure and acquisitions, and to repay loans and interest as they fall due, notwithstanding the fact that the medium-term strategy is to consolidate net debt levels relating to operations outside China. The necessary 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 which give rise to obligations. As of December 31, 2019, purchase and capital expenditure commitments and long-term contracts amounted to K€ 85,796 (2018: K€ 82,528).

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 which will secure supply capabilities and / or which create opportunities for profitable growth. Furthermore, we regularly invest in the modernization of production facilities and distribution channels.

The Messer Group's capital expenditure on tangible and intangible assets totaled € 178 million, mainly relating to the construction of air separation plants („ASPs") in Vietnam and production facilities in China, the Czech Republic and Hungary. Contrary to our expectations, capital expenditure was down on the previous year's figure of € 212 million, due to delays in the implementation of investment projects for production plants, particularly in China, and an air separation plant in the Czech Republic that is due for renewal. In addition, we were unfortunately unable to win a major on-site project in Hungary, and individual investment projects in ASEAN (excluding Vietnam) have been canceled for the time being. The capital expenditure ratio corresponds to 16.1 % (2018: 20.6 %) of total revenue.

Capital expenditure by region was as follows:

Capital expenditure in K€	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
China, Vietnam, ASEAN	103,888	125,287
South Eastern Europe	34,379	49,888
Central Europe	24,056	18,131
Western Europe	15,756	18,668
Continuing operations	**178,079**	**211,974**
Discontinued operations	–	27,608
	178,079	**239,582**

In China, the main focus is on investment projects that will further strengthen our position in the liquefied gases market and help promote a good balance in terms of customer diversification based on the existing business model. Systematic endeavors to increase customer diversification also include investments in supply plants for high-purity industrial gases for on-site customers from the electronics industry in Sichuan province, the general expansion of CO_2 capacities and the construction of a specialty gases plant for the electronics industry in Anhui province.

In Vietnam, construction work was completed on the fourth air separation plant for on-site customer Hoa Phat at its production plant to the east of Hanoi and on two further air separation plants for its new steelworks located at Dung Quat in the center of the country.

Capital expenditure in Europe remains focused on investments in distribution channels and selected growth projects. The selected growth projects include construction that is underway to replace an old ASP and simultaneously expand liquefied gas market capacities in the Czech Republic as well as additional generators in Hungary and Slovenia.

Net assets

The balance sheet total went up by K€ 352,125 during the fiscal year under report and stood at K€ 2,706,961 at December 31, 2019, mostly due to changes in the group reporting entity. The increase mainly reflects the effect of contributing the investments in the Western European companies to the Yeti GermanCo 1 joint venture, and which now – via the joint venture – are included in investments accounted for using the equity method.

At 81.9 % (2018: 58.7 %), non-current assets accounted for the largest proportion of the balance sheet total, whereby the increase also reflects the aforementioned contribution and the fact that interests in the Western European companies are now reported as investments accounted for using the equity method. In the fiscal year 2018, assets relating to discontinued operations were classified as “assets held for sale”.

Fixed assets, comprising property, plant and equipment, right-of-use assets and intangible assets, continue to represent the largest combined item on the assets side of the balance sheet, accounting for 51.2 %, as in the previous year. The carrying amount of fixed assets increased by K€ 82,438. Alongside the investments made during the year under report, fixed assets increased by K€ 21,804 due to the recognition of right-of-use assets in conjunction with the first-time application of IFRS 16.

The increase in equity of K€ 521,582 was primarily attributable to the effects of deconsolidating the Western European companies. The equity ratio (including non-controlling interests) improved accordingly to 72.3 % (2018: 60.9 %).

Gross financial debt decreased by K€ 117,987 during the year under report and accounted for 15.6 % of the balance sheet total. In 2019, the USD-denominated USPPs – which had been reclassified in full to current financial liabilities in 2018 – were repaid before their original due date. New borrowings in 2019 totaling K€ 136,609 related mainly to the new tranche of the USPP III and to the RFA II. For more information, please see our comments in the section "Financial position".

Return on capital employed

The return on capital employed (ROCE) for continuing operations in the past fiscal year was 16.28 % and is calculated as follows:

ROCE	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018 adjusted
	Continuing operations	Continuing operations
EBIT	199,075	193,894
+ Amortization of goodwill	–	4,634
EBIT adjusted	**199,075**	**198,528**
: Capital Employed	1,223,074	1,130,894
ROCE in %	**16.28 %**	**17.55 %**
Derivation of capital employed from the balance sheet:		
Right-of-use assets, other intangible assets and property, plant and equipment	1,116,255	1,033,619
Receivables from lease arrangements	10,951	12,330
Net working capital	95,868	84,945
Capital Employed	**1,223,074**	**1,130,894**

The adjustments to prior-year figures result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. Further information is provided in note 3 „Adjustments due to changes in accounting policies (IAS 8)" in the notes to the consolidated financial statements.

Net working capital

Net working capital comprises the following:

Net working capital	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018 adjusted
	Continuing operations	Continuing operations
Inventories	60,254	43,687
Trade receivables	149,537	139,426
Trade payables	(93,424)	(90,445)
Advance payments received	(20,499)	(7,723)
	95,868	**84,945**

The adjustments to prior-year net working capital figures result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16.

The 12.9 % rise in net working capital for continuing operations was primarily attributable to the increase in inventories (K€ 16,567), mainly at the level of our German companies.

The ratio of inventories (less advance payments from customers) plus trade receivables and less trade payables was approximately 2:1, the same as one year earlier. The ratio of net working capital to revenue for continuing operations was 8.7 %.

Overall statement on the Group's financial condition

Benefiting from an almost ideal economic climate, the Messer Group's revenue from continuing operations rose by 7.4 % year-on-year. Our business operations in China and Vietnam made a major contribution to the increase.

The EBITDA margin from continuing operations fell slightly to 29.1 % (2018: 30.5 %), whereas EBITDA for the Messer Group improved from € 314 million to € 322 million year-on-year.

The return on capital employed (ROCE) from continuing operations fell slightly to 16.28 % (2018: 17.55 %), mainly reflecting the higher level of capital employed caused by the recognition of right-of-use assets in conjunction with the first-time application of IFRS 16 as well as the increase in net working capital. The predicted steeper decline in ROCE was prevented by the unexpectedly sustained dynamic business performance in China and the pricing measures successfully implemented in Europe.

Good progress was also made with the consolidation of net debt during the fiscal year under report. In 2019, for instance, net debt was reduced year-on-year by a further € 59 million to € 205 million. Despite the termination of the USD-denominated USPP II and USPP III notes, the financing of our operations continues to be ensured by the new financing agreements.

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 Europe and China, the Messer Group has a global presence and good regional diversification in a number of countries or provinces within these two core regions, which means that falling demand in individual markets or downturns in specific sectors can often be offset.

Outlook

On January 30, 2020, the World Health Organization (WHO) declared the coronavirus (COVID-19) a public health risk and on March 11, 2020 the coronavirus epidemic as a „pandemic"[1]. However, it is currently difficult to assess the impact it will have on the world economy. Based on current scenarios, the Organisation for Economic Cooperation and Development (OECD) expects global growth to slow to around 1.25 %.[2]

Due to the rapid pace of developments and the high level of uncertainty associated with the changing situation, we are unable to reliably estimate the financial impact on our operations. Accordingly, the following predictions do not take into account any possible effects of the coronavirus pandemic.

Macroeconomic situation

A temporary easing of the trade conflict between the USA and China, the renewed and/or continued more expansive monetary policy pursued by the world's central banks, and the likelihood of avoiding a disorderly „Brexit" lead major economic institutes to assume that the low point of a weakening global growth dynamic was already reached in 2019. With these points in mind, a moderate recovery in global GDP growth is expected for 2020 and 2021. There is, however, no longer a realistic prospect of GDP reaching its previously levels of well over 3 %. The World Bank[3] and the International Monetary Fund (IMF [4]), for example, expect global GDP growth within a range of 2.5 % to 3.3 % in 2020, compared with an anticipated 2.4 % to 2.9 % in 2019. The revival of global economic momentum is largely expected to come from a return to stronger GDP growth in the emerging and developing countries, whereas GDP growth rates in the developed industrialized nations is only forecast to stabilize at a lower level in the best case. For 2020, the IMF, for example, predicts GDP growth of 1.6 % for the developed industrialized countries as a whole, compared with a forecast 1.7 % in 2019, while the emerging and developing economies are expected to achieve overall GDP growth of 4.4 %, compared with 3.7 % in 2019. In China, the ongoing process of transition embarked upon with a view to bolstering domestic demand on the basis of consumption and services and reducing dependence on exports is expected to continue, albeit at a slightly more moderate pace. The IMF and the World Bank forecast GDP growth of 5.9 % to 6.0 % for this market in 2020, compared with an estimated 6.1 % in 2019, assuming the trade conflict with the USA does not flare up again. For the USA, the ongoing trade conflicts and import duties, combined with political uncertainties, are expected to have a dampening effect on GDP growth, despite moderate interest rate levels. The economic research institutes [3,4] still expect to see GDP growth within a range of 1.8 % to 2.0 % in 2020, down on an estimated 2.3 % for 2019. According to World Bank forecasts, more favorable financing conditions and the implementation of economic policy reforms should lead to a moderate revival of economic growth in Brazil in 2020 with a GDP growth rate of 2.0 %.

The World Bank and the IMF again point out the existence of major forecasting risks in their predictions for 2020, the most significant of which are growing nationalist tendencies and escalating global trade conflicts.

[1] WHO, Rolling Update 11. März 2020: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen
[2] BMWi, 20. März 2020: https://www.bmwi.de/Redaktion/DE/FAQ/Coronavirus/faq-coronavirus-01.html
[3] Global Economic Prospects, January 2020
[4] World Economic Outlook, Update January 20, 2020

Added to this are the risk of economic slowdowns, exacerbated by the current coronavirus pandemic, which are not taken into account in the above forecasts.

Outlook for the Messer Group

The figures reported by the Messer Group for the year ended December 31, 2019 again include new best-to-date levels for EBITDA as well as for the ratio of net financial debt to EBITDA. The Messer Group's medium-term forecast continues to show growing profitability, coupled with a moderate increase in net financial debt. By investing on a sound basis, we intend to grow revenue at a pace appropriate for the prevailing economic conditions and to take advantage of selected opportunities in order to stabilize or improve the profitability of the Messer Group.

In terms of economic development in Europe going forward, we expect to see an end to the weakening growth momentum of the previous year. However, intensified global trade conflicts, regionally emerging price and competitive pressure and, more recently, epidemics or pandemics of infectious diseases, which could for instance impair the functioning of global supply chains, may have a negative impact. In Europe, we will continue to focus on improving the profitability of our operations by optimizing the utilization of production capacities created in recent years and by engaging selectively in specific customer projects as well as increasing capacities on a targeted basis.

The China region accounted for approximately one half of revenue and more than 60 % of the EBITDA of the Messer Group in the fiscal year 2019. Moreover, the net cash / EBITDA ratio for the China region was negative, reflecting the fact that cash funds held exceeded financial debt. These figures underscore the continued great significance of the Messer Group's operations in China in terms of total revenue, profitability and internal financing.

Looking to the future, we expect China's growth rate to remain above the global average. Thanks to the excellent progress we have already made in diversifying our business, we remain convinced of our ability to participate in China's market growth across our entire product range. On the revenue side, however, we expect the exceptionally high selling price levels seen in the liquefied gases business during the past year to normalize going forward. Furthermore, we consider it likely that the continuing economic strategy of focusing on consumption and services in China will reduce the dominance on heavy industry, particularly the steel industry, which is so important for our business, and that these negative factors will not be fully compensated by additional infrastructure-related measures. An additional factor is the current coronavirus pandemic, which is bound to have a dampening impact on the country's overall economic performance to an extent as yet unknown, at least in the first quarter 2020.

We expect the cost of energy, which is vital for our industry, to continue increasing, especially in Europe.

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

	2020 compared to 2019
Revenue	Slightly increasing
EBITDA	Sharply decreasing
Capital expenditure	Significantly rising
Net debt	Sharply rising
ROCE	Sharply decreasing

The negative impact of the ongoing coronavirus pandemic has not been taken into account in the 2020 budget presented here, as its extent cannot be reliably measured at this point in time. At present, however, we are expecting demand for industrial gases to drop noticeably in a number of areas during the current fiscal year, with a corresponding impact on the Messer Group's revenue and EBITDA.

Overall conclusion

The Messer Group's outlook has been drawn up based on the assumption that the flagging growth rates seen in Europe in 2019 will begin to pick up during the fiscal year 2020. In China, we expect growth to remain strong in the long term with a general trend towards normalization, although the coronavirus pandemic is highly likely to have a negative impact on economic performance in the medium term. Although at global level economic conditions still appear positive overall, they involve an increasingly high level of risk and uncertainty, making it difficult to forecast economic developments. Risks and uncertainties capable of having an impact on the global economic situation relevant for the Messer Group relate mainly to a possible slowdown in global growth caused by the coronavirus pandemic, global trade conflicts and increasing nationalistic tendencies worldwide, the uncertain outcome of the economic restructuring and socio-economic developments in China, and the as yet uncertain impact of Brexit on European markets. These potentially adverse factors could also be accompanied by unforeseeable negative events emanating from current trouble spots, particularly in North Africa and the Arabic-speaking regions.

The Messer Group still considers itself well placed to meet the forthcoming challenges, while at the same time deeming it wise to adopt a prudent stance with regard to short-term expectations. The decrease in EBITDA expected for 2020 reflects in particular the assumption that business in the industrial gases market in China will increasingly normalize compared to the years 2018 and 2019. Furthermore, the euro is also expected to continue gaining in strength as a transaction currency. The equally predicted drop in ROCE reflects the forecast decrease in EBITDA described above.

Future investment decisions will be taken in line with the Messer Group's 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 on a long-term basis. Currently, there are an increasing number of good investment options in China and Vietnam as well as suitable opportunities to selectively expand our 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 upon 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 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. Through investment, we are able to exploit available opportunities to realize the full potential of the business and to maintain as well as strengthen our market position. We are also taking advantage of the additional opportunities that generally arise from internationalization and the pent-up demand of emerging markets by expanding our locations in these countries. This strategy also enables us 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 net assets, financial position and results of operations:

Macroeconomic opportunities

The general economic environment is a key factor for the success of our operations, our financial and earnings position and our cash flows. Our forecast for 2020 is based on the expectation that future macroeconomic conditions 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, our revenue and earnings could exceed the forecasted amounts.

Market opportunities

Our forecasts continue to incorporate significant market growth, particularly in China, but, for the purposes of the outlook for 2020, they do not assume any further increase in the growth rate. If there is a sharp economic upswing, it could have a positive impact on the Group's revenue and earnings.

We expect a low level of growth in Europe and negative growth in the USA. A faster economic recovery in specific countries or a general economic upturn could have a positive impact on revenue and earnings.

Opportunities arising from industrial gases applications

Our products are deployed worldwide in a variety of manufacturing processes. In the field of application technology, the Messer Group continuously analyzes a wide range of production processes in order to increase our customers' efficiency through the use of industrial gases. New applications identified via this strategy may open up new 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 carried out more quickly or more successfully, they could have a positive impact on revenue and earnings.

Opportunities created by our employees

The Messer Group promotes "ideas management" throughout the organization and employees are encouraged to submit improvement proposals with local and/or international relevance. Furthermore, human resources development programs and other 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 activity. 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 as follows:

Macroeconomic risks

The industrial gases business is highly competitive and becoming more so in the course of increasing globalization, a factor that could have a dampening impact on Messer's earnings and cash flows going forward. The Messer Group operates on a global basis, making it susceptible to local political, social and economic conditions and 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, 20 years in the Americas and 30 years in Asia. A significant decline in market demand in any one of these key industries or sectors – particularly given the prevailing critical situation in the steel industry, which is suffering from worldwide overcapacity – 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. Our strong position in China also means that we may not be able to compensate fully for the negative impact of periods of economic weakness in the market as a whole, even if other markets develop more favorably. Our presence in several provinces in China could help to offset any negative impact in the event of regional variations. We currently classify market risks as medium. At the same time, we are aware that, following Messer's entry into the US market, we 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

We supply a wide range of industries and sectors that currently 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 pandemics. In view of the current coronavirus epidemic in China and the resulting pandemic, we classify the corresponding risk of temporary economic impairment as very high. In view of the well-developed healthcare systems in large parts of the world, we classify the resulting risk of longer-term economic disruption as medium.

Cost risks

Regulatory or government amendments 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 required for the Messer Group to conduct its business operations. Purchase prices of certain key 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. We currently classify cost risks as high.

Selling price risks

The intense competition in certain countries may lead to disproportionate downward price trends, which could have a negative impact on future revenue and earnings. 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 grants could be drastically reduced, culminating in numerous closures and mergers in these countries with a correspondingly adverse impact on our revenue. In these circumstances, the downward pressure on selling prices would be far more likely to increase. We currently classify selling price risks as medium to high.

Operational risks

An operational interruption at one of our production facilities could result in a failure to supply our customers. We endeavor to avoid this situation by regularly maintaining and monitoring our 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 our 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 safeguarded, even in emergency situations. The range and the quality of our 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 our suppliers and business partners on the other. We currently classify operational risks as medium.

Acquisition risks

The Messer Group is continually developing its strategies. As well as expanding and strengthening our existing business and continually optimizing our sourcing and logistics processes, we are intent on achieving growth both organically and through other means such as acquisitions and joint ventures. Our aim is to consolidate operations on existing markets and to divest non-core business operations. 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 put into action may have been wrongly predicted. The Messer Group therefore has internal committees which analyze the development potential of a project prior to its approval and work through any information that has a bearing on decisions which need to be made. In order to be as certain as possible that M&A projects have future development potential, due diligence assessments are conducted by experienced staff in specialized departments before any acquisitions are made in connection with M&A projects. The level of risk is also reduced by including relevant terms of agreement in purchase contracts. We currently classify 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. Our IT center in Germany provides the scope to create a modern and efficient infrastructure and to improve our business processes where necessary. This concentration does, however, mean that there is a greater risk of business interruption caused by cybercrime, sabotage, natural hazards or human error. In order to avoid this risk, our IT center applies its own IT risk management system, including regular testing of the system architecture. We pay particular attention to the provision of IT infrastructure and services and especially to ensuring fail-safe, interference-free operations. We ensure the integrity and reliability of our data and important information by means of appropriate measures, services and systems. Most of the business processes of the Messer Group are provided by internal or external IT services. The security and compliance of the information systems are set out in the IT strategy objectives, on the basis of which Messer Group GmbH designs, implements and reviews measures to ensure the protection of data, applications, systems and networks on an ongoing basis. Both preventive and corrective measures are considered in this process. We currently classify IT risks as medium.

Financial risks

We require external funding to finance both our growth and our investments and are therefore dependent on the finance sector remaining stable and liquid. The Messer Group is reliant on cash flows from operating activities in order to repay debt, 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 deteriorate compared to the original date of measurement. Impairment losses could have a significantly adverse impact on earnings as well as on balance sheet and performance ratios. Identifiable uncertainties were taken into account in the forecast through corresponding allowances on receivables and scaled-back 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- and investment-saving programs if the need arises. Any potential deterioration in the creditworthiness of our customers increases the risk of bad debts and delays of joint projects.

It is essential that we 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 can also arise for the Messer Group 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. We currently classify 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, we may be confronted with the unexpected appreciation of a functional currency which weakens the international competitiveness of the country in terms of its ability to export products as well as our 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 as a result of valuing our foreign currency-denominated net asset positions in the relevant countries. We currently classify currency risks as low.

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 failed to comply with environmental protection laws. Regardless of their prospects of success, allegations of this type can result in very high legal defense costs. In cases like these, the Messer Group defends itself energetically with the support of both in-house and external experts.

Our international operations are subject to a wide range of country-specific environmental legislation and regulations in areas such as gas emissions, groundwater pollution and the use and treatment of dangerous substances as well as ground surveys and decontamination. These can occasionally give rise to liability risks in conjunction with either past or current operations. For example, new environmental requirements, partially resulting from the adoption of EU directives in new EU member states, necessitate that our environmental standards are brought into line with the new requirements. This 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. We currently classify legal and contractual risks as medium.

Overall conclusion

The above-mentioned opportunities show that potential can be leveraged both internally and externally. We endeavor 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 to be 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 2019, either individually or in aggregate, which could have a materially adverse impact on the going-concern status of the Messer Group. From today’s perspective, no such risks are pending in the foreseeable future. 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. Our vigil risk management system (described below) and pro-active management of risks enable us to mitigate risk.

Risk management

The principles that dictate our 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 in good time to the relevant managers, but also that other developments which pose a threat to the achievement of short-term performance targets (such as EBITDA or cash flow) are reported. This strategy allows 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 risk report at the beginning of each year, which is discussed by the Executive Management and communicated to the Supervisory Board of Messer Group GmbH in good time. The risks recorded in the risk report are categorized by their nature and classified by probability of occurrence. The current risk situation has not changed significantly compared with previous fiscal years.

Messer is adequately insured against any 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.

The Messer Group GmbH's internal audit department and the centralized organization of Messer China conducted a total of seven status audits (all follow-up audits) as well as 12 follow-up audits at Messer Group companies in the course of the fiscal year 2019. All audits conducted by the internal audit department also include advisory activities in the sense that information on best practice is passed on and cross-border assistance is organized, effectively taking account of the respective current standards of Group entities in various countries. Where necessary, other centralized functions are also called upon in an advisory capacity (such as SHEQ, Corporate Logistics and 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 commercial sense 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 even further.

State-of-the-art technologies are employed in the IT area in order to keep the risk from electronic data processing to a minimum. Unauthorized access to data and systems and a significant loss of data are ruled out to the greatest extent possible. The efficiency, operational availability and reliability of systems are constantly being monitored and improved. Messer's security concept also includes a detailed emergency plan. In order to minimize risks, 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 Company relies 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 renowned international financial institutions.

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. Training is organized and carried out as appropriate 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 the compliance guidelines relevant to them and have also confirmed their compliance with them. Management and staff are regularly informed about, and receive training on, the content of these guidelines, other policies and Code of Conduct rules.

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. Incidences of non-compliance are followed up and appropriate action is taken to the extent 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.

Events after the end of the reporting period

On January 30, 2020, the World Health Organization (WHO) classified coronavirus (COVID-19) as a public health risk. The virus has now developed into a pandemic with worldwide impact, the full extent of which is not yet known or cannot be fully assessed. The measures designed to contain the pandemic have led to temporary restrictions in everyday life and thus also in the business world on a global scale. At this point in time, we expect demand to drop noticeably in various areas of industrial gases supply during the current fiscal year, although it cannot be adequately quantified at this stage. The industrial gases business is locally based, not directly dependent on global supply chains, and we do not expect costs to increase significantly due to staff shortages.

In February 2020, the arbitration court in Warsaw ruled in favor of the helium supplier PGNiG S.A. Oddzial w Odolanovie, Poland. Including interest, the claims asserted for damages amount to K€ 3,059 and are due immediately. The provision recognized for this purpose amounted to K€ 3,300.

In accordance with the purchase contract dated October 17, 2019 entered into between Messer Group GmbH and the shareholders of Smart Gas, Messer Group GmbH sold all its shares in Smart Gas Pte. Ltd., Singapore, to the remaining shareholders. The purchase contract was completed on March 12, 2020.

Bad Soden/Taunus, April 14, 2020

Messer Group GmbH

CONSOLIDATED FINANCIAL STATEMENTS OF MESSER GROUP GMBH 2019

Consolidated Balance Sheet

of Messer Group GmbH, Sulzbach/Taunus, at December 31, 2019 (in K€)

Assets	Notes	Dec. 31, 2019	Dec. 31, 2018 adjusted	Jan. 1, 2018 adjusted
Goodwill	16	270,899	271,097	300,271
Right-of-use assets	16	21,804	–	–
Other intangible assets	16	71,000	71,988	86,220
Property, plant and equipment	17	1,023,451	961,631	1,181,069
Investments accounted for using the equity method	18	798,907	43,407	50,124
Investments in other companies and financial investments	9; 20	4,305	4,648	4,150
Deferred tax assets	13	12,747	15,654	17,492
Receivables from lease arrangements	21	9,482	10,917	12,479
Other non-current financial assets	21	2,481	2,735	878
Non-financial assets	21	887	833	454
Non-current assets		**2,215,963**	**1,382,910**	**1,653,137**
Inventories	22	60,254	43,687	58,939
Trade receivables	23	149,537	139,426	193,196
Income tax assets	13	25,124	836	1,992
Other current financial assets	26	13,501	25,010	22,984
Non-financial assets	26	23,627	27,054	32,901
Cash and cash equivalents	27	218,955	277,476	176,014
Current assets		**490,998**	**513,489**	**486,026**
Held-for-sale assets	25	–	**458,437**	**13,845**
Total assets		**2,706,961**	**2,354,836**	**2,153,008**

Consolidated Balance Sheet

of Messer Group GmbH, Sulzbach/Taunus, at December 31, 2019 (in K€)

Equity and liabilities	Notes	**Dec. 31, 2019**	Dec. 31, 2018 adjusted	Jan. 1, 2018 adjusted
Subscribed capital	33	100,000	100,000	100,000
Capital reserves	33	536,937	536,937	536,937
Other reserves	33	(5,620)	1,446	45
Revenue reserves	33	1,134,767	616,422	512,869
Other components of equity	33	9,312	21,121	17,632
Equity attributable to owners of the parent company		**1,775,396**	**1,275,926**	**1,167,483**
Non-controlling interests	33	**180,709**	**158,597**	**136,776**
Equity		**1,956,105**	**1,434,523**	**1,304,259**
Provisions for employee benefits	28	55,100	44,638	55,758
Other provisions	29	5,592	5,491	7,091
Non-current financial debt	30	398,776	327,679	419,634
Non-financial liabilities	31	519	–	–
Deferred tax liabilities	13	14,638	17,162	18,417
Non-current liabilities		**474,625**	**394,970**	**500,900**
Other provisions	29	30,993	27,039	30,943
Current financial debt	30	25,004	214,088	61,829
Trade payables	35	93,424	90,445	130,165
Income tax liabilities		17,135	18,849	14,176
Other current financial liabilities	32	24,651	17,351	29,214
Non-financial liabilities	32	85,024	58,397	78,733
Current liabilities		**276,231**	**426,169**	**345,060**
Liabilities held for sale	25	–	**99,174**	**2,789**
Total equity and liabilities		**2,706,961**	**2,354,836**	**2,153,008**

Consolidated Income Statement

of Messer Group GmbH, Sulzbach/Taunus, for the Year Ended December 31, 2019 (in K€)

Continuing operations	Notes	**Jan. 1 – Dec. 31, 2019**	Jan. 1 – Dec. 31, 2018 adjusted
Revenue	5	1,104,322	1,028,246
Cost of sales	6	(630,925)	(564,339)
Gross profit		**473,397**	**463,907**
Distribution and selling expenses	7	(203,618)	(192,140)
Reversal of impairment allowances on trade receivables	35	5,264	2,466
General administrative expenses	8	(85,310)	(86,556)
Other operating income	9	16,269	19,267
Other operating expenses	10	(6,927)	(8,416)
Impairment losses on goodwill	16	–	(4,634)
Operating profit		**199,075**	**193,894**
Income from investments accounted for using the equity method	18	8,373	(4,678)
Other investment result, net		1,275	(86)
Interest income	11	2,758	2,960
Interest expense	11	(17,699)	(23,197)
Other financial result, net	12	(2,937)	(4,755)
Financial result, net		**(8,230)**	**(29,756)**
Result from continuing operations before tax		**190,845**	**164,138**
Income taxes	13	(41,562)	(45,175)
Result from continuing operations after tax		**149,283**	**118,963**
Result from discontinued operations after tax	25	**420,584**	**20,572**
Group net profit for the year		**569,867**	**139,535**
of which attributable to:			
shareholders of the parent company		532,789	102,358
non-controlling interests		37,078	37,177

Consolidated Statement of Comprehensive Income

of Messer Group GmbH, Sulzbach/Taunus, for the Year Ended December 31, 2019 (in K€)

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018 adjusted
Group net profit for the year	**569,867**	**139,535**
Items which were or may be reclassified to profit or loss		
Change in translation adjustments relating to foreign subsidiaries	4,156	(7,133)
of which: *Reclassification of currency translation differences in conjunction with deconsolidations*	*5,362*	*(904)*
Derivative financial instruments		
Change in fair value of derivatives employed for hedging purposes [1]	–	–
Reclassification to profit or loss	–	12,169
Deferred taxes	–	(2,296)
From associated companies accounted for using the equity method	(15,445)	226
	(11,289)	**2,966**
Items which will never be reclassified to profit or loss		
FVOCI equity instruments	434	143
Deferred taxes	(76)	(27)
Remeasurement of net defined benefit obligation for pension plans and other employee benefits		
Change in remeasurement of the net defined obligation for pension plans	(9,493)	835
Deferred taxes	332	(141)
From associated companies accounted for using the equity method	(2,905)	–
	(11,708)	**810**
Other comprehensive income for the year	**(22,997)**	**3,776**
Total comprehensive income for the year	**546,870**	**143,311**
of which attributable to:		
shareholders of the parent company	509,263	107,042
non-controlling interests	37,607	36,269

[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 33 (“Equity”) to the Consolidated Financial Statements.

Consolidated Statement of Changes in Equity

of Messer Group GmbH, Sulzbach/Taunus, or the Financial Year 2019 (in K€)

		Reserves			Other components of equity					
	Share capital	Capital reserves	Other revenue reserves	Revenue reserves	Translation differences	Hedge accounting reserve pursuant to IAS 39	Reserve for fair value changes	Equity attributable to owners of the parent company	Non-controlling interests	Total equity
Balance at Jan. 1, 2018 adjusted	**100,000**	**536,937**	**45**	**537,059**	**28,174**	**(10,184)**	**(353)**	**1,191,678**	**152,908**	**1,344,586**
Adjustments relating to first-time application of IFRS 16, net of tax	–	–	–	(24,190)	(5)	–	–	(24,195)	(16,132)	(40,327)
Balance at Jan. 1, 2018	**100,000**	**536,937**	**45**	**512,869**	**28,169**	**(10,184)**	**(353)**	**1,167,483**	**136,776**	**1,304,259**
Group net profit adjusted	–	–	–	102,358	–	–	–	102,358	37,177	139,535
Other comprehensive income	–	–	–	1,195	(6,726)	10,099	116	4,684	(908)	3,776
Total comprehensive income	**–**	**–**	**–**	**103,553**	**(6,726)**	**10,099**	**116**	**107,042**	**36,269**	**143,311**
Transfers to / from reserves	–	–	–	–	–	–	–	–	–	–
Dividends paid	–	–	–	–	–	–	–	–	(20,224)	(20,224)
Share capital increase	–	–	–	–	–	–	–	–	–	–
Capital reduction	–	–	–	–	–	–	–	–	–	–
Additions/disposals of non-controlling interests	–	–	1,401	–	–	–	–	1,401	5,776	7,177
Balance at Dec. 31, 2018 adjusted	**100,000**	**536,937**	**1,446**	**616,422**	**21,443**	**(85)**	**(237)**	**1,275,926**	**158,597**	**1,434,523**
Balance at 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	–	–	–	(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)
Dividends paid	–	–	–	(2,500)	–	–	–	(2,500)	(21,305)	(23,805)
Share capital increase	–	–	–	–	–	–	–	–	–	–
Capital reduction	–	–	–	–	–	–	–	–	–	–
Additions/disposals of non-controlling interests	–	–	(7,066)	–	–	–	–	(7,066)	5,810	(1,256)
Balance at 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**

For further details regarding equity, see note 33 (“Equity”) to the Consolidated Financial Statements.

Consolidated Cash Flow Statement

of Messer Group GmbH, Sulzbach/Taunus, or the Financial Year 2019 (in K€)

	Notes	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018 adjusted
Group profit before tax		**613,935**	**189,578**
Income taxes paid		(60,337)	(42,268)
Depreciation, amortization and impairment losses on property, plant and equipment and intangible assets	16; 17	122,485	152,105
Impairment losses on non-current financial assets	20	6	129
Gains arising as a result of changes in the group reporting entity		(413,222)	(8,477)
Losses / (gains) on disposal of fixed assets		(2,189)	(1,683)
Changes in investments in associated companies	18	(8,330)	4,466
Interest result, net	11	15,142	22,673
Other non-cash financial result	12	480	8,918
Changes in assets resulting from finance lease arrangements (IFRIC 4)		1,656	2,988
Changes in inventories		(16,232)	4,464
Changes in receivables and other assets		(20,381)	(15,942)
Changes in provisions		7,172	4,642
Changes in trade payables and other liabilities		35,553	705
Cash flows from operating activities		**275,738**	**322,298**
Purchase of property, plant and equipment and intangible assets		(181,570)	(231,921)
Purchase of investments and other non-current assets		(27)	(1,721)
Disbursements for the acquisition of subsidiaries		–	(7,494)
Capital reductions at the level of associated companies		(330)	(196)
Proceeds from disposals of property, plant and equipment and intangible assets		9,344	2,721
Proceeds from disposals of subsidiaries and loans		8,774	20,303
Interest received		2,846	2,932
Cash flows from investing activities		**(160,963)**	**(215,376)**
Changes in capital by shareholders of Messer Group GmbH		(2,500)	–
Proceeds from non-current financial debt		129,404	70,909
Proceeds from current financial debt		477	6,511
Repayments of non-current financial debt		(40,680)	(5,221)
Repayments of current financial debt		(221,603)	(28,628)
Repayments of lease liabilities		(7,698)	–
Dividends paid to non-controlling interests		(21,303)	(20,224)
Decrease / (increase) of majority shareholdings without loss of control and acquisition of non-controlling interests		1,534	4,144
(Disbursements to) / contributions from other shareholders		(1,226)	3,837
Interest paid		(18,830)	(19,260)
Other financial result, net		4,143	(3,143)
Cash flows from financing activities		**(178,282)**	**8,925**
Changes in cash and cash equivalents		**(63,507)**	**115,847**
Cash and cash equivalents at the beginning of the period		**277,476**	**176,014**
Exchange rate impact on cash and cash equivalents		1,594	(590)
Cash classified as held for sale		13,795	(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		**218,955**	**277,476**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS OF MESSER GROUP GMBH 2019

1. General information

Messer Group GmbH ("Company") is a holding company, with its business address at Messer-Platz 1, 65812 Bad Soden/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. The Messer Group ("Messer Group" or "Group") 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 ("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.

At December 31, 2019, 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, 2019 for issue and submission to the Supervisory Board on April 14, 2020. 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 2019. Similarly, they will not, for the most part, draw up notes to the financial statements (HGB) or a management report for the financial year 2019.

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, 2019 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 2019 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 with effect from January 1, 2019:

- IFRS 16 “Leases”
- Amendments to IFRS 9 – “Prepayment Features with Negative Compensation”
- Amendments to IAS 28 – “Long-term Interests in Associates and Joint Ventures”
- Amendments to IAS 19 – “Plan Amendment, Curtailment or Settlement”
- IFRIC 23 “Uncertainty Over Income Tax Treatments”
- Amendments to IFRS 3, IFRS 11, IAS 12 and IAS 23

IFRS 16 “Leases”

At the commencement of a contract, the Group assesses whether the lease is or contains a lease. This is the case if the contract conveys the entity the right to control the use of an identified 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.

IFRS 16 results in a uniform accounting model requiring leases to be recognized in the lessee’s balance sheet. The lessee recognizes a right-of-use asset, representing the lessee’s right to use the underlying item, and a liability for the lease arrangements, representing the lessee’s liability to make lease payments. Recognition exemptions apply for short-term leases as well as for leases of low-value assets.

Accounting at the level of the lessor remains virtually unchanged. In other words, a lessor continues to classify leases as either finance or operating leases.

The Standard is mandatory for the first time for annual periods beginning on or after January 1, 2019.

A description of the new accounting requirements is provided in the note on "Leases".

a. Transition method

The Messer Group has applied the new Standard with effect from January 1, 2019. As at that date, it was decided to apply the new definition of a lease to all existing lease arrangements. All leases were reassessed to ensure that they meet the definition of a lease.

In the case of contracts where the Messer Group is the lessee, the modified retrospective method was applied at the date of transition to IFRS 16. Comparative amounts for the year prior to first-time application were not adjusted retrospectively. All reclassifications and adjustments resulting from the first-time application of IFRS 16 were therefore recognized in the opening balance sheet as at January 1, 2019. All rights-of-use assets are measured at the amount of the lease liability at the commencement date of the lease (adjusted for any advance payments and deferred lease expenses).

The Messer Group tested all right-of-use assets for impairment at the date of transition and concluded that there were no indications of impairment.

The new Standard does not contain any special transition provisions for contracts where the Messer Group is the lessor. For this reason, the general requirements stipulated in IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" have been applied. Comparative amounts for the year prior to first-time application have been adjusted retrospectively. The transition impact, which was recognized in revenue reserves, relates to the unwinding (for accounting purposes) of the finance lease – previously recognized in accordance with IFRIC 4 in conjunction with IAS 17 – which no longer meets the definition of a lease under IFRS 16.

The impact on the Consolidated Financial Statements for the financial year 2019 is shown below:

b. Impact of contracts where the Messer Group is the lessee

As a result of the first-time application of IFRS 16, the Group has recognized lease liabilities for leases previously classified as operating leases under IAS 17. These liabilities are measured at the net present value of the remaining lease payments, discounted at the lessee's incremental borrowing rate at January 1, 2019.

The lessee's weighted average incremental borrowing rate applied to lease liabilities as at January 1, 2019 was 4.5 %.

In the case of leases previously classified as finance leases, the carrying amounts of leased assets and lease liabilities pursuant to IAS 17 immediately before first-time adoption of IFRS 16 were recognized as the initial carrying amounts of right-of-use assets and lease liabilities pursuant to IFRS 16.

The Group made use of the following practical expedients at the date of initial application of IFRS 16:

- Leases with a remaining term of less than 12 months at January 1, 2019 were accounted for as current leases.
- Initial direct costs were not included in the measurement of right-of-use assets at the date of initial application.
- Hindsight has been used to determine which renewal and termination options should be included or excluded.

Measurement of lease liabilities as at January 1, 2019 in K€	
Operating lease obligations reported as at December 31, 2018	27,648
Discounted liability using the lessor's incremental borrowing rate at the date of initial application of IFRS 16	23,037
Liabilities for finance leases recognized as at December 31, 2018	148
Lease liabilities recognized as at January 1, 2019	**23,185**

c. Impact of contracts where the Messer Group is the lessor

In accordance with IFRS 16, certain gas supply contracts – in particular those that involve gas production plants rented on a long-term basis – are required to be evaluated to identify whether they constitute a finance lease and, if so, to be classified as such.

If a finance lease is identified, 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 minimum lease payments due. Interest income earned on the lease is reported as other operating income.

During the course of the analysis of existing contracts, it was determined that some contracts no longer meet the requirements of leasing based on IFRS 16. The corresponding receivables from customers were therefore derecognized with retrospective effect from January 1, 2018 and the relevant gas production plants recognized again as property, plant and equipment in the balance sheet.

For further information on the impact of the transition to IFRS 16, please see our comments in note 3 "Adjustments due to changes in accounting policies (IAS 8)"

Amendments to IFRS 9 "Prepayment Features with Negative Compensation"

The amendments pertain to a limited revision of the assessment criteria relevant for the classification of financial assets. Under certain circumstances, financial assets involving prepayment features with negative compensation may be carried at amortized cost or at fair value through other comprehensive income rather than at fair value through profit or loss.

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

Amendments to IAS 28 “Long-term Interests in Associates and Joint Ventures”

The amendments clarify that IFRS 9 is applicable to long-term investments in associates or joint ventures that are not accounted for using the equity method.

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

IFRIC 23 “Uncertainty Over Income Tax Treatments

IFRIC 23 clarifies the application of the recognition and measurement requirements of IAS 12 when there is uncertainty about income tax treatments. Recognition and measurement require the use of estimates and assumptions, such as whether an estimate should be made separately or together with other uncertainties, whether a probable/expected value for the uncertainty should be recognized, and whether there have been changes in facts or circumstances compared to the previous reporting period. The detection risk is irrelevant for the purpose of accounting of uncertain tax treatments, since it is assumed that the tax authorities will examine all relevant matters and have full knowledge of all related information when making those examinations.

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

Amendments to IAS 19 “Plan Amendment, Curtailment or Settlement”

In accordance with IAS 19, pension obligations are required to be measured on the basis of updated assumptions in the event of plan amendments, curtailments and settlements.

The amendments clarify that after such an event, the service cost and net interest for the remainder of the period must be recognized on the basis of updated assumptions.

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

Amendments to IFRS 3, IFRS 11, IAS 12 and IAS 23

Four IFRSs have been amended by the Annual Improvements to IFRSs (2015 - 2017).

IFRS 3 clarifies that an entity is required to apply the principles for business combinations achieved in stages when it obtains control over a business operation, in which it previously held an interest in conjunction with a joint operation. The equity interest previously held by the acquirer must be remeasured.

IFRS 11 stipulates that when a party obtains joint control over a business operation, in which it previously held an interest on the basis of a joint operation, it does not revalue the interest previously held.

IAS 12 has been amended so that all income tax consequences of dividend payments must be recognized in the same way as the underlying income that generated distributable profits.

The amendments to IAS 23 stipulate that when general borrowings have been used to acquire qualifying assets, an entity shall not – for the purposes of determining the capitalization rate – take into account specific borrowings raised to acquire qualifying assets until the relevant qualifying asset is completed.

The amendments do 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 2020:

- Amendments to IAS 1 and IAS 8 – "Definition of Materiality"
- Changes in References to the Conceptual Framework in IFRS Standards
- Amendments to IFRS 3 – "Definition of a Business"
- IFRS 17 "Insurance Contracts" (mandatory with effect from the financial year 2021)
- Amendments to IFRS 10 and IAS 28 – "Sale or Contribution of Assets between an Investor and its Associate or Joint Venture"
- Amendments to IFRS 9, IAS 39 and IFRS 7 – "IBOR (Interbank Offered Rates) Reform"

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 at December 31, 2019 were:

Name and registered office of subsidiary	Country	Shareholding in % Dec. 31, 2019	Shareholding in % Dec. 31, 2018
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 %
Foshan MS Messer Gas Co., Ltd., Foshan City, Guangdong Province	China	85 %	85 %
Messer Hungarogáz Kft., Budapest	Hungary	100 %	100 %
Sichuan Pangang Messer Gas Products Co., Ltd., Panzhihua, Sichuan Province	China	60 %	60 %
Messer Tehnogas AD, Belgrade	Serbia	81.94 %	81.94 %
Messer Haiphong Industrial Gases Co., Ltd., Hai Phong City	Vietnam	100 %	100 %
Xichang Pangang Messer Gas Products Co., Ltd., Xixang City, Hunan Province	China	60 %	60 %
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 %
Sichuan Messer Gas Products Co., Ltd., Chengdu	China	100 %	100 %
Messer Tatragas spol.s.r.o., Bratislava	Slovakia	100 %	100 %
Messer Croatia Plin d.o.o., Zapresic	Croatia	99.96 %	99.96 %
Messer Slovenija d.o.o., Ruse	Slovenia	74.76 %	74.76 %
Ningxiang Xianggang Messer Gas Products Co., Ltd., Ningxiang, Hunan Province	China	55 %	55 %
Messer Sunshine (Ningbo) Gas Products Co., Ltd., Ningbo, Zhejiang Province	China	70 %	70 %

The Consolidated Financial Statements comprise the financial statements of Messer Group GmbH and its subsidiaries as at December 31, 2019. The financial statements of subsidiaries are therefore all drawn up to the same balance sheet date and using the same accounting policies as applied by the parent company.

In conjunction with the acquisition of the major part of Linde's gases business in the USA, of the Linde companies in Canada, Brazil and Colombia and the takeover of Praxair's operations 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 at December 31, 2019, Messer Group GmbH held 54.46 % of the shares of the joint venture. The Yeti GermanCo 1 Group is jointly controlled by Messer Group GmbH and CVC Capital Partners and is accounted for in the Consolidated Financial Statements of Messer Group GmbH as a joint venture using the equity method.

a. Subsidiaries
The Consolidated Financial Statements as at December 31, 2019 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. 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.

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 includes goodwill arising on acquisition (net of accumulated impairment losses).

If the percentage of the investment in an associated company decreases, but the entity remains an associated company, then only the proportionate amount of the gains and losses previously recognized through OCI are reclassified to profit or loss.

The Group's share of gains and losses relating to associated companies 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 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 payments have been made on its behalf.

The Group tests at the end of each reporting period, whether they are any indications that it should recognize any impairment losses on its investments in associated companies. 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 in associated companies.

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. At 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 the average exchange rate for each income statement presented. 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, 2019 € 1	Jan. 1 – Dec. 31, 2018 € 1	Dec. 31, 2019 € 1	Dec. 31, 2018 € 1
Chinese renminbi	CNY	**7.74**	7.81	7.82	7.88
Croatian kuna	HRK	**7.42**	7.42	7.44	7.41
Polish zloty	PLN	**4.30**	4.26	4.26	4.30
Swiss frank	CHF	**1.11**	1.15	1.09	1.13
Serbian dinar	RSD	**117.86**	118.22	117.53	118.40
Czech krone	CZK	**25.66**	25.68	25.41	25.72
Hungary forint	HUF	**325.38**	319.23	330.53	320.98
US dollar	USD	**1.12**	1.18	1.12	1.15
Vietnamese dong	VND	**26,054.77**	27,200.69	26,018.00	26,564.00

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. An excess of the net fair value over the consideration paid for identifiable assets acquired, liabilities assumed and contingent liabilities is recognized – after reassessment – in profit or loss. 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.

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 therefore 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:

Scheduled depreciation	Useful lives in years
Buildings	10 - 50
Plant and machinery	5 - 20
thereof air separation units	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 they 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 six months to ten years for movable assets, and for ten years to indefinite periods for immovable assets. Contracts may, however, include renewal options.

At the commencement of a contract, the Group assesses whether the lease is or contains a lease. This is the case if the contract conveys the entity the right to control the use of an identified 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 of land 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 borrowings.

With effect from January 1, 2019, 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 of penalties for terminating the 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 one, two, three, four, five years and more than five 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
- 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 the 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 amortization is computed using the straight-line method over the following useful lives:

Scheduled depreciation	Useful lives in years
Land	2 - 49
Buildings	1 - 60
Plant and machinery	1 - 36
Other operational and office equipment	1 -10

The Standard allows payments for short-term leases of plant, machinery, equipment, vehicles and low-value leases to be recognized as an expense on a straight-line basis. A lease qualifies as short-term if it has a term of less than twelve months. Low-value assets mainly relate to IT and other equipment. The Group has elected not to apply this recognition exemption.

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 an extension 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.

Up to December 31, 2018, all leases which transferred substantially all the risks and rewards incidental to ownership to the Group (as lessee) were classified as finance leases. Finance leases were capitalized at the inception of the lease at the fair value of the leased item or, if lower, at the present value of the minimum lease payments. The corresponding lease obligations, less finance costs, were reported under other current and non-current liabilities. Each lease installment was split into a principal repayment and interest portion. The interest portion was spread over the lease term with income statement effect so as to produce a constant periodic rate of interest on the remaining balance of the liability. Assets acquired under finance leases were depreciated over their useful lives or – if it was not reasonably certain that the Group would obtain ownership by the end of the lease term – over the shorter of the asset's useful life or the lease term.

Up to December 31, 2018, leases which did not transfer substantially all of the risks and rewards incidental to ownership to the Group (as lessee) were classified as operating leases. Payments made under operating leases (less any incentives received from the lessor) were recognized in profit or loss on a straight-line basis over the lease term.

b. Leases where the Group is the lessor
In the case of leases 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. Finance leases arise for the Messer Group primarily for specific gas supply contracts, in particular those that involve gas production plants rented 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 minimum 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, right-of-use 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
- 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, the total of the post-tax profit or loss of discontinued operations is disclosed as a single amount, which is analyzed further, along with additional information, 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.

Cash and cash equivalents

Cash and cash equivalents include all cash balances and demand deposits, as well as short-term liquid financial investments which can be readily converted to cash.

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 Company‘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 (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 Company 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 Company has control over these economic benefits. Control is assumed to exist if the Company 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 Company recognizes all amounts arising on remeasurement in other comprehensive income (OCI), whereas other components of the net pension expense (service cost and met 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.

If the present value of a defined benefit obligation changes as a result of a plan change or curtailment, the Company 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 Company to various risks. In addition to general actuarial risks, such as longevity and interest rate risks, the Company 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, 2019 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 must 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 at 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 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 (IFRS 9) and classes (IFRS 7):

a. Financial assets measured at amortized cost
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
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
- Investments in equity instruments held for trading
- Investments in equity instruments for which the entity has elected not to recognize changes in fair value through other comprehensive income

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
Financial assets at fair value through other comprehensive income 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 other comprehensive income (OCI). On the sale of these investments, all related balances included in OCI are reclassified to revenue reserves.

In the previous year, the Group designated investments as available-for-sale equity instruments if management intended to hold them on a medium to long-term basis.

Financial liabilities

a. Financial liabilities measured at amortized cost
"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
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. Messer has elected to apply the option contained in IFRS 9, which allows the hedge accounting rules of IAS 39 to be retained. Messer will continue to apply the requirements of IAS 39 to all hedging relationships.

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).

Certain financial derivatives provide an effective economic hedge for risk management purposes, but do not meet the criteria for hedge accounting specified by IAS 39. They are accounted for in accordance with the requirements stipulated in IFRS 9 for financial assets and liabilities measured at fair value through profit or loss.

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 full in terms of scope or amount, using a variety of financial 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.

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 (range of 80 to 125 %) can be demonstrated.

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 other comprehensive income. 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 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 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. In conjunction with the interest rate swaps, the difference between the fixed interest rate for a pre-determined period and the variable interest rate is settled at specified intervals (computed by reference to an agreed amount).

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.

When a hedging instrument expires or is sold, or when a hedging instrument no longer meets the criteria for hedge accounting in accordance with IAS 39, any cumulative gains or losses recognized up to that date in equity 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 other comprehensive income are recognized as income or expense when it is no longer expected that the forecast transaction or firm commitment will occur.

The fair values of the various derivative financial instruments are shown in note 35 "Other disclosures relating to financial instruments".

As at December 31, 2019, 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 35 detail in note. 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.

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 and the performance of the impairment test pursuant to IAS 36 on the basis of expected future cash flows of these cash-generating units over the detailed forecasting period of four years are subject to estimates made at Group level. 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 are determined on the basis of past experience and 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. Measurement of impairment 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 be subject to 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.

Personnel-related provisions include provisions for bonuses and vacation entitlements. Recognition of these provisions is not subject to any significant element of uncertainty since the expected costs can be reliably determined.

g. Assessing whether sole 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 sole 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.

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 other comprehensive income.

The Group has determined that interest and penalties arising 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 tax
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 other comprehensive income (OCI) are also recognized through OCI and not through profit or loss. Deferred taxes are recognized through 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. The Messer Group owns and maintains these plants. 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, more than one customer are supplied via a single pipe-line.

Certain gas supply contracts – in particular those that involve gas production plants rented on a long-term basis (so-called "on-site plants") – are required to be evaluated in accordance with IFRS 16 to identify whether they constitute a finance 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 commencement of the lease arrangements and revenues are recognized equivalent to the present value of the minimum 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.

c. Revenue from cylinder sales
Customers requiring small volumes of gases (including most speciality 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 on the rental of cylinders is recognized according to the terms of the lease agreements.

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 in accordance with IFRS 15 on completion of the project. The main impact of the changes brought about by IFRS 15 on other items revolves around the introduction of balance line items, namely "Contract assets" and "Contract liabilities".

3. Adjustments due to changes in accounting policies (IAS 8)

The Messer Group has applied IFRS 16 „Leases" since January 1, 2019. The new Standard does not contain any special transition provisions for contracts where the Messer Group is the lessor. For this reason, the general requirements stipulated in IAS 8 „Accounting Policies, Changes in Accounting Estimates and Errors" have been applied. Comparative amounts for the year prior to first-time application have been adjusted retrospectively.

In conjunction with the analysis of existing contracts – in particular contracts for the supply of gases and the long-term lease of the related gas production facilities – it was determined that some contracts do not meet the criteria for a lease set out in IFRS 16. The corresponding receivables from customers were therefore derecognized with retrospective effect from January 1, 2018 and the relevant gas production plants recognized again as property, plant and equipment in the balance sheet. The negative impact of the change in accounting policy was recognized directly in equity through revenue reserves.

The following tables summarize the impact on the Consolidated Financial Statements:

Consolidated Balance Sheet of Messer Group GmbH, Sulzbach/Taunus, at December 31, 2018 and January 1, 2018 (in K€):

	Dec. 31, 2018 reported	IAS 8	Dec. 31, 2018 reported	Jan. 1, 2018 reported	IAS 8	Jan. 1, 2018 adjusted
Assets						
Intangible assets	343,085	–	343,085	386,491	–	386,491
Property, plant and equipment	889,637	71,994	961,631	1,099,201	81,868	1,181,069
Investments accounted for using the equity method	43,407	–	43,407	50,124	–	50,124
Investments and other financial assets	4,648	–	4,648	4,150	–	4,150
Deferred tax assets	14,989	665	15,654	16,495	997	17,492
Finance lease receivables	122,296	(111,379)	10,917	136,815	(124,336)	12,479
Finance lease receivables	2,735	–	2,735	878	–	878
Non-financial assets	833	–	833	454	–	454
Non-current assets	**1,421,630**	**(38,720)**	**1,382,910**	**1,694,608**	**(41,471)**	**1,653,137**
Inventories	43,687	–	43,687	58,939	–	58,939
Trade receivables	137,982	1,444	139,426	191,296	1,900	193,196
Current income tax assets	836	–	836	1,992	–	1,992
Other current financial assets	38,295	(13,285)	25,010	36,103	(13,119)	22,984
Non-financial assets	27,054	–	27,054	32,901	–	32,901
Cash and cash equivalents	277,476	–	277,476	176,014	–	176,014
Current assets	**525,330**	**(11,841)**	**513,489**	**497,245**	**(11,219)**	**486,026**
Held-for-sale assets	**458,437**	**–**	**458,437**	**13,845**	**–**	**13,845**
Total assets	**2,405,397**	**(50,561)**	**2,354,836**	**2,205,698**	**(52,690)**	**2,153,008**

Consolidated Balance Sheet of Messer Group GmbH, Sulzbach/Taunus, at December 31, 2018 and January 1, 2018 (in K€):

	Dec. 31, 2018 reported	IAS 8	Dec. 31, 2018 adjusted	Jan. 1, 2018 reported	IAS 8	Jan. 1, 2018 adjusted
Equity and liabilities						
Subscribed capital	100,000	–	100,000	100,000	–	100,000
Capital reserves	536,937	–	536,937	536,937	–	536,937
Other reserves	1,446	–	1,446	45	–	45
Revenue reserves	639,297	(22,875)	616,422	537,059	(24,190)	512,869
Other components of equity	21,128	(7)	21,121	17,637	(5)	17,632
Equity attributable to owners of the parent company	**1,298,808**	**(22,882)**	**1,275,926**	**1,191,678**	**(24,195)**	**1,167,483**
Non-controlling interests	**173,852**	**(15,255)**	**158,597**	**152,908**	**(16,132)**	**136,776**
Equity	**1,472,660**	**(38,137)**	**1,434,523**	**1,344,586**	**(40,327)**	**1,304,259**
Provisions for employee benefits	44,638	–	44,638	55,758	–	55,758
Other provisions	5,491	–	5,491	7,091	–	7,091
Non-current financial debt	327,679	–	327,679	419,634	–	419,634
Deferred tax liabilities	29,586	(12,424)	17,162	30,780	(12,363)	18,417
Non-current liabilities	**407,394**	**(12,424)**	**394,970**	**513,263**	**(12,363)**	**500,900**
Other provisions	27,039	–	27,039	30,943	–	30,943
Current financial debt	214,088	–	214,088	61,829	–	61,829
Trade payables	90,445	–	90,445	130,165	–	130,165
Current income tax liabilities	18,849	–	18,849	14,176	–	14,176
Other current financial liabilities	17,351	–	17,351	29,214	–	29,214
Non-financial liabilities	58,397	–	58,397	78,733	–	78,733
Current liabilities	**426,169**	**–**	**426,169**	**345,060**	**–**	**345,060**
Liabilities held for sale	**99,174**	**–**	**99,174**	**2,789**	**–**	**2,789**
Total equity and liabilities	**2,405,397**	**(50,561)**	**2,354,836**	**2,205,698**	**(52,690)**	**2,153,008**

Consolidated Income Statement of Messer Group GmbH, Sulzbach/Taunus, for the Year Ended December 31, 2018 (in K€) adjusted:

	Jan. 1 – Dec. 31, 2018 reported	IAS 8	Jan. 1 – Dec. 31, 2018 adjusted
Revenue	1,010,444	17,802	1,028,246
Cost of sales	(555,147)	(9,192)	(564,339)
Gross profit	**455,297**	**8,610**	**463,907**
Distribution and selling expenses	(192,140)	–	(192,140)
Impairment losses on trade receivables and contract assets	2,466	–	2,466
General administrative expenses	(86,556)	–	(86,556)
Other operating income	25,881	(6,614)	19,267
Other operating expenses	(8,416)	–	(8,416)
Impairment losses on goodwill	(4,634)	–	(4,634)
Operating profit	**191,898**	**1,996**	**193,894**
Income from investments accounted for using the equity method	(4,678)	–	(4,678)
Other investment result, net	(86)	–	(86)
Interest income	2,960	–	2,960
Interest expense	(23,197)	–	(23,197)
Other financial result, net	(4,755)	–	(4,755)
Financial result, net	**(29,756)**	**–**	**(29,756)**
Result from continuing operations before tax	**162,142**	**1,996**	**164,138**
Income taxes	(44,675)	(500)	(45,175)
Result from continuing operations after tax	**117,467**	**1,496**	**118,963**
Result from discontinued operations after tax	**20,572**	**–**	**20,572**
Group net profit for the year	**138,039**	**1,496**	**139,535**
of which attributable to:			
shareholders of the parent company	101,460	898	102,358
non-controlling interests	36,579	598	37,177

Consolidated Statement of Comprehensive Income of Messer Group GmbH, Sulzbach/Taunus, for the Year Ended December 31, 2018 (in K€) adjusted:

	Jan. 1 – Dec. 31, 2018 reported	IAS 8	Jan. 1 –Dec. 31, 2018 adjusted
Group net profit for the year	**138,039**	**1,496**	**139,535**
Items which were or may be reclassified to profit or loss			
Change in translation adjustments relating to foreign subsidiaries	(7,827)	694	(7,133)
of which: Reclassification of currency translation differences in conjunction with deconsolidations	(904)	–	(904)
Derivative financial instruments			
Change in fair value of derivatives employed for hedging purposes [1]	–	–	–
Reclassification to profit or loss	12,169	–	12,169
Deferred taxes	(2,296)	–	(2,296)
Available-for-sale financial assets			
Change in fair value of available-for-sale financial assets (AfS)	–	–	–
Reclassification to profit or loss	–	–	–
Deferred taxes	–	–	–
From associated companies accounted for using the equity method	226	–	226
	2,272	**694**	**2,966**
Items which will never be reclassified to profit or loss			
FVOCI equity instruments	143	–	143
Deferred taxes	(27)	–	(27)
Remeasurement of net defined benefit obligation for pension plans and other employee benefits			
Change in remeasurement of the net defined obligation for pension plans	835	–	835
Deferred taxes	(141)	–	(141)
	810	–	810
Other comprehensive income	3,082	694	3,776
Total comprehensive income for the year	**141,121**	**2,190**	**143,311**
of which attributable to:			
shareholders of the parent company	105,729	1,313	107,042
non-controlling interests	35,392	877	36,269

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

Consolidated Statement of Changes in Equity of Messer Group GmbH, Sulzbach/Taunus, for the Financial Year 2018 (in K€) restated:

	Share capital	Reserves		Revenue reserves	Other components of equity			Equity attributable to owners of the parent company	Non-controll-ing interests	Total Equity
		Capital reserves	Revenue reserves		Translation differences	Hedge accounting reserve pursuant to IAS 39	Reserve for fair value changes			
Balance at Jan. 1, 2018	**100,000**	**536,937**	**45**	**537,561**	**28,174**	**(10,184)**	**(353)**	**1,192,180**	**152,734**	**1,344,914**
Adjustments relating to first-time application of IFRS 9, net of tax	–	–	–	(502)	(5)	–	–	(502)	174	(328)
Balance at Jan. 1, 2018 adjusted	**100,000**	**536,937**	**45**	**537,059**	**28,174**	**(10,184)**	**(353)**	**1,191,678**	**152,908**	**1,344,586**
Adjustments relating to first-time application of IFRS 16, net of tax	–	–	–	(24,190)	(5)	–	–	(24,195)	(16,132)	(40,327)
Balance at Jan. 1, 2018 adjusted	**100,000**	**536,937**	**45**	**512,869**	**28,169**	**(10,184)**	**(353)**	**1,167,483**	**136,776**	**1,304,259**
Group net profit for year	–	–	–	101,460	–	–	–	101,460	36,579	138,039
Adjustments to Group net profit	–	–	–	898	–	–	–	898	598	1,496
Group net profit adjusted	**–**	**–**	**–**	**102,358**	**–**	**–**	**–**	**102,358**	**37,177**	**139,535**
Other comprehen-sive income	–	–	–	778	(6,724)	10,099	116	4,269	(1,187)	3,082
Adjustments to other comprehen-sive income	–	–	–	417	(2)	–	–	415	279	694
Other compre-hensive income adjusted	**–**	**–**	**–**	**1,195**	**(6,726)**	**10,099**	**116**	**4,684**	**(908)**	**3,776**
Total comprehen-sive income for the year	–	–	–	102,238	(6,724)	10,099	116	105,729	35,392	141,121
Adjustments to total comprehensive income	–	–	–	1,315	(2)	–	–	1,313	877	2,190
Total compre-hensive income adjusted	**–**	**–**	**–**	**103,553**	**(6,726)**	**10,099**	**116**	**107,042**	**36,269**	**143,311**
Transfers to / from reserves	–	–	–	–	–	–	–	–	–	–
Dividends paid	–	–	–	–	–	–	–	–	(20,224)	(20,224)
Share capital increase	–	–	–	–	–	–	–	–	–	–
Capital reduction	–	–	–	–	–	–	–	–	–	–
Additions / disposals of non-controlling interests	–	–	1,401	–	–	–	–	1,401	5,776	7,177
Balance at Dec. 31, 2018 adjusted	**100,000**	**536,937**	**1,446**	**616,422**	**21,443**	**(85)**	**(237)**	**1,275,926**	**158,597**	**1,434,523**

Consolidated Cash Flow Statement of Messer Group GmbH, Sulzbach/Taunus, for the Financial Year 2018 (in K€) adjusted:

	Jan, 1 – Dec, 31, 2018 reported	IAS 8	Jan, 1 – Dec, 31, 2018 adjusted
Group profit before tax	**187,582**	**1,996**	**189,578**
Income taxes paid	(42,268)	–	(42,268)
Depreciation, amortization and impairment losses on property, plant and equipment and intangible assets	142,913	9,192	152,105
Impairment losses on non-current financial assets	129	–	129
Gains arising as a result of changes in the group reporting entity	(8,477)	–	(8,477)
Losses / (gains) on disposal of fixed assets	(1,683)	–	(1,683)
Changes in value of investments in associated companies	4,466	–	4,466
Interest result, net	22,673	–	22,673
Other non-cash financial result	8,918	–	8,918
Changes in assets resulting from finance lease arrangements (IFRIC 4)	14,176	(11,188)	2,988
Changes in inventories	4,464	–	4,464
Changes in receivables and other assets	(15,942)	–	(15,942)
Changes in provisions	4,642	–	4,642
Changes in trade payables and other liabilities	705	–	705
Cash flows from operating activities	**322,298**	**–**	**322,298**
Purchase of property, plant and equipment and intangible assets	(231,921)	–	(231,921)
Purchase of investments and other non-current assets	(1,721)	–	(1,721)
Disbursements for the acquisition of subsidiaries	(7,494)	–	(7,494)
Capital reductions at the level of associated companies	(196)	–	(196)
Proceeds from disposals of property, plant and equipment and intangible assets	2,721	–	2,721
Proceeds from disposals of subsidiaries and loans	20,303	–	20,303
Interest received	2,932	–	2,932
Cash flows from investing activities	**(215,376)**	**–**	**(215,376)**
Changes in capital by shareholders of Messer Group GmbH	–	–	–
Proceeds from non-current financial debt	70,909	–	70,909
Proceeds from current financial debt	6,511	–	6,511
Repayments of non-current financial debt	(5,221)	–	(5,221)
Repayments of current financial debt	(28,628)	–	(28,628)
Dividends paid to non-controlling interests	(20,224)	–	(20,224)
Decrease/ (increase) of majority shareholdings without loss of control	4,144	–	4,144
Amounts paid in by other shareholders	3,837	–	3,837
Interest paid	(19,260)	–	(19,260)
Other financial result, net	(3,143)	–	(3,143)

	Jan. 1 – Dec. 31, 2018 reported	IAS 8	Jan. 1 – Dec. 31, 2018 adjusted
Cash flows from financing activities	**8,925**	**–**	**8,925**
Changes in cash and cash equivalents	**115,847**	**–**	**115,847**
Cash and cash equivalents			
at the beginning of the period	**176,014**	**–**	**176,014**
Exchange rate impact on cash and cash equivalents	(590)	–	(590)
Cash classified as held for sale	(13,795)	–	(13,795)
at the end of the period	**277,476**	**–**	**277,476**

4. Group reporting entity

The Consolidated Financial Statements include, besides Messer Group GmbH, 61 (2018: 78) German and foreign companies which are fully consolidated, of which 57 (2018: 69) are based abroad. 33 (2018: 19) German and foreign associated companies are accounted for using the equity method.

The group reporting entity has changed compared to the previous year as a result of the following first-time consolidations and other events:

First-time consolidations

The following entity was founded or acquired and commenced operations in 2019:

- Messer Specialty Gases (Chuzhou) Co., Ltd., China, 100 % (foundation)

Contribution of shares with loss of control

Transfer of the Western European 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. The transaction was subject to the successful completion of the merger between Linde AG and Praxair Inc. and the approval of the relevant US antitrust authorities. On October 22, 2018, the U.S. Federal Trade Commission (FTC) gave its clearance for the merger between Linde AG and Praxair Inc. in accordance with merger control law. On December 21, 2018, the FTC gave its definitive approval for the Messer Group as "suitable buyer".

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. Effective March 1, 2019, Messer Group GmbH contributed to the joint venture its Western European operations in Spain, Portugal, Switzerland, France, Belgium, Netherlands, Denmark, Germany and the company in Algeria as well as a free-of-charge right to use the "Messer – Gases for Life" brand for a period of ten years, based on a total fair value of K€ 772,000.

The contribution and related deconsolidation were recorded effective February 28, 2019. As a result, the following companies ceased to be part of the group reporting entity after this date:
- bECO2 B.V.B.A., Belgium
- Messer Algérie SPA, Algeria
- Messer B.V., Netherlands
- Messer Belgium N.V., Belgium
- Messer Denmark A/S, Denmark
- Messer France S.A.S., France
- Messer GasPack II GmbH, Germany
- Messer Ibérica de Gases S.A., Spain
- Messer Industriegase GmbH, Germany

- Messer Produktionsgesellschaft mbH Salzgitter, Germany
- Messer Produktionsgesellschaft mbH Siegen, Germany
- Messer Produktionsgesellschaft mbH Speyer, Germany
- Messer Schweiz AG, Switzerland
- MesserGas Distribuicao des Gases Industriais Uip, Portugal

We refer to our comments in note 25 „Assets held for sale and discontinued operations".

The Yeti GermanCo 1 Group is jointly controlled by Messer Group GmbH and CVC Capital Partners and is accounted for in the Consolidated Financial Statements of Messer Group GmbH as a joint venture using the equity method.
We refer to the disclosures made in note 18 „Investment accounted for using the equity method".

Sale of shares with loss of control

Messer Group GmbH sold its majority shareholding in PT Chemindo Inti Usaha, Indonesia, for zero consideration in the financial year 2019. The sale did not have any material impact on the consolidated financial statements of Messer Group GmbH.

Messer Group GmbH sold 41.95 % of its shares in Family NewCo GmbH to Yeti Investment SarL. Following the sale of the shares, Family NewCo GmbH was renamed Yeti Warehouse GmbH and is now jointly controlled by Messer Group GmbH and CVC Capital Partners. The sale did not have any material impact on the consolidated financial statements of Messer Group GmbH. Yeti GermanCo 1 GmbH's Employee Participation Program has been combined within Yeti Warehouse GmbH. The latter has been included in the consolidated financial statements as an associated company since these arrangements have been in place.

Increases in majority shareholdings

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.

Other

Effective January 1, 2019, Messer Gaz Solutions S.R.L., Romania, was merged with Messer Romania Gaz S.R.L., Romania.

Fujian Quanhui Messer Gas Co. Ltd, China, was liquidated in April 2019.

Messer Consulting (Singapore) Pte. Ltd, Singapore, ceased operations and is being liquidated.

Explanatory Notes – Consolidated Income Statement

5. Revenue

	Jan. 1 – Dec. 31, 2019		Jan. 1 – Dec. 31, 2018	IAS 8	Jan. 1 – Dec. 31, 2018 adjusted	
From contracts with customers	1,049,981	95 %	958,856	17,802	976,658	95 %
From other revenue sources	54,341	5 %	51,588	–	51,588	5 %
Total	**1,104,322**	**100 %**	**1,010,444**	**17,802**	**1,028,246**	**100 %**

Revenue is generated primarily by the sale of bulk supply products, cylinder gases as well as on-site and pipeline supplies. Revenue in 2019 related to the following distribution channels:

	Jan. 1 – Dec. 31, 2019		Jan. 1 – Dec. 31, 2018	IAS 8	Jan. 1 – Dec. 31, 2018 adjusted	
Bulk	467,320	42 %	446,439	–	446,439	43 %
Pipeline / on Site	369,452	34 %	334,517	17,802	352,319	34 %
Cylinder gases	209,080	19 %	190,240	–	190,240	19 %
Hardware / other	58,470	5 %	39,248	–	39,248	4 %
Total	**1,104,322**	**100 %**	**1,010,444**	**17,802**	**1,028,246**	**100 %**

Revenue in 2019 related to the following regions:

	Jan. 1 – Dec. 31, 2019		Jan. 1 – Dec. 31, 2018	IAS 8	Jan. 1 – Dec. 31, 2018 adjusted	
China, Vietnam, ASEAN	612,742	55 %	541,273	17,802	559,075	54 %
South Eastern Europe	227,234	21 %	218,869	–	218,869	22 %
Central Europe	216,338	20 %	209,632	–	209,632	20 %
Western Europe	48,008	4 %	40,670	–	40,670	4 %
Total	**1,104,322**	**100 %**	**1,010,444**	**17,802**	**1,028,246**	**100 %**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 "Accounting principles and policies, IFRS 16 Leases".

6. Cost of sales

Cost of sales comprises the cost of gases sold as well as the purchase cost of merchandise and hardware sold. Also included in cost of sales are directly attributable costs (such as energy, personnel and material costs) and attributable overheads relating to the production process, including depreciation of air separation plants.

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018	IAS 8	Jan. 1 – Dec. 31, 2018 adjusted
Goods purchased	147,385	132,012	–	132,012
Production costs				
Energy	270,364	230,004	–	230,004
Depreciation and amortization	77,461	63,034	9,192	72,226
Personnel expense	50,418	44,110	–	44,110
Maintenance	19,285	18,340	–	18,340
Taxes and other fees	8,348	7,789	–	7,789
Security and insurance	3,013	2,479	–	2,479
Other				
Hardware	15,545	15,931	–	15,931
Raw materials and supplies	12,064	19,576	–	19,576
Services	6,157	6,116	–	6,116
Other	20,885	15,756	–	15,756
Total	**630,925**	**555,147**	**9,192**	**564,339**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 “Accounting principles and policies, IFRS 16 Leases”.

7. 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, 2019	Jan. 1 – Dec. 31, 2018
Transportation costs	66,988	63,566
Personnel expenses	53,187	49,537
Depreciation and amortization	36,424	37,683
Maintenance	7,409	7,182
Warehousing costs	6,219	6,350
Advertising	1,554	1,315
Insurance	1,136	1,067
Other	30,701	25,440
Total	**203,618**	**192,140**

8. 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, 2019	Jan. 1 – Dec. 31, 2018
Personnel expense	42,433	40,852
Depreciation and amortization	8,600	5,450
IT services	5,729	4,171
Insurance and audit services	2,809	2,689
Rent	593	2,744
Other	25,146	30,650
Total	**85,310**	**86,556**

9. Other operating income

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018	IAS 8	Jan. 1 - Dec. 31, 2018 adjusted
Income from related parties	3,822	759	–	759
Insurance claims	2,060	724	–	724
Gains on the disposal of non-current assets	1,883	1,577	–	1,577
Exchange rate gains from operating activities	867	1,748	–	1,748
Other reimbursements	805	117	–	117
Interest on non-current lease receivables	513	7,174	(6,614)	560
Other income relating to prior periods	314	264	–	264
Derecognition of liabilities	275	116	–	116
Gains arising as a result of changes in the group reporting entity	–	8,477	–	8,477
Other	5,730	4,925	–	4,925
Total	**16,269**	**25,881**	**(6,614)**	**19,267**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 “Accounting principles and policies, IFRS 16 Leases”.

10. Other operating expenses

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Exchange rate losses from operating activities	1,338	1,528
Losses on the disposal of non-current assets	1,030	493
Bank charges	285	265
Expenses relating to prior periods	251	77
Legal and consulting expenses	131	2,532
Other taxes	44	15
Sundry other	3,848	3,506
Total	**6,927**	**8,416**

11. Interest result, net

Interest expenses for the year 2019 under report relate primarily to interest expenses incurred in conjunction with liabilities to banks, USPP II and USPP III as well as interest expenses for defined benefit pension plans and lease liabilities. In this context, we refer to notes 28 "Provisions for employee benefits" and 30 "Financial debt". Interest income relates mainly to cash held on bank accounts.

12. Other financial result, net

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Foreign currency exchange gains	13,696	21,153
Fair value gains / losses on derivatives recognized through profit or loss	(1,389)	8,083
Amounts reclassified from other comprehensive income (OCI)	–	(9,470)
Foreign currency exchange losses	(12,005)	(23,563)
Other	(3,239)	(958)
Total	**(2,937)**	**(4,755)**

Further information about derivatives is provided in note 35 "Other disclosures relating to financial instruments".

13. Income tax expense

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018	IAS 8	Jan. 1 - Dec. 31, 2018 adjusted
Current tax expense	(40,887)	(42,925)	–	(42,925)
Deferred tax expense	(675)	(1,750)	(500)	(2,250)
Total	**(41,562)**	**(44,675)**	**(500)**	**(45,175)**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 "Accounting principles and policies", "IFRS 16 leasing".

Deferred taxes on items recognized through OCI were as follows:

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Balance of deferred taxes relating to the sale of financial assets held-for-sale	(22)	54
Balance of deferred taxes relating to the remeasurement of the net defined benefit liability	850	2.513
Deferred tax assets arising on first-time adoption of IFRS Standards	157	185
Deferred tax assets / (liabilities) recognized through OCI	**985**	**2,752**

In conjunction with the deconsolidation of the Western European companies, deferred income taxes amounting to K€ 1,995 recognized through OCI were reclassified to the remeasurement of the net defined benefit liability.

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 2019, the income before tax has been multiplied by the average group income tax rate applicable for the group parent company of 30 % (2018: 25.31 %) as a weighted average.

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018 adjusted
Tax rate	30.00 %	25.31 %
Result from continuing operations before income taxes	**190,845**	**164,138**
Expected tax expense	57,254	41,543
Impairment losses on goodwill	–	834
Valuation allowance / non-recognition of deferred taxes on temporary differences	(180)	524
Valuation allowance / non-recognition of deferred taxes on tax losses available for carryforward	5,683	(420)
Effect of tax credits	(859)	(1,452)
Non-deductible interest expenses	2,040	742
Non-deductible withholding taxes / other taxes	3,220	4,987
Effect of changed tax rates	(3,484)	11
Equity method accounting for associated companies	(2,353)	(426)
Tax-exempt income from investments / tax-exempt gains on disposals of subsidiaries	–	–
Tax expense / (income) for prior years	(2,551)	(1,627)
Expenses not deductible for tax purposes / tax-exempt income	676	(2,760)
Tax rate differences at subsidiaries	(17,543)	678
Other	(341)	2,541
Actual tax expense	**41,562**	**45,175**
Effective tax rate	**21.78 %**	**27.52 %**

At December 31, 2019 the Messer Group had tax losses available for carryforward amounting to K€ 159,504 (2018: K€ 144,716) and tax credits in the form of interest carryforwards amounting to K€ 36,454 (2018: K€ 30,813).

The tax losses of the Messer Group expire as follows:

Expiry within	Dec. 31, 2019 *	Dec. 31, 2018 *
1 year	4,913	5,067
2 years	11,625	4,996
3 years	7,737	11,524
Unrestricted carryforward	135,229	123,129
Total	**159,504**	**144,716**

* continuing operations only

Deferred tax assets amounting to K€ 572 (2018: K€ 1,311) were recognized for Group entities which recorded losses in 2019 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€ 173,394 (2018: K€ 133,019) and on temporary differences totaling K€ 46,545 (2018: K€ 51,109), 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€ 36,454 (for which no deferred tax asset has been recognized) and temporary differences amounting to K€ 46,545 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, 2019
1 year	3,646
2 years	10,725
3 years	7,311
Unrestricted carryforward	115,258
Total	**136,940**

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 at December 31, 2019, 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 at December 31, 2019 related to the following balance sheet items:

	Dec. 31, 2019	Dec. 31, 2018 adjusted **	Recognized through profit or loss *	Recognized through OCI **
Deferred tax assets				
Tax losses and tax credits	5,228	9,280	(4,052)	–
Intangible assets and property, plant and equipment	8,793	11,923	(3,130)	–
Inventories	1,584	1,667	(83)	–
Trade receivables	1,566	2,868	(1,304)	2
Provisions for employee benefits	10,031	7,145	2,554	332
Sundry other	13,170	10,084	3,162	(76)
Total	**40,372**	**42,967**	**(2,853)**	**258**
Deferred tax liabilities				
Intangible assets	(24,751)	(20,279)	(4,472)	–
Property, plant and equipment	(11,159)	(9,815)	(1,344)	–
Other non-current receivables and assets	(2,915)	(3,556)	903	(262)
Inventories	(20)	–	(20)	–
Other current receivables and other assets	(588)	(7,777)	7,189	–
Non-current and current financial liabilities	–	(65)	65	–
Other current provisions	–	(100)	100	–
Sundry other	(2,830)	(2,883)	(179)	232
Total	**(42,263)**	**(44,475)**	**2,242**	**(30)**
Deferred tax liabilities, net	**(1,891)**	**(1,508)**	**(611)**	**228**

*of which translation differences amounting to K€ 64 recognized through OCI
** including IAS 8

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

Deferred taxes	Dec. 31, 2019	Dec. 31, 2018 adjusted
Deferred tax assets	12,747	15,654
Deferred tax liabilities	(14,638)	(17,162)
Deferred tax liabilities, net	**(1,891)**	**(1,508)**

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

	Dec. 31, 2019	Dec. 31, 2018 adjusted
Change in deferred tax assets in the balance sheet	(2,907)	(1,653)
Change in deferred tax liabilities in the balance sheet	2,524	1,255
Difference	(383)	(398)
of which:		
Recognized in the income statement	(675)	(2,250)
Classified as held for sale	–	3,622
Recognized through OCI	228	(2,279)
Translation differences	64	1,305

14. Personnel expense

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

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Personnel expense	158,238	147,764

The amounts stated above comprise wages and salaries amounting to K€ 130,647 (2018: K€ 121,418), pension and welfare expenses amounting to of K€ 3,273 (2018: K€ 2,950), social security expenses amounting to K€ 24,215 (2017: K€ 23,396) and other personnel expenses amounting to K€ 103 (2018: K€ 0). The cost of defined contribution plans (mainly for the German statutory pension insurance scheme) amounted to K€ 1,878 for the financial year under report (2018: K€ 1,704).

15. Number of employees (annual average)

The average number of employees was as follows:

By region	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Western Europe	302	310
Central Europe	776	774
South Eastern Europe	1,369	1,398
China, Vietnam, ASEAN	2,591	2,448
Total number of employees	**5,038**	**4,930**

By function	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Production and filling	1,838	1,787
Sales and marketing	610	683
Logistics	972	879
Engineering	638	625
Administration	980	956
Total number of employees	**5,038**	**4,930**

Explanatory Notes – Consolidated Balance Sheet

16. Intangible assets

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 at 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 at Dec. 31, 2019	**357,518**	**26,761**	**176,336**	**560,615**
Accumulated amortization and impairment losses				
Balance at 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 at Dec. 31, 2019	**(86,619)**	**(4,957)**	**(105,336)**	**(196,912)**
Carrying amount at Jan. 1, 2019	**271,097**	**23,027**	**71,988**	**366,112**
Carrying amount at Dec. 31, 2019	**270,899**	**21,804**	**71,000**	**363,703**

Adjustment due to changes in accounting policies relates to the first-time application of IFRS 16 with effect from January 1, 2019. We refer to the disclosures made in note 2 "Accounting principles and policies".

2018	Goodwill	Other intangible assets	Total
Acquisition cost			
Balance at Jan. 1, 2018	**408,582**	**215,062**	**623,644**
Additions	–	1,872	1,872
Change in group reporting entity	913	45	958
Reclassifications	(48,337)	(44,027)	(92,364)
Transfers	–	513	513
Disposals	–	(290)	(290)
Translation differences	(3,547)	(778)	(4,325)
Balance at Dec. 31, 2018	**357,611**	**172,397**	**530,008**
Accumulated amortization and impairment losses			
Balance at Jan. 1, 2018	**(108,311)**	**(128,842)**	**(237,153)**
Additions	(4,634)	(8,597)	(13,231)
Change in group reporting entity	–	(37)	(37)
Reclassifications	26,381	36,376	62,757
Transfers	–	–	–
Disposals	–	233	233
Translation differences	50	458	508
Balance at December 31, 2018	**(86,514)**	**(100,409)**	**(186,923)**
Carrying amount at Jan. 1, 2018	**300,271**	**86,220**	**386,491**
Carrying amount at Dec. 31, 2018	**271,097**	**71,988**	**343,085**

The reclassifications relate entirely to subsidiaries which are classified as „held for sale" at December 31, 2018.

Goodwill

Goodwill is subjected to an annual impairment test. 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 at December 31, 2019:

	Dec. 31, 2019	Dec. 31, 2018
Cash-generating unit Hungary	51,049	52,568
Hunan Xianggang Messer Gas Products Co., Ltd., China	46,091	45,771
Cash-generating unit Czech Republic	37,301	36,843
Cash-generating unit Poland	27,449	27,126
Yunnan Messer Gas Products Co., Ltd., China	22,739	22,581
Messer Tatragas spol.s.r.o., Slovakia	19,884	19,884
Cash-generating unit Serbia	19,384	19,242
Messer Austria GmbH, Austria	9,782	9,782
Cash-generating unit Foshan, China	9,381	9,316
Messer Croatia Plin d.o.o., Croatia	9,140	9,173
Cash-generating unit Romania	6,807	6,983
Wujiang Messer Industrial Gas Co., Ltd., China	6,240	6,197
Messer Slovnaft s.r.o., Slovakia	3,200	3,200
Cash-generating unit Ningbo	1,890	1,876
Messer Mostar Plin d.o.o., Bosnia and Herzegovina	345	345
Universal Industrial Gas. Sdn. Bhd., Malaysia	217	210
	270,899	**271,097**

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 2023. 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 "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, 2019	Dec. 31, 2018
Bosnia and Herzegovina	14.22 %	13.81 %
Serbia	10.21 %	10.09 %
Croatia	9.38 %	9.31 %
Hungary	8.35 %	8.41 %
Romania	8.31 %	8.34 %
Slovenia	7.47 %	7.55 %
Poland	6.47 %	6.62 %
Slovakia	6.46 %	6.61 %
Czech Republic	6.27 %	6.44 %
China	6.24 %	6.40 %
Austria	5.84 %	6.03 %

The detailed forecasts used to determine the value in use of cash-generating units are based through 2023 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, 2019		Revenue growth (CAGR)	Trend in EBITDA margin *	Growth rate **
Cash-generating unit Hungary	51,049	19 %	Slightly rising	Slightly falling	0.5 %
Hunan Xianggang Messer Gas Products Co., Ltd., China	46,091	17 %	Slightly falling	Stable	0.5 %
Cash-generating unit Czech Republic	37,301	14 %	Slightly rising	Significantly rising	0.5 %
Cash-generating unit Poland	27,449	10 %	Rising	Significantly rising	0.5 %
Yunnan Messer Gas Products Co., Ltd., China	22,739	8 %	Moderately rising	Significantly falling	0.5 %
Messer Tatragas spol.s.r.o., Slovakia	19,884	7 %	Moderately rising	Stable	0.5 %
Cash-generating unit Serbia	19,384	7 %	Moderately rising	Significantly rising	0.5 %
Other entities	47,002	18 %			
Total	**270,899**	**100 %**			

* end of the detailed forecasting period in comparison to the current financial year
** growth rate after the detailed forecasting period

The weighted average growth rate used to extrapolate cash flows beyond the detailed forecast period was 0.5 % (2018: 0.5 %).

The impairment tests performed in 2019 did not give rise to any requirement to recognize an impairment loss.

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 0.5 % 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 2023

Based on these scenarios, the following additional impairment losses on goodwill would arise for entities for whom the allocated goodwill exceeds EUR 10 million:

Entity	Carrying amount		Sensitivity scenarios		
	Dec. 31, 2019		Discount rate +1 percentage point	Growth rate 0.0 % *	EBIT -10 % budget **
Cash-generating unit Hungary	51,049	19 %	–	–	–
Hunan Xianggang Messer Gas Products Co., Ltd., China	46,091	17 %	–	–	–
Cash-generating unit Czech Republic	37,301	14 %	–	–	–
Cash-generating unit Poland	27,449	10 %	(7,663)	–	–
Yunnan Messer Gas Products Co., Ltd., China	22,739	8 %	–	–	–
Messer Tatragas spol.s.r.o., Slovakia	19,884	7 %	–	–	–
Cash-generating unit Serbia	19,384	7 %	–	–	–
			(7,663)	–	–
Other entities	47,002	18 %	(39)	–	–
Total	**270,899**	**100 %**			

* sustainable growth rate after the detailed forecasting period
** for the whole of the forecasting period

Right-of-use assets

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

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 at 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 at Dec. 31, 2019	**19,138**	**6,221**	**1,402**	**26,761**
Accumulated amortization and impairment losses				
Balance at Jan. 1, 2019	–	–	–	–
Additions	(3,274)	(1,821)	(530)	(5,625)
Disposals	212	263	198	673
Translation differences	(2)	(2)	(1)	(5)
Balance at Dec. 31, 2019	**(3,064)**	**(1,560)**	**(333)**	**(4,957)**
Carrying amount at Jan. 1, 2019	**15,800**	**6,189**	**1,038**	**23,027**
Carrying amount at Dec. 31, 2019	**16,074**	**4,661**	**1,069**	**21,804**

Interest expenses totaling K€ 1,043 were recognized in connection with leases. In addition, the following expenses were recognized, which were not taken into account in the measurement of rights-of-use assets and the corresponding lease liabilities:

	2019
Expenses for leases for which the underlying asset is of low value	–
Expenses for short-term leases	276
Expenses for variable lease payments	195
	471

Overall, leases resulted in cash outflows totaling K€ 6,392 in the year under report.

Other intangible assets

Other intangible assets comprise mainly customer bases and licenses, with carrying amounts at December 31, 2019 of K€ 14,301 (2018: K€ 18,166) and K€ 48,671 (2018: K€ 48,732) respectively and sundry other intangible assets.

The customer bases relate primarily to the purchase price allocation made at May 7, 2004 and are being amortized straight-line over a maximum remaining amortization period (at December 31, 2019) of 4.3 years. 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 (K€ 48,333, 2018: K€ 48,333).

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 recoverability of the "Messer – Gases for Life" brand is tested using the „license price analogy method", whereby the interest rates applied correspond to those used to test the recoverability of goodwill.

In the case of all Group companies, the value in use computed using the above-described principles was higher than the carrying amount of the fixed assets of cash-generating units. Consequently, there was no requirement to recognize any impairment losses on other intangible assets in the financial year 2019.

17. Property, plant and equipment

2019	Land and buildings	Plant and machinery	Other operational and office equipment	Assets under construction	Total
Cost					
Balance at 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
Transfers	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 at Dec. 31, 2019	**265,663**	**1,663,401**	**302,822**	**108,474**	**2,340,360**

2019	Land and buildings	Plant and machinery	Other operational and office equipment	Assets under construction	Total
Accumulated depreciation and impairment losses					
Balance at 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)
Transfers	–	18	(19)	–	(1)
Disposals	1,298	32,188	5,232	–	38,718
Translation differences	(216)	(1,440)	(26)	2	(1,680)
Balance at Dec. 31, 2019	**(116,543)**	**(983,011)**	**(217,146)**	**(209)**	**(1,316,909)**
Carrying amount at Jan. 1, 2019 adjusted	**142,311**	**581,252**	**83,798**	**154,270**	**961,631**
Carrying amount at Dec. 31, 2019	**149,120**	**680,390**	**85,676**	**108,265**	**1,023,451**

2018	Land and buildings	Plant and machinery	Other operational equipment, office equipment	Assets under construction	Total
Cost					
Balance at Jan. 1, 2018	**282,324**	**2,062,482**	**310,677**	**101,163**	**2,756,646**
Adjustments in accordance with IAS 8	24,411	130,434	208	–	155,053
Balance at Jan. 1, 2018 adjusted	**306,735**	**2,192,916**	**310,885**	**101,163**	**2,911,699**
Additions	5,639	53,263	11,750	159,423	230,075
Change in group reporting entity	3,151	4,485	1,175	87	8,898
Reclassifications	(78,502)	(785,393)	(39,738)	(14,666)	(918,299)
Transfers	15,630	64,263	12,577	(92,983)	(513)
Disposals	(296)	(11,398)	(4,493)	(225)	(16,412)
Translation differences	(1,128)	(10,132)	(1,427)	1,682	(11,005)
Translation differences in accordance with IAS 8	(219)	(582)	(1)	–	(802)
Balance at Dec. 31, 2018 adjusted	**251,010**	**1,507,422**	**290,728**	**154,481**	**2,203,641**

2018	Land and buildings	Plant and machinery	Other operational equipment, office equipment	Assets under construction	Total
Accumulated depreciation and impairment losses					
Balance at Jan. 1, 2018	**(127,050)**	**(1,304,553)**	**(225,419)**	**(423)**	**(1,657,445)**
Adjustments in accordance with IAS 8	(10,846)	(62,286)	(53)	–	(73,185)
Balance at Jan. 1, 2018 adjusted	**(137,896)**	**(1,366,839)**	**(225,472)**	**(423)**	**(1,730,630)**
Additions	(10,178)	(101,922)	(17,582)	–	(129,682)
Additions in accordance with IAS 8	(1,358)	(7,796)	(7)	–	(9,161)
Change in group reporting entity	(162)	(1,700)	(1,017)	(87)	(2,966)
Reclassifications	40,083	534,790	32,046	296	607,215
Transfers	–	–	–	–	–
Disposals	279	10,855	4,189	–	15,323
Translation differences	464	6,419	916	3	7,802
Translation differences in accordance with IAS 8	69	23	(3)	–	89
Balance at Dec. 31, 2018 adjusted	**(108,699)**	**(926,170)**	**(206,930)**	**(211)**	**(1,242,010)**
Carrying amount at Jan. 1, 2018 adjusted	**168,839**	**826,077**	**85,413**	**100,740**	**1,181,069**
Carrying amount at Dec. 31, 2018 adjusted	**142,311**	**581,252**	**83,798**	**154,270**	**961,631**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 "Accounting principles and policies, IFRS 16 leasing".

The reclassifications relate entirely to subsidiaries which are classified as „held for sale" at December 31, 2018.

Borrowing costs amounting to K€ 1,571 were recognized as a cost component for qualifying assets in 2019 (2018: K€: 2,474). The average interest rate was 4.2 % (2018: 4.1 %).

As a result of the revised assessment of the future earnings situation, impairment losses amounting to K€ 423 previously recognized on plant, machinery and other equipment were reversed at the level of a number of operating companies in 2019. The income from the reversal of impairment losses is reported in the line item "cost of sales" in the income statement.

In the case of the operating company Yunnan Messer Gas Products Co., Ltd., China, the value in use computed using the principles described above in note 16 "Intangible assets" was lower than the carrying amount of the fixed assets of the relevant cash-generating units. The remaining value in use of the assets, measured using the principles described above, was lower than their carrying amount. The impairment loss of K€ 217 (difference between value in use and carrying amount) was recognized in the form of a writedown spread over the property, plant and equipment of the cash-generating unit. The expense for impairment losses is reported in the line item "cost of sales" 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 minimum lease payments to be received from customers from such operating leases fall due as follows:

	Dec. 31, 2019	Dec. 31, 2018
due up to 1 year	30,664	25,874
due within 1 to 5 years	86,778	71,117
due later than 5 years	77,485	57,668
	194,927	**154,659**

Income of K€ 101 (2018: K€ 2,333) for contingent rental payments from operating leases was recognized during the reporting period.

18. Investments accounted for using the equity method

The following investments in associated companies are stated on the basis of Messer's interest in the equity of the relevant entity at December 31, 2019:

Name and registered office of company	Shareholding (in percent)		Carrying amount	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Significant entities				
Yeti GermanCo 1 GmbH, Sulzbach/Taunus, Germany	54.46	49.00	751,262	1
Non-significant entities				
Yeti Warehouse GmbH, Bad Soden, Germany	58.05	100.00	937	–
Elme Messer Gaas A.S., Tallinn, Estonia	50.00	50.00	38,056	35,182
Balti Messer OÜ, Tallinn, Estonia	50.00	50.00	2,452	2,454
Cryogenic Engineering GmbH, Sulzbach/Taunus, Germany	49.00	49.00	262	71
Sichuan Meifeng Messer Gas Products Co., Ltd., Mianyang City, China	50.00	50.00	2,516	2,172
Smart-Gas Pte. Ltd., Singapore	30.00	30.00	3,422	3,513
Yeti Management Verwaltungs GmbH (formerly Yeti NewCo 0 GmbH), Sulzbach/Taunus, Germany	0.00	49.00	–	14
			798,907	**43,407**

In conjunction with the acquisition of the major part of Linde's gases business in the USA, of the Linde companies in Canada, Brazil and Colombia and the takeover of Praxair's operations 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.

Elme Messer Gaas A.S. is the parent company of our investee entities in the Baltic, Russia and Kaliningrad. Balti Messer OÜ is the parent company of our investee entities in Ukraine. These groups produce and sell industrial gases in the relevant regions and own production facilities.

Investments in associated companies developed as follows:

	2019	2018
Acquisition cost		
Balance at January 1	**54,245**	**54,462**
Additions	773,594	704
Group's share of results / additions	8,373	1,822
Reclassifications	(714)	(2,599)
Disposals	(7,415)	–
Group's share of changes in other comprehensive income	(18,492)	–
Translation differences	154	(144)
Balance at December 31	**809,745**	**54,245**
Accumulated impairment losses		
Balance at January 1	**(10,838)**	**(4,338)**
Additions	–	(6,500)
Balance at December 31	**(10,838)**	**(10,838)**
Carrying amount at January 1	**43,407**	**50,124**
Carrying amount at December 31	**798,907**	**43,407**

Additions include in particular the contribution of the investments in Western European operations to Yeti GermanCo 1 GmbH totaling K€ 772,000. At the same time, the shareholding in this company was increased to 58.05 %.

Disposals comprise mainly the sale of shares in 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.

Reclassifications in the previous financial year related to subsidiaries classified as „held for sale" at December 31, 2018.

The Group's share in profits from our equity accounted investments in Ukraine amounting to K€ 113 (2018: K€ 260) was not recorded since the Group's share of net accumulated losses exceeds the carrying amount of the investments. The Group's share of losses of newly founded companies in Germany, amounting to K€ 611, was not recorded in the previous financial year. These losses were offset against profits in 2019.

The impairment loss reported for the previous financial year related to the Group's share of the impairment loss recognized on Messer Group GmbH's interests in Balti Messer OÜ, Estonia (K€ 2,500), and Elme Messer Gaas A.S., Estonia (K€ 4,000).

The following table shows summarized financial information for the principal associated companies, as reported in the consolidated financial statements of Yeti GermanCo 1 GmbH. Yeti GermanCo 1 GmbH is the parent company of our indirect investments in Western Europe and in 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	
	2019	2018
Revenue	1,687,608	–
Net profit / net loss for the year	3,209	–
Other comprehensive income (OCI)	(33,924)	
Total comprehensive income for the year	**(30,715)**	–
of which attributable to:		
Ashareholders of the parent company	(31,258)	–
Non-controlling interests	543	–
Non-current assets	4,178,210	–
Current assets	1,156,516	–
Non-current liabilities	3,133,014	–
Current liabilities	891,573	–
Net assets	**1,310,139**	–
Net assets less non-controlling interests	**1,305,944**	–
of which attributable to:		
the Messer Group	711,220	–
the joint venture partners	594,724	–

	Yeti GermanCo 1 GmbH	
	2019	2018
Group's share of net assets at January 1	1	–
Group's share of other comprehensive income 2018	3,575	–
Group's share of other comprehensive income 2019	(17,023)	–
Dividends received	–	–
Group's share of capital proceeds / reductions	724,667	–
Impairment loss recognized on carrying amount	–	–
Group's share of net assets at December 31	**711,220**	–
Other	409	–
Surplus of Group's share of net assets over shareholding	40,042	–
Carrying amount at December 31	**751,262**	–

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

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Net profit for the year	7,473	4,985
Other comprehensive income	3,309	(93)
Total comprehensive income	**10,782**	**4,892**

19. 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.

	2019	2018
Acquisition cost		
Balance at January 1	**3,484**	**3,856**
Additions	–	–
Change in group reporting entity	–	–
Reclassifications	–	(17)
Disposals	(621)	(299)
Translation differences	(57)	(56)
Balance at December 31	**2,806**	**3,484**
Accumulated impairment losses		
Balance at January 1	**(654)**	**(680)**
Additions	–	(113)
Change in group reporting entity	–	–
Reclassifications	–	–
Disposals	440	155
Translation differences	(7)	(16)
Balance at December 31	**(221)**	**(654)**
Carrying amount at January 1	**2,830**	**3,176**
Carrying amount at December 31	**2,585**	**2,830**

The reclassifications in 2018 related entirely to subsidiaries classified as „held for sale" at December 31, 2018.

20. Other financial investments

Other financial investments developed as follows:

2019	Non-current loan receivables	Sundry other financial investments	Total
Acquisition cost			
Balance at 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 at December 31, 2019	**1,630**	**133**	**1,763**
Accumulated impairment losses			
Balance at January 1, 2019	**–**	**(40)**	**(40)**
Additions	–	(6)	(6)
Disposals	–	3	3
Translation differences	–	–	–
Balance at December 31, 2019	**–**	**(43)**	**(43)**
Carrying amount at January 1, 2019	**1,722**	**96**	**1,818**
Carrying amount at December 31, 2019	**1,630**	**90**	**1,720**

The value of the non-current loan receivables related mainly to a loan receivable from an associated company amounting to K€ 1,278 (2018: K€ 1,397).

2018	Non-current loan receivables	Sundry other financial investments	Total
Acquisition cost			
Balance at January 1, 2018	**657**	**341**	**998**
Additions	1,717	4	1,721
Reclassifications		(209)	(209)
Disposals	(640)	–	(640)
Translation differences	(12)	–	(12)
Balance at December 31, 2018	**1,722**	**136**	**1,858**
Accumulated impairment losses			
Balance at January 1, 2018	**–**	**(24)**	**(24)**
Additions	–	(16)	(16)
Disposals	–	–	–
Translation differences	–	–	–
Balance at December 31, 2018	**–**	**(40)**	**(40)**
Carrying amount at January 1, 2018	**657**	**317**	**974**
Carrying amount at December 31, 2018	**1,722**	**96**	**1,818**

The reclassifications in 2018 related entirely to subsidiaries classified as „held for sale" at December 31, 2018.

21. Other non-current receivables and assets

	Dec. 31, 2019	Dec. 31, 2018	IAS 8	Dec. 31, 2018 adjusted
Lease receivables	9,482	122,296	(111,379)	10,917
Other receivables	1,797	1,835	–	1,835
Trade receivables	669	886	–	886
Other financial assets	15	14	–	14
Financial assets	**11,963**	**125,031**	**(111,379)**	**13,652**
Other financial assets	887	833	–	833
Non-financial assets	**887**	**833**	**–**	**833**
Total	**12,850**	**125,864**	**(111,379)**	**14,485**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 "Accounting principles and policies, IFRS 16 leasing".

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

	Dec. 31, 2019	Dec. 31, 2018	IAS 8	Dec. 31, 2018 adjusted
Gross investment in leases	**12,640**	**166,636**	**(152,101)**	**14,535**
due within 1 year	1,906	21,037	(19,110)	1,927
due within 1 to 5 years	7,003	77,870	(70,660)	7,210
due later than 5 years	3,731	67,729	(62,331)	5,398
Unrealized finance income	**(1,689)**	**(29,642)**	**27,437**	**(2,205)**
Net investment in leases	10,951	136,994	(124,664)	12,330
due within 1 year	1,469	14,698	(13,285)	1,413
due within 1 to 5 years	5,935	60,449	(54,576)	5,873
due later than 5 years	3,547	61,847	(56,803)	5,044

22. Inventories

	Dec. 31, 2019	Dec. 31, 2018
Raw materials and supplies	17,435	12,159
Work in progress	9,871	6,582
Finished goods and goods for resale	32,948	24,946
Total	**60,254**	**43,687**

Of the net inventories reported at December 31, 2019, K€ 11,496 (2018: K€ 9,989) are being carried at net realizable value. Write-downs of K€ 4,547 (2018: K€ 3,423) 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€ 185,586 (2018: K€ 205,910).

23. Trade receivables

	Dec. 31, 2019	Dec. 31, 2018	IAS 8	Dec. 31, 2018 adjusted
Trade receivables	180,376	174,254	1,444	175,698
Impairment allowances	(30,839)	(36,272)	–	(36,272)
Total	**149,537**	**137,982**	**1,444**	**139,426**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 "Accounting principles and policies, IFRS 16 Leases".

24. Contract balances

Contract assets are shown in the consolidated balance sheet as follows:

	Dec. 31, 2019	Dec. 31, 2018
Receivables included in trade receivables	116,254	118,979
Receivables included in non-current assets held for sale	–	63,396
Contract assets	–	–

All work relating to engineering contracts was billed during the financial year 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, 2019	Dec. 31, 2018
due in 1st year	58,288	28,217
due in 2nd year	82,355	48,216
due in 3rd year	85,244	53,333
due later than 3 years	291,986	96,159
Total	**517,873**	**225,925**

The amounts shown above mainly relate to contractually agreed fixed payments ("take-or-pay installments"). 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.

25. Assets / liabilities held for sale and discontinued operations

	Dec. 31, 2019	Dec. 31, 2018
Non-current assets held for sale	–	122
Disposal groups	–	359,364
Non-current liabilities held for sale	–	(223)
Total	**–**	**359,263**

No amounts are reported as „Assets held for sale" or „Liabilities held for sale" at December 31, 2019, reflecting the fact that no items or transactions were classified as "highly probable" within the meaning of IFRS 5 at the end of the reporting period. The development of these line items during the twelve-month period under report is described below.

Transfer of Western European 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 as well as to take over Praxair's activities in Chile. The transaction itself was subject to the successful completion of the merger between Linde AG and Praxair Inc. and the approval of the relevant US antitrust authorities. On October 22, 2018, the U.S. Federal Trade Commission (FTC) gave its clearance for the merger between Linde AG and Praxair Inc. in accordance with merger control law.

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, of 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 assets and liabilities of the Western European operations within the meaning of IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations" were accounted for as discontinued operations until the contribution took effect in law. Furthermore, with effect from October 22, 2018, no systematic depreciation or amortization was recognized on individual items classified in the consolidated balance sheet as discontinued operations. Instead, these items were measured at the lower of their carrying amount and their fair value less costs to sell. After taking account of all necessary consolidation entries, the assets and liabilities relating to these discontinued operations were reported in the consolidated balance sheet at December 31, 2018 in the line items „Assets held for sale" (K€ 458,315) and „Liabilities held for sale" (K€ 98,951). The respective assets and liabilities required to be eliminated on consolidation were included in the corresponding balance sheet line items for continuing and discontinued operations. The contribution and related deconsolidation were recorded effective from February 28, 2019. Details of the contribution of the Western Europe operations are shown in the following table:

	February 28, 2019
Consideration received	
Cash	–
Fair value of assets and liabilities contributed	772,000
Total consideration	**772,000**
Carrying amount of net assets contributed	(364,140)
Reclassification from reserve for translation differences	5,362
Gain on disposal of discontinued operations before tax	**413,222**

The reclassification from the reserve for currency translation differences includes amounts relating to foreign subsidiaries previously been recognized through other comprehensive income (OCI).

These amounts were reclassified to profit or loss on deconsolidation, which took place effective February 28, 2019. Up to this date, the amount of assets held for sale increased in the ordinary course of business by K€ 33,623 to K€ 491,938. The increase was mainly attributable to the higher level of intangible assets as a result of the capitalization of right-of- use assets amounting to K€ 24,083 in conjunction with the adoption of IFRS 16 (Leases). For the same reason, liabilities in connection with assets held for sale went up by K€ 28,847 to K€ 127,798. The carrying amounts of assets and liabilities relating to the Western European operations on deconsolidation were as follows at February 28, 2019:

	February 28, 2019	December 31, 2018
Intangible assets	54,017	30,008
Property, plant and equipment	313,850	311,892
Investments in other companies	2,616	2,616
Deferred tax assets	7,978	7,027
Other non-current receivables and assets	460	420
Inventories	11,799	11,713
Trade receivables	76,027	68,170
Current income tax assets	2,472	2,463
Other assets	12,316	10,211
Cash and cash equivalents	10,403	13,795
Total assets	**491,938**	**458,315**
Provisions for employee benefits	11,541	11,592
Other non-current provisions	1,725	1,770
Deferred tax liabilities	17,404	11,851
Other current provisions	9,416	7,492
Financial debt	23,167	–
Trade accounts payable	42,715	45,416
Current income tax liabilities	(1,414)	1,198
Other current liabilities	23,244	19,632
Total liabilities	**127,798**	**98,951**
Discontinued operations	**364,140**	**359,364**

Accumulated income and expenses recognized through other comprehensive income and relating to discontinued operations in 2018 amounted to K€ 4,437.

Result from discontinued operations

The information presented below on results from discontinued operations relates to the reporting periods ended February 28, 2019 and December 31, 2018. The result from discontinued operations, net of consolidation procedures recognized in profit or loss, was reclassified within the consolidated income statement to the line item „Current 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.

As part of the measurement procedures required to be carried out immediately before the reclassification of assets and liabilities relating to discontinued operations, no impairment losses within the meaning of IFRS 5 were recognized, reflecting the fact that the fair value less costs to sell of discontinued operations exceeded the carrying amount of the assets and liabilities concerned. Similarly, the annual impairment test did not result in the recognition of any impairment losses that are included in the result from discontinued operations.

The result from discontinued operations after tax therefore includes the following components:

	February 28, 2019	Dec. 31, 2018
Revenue	57,323	339,147
Cost of sales	(25,294)	(174,546)
Gross profit	**32,029**	**164,601**
Other operating income	413,766	2,203
Other expenses	(22,196)	(136,510)
Operating profit	**423,599**	**30,294**
Investment result, net	(43)	223
Interest result, net	(201)	(2,436)
Financial result, net	(265)	(2,641)
Current result from discontinued operations before tax	**423,090**	**25,440**
Income tax expense	(2,506)	(4,868)
Current result from discontinued operations after tax	**420,584**	**20,572**
of which attributable to:		
shareholders of the parent company	420,259	19,968
non-controlling interests	325	604

Other operating income totaling K€ 413,222 comprises mainly the deconsolidation gain before tax relating to discontinued operations. The related income tax expense was K€ 0.

The current result from discontinued operations covers a period of two months (2018: twelve months). Furthermore, in accordance with IFRS 5, scheduled depreciation and amortization totaling K€ 14,680 was not recognized with effect from October 2018 (including K€ 7,046 relating to the 2019 financial year). The corresponding deferred tax expense totaled K€ 4,515 (including K€ 1,834 relating to the 2019 financial year).

The Group has opted to apply a formal approach to presenting income tax for the period January 1 to February 28, 2019 and for the comparative period 2018. The presentation is therefore based on the legal conditions applicable at the relevant date.

Impact on the Group's cash flow statement:

The information presented below on cash flows from discontinued operations relates to the reporting periods ended February 28, 2019 and December 31, 2018.

	Jan. 1 – Feb. 28, 2019	Jan. 1 – Dec. 31, 2018
Cash flows from operating activities	3,443	48,918
Cash flows from investing activities	(5,798)	(26,915)
Cash flows from financing activities	(1,388)	(10,512)
Net decrease in cash generated by discontinued operations	**(3,392)**	**(18,247)**

26. Other current financial and non-financial assets

	Dec. 31, 2019	Dec. 31, 2018	IAS 8	Dec. 31, 2018 adjusted
Deposits and guarantees	3,276	2,543	–	2,543
Receivables from related parties	2,357	2,605	–	2,605
Lease receivables	1,469	14,698	(13,285)	1,413
Derivative financial instruments (no hedge relationship)	1,296	12,650	–	12,650
Sundry other receivables from operating activities	1,171	1,236	–	1,236
Receivables from employees	792	823	–	823
Other loan receivables	43	198	–	198
Sundry other	3,097	3,542	–	3,542
Financial assets	**13,501**	**38,295**	**(13,285)**	**25,010**
Other tax receivables	9,162	11,153	–	11,153
Deferred expenses	5,316	5,715	–	5,715
Payments in advance	3,648	5,722	–	5,722
Receivables relating to value added tax group arrangements with Messer Industrie GmbH	250	65	–	65
Sundry other	5,251	4,399	–	4,399
Non-financial assets	**23,627**	**27,054**	**–**	**27,054**
Total	**37,128**	**65,349**	**(13,285)**	**52,064**

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 "Accounting principles and policies, IFRS 16 Leases".

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.

For further information regarding lease receivables, we refer to the disclosures made in note 21 "Other non-current receivables and assets".

27. Cash and cash equivalents

	Dec. 31, 2019	Dec. 31, 2018
Cash, bank balances and checks	218,930	277,451
Cash equivalents	25	25
Cash and cash equivalents	**218,955**	**277,476**

28. Provisions for employee benefits

	Dec. 31, 2019	Dec. 31, 2018
Pension provisions	52,075	41,328
Provisions for other employee benefits	3,025	3,310
Provisions for employee benefits	**55,100**	**44,638**

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, 2019	Dec. 31, 2018
Present value of pension benefits covered by accounting provisions	48,166	38,743
Present value of funded pension benefits	12,464	10,972
Present value of all pension benefits	**60,630**	**49,715**
Fair value of plan assets of all funds	(8,555)	(8,387)
Net liability recognized	**52,075**	**41,328**

The present value of pension benefits covered by accounting provisions includes K€ 44,826 (2018: K€ 35,174) 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) applicable for 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 Company. 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 Company to various risks. In addition to general actuarial risks, such as longevity and interest rate risks, the Company may also be exposed 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 at December 31, 2019 and 2018:

	Dec. 31, 2019		Dec. 31, 2018	
	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 at Jan. 1	**38,743**	**10,972**	**41,301**	**46,763**
Translation differences	(5)	327	(75)	1,141
Current service cost	939	252	1,193	1,148
Past service cost	204	–	–	–
Interest expense on obligations	714	121	701	368
Employee contributions	–	236	–	708
Actuarial losses (gains)	8,272	1,219	(832)	185
Pension payments	(701)	(663)	(911)	(1,599)
Reclassifications	–	–	(2,634)	(37,742)
Present value of all pension benefits at Dec. 31	**48,166**	**12,464**	**38,743**	**10,972**
Change in plan assets of all funds				
Fair value of plan assets of all funds at Jan. 1	**–**	**8,387**	**–**	**35,997**
Interest income / (losses)	–	101	–	281
Income / (losses) (excluding interest income / losses)	–	(2)	–	188
Contributions paid in – employer	–	317	–	1,262
Contributions paid in – employees	–	236	–	709
Pension payments	–	(684)	–	(1,576)
Unrecognized plan assets surplus	–	–	–	–
Reclassifications	–	–	–	(29,246)
Other	–	–	–	–
Translation differences	–	200	–	772
Fair value of plan assets of all funds at Dec. 31	**–**	**8,555**	**–**	**8,387**

The reclassifications relate entirely to subsidiaries which are classified as „held for sale" at December 31, 2018 and which were disposed during the fiscal year under report.

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

	Dec. 31, 2019 Fair value		Dec. 31, 2018 Fair value	
Bonds	1,436	17 %	1,380	16 %
Real estate	1,366	16 %	1,381	17 %
Shares & funds	1,350	16 %	1,433	17 %
Cash funds	419	5 %	372	4 %
Other assets	3,984	46 %	3,821	46 %
Total	**8,555**	**100 %**	**8,387**	**100 %**

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, 2019		Jan. 1 – Dec. 31, 2018	
	Benefit obligations financed by provisions	Benefit obligations financed by funds	Benefit obligations financed by provisions	Benefit obligations financed by funds
Experience adjustments	989	291	(49)	458
Change in financial assumptions	7,283	928	(1,380)	(296)
Change in biometric assumptions	–	–	597	23
Actuarial losses / (gains) arising on the remeasurement of the present value of pension benefits	**8,272**	**1,219**	**(832)**	**185**

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

	Jan. 1 – Dec. 31, 2019	Jan. 1 – Dec. 31, 2018
Current service cost	1,191	2,341
Past service cost	204	–
Interest expense on obligations	835	1,069
Expected return on plan assets	(101)	(281)
Other	–	–
Total of amounts recognized with profit / loss impact	**2,129**	**3,129**

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, 2019 (in percent)	Dec. 31, 2018 (in percent)
Discount rate	0.77	1.71
Expected rate of salary increases	1.26	1.32
Expected return on plan assets	0.45	1.20
Expected rate of pension increases	1.70	1.71

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 measured in Switzerland using the BVG 2015 GT mortality tables ("generation tables") 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, 2019		Dec. 31, 2018	
Current employees	48,034	79 %	39,397	79 %
Ex-employees	2,175	4 %	1,946	4 %
Pensioners	10,421	17 %	8,372	17 %
Total	**60,630**	**100 %**	**49,715**	**100 %**

The weighted average term of the defined benefit obligation at December 31, 2019 is 16.2 years (2018: 15.5 years).

An increase / decrease of 50 basis points to the discount rate used would have the following impact on pension obligations as at December 31, 2019:

Change in discount rate in basis points	– 50	+ 50	-/+ 0
Present value of all pension benefits	66,548	55,477	60,630

The sensitivity calculations are based on the average term of the pension obligations as measured at December 31, 2019 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 indications of trends.

The Group expects an expense for contributions to defined benefit plans of K€ 1,511 in 2020.

29. Other provisions

	Jan. 1, 2019	Allocated	Utilized	Reversed	Change in group reporting entity	Translation differences	Dec. 31, 2019
Non-current							
Litigation	**2,363**	–	(1)	(30)	–	8	**2,340**
Personnel	**2,160**	454	(19)	–	–	11	**2,606**
Sundry	968	75	–	(393)	–	(4)	**646**
Total	**5,491**	**529**	**(20)**	**(423)**	**–**	**15**	**5,592**
Current							
Personnel	**13,352**	11,890	(9,936)	(1,418)	43	27	**13,958**
Sundry	**13,687**	5,652	(771)	(1,114)	(450)	31	**17,035**
Total	**27,039**	**17,542**	**(10,707)**	**(2,532)**	**(407)**	**58**	**30,993**

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

Non-current personnel-related provisions at December 31, 2019 mainly cover obligations for long-service awards. The unwinding of interest amounting to K€ 12 is included in the allocation for the year (2018: K€ 9). Current provisions for personnel-related expenses reported at December 31, 2019 related mainly to bonuses and holiday pay.

Current sundry other provisions mainly comprise obligations to dismantle a pipeline in the Qingbaijiang Industrial Park, China, totaling K€ 3,153. 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.

Also included in the line item "Sundry" is a current provision to cover the expected cost of compensation payments to a supplier for non-fulfilment of contractual commitments in accordance with a supply contract (K€ 3,300). We refer to the disclosures made in notes 34 "Contingent liabilities" and 37 „Events after the end of the reporting period".

30. Financial debt

The contribution of the Western European operations to Yeti GermanCo 1 GmbH in February 2019 gave some debtholders a contractually agreed right to terminate the Messer Group's financing arrangements. Up to February 26, 2019, the Messer Group was financed via a Term and Revolving Facilities Agreement (RFA I), dated July 28, 2015, with a volume of € 160 million. The RFA I had been made available by UniCredit Bank AG, Bayerische Landesbank, ING Bank (a branch of ING-DiBa AG) and Landesbank Hessen-Thüringen Girozentrale and comprised two tranches: tranche A with a volume of € 60 million and tranche B with a volume of € 100 million.

The Messer Group was also financing itself via US Private Placements (USPP), provided by three insurance companies, namely:

- Prudential Investment Management Inc. (Pricoa) USPP II for € 80.0 million and USPP III € 46.3 million
- Metropolitan Life Insurance Company (MetLife) USPP II for € 80.0 million and USPP III USD 100.0 million
- Voya Investment Management (Voya) USPP III for USD 57.0 million

Notification of termination was received for USPP III (USD 100 million from MetLife) and USPP II (USD 57.0 million from Voya) and the amounts due were repaid on January 29 and February 26, 2019 respectively. All of the EUR-denominated USPPs remained in place, as follows:

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 and Messer Finance on the other, with a term of ten 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 on the other. This part of USPP III has a term of ten years (as originally agreed) 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 five years and is due at the end of the term, was provided to the Messer Group by various funds led by Prudential Management Inc.

Furthermore, a new Term and Revolving Facilities Agreement (RFA II) was agreed with the banks that had previously been party to RFA I. The lenders remain UniCredit Bank AG, Bayerische Landesbank, ING Bank (a branch of ING-DiBa AG) and Landesbank Hessen-Thüringen Girozentrale. RFA II comprises 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. RFA II runs until 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 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 required in conjunction with the repayment of the USPPs and is therefore no longer available.

Collateral for the entire financing was provided by guarantees issued by a number of Group entities as well as in the 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 at December 31, 2019 amounted to € 69.5 million (2018: € 59.5 million).

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

Description	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 II – 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 %	22,352	22,352	various
		495,530	**425,990**	
Transaction costs		–	(2,210)	
		495,530	**423,780**	

[1] K€ 4,051 utilized as guarantee
[2] interest rate (PLN) at December 31, 2019; foreign currency amounts translated using the closing rate at December 31, 2019
[3] K€ 717 utilized as guarantee, variable weighted interest rate (PLN) at December 31, 2019, foreign currency amounts translated using the closing rate at December 31, 2019
[4] K€ 777 utilized as guarantee, foreign currency amounts translated using the closing rate at December 31, 2019
[5] weighted interest rate at December 31, 2019; foreign currency amounts translated using the closing rate at 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, 2019	Dec. 31, 2018
Non-current		
Liabilities to banks / insurance companies	381,944	327,606
Lease liabilities	17,354	96
Other	956	–
Less: transaction costs	(1,478)	(23)
	398,776	**327,679**
Current		
Liabilities to banks / insurance companies	18,307	208,272
Lease liabilities	4,998	52
Other	2,431	6,377
Less: transaction costs	(732)	(613)
	25,004	**214,088**
Total financial debt, net	**423,780**	**541,767**
Liabilities with a fixed interest rate	318,662	371,007
Financial debt with variable interest rates (hedged)	78,334	108,603
Financial debt with variable interest rates (not hedged)	28,994	62,793
Total financial debt, gross	**425,990**	**542,403**
The weighted average nominal interest rates for debt are:		
Due to banks / insurance companies (including hedges)	3.69 % p. a.	4.15 % p. a.
Leasing	4.48 % p. a.	3.39 % p. a.
Other loans	1.44 % p. a.	0.76 % p. a.

The average interest rate on debt (including interest rate swap agreement) at December 31, 2019 was 3.72 % p. a. (2018: 4.11 %).

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

2020	25,736
2021	178,924
2022	101,132
2023	23,396
2024	90,762
After 2024	6,040
	425,990

	2019	2018
Non-current financial debt at Jan. 1	**327,679**	**419,634**
Adjustment at January 1 due to first-time application of IFRS 16	19,130	–
Cash-relevant changes		
New debt raised	129,404	70,909
Repayments	(45,811)	(4,634)
Non-cash-relevant changes		
Transfer to lease liabilities	5,601	–
Changes in maturities	(38,187)	(160,583)
Currency translation	1,756	2,622
Change relating to derivative financial instruments with a hedging relationship	–	–
Translation differences	659	(269)
Borrowing costs capitalized	(1,455)	–
Non-current financial debt at Dec. 31	**398,776**	**327,679**

	2019	2018
Current financial debt at Jan. 1	**214,088**	**61,829**
Adjustment at January 1 due to first-time application of IFRS 16	3,898	–
Cash-relevant changes		
New debt raised	477	6,511
Repayments	(233,323)	(28,908)
Non-cash-relevant changes		
Additions to lease liabilities	1,127	–
Non-cash-relevant change in financial debt	–	6,640
Changes in maturities	38,187	160,583
Currency translation	165	7,123
Translation differences	502	310
Borrowing costs capitalized	(117)	–
Current financial debt at Dec. 31	**25,004**	**214,088**

As part of the conditions of USPP II, USPP III and RFA II, 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.

31. Other non-current liabilities

	Dec. 31, 2019	Dec. 31, 2018
Public-sector grants	519	–
Non-financial liabilities	**519**	**–**
Total	**519**	**–**

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

32. Other current liabilities

	Dec. 31, 2019	Dec. 31, 2018
Deposits received for hardware	4,544	4,264
Derivative financial instruments without an effective hedging relationship	2,540	1,696
Interest payable	2,233	2,707
Liabilities to related companies	1,333	383
Other liabilities to customers	115	98
Sundry other liabilities	13,886	8,203
Financial liabilities	**24,651**	**17,351**
Deferred income and other deferred liabilities	28,708	17,417
Advance payments received on orders	20,499	7,723
Payroll liabilities	19,142	17,543
Liabilities to social security providers	12,261	10,052
Other taxes payable	4,414	5,662
Non-financial liabilities	**85,024**	**58,397**
Total	**109,675**	**75,748**

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.

Deferred income includes public sector grants amounting to K€ 496 (2018: K€ 492). The income from the release of these grants is recognized in the income statement line item „cost of sales".

33. 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 at December 31, 2019.

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., Shanghai, 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, have been transferred to Group reserves without income statement impact.

In November 2018, Messer Griesheim (China) Investment Co. Ltd., Shanghai, reduced its 100 % holdings in Shaoxing Messer Gas Products Co., 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., Shanghai, acquired all of the shares of Chongqing Pangang Messer Gas Products Co., Ltd. from Sichuan Pangang Messer Gas Products Co., Ltd., 60 % of whose shares are held by Messer Griesheim (China) Investment Co. Ltd. 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.

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.

Revenue reserves include an amount of K€ 24,190 resulting from the application of IFRS 16 with effect from January 1, 2018 and which relate to contracts where the Messer Group is the lessor.

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 (translation differences recognized directly in equity) and unrealized gains and losses on available-for-sale financial assets.

Accumulated income and expenses recognized through other comprehensive income (OCI) and relating to discontinued operations amounted to K€ 0 (2018: K€ 4,437).

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, 2019	Dec. 31, 2018
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.	
	2019	2018	2019	2018
Revenue	**180,821**	**172,439**	**122,015**	**104,780**
Net profit for the year	34,069	30,747	21,707	19,722
of which attributable to other shareholders	15,336	14,742	9,501	8,719
Other comprehensive income	990	(1,545)	(758)	(1,588)
Total comprehensive income	**35,059**	**29,202**	**20,949**	**18,134**
of which attributable to other shareholders	15,683	14,172	9,198	8,083
Non-current assets	158,649	151,582	92,252	195,528
Current assets	86,440	70,760	106,844	72,583
Non-current liabilities	1,146	1,101	2,960	33,564
Current liabilities	33,646	30,421	11,046	27,779
Net assets	**210,297**	**190,820**	**185,090**	**206,768**
of which attributable to other shareholders	55,623	48,420	56,630	62,249
Dividends paid to non-controlling interests	**(5,817)**	**(9,213)**	**(5,171)**	**–**
Cash flows from operating activities	27,998	34,659	5,741	32,261
Cash flows from investing activities	(17,483)	(21,735)	(435)	(3,048)
Cash flows from financing activities	(15,796)	(10,949)	(15,220)	(17,969)
Changes in cash and cash equivalents	**(5,281)**	**1,975**	**(9,914)**	**11,244**

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, the Group II is required to maintain a minimum capital of € 800 million. Equity (including non-controlling interests) amounted to K€ 1,956,105 at the end of the reporting period (2018: K€ 1,434,523). 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.

34. Contingent liabilities

Contingent liabilities

Obligations from issuing guarantees were as follows:

in € million	Dec. 31, 2019		Dec. 31, 2018	
	Maximum potential obligation	Amount recognized as liability	Maximum potential obligation	Amount recognized as liability
Financial guarantees	**7.6**	–	4.4	–

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.

Other financial obligations

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 at December 31, 2019, purchase and capital expenditure commitments and long-term contracts amounted to K€ 85,796 (2018: K€ 82,528).

Litigation

The Belgian subsidiary, Messer Belgium N.V., was contributed by Messer Group GmbH to the Yeti German-Co 1 Group in 2019 as part of the Western European operations. Messer Group GmbH is not liable for any legal cases that were already pending and made known before the closing date for the contribution. This also applies to the Mous proceedings, so that this matter is no longer reported on.

A supply contract was previously in place between Messer Group GmbH and a major supplier of helium (PIGNiG S.A. Oddzial w Odolanovie, Poland) which stipulated minimum purchase volumes. The two parties have a different understanding of the scale of Messer's purchase commitment under the supply contract. The supplier filed a claim against Messer Group GmbH at the arbitration court in Warsaw (KIG) for approximately K€ 2,500 for non-fulfilment of the purchase commitment under the contract plus interest on delayed payments. After several oral hearings in which witnesses of the parties were questioned on the facts of the case, the parties submitted further written evidence. The court granted the request to appoint two experts to provide information and a combined assessment of the helium market. In previous years, a provision of K€ 3,300 was recognized at the level of Messer Group GmbH to cover PGNiG's claims for damages plus interest payable. The arbitration decision was announced in February 2020. For further information, please see our comments in the note on events after the reporting period.

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.

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. Access to the investigation file has been granted in the meantime. The main proceedings are expected to be opened by mid-2020. In February 2019, the company was searched again. The investigation focused on the purchase and distribution of electricity together with Carburos Metallicos. So far, access to the files has so been denied due to the ongoing nature of the investigations. Based on the current state of investigations, it can be assumed that, at a minimum, a fine will be imposed in both proceedings. It is likely that the proceedings will take several years. As a result of the indemnification agreed in conjunction with the contribution of the Western European operations, Messer has recognized a provision for fines and litigation costs totaling € 1 million, which is included in the result from discontinued operations.

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.

35. 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 at December 31, 2019:

in K€	Carrying amount Dec. 31, 2019	Subsequent measurement (IFRS 9)			Measurement in accordance with IFRS 16	Non-financial items	Fair value at Dec. 31, 2019
		Amortized cost	Fair value through OCI	Fair value through profit or loss			
Assets							
Investments in other companies and financial investments	**4,305**	**1,630**	**90**	**–**	**–**	**2,585**	
Financial assets	**1,720**	1,630	90	–	–	–	**1,720** [1]
Non-financial items	**2,585**	–	–	–	–	2,585	**–**
Other non-current receivables and assets	**12,850**	**2,481**	**–**	**–**	**9,482**	**887**	
Financial assets	**2,481**	2,481	–	–	–	–	**2,341** [1]
Lease receivables	**9,482**	–	–	–	9,482	–	**18,677** [1]
Non-financial items	**887**	–	–	–	–	887	**–**
Trade receivables	**149,537**	**149,537**	**–**	**–**	**–**	**–**	
Financial assets	**149,537**	149,537	–	–	–	–	–
Other current receivables and other assets	**37,128**	**7,460**	**–**	**1,296**	**1,469**	**26,903**	
Financial assets	**10,736**	7,460	–	–	–	3,276	–
Lease receivables	**1,469**	–	–	–	1,469	–	–
Derivatives not in effective hedging relationships	**1,296**	–	–	1,296	–	–	**1,296** [1]
Non-financial items	**23,627**	–	–	–	–	23,627	–
Cash and cash equivalents	**218,955**	**218,955**	–	–	–	–	
Financial assets	**218,955**	218,955	–	–	–	–	–

[1] Hierarchy Level 2

in K€	Carrying amount Dec. 31, 2019	Subsequent measurement (IFRS 9)			Measure-ment in accordance with IFRS 16	Non-financial items	Fair value at Dec. 31, 2019
		Amortized cost	Fair value through OCI	Fair value through profit or loss			
Liabilities							
Non-current financial debt	**398,776**	**381,944**	**–**	**–**	**17,354**	**–**	
Financial liabilities	**381,422**	381,944	–	–	–	–	**393,040** [1]
Lease liabilities	**17,354**	–	–	–	17,354	–	**–**
Other non-current liabilities	**519**	**519**	**–**	**–**	**–**	**–**	
Non-financial items	**519**	519	–	–	–	–	**519** [1]
Current financial liabilities	**25,004**	**20,007**	**–**	**–**	**4,998**	**–**	
Financial liabilities	**20,006**	20,006	–	–	–	–	**–**
Lease liabilities	**4,998**	1	–	–	4,998	–	**–**
Trade payables	**93,424**	**93,424**	**–**	**–**	**–**	**–**	
Financial liabilities	**93,424**	93,424	–	–	–	–	**–**
Other current liabilities	**109,675**	**22,111**	**–**	**2,540**	**–**	**85,024**	
Financial liabilities	**22,111**	22,111	–	–	–	–	**–**
Derivatives not in effective hedging relationships	**2,540**	–	–	2,540	–	–	**2,540** [1]
Non-financial items	**85,024**	–	–	–	–	85,024	**–**

[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 at December 31, 2018 in accordance with IFRS 9:

in K€	Carrying amount Dec. 31, 2018 adjusted	Subsequent measurement (IFRS 9)			Measure-ment in accordance with IFRS 16 adjusted	Non-financial items	Fair value at Dec. 31, 2018 adjusted
		Amortized cost adjusted	Fair value through OCI	Fair value through profit or loss			
Assets							
Investments in other companies and financial investments	**4,648**	**1,722**	**96**	**–**	**–**	**2,830**	
Financial assets	**1,818**	1,722	96	–	–	–	**1,818** [1]
Non-financial items	**2,830**	–	–	–	–	2,830	**–**
Other non-current receivables and assets adjusted	**14,485**	**2,735**	**–**	**–**	**10,917**	**833**	
Financial assets	**2,735**	2,735	–	–	–	–	**2,554** [1]
Finance lease receivables adjusted	**10,917**	–	–	–	10,917	–	**20,760** [1]
Non-financial items	**833**	–	–	–	–	833	**–**
Trade receivables adjusted	**139,426**	**139,426**	**–**	**–**	**–**	**–**	
Financial assets adjusted	**139,426**	139,426	–	–	–	–	–
Other current receivables and other assets adjusted	**52,064**	**10,947**	**–**	**12,650**	**1,413**	**27,054**	
Financial assets	**10,947**	10,947	–	–	–	–	–
Finance lease receivables adjusted	**1,413**	–	–	–	1,413	–	–
Derivatives not in effective hedging relationships	**12,650**	–	–	12,650	–	–	**12,650** [1]
Non-financial items	**27,054**	–	–	–	–	27,054	–
Cash and cash equivalents	**277,476**	**277,476**	**–**	**–**	**–**	**–**	
Financial assets	**277,476**	277,476	–	–	–	–	–

[1] Hierarchy Level 2

in K€	Carrying amount Dec. 31, 2018	Subsequent measurement (IFRS 9)			Measurement in accordance with IFRS 16	Non-financial items	Fair value at Dec. 31, 2018
		Amortized cost	Fair value through OCI	Fair value through profit or loss			
Liabilities							
Non-current financial debt	**327,679**	**327,583**	**–**	**–**	**96**	**–**	
Financial liabilities	**327,583**	327,583	–	–	–	–	**348,856** [1]
Finance lease liabilities	**96**	–	–	–	96	–	**96** [1]
Current financial debt	**214,088**	**214,036**	**–**	**–**	**52**	**–**	
Financial liabilities	**214,036**	214,036	–	–	–	–	–
Finance lease liabilities	**52**	–	–	–	52	–	–
Trade payables	**90,445**	**90,445**	**–**	**–**	**–**	**–**	
Financial liabilities	**90,445**	90,445	–	–	–	–	–
Other current liabilities	**75,748**	**15,655**	**–**	**1,696**	**–**	**58,397**	
Financial liabilities	**15,655**	15,655	–	–	–	–	–
Derivatives not in effective hedging relationships	**1,696**	–	–	1,696	–	–	**1,696** [1]
Non-financial items	**58,397**	–	–	–	–	58,397	–

[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 at 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

The adjustments result from the application of IAS 8 requirements in conjunction with the adoption of IFRS 16. We refer to our comments in note 2 “Accounting principles and policies“, “IFRS 16 Leases”.

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 of 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:

2019 in K€	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)

The following table shows net gains and losses from financial instruments by IFRS 9 measurement categories in 2018:

2018 in K€	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	–	8,925	1,064	–	–
Financial liabilities measured at amortized cost	(23,924)	–	(16,304)	–	–
Financial assets measured at amortized cost	1,450	–	4,920	3,099	1
Financial assets measured at fair value through OCI	–	–	–	–	–

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, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Hedging contracts not in cash flow or fair value hedging relationships	**140,190**	**354,623**	**(1,244)**	**10,954**
Interest-rate hedges (positive fair value)	–	–	–	–
Interest-rate hedges (negative fair value)	78,334	128,603	(1,912)	(1,004)
Currency hedges (positive fair value)	49,341	78,917	1,296	2,419
Currency hedges (negative fair value)	12,515	9,985	(628)	(692)
Interest-rate and currency hedges (positive fair value)	–	137,118	–	10,231
Interest-rate and currency hedges (negative fair value)		–		–
	140,190	**354,623**	**(1,244)**	**10,954**

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, 2019	Remaining term up to 1 year	Remaining term more than 1 year	Total Dec. 31, 2018
Cross currency interest rate swaps	–	–	**–**	137,118	–	**137,118**
Forward currency contracts	22,111	39,745	**61,856**	77,985	10,917	**88,902**
Interest swaps	–	78,334	**78,334**	50,000	78,603	**128,603**
	22,111	**118,079**	**140,190**	**265,103**	**89,520**	**354,623**

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 balance sheet in accordance with IAS 32.42.

	Dec. 31, 2019			Dec. 31, 2018		
	Gross amounts of derivatives in consolidated balance sheet	Amounts with netting arrangements	Net amounts	Gross amounts of derivatives in consolidated balance sheet	Amounts with netting arrangements	Net amounts
Derivative assets	1,296	(1,296)	–	12,650	(1,360)	11,290
Derivative liabilities	(2,540)	1,296	**(1,244)**	(1,696)	1,360	**(336)**

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 Group Treasury department by selecting counterparties of 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 groupings for the purposes of monitoring credit risk. Within the of Messer Group, customer groupings with comparable credit risks are determined on the basis of the line of business and the registered office of the customers concerned.

The Messer Group assumes a significant increase in credit risk has occurred if there is objective evidence of financial difficulties on the part of the debtor, imminent insolvency or 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 at December 31, 2019, based on default events:

	Receivables	Default rate (in per cent)	Expected credit loss
Impairment allowance on individual basis	75,476	34.2 %	25,786
Impairment allowance on collective basis based on default event			
Days overdue:			
Not overdue	69,451	1.1 %	765
between 1 and 30 days	20,793	2.9 %	599
between 61 and 90 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**

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

	2019	2018
Balance at January 1	**36,272**	**46,676**
Additional impairment allowance required as at January 1, 2018	–	513
Net change recognized through profit or loss	(5,264)	(2,466)
Net change recognized through other comprehensive income	(342)	(2,260)
Changes in group reporting entity and reclassifications to "held for sale"	(3)	(6,179)
Translation differences	176	(12)
Balance at December 31	**30,839**	**36,272**

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

The following table provides information on the estimated credit risk and expected credit losses for trade receivables at December 31, 2018.

	Receivables	Default rate (in per cent)	Expected credit loss
Impairment allowance on individual basis	70,782	45.4 %	32,117
Impairment allowance on collective basis based on default event			
Days overdue:			
Not overdue	67,143	0.7 %	438
between 1 and 30 days	21,055	2.0 %	415
between 31 and 60 days	8,140	4.1 %	334
between 61 and 90 days	3,142	8.8 %	275
between 91 and 120 days	1,153	29.6 %	341
between 121 and 180 days	604	41.1 %	248
between 181 and 270 days	881	45.4 %	400
more than 271 days	2,240	76.1 %	1,704
	175,140		**36,272**

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 30 “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 30 “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, 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 assets measured at fair value through profit or loss	**2,540**	**(2,784)**	**(693)**	**(294)**	**(1,463)**	**(334)**	**–**	**–**
Forward currency contracts	628	(628)	–	(294)	–	(334)	–	–
Interest swaps	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] Capitalized acquisition costs for financing were already reported as cash outflows and are therefore not a component of future cash flows.

All instruments are included that were held at December 31, 2019 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 at December 31, 2019. 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 2019		Cash flows 2020 – 2023		Cash flows from 2024	
			Interest	Principal	Interest	Principal	Interest	Principal
Financial liabilities measured at amortized cost	**647,719**	**(689,753)**	**(17,196)**	**(320,749)**	**(24,202)**	**(327,606)**	**–**	**–**
Financial debt [1]	541,619	(583,653)	(17,196)	(214,649)	(24,202)	(327,606)	–	–
Trade payables	90,445	(90,445)	–	(90,445)	–	–	–	
Other current liabilities	15,655	(15,655)	–	(15,655)	–	–	–	
Financial assets measured at fair value through profit or loss	**1,696**	**(1,734)**	**(576)**	**(525)**	**(466)**	**(166)**	**–**	**(1)**
Forward currency contracts	692	(692)	–	(525)	–	(166)	–	(1)
Interest swaps	1,004	(1,042)	(576)	–	(466)	–	–	–
Lease liabilities	**148**	**(155)**	**(3)**	**(52)**	**(4)**	**(96)**	**–**	**–**

[1] Capitalized acquisition costs for financing were already reported as cash outflows and are therefore not a component of future 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 (88 %) 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 at December 31, 2019.

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 at December 31, 2019 had been 100 basis points higher (lower), the net group profit would have been K€ 1,941 (2018: K€ 2,483) higher (lower).

In the case of variable financial liabilities and cash deposits, the result would have been K€ 1,116 (2018: K€ 2,147) higher (lower) if market interest rates had been 100 basis points higher (lower) at December 31, 2019. The underlying exposure for interest risk at December 31, 2019 amounted to K€ 111,627 (2018: K€ 214,683).

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 also 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€ 4,264 lower (higher) (2018: K€ 3,518). The net currency risk from balance sheet exposures was as follows:

in K€, balance at Dec. 31, 2019	CNY	CZK	HUF	PLN	RSD	USD	VND
Foreign currency risk from balance sheet exposures	359	5,210	(12,919)	(421)	24,763	(85,288)	(439)
Foreign currency risk from forecasted transactions	(9,105)	452	7,600	(10,805)	8,909	531	(2,318)
Transaction-related foreign currency exposures	**(8,746)**	**5,662**	**(5,319)**	**(11,226)**	**33,672**	**(84,757)**	**(2,757)**
Exposures hedged in economic terms by derivatives	–	–	–	–	–	30,852	–
Unhedged foreign currency exposures	**(8,746)**	**5,662**	**(5,319)**	**(11,226)**	**33,672**	**(53,905)**	**(2,757)**
Change in foreign currency exposures as a result of a 10 % appreciation in value of the euro	(875)	566	(532)	(1,123)	3,367	(5,391)	(276)

36. Related parties

Transactions with the following entities and individuals are treated as transactions with related parties. Transactions with these entities and individuals are conducted as a general rule on an arm’s length basis.

Related parties (entities)

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

The following entities qualify as other related parties:

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

- MIG Holding GmbH und Messer Eutectic Castolin Gruppe (MEC Group)
  A majority of the shares in MEC Global GmbH are held by MIG Holding GmbH, a fellow subsidiary of Messer Industrie. MEC Global GmbH, in turn, indirectly holds 94 % of the shares of MEC Holding 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’s fellow subsidiary).

- **Greenbelt Ltd., British Virgin Islands und 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/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€ 5,287 at December 31, 2019.

  Messer Group GmbH and MEC Holding GmbH are fractional owners in furbishment activities undertaken at the new 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 Yeti Warehouse GmbH. The latter has been included in the Group as an associated company since these arrangements have been in place.

The following transactions were executed with related entities:

	Dec. 31, 2019	Dec. 31, 2018
Revenue from sales to related entities		
Ultimate controlling party	5	–
Parent company	–	92
Associated companies	28,296	2,054
Non-consolidated subsidiaries	160	197
Other related entities	6,484	6,445
	34,945	**8,788**
Purchased goods and services		
Ultimate controlling party	14	–
Parent company	1,880	1,844
Associated companies	4,300	686
Other related entities	188	54
	6,382	**2,584**
Trade receivables		
Associated companies	7,445	715
Non-consolidated subsidiaries	1,590	1,441
Other related entities	564	582
	9,599	**2,738**

	Dec. 31, 2019	Dec. 31, 2018
Other receivables and other assets		
Ultimate controlling party	1,231	–
Parent company	–	571
Associated companies	910	600
Other related entities	217	112
	2,358	**1,283**
Trade payables		
Associated companies	1,595	243
Non-consolidated subsidiaries	10	10
Other related entities	309	440
	1,914	**693**
Other liabilities and purchase rights		
Parent company	671	381
Associated companies	3,081	103
	3,752	**484**

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, 2019	Dec. 31, 2018
Loans receivable from		
Associated companies	1,278	1,651
Non-consolidated subsidiaries	1,133	1,133
	2,411	**2,784**
Loans payable to		
Parent company (interest rates of 0.1 % p. a.)	–	4,059
Associated companies (interest rate of 0.5 % p. a.)	205	178
Other related parties (interest rate of 0.5 % p. a.)	1,900	1,701
	2,105	**5,938**

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 2019 amounted to K€ 3,275 (2018: K€ 3,788).

Of this amount, fixed remuneration of the Executive Management Board including benefits in kind and other benefits totaled K€ 1,226 (2018: K€ 1,439). Variable remuneration totaled K€ 1,515 (2018: K€ 1,985) and is linked to the attainment of specified performance figures. A total of K€ 535 (2018: K€ 364) was allocated to the pension provision in 2019.

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

- Dr Jürgen Heraeus, Chairman, Entrepreneur, Chairman of the Supervisory Board of Heraeus Holding GmbH
- Dr Bodo Lüttge, Deputy Chairman, Dipl. -Kaufmann
- Dr Karl-Gerhard Seifert, Chemist, Managing Director of Cassella GmbH
- Dr Werner Breuers, Chemist
- Dr Nathalie von Siemens, Dipl. Philosophin, Managing Director and Spokesperson of the Siemens Stiftung
- Heike Niehues, Member of the board of directors Webasto Thermo & Comfort SE

The remuneration of the Supervisory Board during the reporting period amounted to K€ 220 (2018: K€ 215).

37. Events after the end of the reporting period

On January 30, 2020, the World Health Organization (WHO) classified COVID-19 ("Corona") as a public health risk. The virus has now developed into a pandemic with worldwide impact, the full extent of which is not yet known or can be fully assessed. The measures designed to contain the pandemic have led to temporary restrictions in everyday life and thus also in the business world on a global scale. At this point in time, we expect demand to drop noticeably in various areas of industrial gas supply during the current fiscal year, although it cannot be adequately quantified at this stage. The industrial gases business is locally based, not directly dependent on global supply chains, and we do not expect costs to increase significantly due to staff shortages.

In February 2020, the arbitration court in Warsaw ruled in favor of the helium supplier PGNiG S.A. Oddzial w Odolanovie, Poland. Including interest, the claims asserted for damages amount to K€ 3,059 and are due immediately. For further information, please see our comments in note 29 “Accounting principles and policies“.

In accordance with the purchase contract dated October 17, 2019 entered into between Messer Group GmbH and the shareholders of Smart Gas, Messer Group GmbH sold all its shares in Smart Gas Pte. Ltd, Singapore, to the remaining shareholders. The purchase contract was completed on March 12, 2020.

38. Prior year’s financial statements

The Supervisory Board approved the Consolidated Financial Statements as at December 31, 2018 on April 4, 2019.

39. Costs of auditors

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

	2019	2018
Year-end audits	323	346
Other attestation services	2	2
Tax advisory services	8	15
Other services	–	15
	333	**378**

Bad Soden/Taunus, April 14, 2020

Appendix

List of shareholdings as of December 31, 2019

Country	Name	Domicile	Equity (in € thousands)	Direct / Indirect	Share-holding in percent	Net result after taxes (in € thousands)
Affiliated companies included in the consolidated financial statements						
Albania	Messer Albagaz SH.P.K	Korça	3,402	I	81.94	(40)
Austria	Messer Austria GmbH	Gumpoldskirchen	14,112	D	100.00	(913)
Bosnia and Herzegovina	Messer Mostar Plin d.o.o.	Mostar	3,996	D	100.00	319
	Messer Tehnoplin d.o.o.	Sarajevo	16,753	I	97.90	1,630
	Messer BH Gas d.o.o.	Sarajevo	20,005	I	81.94	2,056
Bulgaria	Messer Bulgaria EOOD	Sofia	7,282	D	100.00	562
China	Kunming Messer Gas Products Co., Ltd.	Kunming, Yunnan Province	(2,253)	I	77.16	(33)
	Sichuan Messer Gas Products Co., Ltd.	Chengdu	33,952	I	100.00	5,261
	Foshan MS Messer Gas Co., Ltd.	Foshan City, Guangdong Province	64,379	I	85.00	14,847
	Chengdu Chenggang Messer Gas Products Co., Ltd.	Chengdu	(5,176)	I	60.00	455
	Hunan Xianggang Messer Gas Products Co., Ltd.	Xiangtan City, Hunan Province	139,201	I	55.00	31,955
	Sichuan Pangang Messer Gas Products Co., Ltd	Panzhihua, Sichuan Province	160,997	I	60.00	32,143
	Wujiang Messer Industrial Gas Co., Ltd.	Wujiang, Jiangsu Province	12,153	I	100.00	4,563
	Messer Sunshine (Ningbo) Gas Products Co., Ltd.	Ningbo, Zhejiang Province	6,969	I	70.00	654
	Messer Gas Products (Zhangjiagang) Co., Ltd.	Zhangjiang City, Jiangsu Province	66,067	I	100.00	8,668
	Foshan Shunde MS Messer Gas Products Co., Ltd	Foshan City, Guangdong Province	26,281	I	60.00	7,693
	Chongqing Pangang Messer Gas Products Co., Ltd.	Chingqing, Sichuan Province	(8,616)	I	100.00	(643)
	Messer Griesheim (Kunming) Gas Products Co.Ltd.	Kunming, Yunnan Province	10,229	I	100.00	3,758
	Shaoxing Messer Gas Products Co. Ltd.	Shaoxing City, Zhejiang Province	7,603	I	70.00	4,312
	Xichang Pangang Messer Gas Products Co. Ltd.	Xichang City	71,208	I	60.00	13,266
	Messer (Wuhu) Gas Products Co., Ltd	Wuhu City, Anhui Province	9,482	I	100.00	-
	Messer Gas Products (Nanjing) Co.,Ltd	Nanjing, Jiangsu Province	3,904	I	100.00	(671)
	Messer Specialty Gases (Suzhou) Co., Ltd.	Suzhou, Jiangsu Province	11,451	I	100.00	1,086
	Hengyang Xianggang Messer Gas Products Co.LtdCo., Ltd.	Suzhou, Jiangsu Province	7,502	I	55.00	1,085
	Yunnan Yun Tianhua Messer Gas Products Co.,Ltd.	Suzhou, Jiangsu Province	4,963	I	65.00	1,240
	Foshan Sanshui MS Messer Gas Co., Ltd. Co., Ltd.	Suzhou, Jiangsu Province	3,531	I	85.00	906

Country	Name	Domicile	Equity (in € thousands)	Direct / Indirect	Share-holding in percent	Net result after taxes (in € thousands)
Affiliated companies included in the consolidated financial statements						
China	Dongguan Moral Strength Messer Gas Co., Ltd.Co., Ltd.	Dongguan, Guangdong Province	6,394	I	60.00	-
	Ningxiang Xianggang Messer Gas Products Co., Ltd.Co., Ltd.	Ningxiang, Hunan Province	12,961	I	55.00	2,543
	Kunming Anning Messer Gas Products Co.Ltd	Anning, Yunnan Province	8,950	I	100.00	-
	Messer Specialty Gases (Chuzhou) Co., Ltd.Products Co.Ltd	Chuzhou, Anhui Pro-vinceProvince	4,093	I	100.00	-
	Yunnan Messer Gas Products Co., Ltd. Co., Ltd.	Kunming, Yunnan Province	50,605	I	100.00	3,069
	Messer Griesheim (China) Investment Co., Ltd.	Shanghai	413,663	I	100.00	85,058
	Changsha Xianggang Messer Gas Products Co, Ltd.Co., Ltd.	Changsha, Hunan Province	1,374	I	55.00	188
	Messer Management Consulting (Shanghai) Co., Ltd.	Shanghai	20,452	I	100.00	696
Croatia	Messer Croatia Plin d.o.o.	Zapresic	23,776	I	99.96	3,372
Czech Republic	Messer Technogas s.r.o.	Prague	17,944	D	100.00	4,381
	MG Odra Gas spol.s.r.o.	Vratimov	18,881	D	70.00	1,476
Germany	Messer Griesheim China Holding GmbH	Sulzbach	178,322	D	100.00	44,674
	Messer Group GmbH	Sulzbach	1,119,284	-	100.00	411,365
	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	49,598	D	100.00	6,837
	Messer Széndioxid Kft.	Budapest	3,098	I	100.00	84
Malaysia	Universal Industrial Gas Sdn. Bhd.	Senai	2,169	D	64.50	(57)
Netherlands	Messer Finance BV	Moerdijk	3,124	D	100.00	(750)
North Macedonia	Messer Vardar Tehnogas d.o.o.	Skopje	7,140	D	100.00	109
Poland	Messer Polska Sp. z o.o.	Chorzów	39,685	D	99.97	591
	Eloros Sp. z o.o.	Chorzów	13,562	I	99.97	1,408
	MP Production Sp. z o.o.	Chorzów	5,243	I	99.97	908
Romania	Messer Romania Gaz S.R.L.	Bukarest	15,755	I	100.00	1,807
	Messer Energo Gaz S.R.L.	Mintia	1,103	D	66.00	121
Serbia	Messer Tehnogas AD	Belgrad	158,420	D	81.94	14,665
Slovakia	Messer Tatragas spol.s.r.o.	Bratislava	14,538	D	100.00	3,803
	Messer Slovnaft s.r.o.	Bratislava	4,894	D	51.00	513
Slowenien	Messer Slovenija d.o.o.	Ruse	38,912	I	74.76	1,671
Switzerland	ASCO Kohlensäure AG	Romanshorn	4,927	I	70.00	(216)
Thailand	Messer (Thailand) Co., Ltd	Bangkok	3,446	D	79.00	(84)
USA	ASCO Carbon Dioxide Inc.	Jacksonville	(16)	I	70.00	(394)
Vietnam	Messer Haiphong Industrial Gases Co., Ltd.	Hai Phong City	60,800	D	100.00	2,385
	Messer Binh Phuoc Industrial Gases Co., Ltd.	Binh Phuoc Province	3,714	D	100.00	(332)
	Messer Haiphong Industrial Gases Co., Ltd.	Binh Duong	4,045	D	100.00	242

Country	Name	Domicile	Equity (in € thousands)	Direct / Indirect	Share-holding in percent	Net result after taxes (in € thousands)	
Companies accounted for using the equity method							
China	Sichuan Meifeng Messer Gas Products Co., Ltd.	Mianyang City, Sichuan Province	4,112	I	50.00	509	
Estonia	Elme Messer Gaas A.S.	Tallinn	43,220	D	50.00	3,947	
	Balti Messer OÜ	Tallinn	16,920	D	50.00	(3)	
Germany	Cryogenic Engineering GmbH	Sulzbach	206	D	49.00	(224)	
	Yeti GermanCo 1 GmbH	Sulzbach	1,328,882	D	54.46	79	
	Yeti Warehouse GmbH	Sulzbach	1,621	D	58.05	93	
Affiliated companies not included in the consolidated financial statements							
Bosnia and Herzegovina	Plin Sarajevo d.d.	Sarajevo	4,637	I	100.00	(110)	1
Gibraltar	Messer Primeco FZE Limited (Gibraltar)	Gibraltar	-	D	51.00	-	1
Greece	Messer Hellas S.A. i.L.Co., Ltd.	Athens	-	D	100.00	-	1
	Tehnogas-Hellas Ltd.Co., Ltd.	Athens	-	I	40.97	-	1
Kosovo	Messer GTM LLCCo., Ltd.	Kosovska Mitrovica	(184)	I	81.94	(112)	1
Malaysia	Excel Gas Solutions Sdn. BhdCo., Ltd.	Kuala Lumpur	-	I	25.80	-	1
Singapore	Messer Consulting (Singapore) Pte. Ltd. Co., Ltd.	Singapore	-	D	100.00	2	1

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