manz

ANNUAL REPORT 2018

Manz AG at a glance

2018 Financial Calendar

May 14, 2019	Publication of 2019 3-Month Report
July 2, 2019	2019 Annual General Meeting
August 13, 2019	Publication of 2019 6-Month Report
November 12, 2019	Publication of 2019 9-Month Report

Overview of Consolidated Net Profits

(in EUR million)	2018	2017[1]	Change in %
Revenues	296.9	266.1	11.6
Total operating revenues	299.4	272.1	10.0
EBITDA	9.5	10.1	–5.5
EBITDA margin	3.2 %	3.8 %	0.6 pp
EBIT	–3.4	0.6	n/a
EBIT margin	n/a	0.2 %	n/a
EBT	–4.9	–1.1	n/a
Consolidated net profit	–8.0	–3.3	n/a
Earnings per share (in EUR)	–1.00	–0.41	n/a
Cash flow from operating activities	14.9	16.0	–6.6
Cash flow from investing activities	–15.2	–4.2	n/a
Cash flow from financing activities	3.8	–13.5	n/a

	Dec. 31. 2018	Dec. 31. 2017[1]	Change in %
Total assets	345.7	333.2	3.8
Shareholders' equity	150.0	159.9	–6.2
Equity ratio (in %)	43.4	48.0	4.6 pp
Financial liabilities	43.3	39.5	9.8
Liquid funds	51.0	47.8	6.6
Net debt	–7.7	–8.4	n/a

1 Adjustment after restatement due to deconsolidation of a company

THE YEAR 2018

JANUARY 4 Groundbreaking for CIGS production line in China

Business with standard machines for battery production is picking up pace **FEBRUARY 7**

APRIL 6 Manz AG reports on fire at Taiwan site

Order for battery production line from the e-mobility sector **APRIL 18**

MAY 4 Major order from automotive industry for automated assembly in the field of electric powertrain

Strategic cooperation in the microelectronics area opens up new prospects **JUNE 28**

JUNE 29 Manz AG appoints Manfred Hochleitner as Chief Financial Officer

Major order from one of the largest iron and steel conglomerates in the world **JULY 17**

AUGUST 9 Major order with a volume of 90 million USD for display production solutions

Supervisory Board appoints Martin Drasch Chief Executive Officer of Manz AG **SEPTEMBER 28**

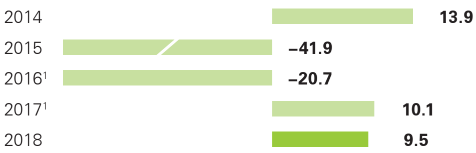
DEZEMBER 13 Manz AG receives second installment of a large order from the automotive industry

Revenues

(in EUR million)

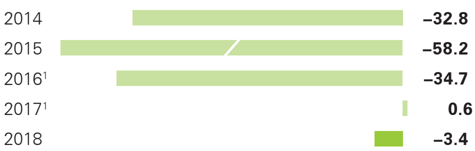
EBITDA

(in EUR million)



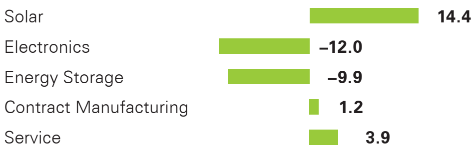
EBIT

(in EUR million)



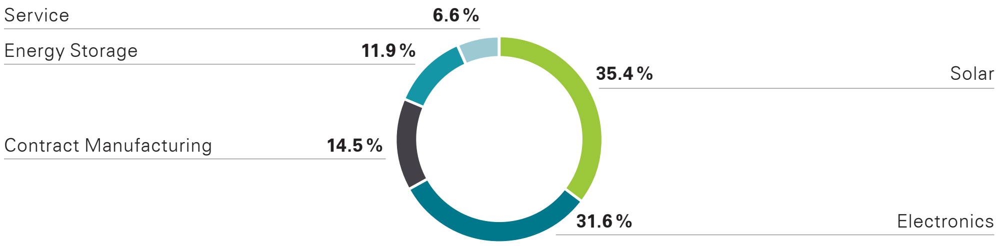
EBIT by Business Segments 2018

(in EUR million)

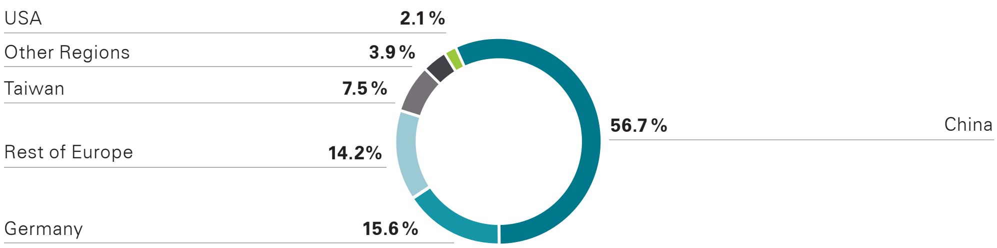


1 Adjustment after restatement due to deconsolidation of a company

Revenues by Business Segment January 1 to December 31, 2018



Revenue Distribution by Region January 1 to December 31, 2018



MANZ AG MISSION STATEMENT

With many years of expertise in automation, laser processing, vision and metrology, wet chemistry, and roll-to-roll processes, we as a high-tech equipment manufacturing company offer manufacturers and their suppliers innovative production solutions in the areas of photovoltaics, electronics and lithium-ion battery technology. Our product portfolio includes both customer-specific developments and single machines and modules that can be linked together to form individual system solutions. We are involved in customer projects from a very early stage, and thus contribute significantly to the success of our customers with high quality, needs-oriented solutions.

In addition to the CIGS*fab* turnkey production line in the Solar segment, we focus specifically on the automotive industry in the Electronics and Energy Storage segments. With our efficient and competitive lithium-ion battery manufacturing equipment – from cell to the finished pack – and automated assembly lines for cell contacting systems, we are an important industry partner for the conversion from the classic to the electric powertrain.

WE ACT IN A SUSTAINABLE MANNER. IN ALL AREAS. TO ALL CHALLENGES.

Opening up opportunities. Enabling further education. Accepting social responsibility. Pushing innovation. Conserving resources.

Sustainability is more than just a slogan at Manz. We have therefore decided to put the spotlight on sustainability also on this year's Annual Report and appropriately summarize our diverse activities around environmental issues, employee concerns, social concerns, respect for human rights and fight against corruption and bribery in a separate sustainability report.

This report with interesting facts and backgrounds concerning the key topics for us can be found on our website.

For the sake of better readability, we consistently avoid gender-differentiating formulations (e.g. „his/her" or "he/she"). The corresponding terms apply to all genders for the purposes of equal rights. This is done solely for editorial purposes and does not imply a judgment of any kind.

INDEX OVERVIEW

009 TO OUR SHAREHOLDERS

010 Letter from the Managing Board
016 Manz AG Stock
020 Report from the Supervisory Board

031 GROUP MANAGEMENT REPORT

032 Basic Information on the Group
043 Business Report
051 Corporate Governance
076 Report on Opportunities and Risks
086 Forecast Report

093 CONSOLIDATED FINANCIAL STATEMENT

094 Consolidated Income Statement
095 Consolidated Statement of Comprehensive Income
096 Consolidated Balance Sheet
098 Consolidated Cash Flow Statement
099 Consolidated Statement of Changes to Equity 2017
100 Consolidated Statement of Changes to Equity 2018
101 Notes
180 Auditor’s Fee
180 Corporate Governance Code
181 Assurance of Legal Representatives
182 Independent Auditor’s Report
193 Imprint

HIST ORY OF MANZ AG

1987 Company founded by Dieter Manz

Shipped the first automation solution for the FPD industry to Asia **1994**

2000 Shipped the first automation system for a completely automated production line for crystalline solar cells

Entered the thin-film market with equipment for mechanically scribing solar panels **2005**

2006 IPO on the Entry Standard market of the Frankfurt Stock Exchange

Entered the market for lithium-ion batteries **2009**

2012 Acquired the CIGS innovation line from Würth Solar
Opened facility for solar and display production systems in Suzhou, China

Acquisition of mechanical engineering division of Kemet Electronics Italy (formerly Arcotronics) for enlargement of technology portfolio in Battery division **2014**

2016 Shanghai Electric becomes strategic anchor investor of Manz AG

Manz successfully expands market position in automotive industry with major order for automated assembly of cell contacting system **2018**

TO OUR SHAREHOLDERS

010 LETTER FROM THE MANAGING BOARD

016 MANZ AG STOCK

016 Change in Share Price
017 Shareholder Structure
018 Investor Relations
018 Annual General Meeting
019 Financial Calendar

020 REPORT FROM THE SUPERVISORY BOARD

LETTER FROM THE MANAGING BOARD

Dear Shareholders,

We have started with our clear commitment to sustainably increase Manz AG's competitiveness and profitability in fiscal year 2018. We have achieved our stated targets with a significant sales increase of around 12 % compared with the previous year to 297 million euros and a slightly positive EBIT of 1.7 million euros before one-time effects. We were able to increase our earnings on a comparable basis by more than 35 million euros and thereby return to profitability.

Our activities in 2018 in the Solar segment were dominated by CIGS major orders as well. Delays on the part of the customer resulted in the untimely completion of the buildings, causing us to miss our sales target in this segment slightly, even though we had an excellent EBIT margin of almost 14 %. We are on schedule with regard to the fulfillment of all major milestones. Therefore, we currently assume that the CIGS*fab* turnkey plant will start production in the fourth quarter of 2019. The installation of the CIGS*lab* research facility is also planned for the same period. Due to the overall positive course of the project in recent years, we anticipate follow-up orders from the end of 2019 and accordingly want to build on the successes of recent years.

In the Energy Storage and Electronics segments, our implemented measures to increase competitiveness have had an impact. Sales and earnings improved significantly in both segments. An important step was successfully taken in the Electronics segment in the middle of last year. We have opened up an additional significant area in connection with the electric drive train in electric vehicles with a major order from a tier 1 automotive supplier for machines for the automated assembly of cell monitoring systems for battery cells. Originally designed for the consumer electronics industry, we have further developed the proven LightAssembly platform for use in the automotive industry. In the past, we concentrated on battery cell production systems in our Energy Storage segment in terms of e-mobility. We are thereby significantly expanding our value added chain into the future e-mobility market and expect to benefit from the current market dynamics.

In the spirit of transparency, we would like to inform you at this point that, in the context of a correction with the Talus Manufacturing Ltd., we have retrospectively deconsolidated a formerly fully consolidated company, and this company has now been included in the financial statements as an associated company since fiscal year 2018. However, this has no impact on our operating activities in the Contract Manufacturing segment. These continued to show robust growth in the past financial year, even though the result was affected by a cable fire in Taiwan. Our service business developed in line with our expectations, and should be continuously expanded in the following years.

Also in 2019, we want to further increase our competitiveness and profitability. We are constantly developing our technological platform in order to further enhance the attrac-

tiveness of our offerings. In doing so, we increasingly rely on standardized technological modules, which can be flexibly combined into a wide variety of systems according to individual customer requirements. This decreases lead times for customer projects and reduces development costs – both for our customers and for us. At the same time, as an international group, we still see significant structural and organizational potential for optimization. As part of our International Collaboration Excellence program, we are therefore bundling a series of measures designed to increase added value in intra-Group, international collaboration. By working together with our employees' diverse skills and ideas across multiple locations, we aim to continuously improve the competitiveness and profitability of the Group as a whole.

We are very well set for the future with our achievements and further strategic measures. We therefore expect a further significant increase in sales of 10–14 % for the year 2019. We also expect a significant improvement in EBIT and forecast an EBIT margin in the low single-digit percentage range for 2019.

We would like to thank all our employees for their great commitment, which makes our entrepreneurial progress possible. We also thank you, our shareholders, for your support. Come with us on our journey towards sustainable, profitable growth.

Reutlingen, March, 2019

The Managing Board of Manz AG

Martin Drasch

Manfred Hochleitner

FUTU RE ETHI CS PLA NNING

Sustainable action means for us: Taking responsibility. For our colleagues, partners, and customers. For society. For the environment. That is why equal opportunity and opportunities for development, careful treatment of resources, and unconditional respect for human rights throughout the supply and production chain are the foundation of everything we do. A foundation that is not negotiable.

Process Management

The open door culture is crucial to us in dealing with our stakeholders and shareholders. We maintain a continuous dialogue with employees, customers, suppliers or investors, analysts, and banks. We involve our employees in the further development of our company through regular surveys on current topics.

For the present and future generations, we commit ourselves to the careful use of our resources. This is an essential factor in our daily work – for example, by reducing emissions year after year and continuously increasing our share of self-produced solar power.

Environment

Society

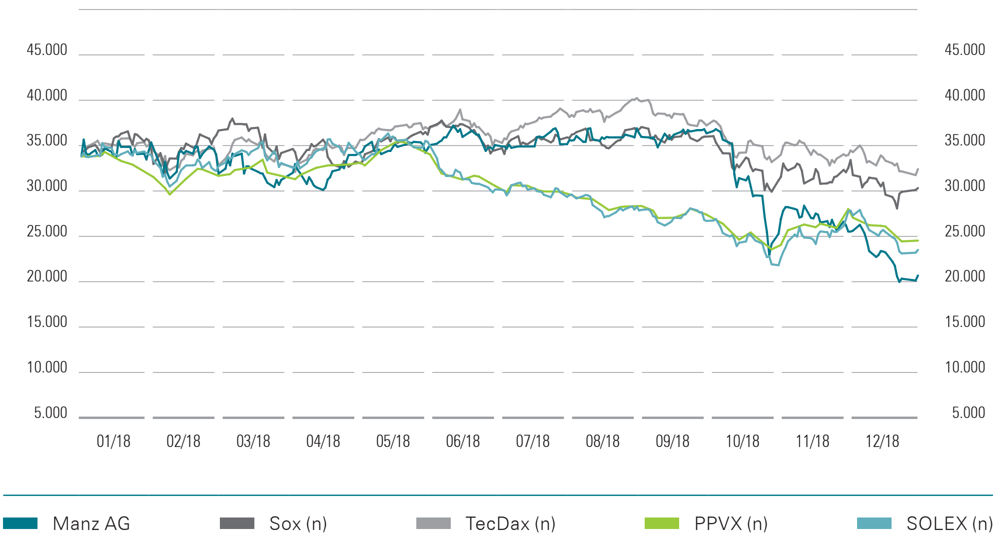
Open up opportunities where there are hardly any: We assume social responsibility, for example through the annual support of social institutions in the Neckar-Alb region.

MANZ AG STOCK

CHANGE IN SHARE PRICE (JANUARY 1, 2018 – DECEMBER 31, 2018)

Manz AG shares began the 2018 fiscal year on January 2, 2018, with an opening price of 33.09 euros. The development of the stock in the subsequent period mainly followed the market movements, with a small downward deviation between March and May, which was regained. The shares reached their highest value for 2018 on June 11 2018 of 37.30 euros. Over the course of the year the share price fell to its year-low of 20.05 euros on December 20, 2018. By the end of the year, Manz AG shares had recovered slightly and closed at 20.75 euros on December 28, 2018, corresponding to a market capitalization of around 160.7 million euros. At the start of 2019, Manz shares increased slightly again and are holding a level of between 22 euros and 25 euros.

Chart Showing Manz AG Stock (XETRA, in EUR)



Stock Key Data and Performance Indicators

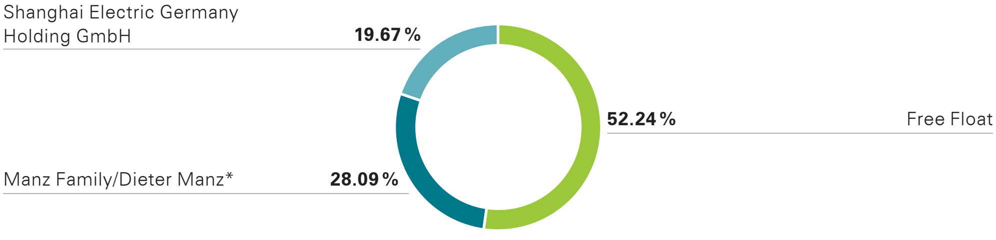
German Securities Identification Number	A0JQ5U
International Securities Identification Number (ISIN)	DE000A0JQ5U3
Ticker Symbol	M5Z
Trading segment	Regulated market (Prime Standard)
Share types	Registered, common, no-par value bearer shares, each with a proportionate value of 1.00 EUR of capital stock
Capital Stock	**7,744,088 EUR**
IPO	22. September 2006
Opening Price	19.00 EUR
Share price at the beginning of the reporting period*	33.09 EUR
Share price as at December 31, 2018*	20.75 EUR
Percentage change in the reporting period	**–37.3 %**
Period high	37.30 EUR
Period low	20.05 EUR

* Respectively the closing prices of the XETRA trading system of Deutsche Börse AG

SHAREHOLDER STRUCTURE

At 52.24 % as of the reference date of December 31, 2018, Manz AG has a large number of shares in free float and has a wide shareholder base. Shanghai Electric Germany Holding GmbH owns 19.67 % of the shares as of December 31, 2018. Founder and Manz AG Supervisory Board member Dieter Manz and his family hold a total of 28.09 % of the Company's shares.

Shareholder Structure



* Dieter Manz 12.32 %, Ulrike Manz 5.44 %, Stephan Manz 5.16 %, Laura Manz 5.16 %

INVESTOR RELATIONS

Manz AG attaches great importance to active dialogue with shareholders, institutional investors, analysts and financial journalists, and has maintained a continuous, proactive exchange of information in the 2018 financial year. The regular and prompt publication of reports relevant to the company underscores its goal of providing comprehensive information on the company's developments. In so doing, Manz AG, with its listing in the Prime Standard of the Frankfurt Stock Exchange, fully complies with the highest requirements for transparency. Manz AG strives to exceed this standard.

In addition to the legal obligations, Manz AG participated in 12 capital market conferences and 2 road shows in Germany and abroad. Manz published 21 corporate news and press releases as well as one ad-hoc release. Manz AG contributes to the greatest possible transparency in its capital market communications by regularly offering telephone conferences with a web cast for the publication of financial reports and audio displays as an on line offer on the company website.

In the course of fiscal year 2018, Manz AG was covered by the following institutions:

- Bankhaus Lampe
- Warburg Research
- Equinet Bank/Pareto Securities
- montega AG

ANNUAL GENERAL MEETING

The FIL*harmonie* in Filderstadt, Germany, hosted Manz AG's 2018 Annual General Meeting on July 3, 2018. A total of 269 shareholders attended and heard the report of the Managing Board on the development of business in the year 2017 and the outlook for the 2018 fiscal year.

At the Annual General Meeting, almost all of the represented shareholders approved the agenda items. In particular, the Annual General Meeting followed the proposal of the administration and elected Dr. Ing. Zhiming Xu; Chief Technical Officer of the Shanghai Automation Group of Shanghai Electric Group Co., Ltd., with 91.49 % to the company's supervisory board. A total of 59.28 % of capital stock with voting rights was represented (previous year: 57.9 %). Detailed voting results can be retrieved at any time on the Company's website: www.manz.com in the Investor Relations / Annual General Meeting.

2019 FINANCIAL CALENDAR

May 14, 2019	Publication of 2019 3-Month Report
July 2, 2019	2019 Annual General Meeting
August 13, 2019	Publication of 2019 6-Month Report
November 12, 2019	Publication of 2019 9-Month Report

REPORT FROM THE SUPERVISORY BOARD

Dear Shareholders,

During the 2018 reporting year, the Supervisory Board also advised the Managing Board on a regular basis with regard to the company's management and continuously monitored its business activities. In so doing, we meticulously carried out the duties incumbent upon us by law, the company's Articles of Incorporation, and our rules of procedure, satisfying ourselves that the Managing Board's work was legally compliant, orderly, and appropriate. The Supervisory Board discussed the organization of the company with the Managing Board. The Managing Board and the Supervisory Board have also continuously agreed on the strategic direction of the company. The Supervisory Board was involved in all significant decisions regarding the company and the Group.

The Managing Board and the Supervisory Board remained in close and intensive contact throughout the 2018 fiscal year. In this context, the Managing Board complied with its duty to provide information as set out in the law and the rules of procedure, notifying us in a regular, detailed, and timely manner in both written and oral form about all measures and events relevant to the company. The Managing Board also discussed deviations of the business performance from the plans and goals that had been set up and gave reasons for the deviations. As a result, the Supervisory Board was always kept informed with respect to the company's business situation and performance, the company's intended business policy, the short-term, medium-term, and long-term planning including investment, financial, and human resources planning, as well as the company's profitability and organizational measures, and the Group's overall situation. In addition, information regarding the company's risks and risk management activities was regularly provided.

The members of the Supervisory Board always had sufficient opportunity to critically discuss the reports presented and the resolutions proposed by the Managing Board, and to present its own suggestions. In particular, we intensively discussed all business transactions significant to the company based on the Managing Board reports, and carefully examined them for plausibility. The Supervisory Board gave its approval for individual transactions to the extent that this was necessary for the Managing Board under the law, the Articles of Incorporation, or the rules of procedure.

In addition to the Supervisory Board meetings, the chairman of the Supervisory Board was also in regular contact with the Managing Board and obtained information concerning the current development of the business situation and significant business transactions.

Focus of Deliberations in the Supervisory Board

The 2018 fiscal year for Manz AG was characterized by the strategic further development of the company in its various business segments to achieve the objective of a sustained profitable business model. To this end, the Manz Group was able to improve profitability before special items with significantly higher sales revenues (which were adjusted due to the deconsolidation of Talus Manufacturing Ltd.). The business situation, financial performance and cash flows, the capacity utilization and the measures to improve profitability, as well as risk management, in addition to these and other strategic and operational issues, were regularly the focus of the Managing Board's reporting and the monitoring and advisory support provided by the Supervisory Board. The discussions in the Supervisory Board were dominated by the large CIGS orders in the Solar business segment and the developments in the other business segments. In addition, during the reporting year the Supervisory Board also made important decisions regarding the composition of the Managing Board.

During the reporting year, the Supervisory Board held a total of five meetings, in which all members of the Supervisory Board participated. Members of the Managing Board also attended Supervisory Board meetings, insofar as these meetings did not include discussions of those members' personal matters. In addition, five written resolutions by the Supervisory Board were adopted.

The following topics were the focus of deliberations at the Supervisory Board meetings and resolutions:

At its first regular meeting on February 7, 2018, the Supervisory Board discussed the preliminary numbers for the 2017 fiscal year based on the Managing Board's reporting, along with the current business developments and incoming orders as well as the planning activities in the various business segments. We also discussed the company's financial position in this context, particularly regarding the development of the business segments and their contributions to the result. Other topics included the activities in the Investor Relations segment and the Sustainability Report. In addition, the Supervisory Board discussed the strategic measures for the structural development of the Manz Group with the aim of improving competitiveness, developing new markets and achieving sustained profitability.

At the meeting on March 23, 2018, the Managing Board reported on current business developments, including the orders on hand, and the outlook for the individual business segments in the current 2018 fiscal year. In this context, the Managing Board focused particularly on the status of production for two CIGS production lines in the Solar business segment. The focal points of this meeting were the annual financial statements as of December 31, 2017, the management report, the consolidated financial statements as of December 31, 2017, and the consolidated management report, as well as the audit report of the auditor. Following a discussion with the auditor, we approved the annual and the consolidated financial statements for the 2017 fiscal year. The Supervisory Board also discussed and approved the report from the Supervisory Board to the Annual General Meeting, the Corporate Governance Statement and the Corporate Governance Report for the 2017 fiscal year, as well as the proposed resolutions for the upcoming Annual General Meeting. The Managing Board discussed the main risks at the Manz Group on the basis of the annual risk report. Within the framework of the regular efficiency review of its activities, the members of the Supervisory Board also discussed the results from the review of

the organizational flow of the Supervisory Board's work and possible conflicts of interest. Following in-depth discussions, the Supervisory Board also adopted resolutions regarding management matters in connection with the departure of CFO Gunnar Voss von Dahlen, who had held the position since June 2017.

The Managing Board's reporting on current business developments and incoming orders, as well as the planning figures, was again in the foreground during the meeting on May 15, 2018. In this context, we once more discussed the development of the various business segments and their profitability, as well as measures designed to retain know-how carriers and managers in the company. Other topics included the budget for R&D, the activities in the Investor Relations and Marketing segments, the liquidity and financial situation, the progress in implementing the restructuring and optimization measures particularly for cost reduction purposes (Manz 2.0 project), the planning for the current fiscal year, the new approval of Performance Shares (options for company shares) for the Managing Board and other executives in the Manz Group as a long-term compensation component, the short-term variable Managing Board remuneration as an element of the compensation system, as well as filling the position of CFO. On the basis of the deliberations by the Supervisory Board, the board subsequently decided – by way of a written resolution from June 29, 2018 – to extend the mandate of Managing Board member Martin Drasch by five years, to appoint Manfred Hochleitner to the position of CFO, and to adjust the Managing Board contracts with regard to the short-term variable remuneration.

At a meeting held after the Annual General Meeting on July 3, 2018, the Supervisory Board elected Dieter Manz to Deputy Chairman of the Supervisory Board.

As Chairman of the Managing Board and former Chief Restructuring Officer Eckhard Hörner-Marass had requested to leave the Managing Board by the end of 2018, the Supervisory Board on July 26, 2018 approved an agreement to reduce his mandate, which would have ended on December 31, 2019, by one year.

With a written resolution from September 27, 2018, the Supervisory Board once again made several personnel-related decisions as a result of the structured transfer to the new Managing Board team, and appointed Martin Drasch, who had previously been responsible for the Operations division, to the position of Chairman of the Managing Board. At the same time, the Supervisory Board approved an agreement with the current chairman Hörner-Marass regarding his earlier amicable departure from the Managing Board on September 30, 2018.

At the last meeting for the reporting year on November 8, 2018, which was held in Suzhou (PR China), the Managing Board reported on the business developments in the first three quarters, the financial performance and cash flows, as well as the business outlook for the entire year. In this context, we discussed in detail the planning and profitability in the individual business segments, taking into account the incoming orders. The Supervisory Board and Managing Board also discussed an adjustment of sales responsibilities in favor of the respective business segments. The Supervisory Board discussed the financial and liquidity planning of the Manz Group and the related risk management based on the Managing Board Report. Finally, the Managing Board reported on the fire damages at the Taiwan location and its effects on the result, as well as the current status of major projects.

On the basis of the audit of the compliance with the recommendations of the German Corporate Governance Code by Manz AG, the Supervisory Board together with the Managing Board adopted the statement of compliance pursuant to Section 161 of the German Stock Corporation Act (AktG) on December 21, 2018.

Work in the Economic Committee of the Supervisory Board

For the purpose of improving the efficiency of its work, the Manz AG Supervisory Board, which consists of four members, created a two-member Economic Committee that has existed since the end of 2017. This committee is to assume certain supervisory tasks and prepare the discussions and adoptions of resolutions by the Supervisory Board, particularly in the areas of accounting, auditing, finance including planning, management matters, corporate governance, and compliance. Prof. Dr. med. Heiko Aurenz and Dieter Manz are members of the committee.

The Economic Committee met nine times during the reporting year. Regular discussion topics included the current business situation, financial performance and cash flows including orders on hand, the status of major projects as well as strategic measures for the structural further development of the Manz Group. In addition, it also discussed the annual and consolidated financial statements for December 31, 2017, the Corporate Governance Statement and the Corporate Governance Report for the 2017 fiscal year, the proposed resolutions for the regular 2018 Annual General Meeting and the annual risk report. It was also concerned with the personnel composition of the Managing Board and prepared the decisions of the Supervisory Board, also with regard to the Managing Board contracts and remuneration. The Economic Committee and the Managing Board also discussed measures to reduce costs, the effects of the fire damages at the Taiwan location, the planning for the 2019 fiscal year and filling executive positions within the company.

Conflicts of Interest

There are no conflicts of interest on the part of members of the Managing Board or the Supervisory Board that must be disclosed to the Supervisory Board, nor their handling of which must be disclosed at the Annual General Meeting.

German Corporate Governance Code

In the 2018 fiscal year, the Managing Board and Supervisory Board once again dealt in detail with the further development of corporate governance and the recommendations of the German Corporate Governance Code. The Managing Board and the Supervisory Board issued a joint statement of compliance pursuant to Section 161 of the German Stock Corporation Act (AktG), according to which the company complies and will comply with the recommendations in the code with only one exception. The statement of compliance from December 2018 is permanently available to the public on the Manz AG website.

Annual and consolidated financial statements for the 2018 financial year

The annual financial statements and consolidated financial statements as of December 31, 2018, prepared by the Managing Board, and the management report and Group management report for the 2018 fiscal year were audited by the company's and Group's auditor, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, and given an unqualified audit opinion.

The documents mentioned above were provided to us by the auditor. The Supervisory Board examined the annual financial statements and the management report, the consolidated financial statements and the group management report, as well as the non-financial consolidated statement including the auditor's reports submitted to the members of the Supervisory Board prior to the meeting. The financial statements and reports shown above were discussed in detail at the meeting of the Economic Committee on March 20, 2019 as part of a preliminary examination. At the meeting of the Economic Committee and the annual accounts meeting of the Supervisory Board on March 26, 2019, the Managing Board comprehensively explained the financial statements of Manz AG and the Group in the presence of the auditors. The auditor reported on the scope, focus, and significant findings in his audit, focusing in particular on the particularly important audit matters and the audit procedures performed during the meeting of the Economic Committee and in the annual accounts meeting of the Supervisory Board. He also provided information about his findings regarding the internal control and risk management systems in relation to the accounting process. The Economic Committee also reported to the Supervisory Board on its own audit of Manz AG's financial reporting and consolidated financial statements, its discussions with the Managing Board and the auditor, and its monitoring of the accounting process.

After examining and discussing the annual financial statements and management report, the consolidated financial statements and the group management report as well as the non-financial consolidated statement along with the auditors' reports, the Supervisory Board approved the result of the audit conducted by the auditors. No objections are raised based on the definitive finding of the Supervisory Board review. In a resolution dated March 26, 2019, the Supervisory Board approved the annual financial statements and consolidated financial statements as at December 31, 2018. Manz AG's annual financial statements as of December 31, 2018 are thereby adopted.

Changes in the Managing Board and the Supervisory Board

On July 1, 2018, Manfred Hochleitner joined the Managing Board of Manz AG to assume responsibility over the Finance division. He succeeds former CFO Gunnar Voss von Dahlen, who left Manz AG at the end of March 2018.

On October 1, 2018, Chief Operations Officer Martin Drasch became the Chairman of the Manz AG Managing Board, after the previous Chairman, Eckhard Hörner-Marass, left the Managing Board of his own accord.

The composition of the Supervisory Board remained unchanged in the 2018 fiscal year. Board member Dr. Zhiming Xu, who was appointed in 2017 by a court ruling, was elected to the Supervisory Board at the Annual General Meeting on July 3, 2018. On the same date, the Supervisory Board also elected Dieter Manz to Deputy Chairman of the Supervisory Board.

Thanks and Acknowledgment

The Supervisory Board wishes to thank the Managing Board for the constantly open and constructive collaboration in the past fiscal year. We would also like to express our gratitude to our employees for the commitment they have demonstrated during the 2018 fiscal year. And last but not least, we would like to thank you, our valued shareholders, for the trust that you have placed in us and for your willingness to shape the future of Manz AG together with us.

Reutlingen, March 26, 2019

Prof. Dr. Heiko Aurenz
Chairman of the Supervisory Board

OPINION FORUM DIALOGUE

The identification of the various interest groups (stakeholders and shareholders) and their involvement in a continuous dialogue is a central pillar in the sustainability process of Manz AG. This dialogue not only ensures maximum transparency in our dealings. By cultivating it in all directions and offering suitable platforms, we ensure that complex ideas and interests find their place and positively influence the further development of the company.

Feedback

Let’s talk about it

We regularly consult our employees on current topics and include this feedback in decision-making processes. Individual feedback discussions on a regular basis are also a matter of course for us.

Discussion

Insights that help everyone

The “Innovation Forum” is an online discussion platform that is open to all employees. The focus is on key topics such as new technologies, markets, target groups, and cost savings. But general suggestions for improvement can be made at any time

Information

Communication on all sides

We provide regular and timely information on all company-relevant developments. In doing so, we seek a direct dialogue with investors, analysts, and banks using the usual communication channels – in addition to print media, social media, telephone conferences, and webcasts, this also includes regular participation in capital market conferences and roadshows in Germany and abroad.

GROUP MANAGEMENT REPORT

032 BASIC GROUP INFORMATION

032 Business Model and Strategy
034 Group Structure and Holdings
036 Locations and Employees
036 Control Systems and Performance Indicators
037 Research and Development
042 Sustainability Report & Consolidated Non-Financial Declaration

043 BUSINESS REPORT

043 Macroeconomic Environment and Industry-related Conditions
044 Analysis of Financial Position, Financial Performance and Cash Flows
048 Segment Reporting
050 Overall Statement on Corporate Development 2017

051 CORPORATE GOVERNANCE

051 Corporate Governance Statement in Accordance with Section 289f et seqq. and Section 315d of the German Commercial Code (HGB)
051 Disclosures in accordance with Section 315a (1) of the German Commercial Code (HGB) and notes pursuant to Section 176 (1) sentence 1 of the German Stock Corporation Act (AktG) on the disclosures in accordance with Section 289a(1) and Section 315a(1) of the German Commercial Code (HGB)
061 Compensation Report

076 REPORT ON OPPORTUNITIES AND RISKS

076 Risk Management and Internal Monitoring System
078 Risk Report
082 Opportunities Report

086 FORECAST REPORT

086 Economic and Sectoral Outlook
087 Explanation of Target Achievement 2017
089 Expected Development of the Group and the Segments
089 Forward-looking Statements

BASIC GROUP INFORMATION

BUSINESS MODEL AND STRATEGY

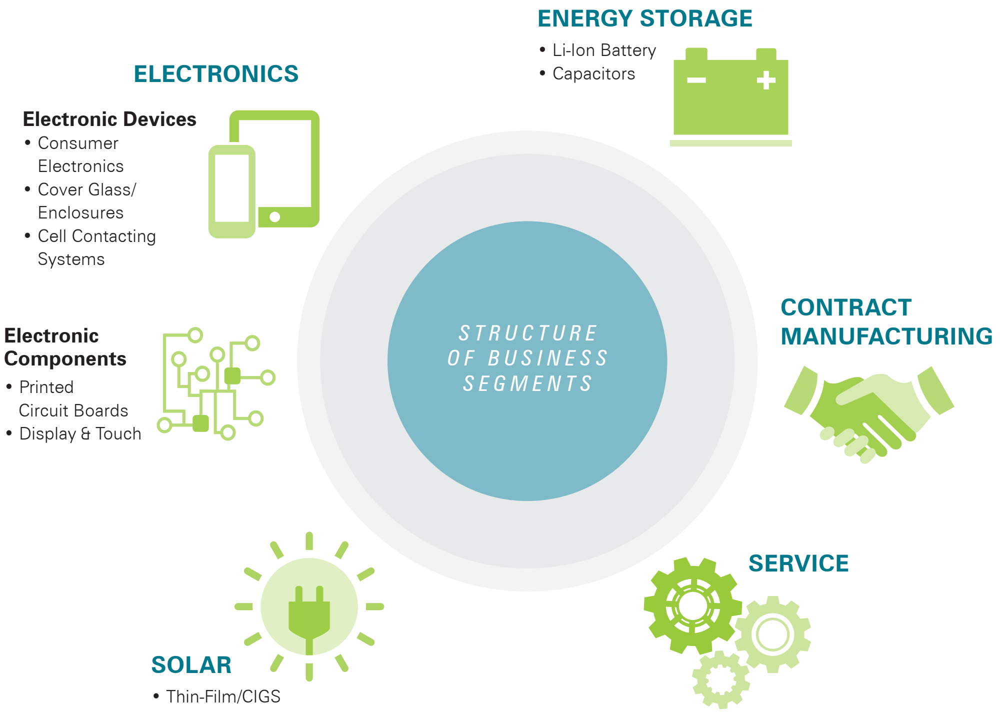
Founded in 1987, Manz AG is a global high-tech equipment manufacturing company. Its business activities consist of five segments: Solar, Electronics, Energy Storage, Contract Manufacturing, and Service. With many years of expertise in automation, laser processing, vision and metrology, wet chemistry, and roll-to-roll processes, the company offers manufacturers and their suppliers in various industries a broad portfolio of innovative products and solutions. In addition to customized production solutions, this also includes machines and modules that can be intelligently linked together to form complete, individual system solutions. The company also offers a comprehensive range of services around Manz AG's core technological competencies: From simulation and factory planning to process and prototype development, customer training, and after-sales service. Manz AG is a sought-after development partner for industry and, as such, a trailblazer for future technologies.

The core of the company's strategy is to make use of the technology portfolio across all industries and regions. This cross-segment exchange of technology and expertise not only offers a high level of flexibility in the realization of individual customer solutions, but also the possibility of generating internal synergies and making economic use of them.

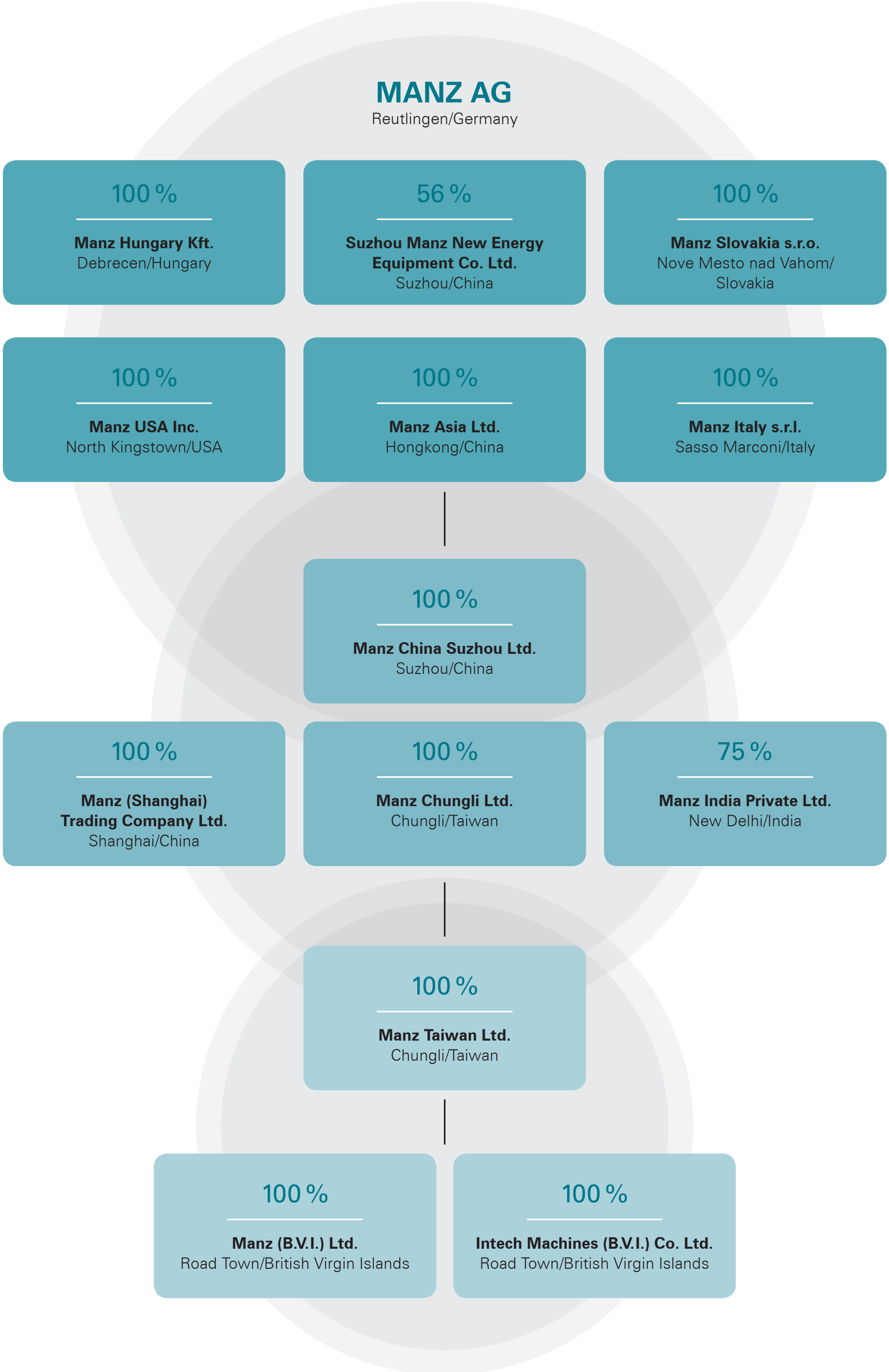
Manz AG maintains business relationships with manufacturers and their suppliers, particularly in the solar, consumer electronics, displays and printed circuit board, automotive and energy storage sectors. As a high-tech equipment manufacturing company, Manz operates internationally and has development and production sites in Germany, Slovakia, Hungary, Italy, China and Taiwan as well as further sales and service branches in India and the USA. Manz AG has long-standing customer relationships and a strong presence, above all in Asia, which is a key region for the company's target industries: more than 650 employees at its locations in Taiwan and China offer excellent access to this growth market.

Manz AG's business model offers a sustainable increase in competitiveness combined with profit-oriented growth. The strategic cooperation in the solar sector with Shanghai Electric Group and China Energy Investment Corporation Limited (formerly Shenhua Group) ensures stability. With a strong focus on the development, production and marketing of modules and fully linked, individual system solutions and equipment, as well as the expansion of the worldwide customer base, we increase our competitiveness and profitability. The cross-regional use of technology expertise and its standardization beyond segment boundaries significantly reduces development effort and time and continuously creates new unique selling points. Additional growth opportunities arise from individual development projects for customer-specific pilot lines.

In addition, continuous targeted organizational, procedural and process improvements in all areas of the Group contribute to further increasing the competitiveness and profitability of the company.



GROUP STRUCTURE AND HOLDINGS



Locations and Employees

LOCATIONS

1 **Germany**
Reutlingen, Tübingen
Production, Sales & Service

2 **Hungary**
Debrecen
Production & Service

3 **Slovakia**
Nove Mesto nad Vahom
Production, Sales & Service

4 **Italy**
Sasso Marconi
Production, Sales & Service

5 **USA**
North Kingstown, Cupertino
Sales & Service

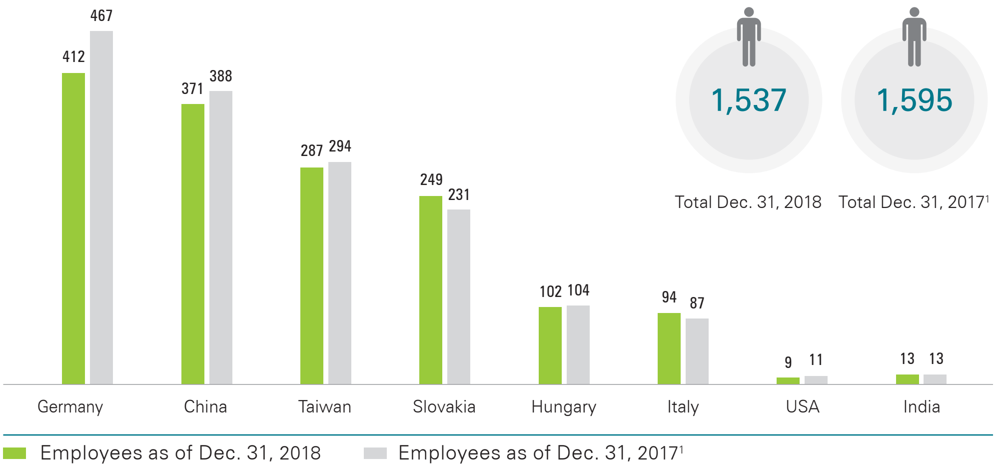
6 **Taiwan**
Chungli
Production, Sales & Service

7 **China**
Shanghai, Suzhou, Hongkong
Production, Sales & Service

8 **India**
New Delhi
Sales & Service

LOCATIONS AND EMPLOYEES

Employees by country



1 Adjustment after restatement due to deconsolidation of a company

CONTROL SYSTEM AND PERFORMANCE INDICATORS

Manz AG is organized for the purpose of corporate management by product and service segments at Group level and consists of the five business segments Solar; Electronics, Energy Storage, Contract Manufacturing, and Service. In order to decide on the allocation of resources and control the profitability of the divisions, they are monitored separately by management. Details of the course of business are provided to the entire Managing Board through detailed reports and regular management meetings. As a result, it is possible for the respective Managing Board to control the company in a timely manner.

Principles and Goals of the Financial Management

Control variables for corporate development at Manz AG are the performance indicators revenue, earnings before interest, taxes, depreciation, and amortization (EBITDA), and earnings before interest and taxes (EBIT). Further performance indicators are the equity rate and liquidity. The Manz AG control system has not changed, relative to the previous year.

In the long term (5 years) , the Managing Board has defined the following target values:

- Revenue: an annual average revenue increase between 10 % and 20 % is announced.
- EBIT margin: after application of IFRS 16 from 2019, a target margin of 10 % is defined for the EBIT margin.
- EBITDA margin: a target of more than 15 % is defined for the EBITDA margin after the application of IFRS 16 from 2019.

- Equity ratio: the target corridor for shareholders' equity as a percentage of total assets is between 40 % and 60 %.
- Gearing: Manz AG has defined gearing as a ratio of net liabilities to equity before minority interests of less than 50 % as a target.

The performance indicators of revenue and equity ratio developed within the defined target range during the fiscal year 2018. The EBITDA margin and EBIT margin are characterized by the negative one-off effect resulting from the cable fire in at the site of the companies Manz Taiwan Ltd. and Talus Manufacturing Ltd. in Taiwan. The gearing value has essentially worsened compared to the previous year due to the increase in financial debt, but remains within the defined target range.

Performance indicators

in %	2018	2017 [1]
Revenue (in million euros)	296.9	266.1
EBITDA margin	3.2	3.8
EBIT margin	n/a	0.2
Equity ratio	43.4	48.0
Gearing	–5.1	–5.3

1 Adjustment after restatement due to deconsolidation of a company

Manz AG's financial management system is centrally organized. To minimize risks and leverage Group-wide optimization potential, the company bundles decisions on financing, cash investments and currency hedges of subsidiaries within the Group. In this context, the company follows value-based financing principles in order to secure its liquidity at all times, limit financial risks, and optimize the cost of capital. In addition, Manz strives for a well-balanced debt maturity profile. Further information on the management of the individual financial risks can be found in the notes to the consolidated financial statements under "Reporting on financial instruments".

RESEARCH AND DEVELOPMENT

Research and development also played an important role in fiscal year 2018 for Manz, a high-tech equipment manufacturer. With its more than 500 engineers, technicians and scientists at its development sites, Manz AG focuses on the development of efficient and innovative manufacturing, assembly and handling technologies, integrated in modularized individual machines, facilities, and linked system solutions. The Manz AG comprehensive "R & D Council" achieves internal cross-segment integration of competencies. This leads to the realization of synergy and economies of scale as well as the development of additional revenue potential.

Manz maintains numerous cooperative arrangements with well-known research institutions, universities, and colleges. The Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW) is Manz AG's cooperation and development partner of many years. ZSW in Stuttgart, among others, conducts photovoltaic materials research and development for thin-film technologies and supports Manz in the further development of CIGS technology in the context of strategic cooperation with Shanghai Electric Group and China Energy Investment Corporation Limited. Development activities for CIGS thin-film solar technology were significantly intensified at the beginning of 2017 through cooperation with the Chinese partners as well as the participation in the research and development company NICE PV Research Ltd. The aim is to accelerate the further development of CIGS technology and thus to increase the potential it offers for further increases in efficiency and for reducing manufacturing costs. In addition to the existing innovation line for CIGS thin-film solar modules in Schwäbisch Hall, another research line with a capacity of 44 MW will be built in Beijing by the end of the year.

ZSW is also one of 19 partners that joined forces with Manz AG in 2017 to form a consortium within the lithium-ion batteries competence network (KLiB) and started with the research and development of processes for a large-scale production of lithium-ion battery cells as part of the Fab4Lib project in early 2018. Other project partners include BMZ Batterien-Montage-Zentrum GmbH, SGL CARBON GmbH, Umicore AG & Co. KG, Siemens AG, ThyssenKrupp System Engineering GmbH and RWTH Aachen University. The 18-month project is funded by the Federal Government with 5.5 million euros. The aim of the project is to define or develop the basis for a competitive production line with an annual capacity of 6 GWh. This modular line is then to be set up where the corresponding capacity is required. Fab4Lib offers the innovative basis to completely plan a German battery cell production for mass production and to realize a cell production in a timely and cost-effective manner. At the EU level, Manz AG, in addition to Saft S.A., Solvay S.A. and Siemens AG, is also a member of the "EU Battery Alliance", a complementary initiative to the EU program "Horizon 2020". The "EU Battery Alliance" is working to catch up with Europe's backlog of battery cells for the automotive industry as well as catch up to leading Asian manufacturers in other industries. For this purpose, an EU funding volume of one billion euros over 10 years exists for discussion and the possibility to promote national production projects in Europe.

Manz Taiwan, in cooperation with the Industrial Technology Research Institute (ITRI), the largest research institute in Taiwan, is developing further improvements in wet-chemical processes as well as innovative production solutions in the flat panel display environment. Manz Taiwan and ITRI also cooperate in the fan-out panel-level packaging (FOPLP) technology for the semiconductor industry. Manz is working in this area with PEP Innovation PTE Ltd., a Singapore-based technology company, to develop production solutions for the innovative packaging of microchips. Microchips are manufactured on the basis of silicon wafers, to which the chip manufacturers transfer the layout of the circuit by means of photo lithography. Chips are then encapsulated with an epoxy compound after the production process to protect them and facilitate contacting. This process is called packaging. The latest packaging process, the fan-out panel-level packaging, plays a decisive role in realizing the increasing miniaturization, that is, ever smaller components with ever higher performance capability. In addition to a significant reduction in volume, thickness, weight and manufacturing cost of the packaging while doubling the number of pins, the process also has significant positive effects on the thermal conductivity and speed of the components.

Manz AG had a total R & D ratio of 5.0% in the reporting period (previous year: 6.0%). The decline is justified to a great degree purely in project-related development. The research expense ratio amounts to 1.6% (previous year: 2.9%) if only the capitalized development costs are considered. Investments in R & D amounting to 14.9 million euros are well below the previous year's level of 20.1 million euros.

Scheduled depreciation on activated development services of 3.3 million euros (previous year: 2.0 million euros) was charged in the reporting period 2018. Perspectively too, the company will set clear emphasis in the R & D area. Manz AG strives for an annual rate of R & D to sales of 5% on average in order to provide sustained and long-term consolidation of its positive technological positioning and its innovations in the relevant target markets.

SUSTAINABILITY REPORT & CONSOLIDATED NON-FINANCIAL DECLARATION

On the basis of the European Corporate Social Responsiblity Directive and pursuant to Sections 315b and 315c in conjunction with Section 289c of the HGB [Handelsgesetzbuch – German Commercial Code], Manz AG is required to prepare a sustainability report and/or submit a non-financial statement. The consolidated non-financial statement is presented within the scope of the separate sustainability report outside of the management report. In so doing, Manz AG has decided to use as framework the DNK [Deutscher Nachhaltigkeitskodex – German Sustainability Code]. The sustainability report, including the consolidated non-financial declaration, is available on our website www.manz.com in the Investor Relations section under the heading "Publications" as well as in the company section under the heading "Sustainability."

FAIRNESS OPPORTUNITIES RIGHTS

Equal opportunity and diversity are central to our self-image. As a globally active company, we are well aware of the associated challenges – and therefore take them all the more seriously. A culture of mutual trust and respect is of the utmost importance to us. We do not tolerate discrimination based on age, origin, gender, disability, world view, sexual orientation, etc.

Quota

Diversity is our advantage

Our diversity is reflected in the composition of our employees by gender and age. Of the current 1,537 permanent employees in seven countries, one in five is female, 60 % of the total workforce is in the age group up to 40, and 40 % are 40 to 60 years old or older.

Work and leisure in balance

In order to promote equal opportunity and flexibility, we have introduced a work time model based on trust at our site in Reutlingen, which relies on independent, time-autonomous work by our employees. Part-time working models also help our employees find the best balance between work and private life.

Fairness across all borders

We have introduced a Group-wide code of conduct exceeding the legal requirements against all forms of discrimination. A contact person is available at each location for all relevant matters.

Nondiscrimination

BUSINESS REPORT

GENERAL ECONOMIC ENVIRONMENT AND INDUSTRY-SPECIFIC CONDITIONS

Economic Market Environment

Economic sentiment darkened significantly in the course of 2018. According to the Kiel Institute for the World Economy (IfW), the expansion of the global economy was at 3.7 %, as in the previous year. The more restrictive monetary policy in the USA and the growing trade conflicts worldwide had a growth-inhibiting effect. According to information from the IfW, the economy in the USA itself continued to grow at 2.9 % compared to 2017 (2.2 %). By contrast, the European economy was weaker with growth of 1.9 % (previous year: 2.5 %). The economic upswing in Germany also lost momentum, with growth of 1.5 % in 2018 (previous year: 2.2 %). According to IfW, the Chinese economy grew by 6.6 % in 2018, slightly less than in 2017 (6.8 %).

Engineering Industry

The German Mechanical Engineering Industry Association (VDMA) expects global sales growth of 3 % for 2018. According to association numbers, the most significant change compared to the previous year was seen in China: accordingly, the sector in China recorded growth of 2 % in 2018, after development had declined by –2 % in 2017. In Germany, mechanical engineering companies grew by 5 %, slightly above the previous year's 4.9 %. According to the VDMA, the German engineering companies for assembly solutions posted an above-average performance of 9.2 % for the industry and were therefore noticeably above the previous year's figure of 8.6 %. However, a mood dampener for the mechanical engineering sector in Germany came at the end of 2018: Whereas incoming orders between January and November were still up 5.9 % on the same period of the previous year, the increase in November alone amounted to only 0.3 %.

Core Segment Sectors

Although the business climate in the photovoltaic sector remained positive in the last VDMA survey in September 2018, expectations for revenue growth of 4.2 % in 2018 were well below the 9.2 % reported in March. There was little change in the key target markets of the industries. Asia accounted for 77 % revenue share (March 2018: 73 %) ahead of North America at 11 % (March 2018: 11 %) and Europe at 9 % (March 2018: 5 %). IHS Markit expected a newly installed PV capacity of 104 GW for 2018, compared to 98 GW in the previous year. This corresponds to a 6.1 % increase.

The mood dampener in the VDMA business climate issue was less pronounced among German manufacturers of electronics production equipment. After the surveyed companies had expected 7.9 % growth in April 2018, the expected revenue growth in October 2018 was 6.4 %. Companies in the Asia sector were the most important sales markets, accounting for 38.6 % of the total revenue (April 2018: 33.1 %), followed by Germany with 30.7 % (April 2018: 26.3 %) and the rest of Europe with 15.9 % of the revenue (April 2018: 24.1 %). According to IHS Markit, worldwide revenue of LCD and AMOLED displays fell by 7.8 % in 2018 compared to the previous year. This development is justified by a significant oversupply and the resulting drop in prices, which weighed down the revenue figures. The market share of LCD displays was 81 %, corresponding to 19 % market share for AMOLED displays. By contrast, global printed circuit board revenue continued to grow by 3.8 % in 2018, albeit slower than in the previous year (8.5 %), according to Prismark. The rate of value added growth expected by the VDMA (German Mechanical Engineering Industry Association) in the electrical powertrain industry of over 20 % in 2018 was clearly exceeded by a significant increase in sales. Compared to the previous year, plug-in hybrid and electrical vehicle sales figures rose according to FEV Consulting in the three main markets Europe, China, and the USA by an average 79 %.

Accordingly, the VDMA expects strong growth dynamics also in the battery production sector. The companies in this industry expected sales growth in the September VDMA survey for 2018 of 19 %, significantly more than in March 2018 (15.2 %). The most important market here is in Germany, with a 37.7 % share of revenue (March 2018: 21.7 %) ahead of the other European countries with 23.1 % (March 2018: 22.8 %) and Asia with 22.9 % (March 2018: 30.8 %). Electromobility also drove the global demand for lithium-ion batteries to 140 to 150 GW in 2018, much more than in 2017 (100 to 125 GW), as estimated by the VDMA.

ANALYSIS OF THE ASSET, FINANCIAL AND PROFITABILITY POSITIONS OF THE GROUP

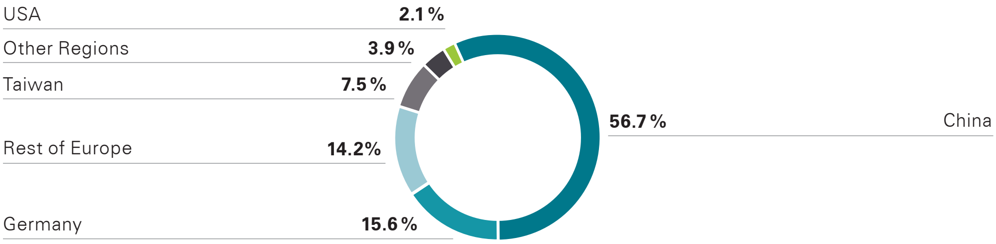
With Talus Manufacturing Ltd., Manz retroactively deconsolidated a formerly consolidated company within the framework of a restatement. Talus was founded in 2015. Manz holds 80.5 % of voting rights and shares in Talus and a partner holds 19.5 %. Due to provisions in the shareholder agreement, all significant decisions related to business activities must be made unanimously. In addition, the partner has a purchase option. Therefore, due to its significant influence over equity, Talus was included using the equity method in the group financial statement. The previous year’s values were corrected accordingly.

Profitability Positions

The Group’s revenue in fiscal year 2018 increased by 11.6 % and amounted to 296.9 million euros compared to 266.1 million euros in the previous year, primarily due to an expansion of the customer base.

Changes in inventories of finished goods and work in progress amounted to –2.4 million euros (previous year: –3.5 million euros). Capitalized assets amounted to 4.9 million euros (previous year: 9.5 million euros), whereby a larger proportion of development expenses was booked on a project-related basis compared with the previous year. This resulted in a total output of 299.4 million euros (previous year: 272.1 million euros).

Revenue Distribution by Region January 1 to December 31, 2018



Other operating income of 6.7 million euros was significantly below the previous year's level of 38.4 million euros. This was mainly due to the special effect from the sale of NICE Solar Energy GmbH (formerly Manz CIGS Technology GmbH) in the amount of 34.4 million euros. A detailed list of other operating income can be found in Note 3 "Other operating income". The cost of materials amounted to 182.5 million euros (previous year: 167.5 million euros), associated with the increased level of revenue. The cost of materials ratio remained almost constant at 61.0 % (previous year: 61.6 %). Personnel costs decreased slightly to 70.2 million euros (previous year: 70.9 million euros). This development demonstrates the success of the completed actions as part of the "Manz 2.0" optimization program for cost control and productivity improvement projects. This also improves the personnel expenses ratio from 26.1 % in the previous year to 23.5 % now. Other operating expenses of 41.3 million euros were below the previous year's figure of 64.0 million euros, as significant expenses for the realization of CIGS major orders had already been incurred in 2017. Earnings before interest, taxes, and depreciation (EBITDA) amounted to 9.5 million euros (previous year: 10.1 million euros). Depreciation of 12.9 million euros was above the previous year's level of 9.5 million euros. The negative one-time effect of the cable fire in the amount of 5.1 million euros, which is included in the results from affiliated companies at 4.7 million euros, also affected earnings before interest and taxes (EBIT), which was –3.4 million euros and below the previous year's figure of 0.6 million euros. Adjusted for one-time special effects, EBIT amounted to 1.7 million euros (previous year: –33.8 million euros). This corresponds to an increase in operating income of more than 35 million euros.

Financial income increased in 2018 to 96 TEUR compared to the previous year (2017: 39 TEUR), financial expenses fell slightly from 1.8 million euros in 2017 to 1.6 million euros in 2018. Earnings before taxes thus amounted to –4.9 million euros (2017: –1.1 million euros). Taxes on income increased to 3.1 million euros (2017: 2.1 million euros). Hence, the consolidated net profit amounted to –8.0 million euros (2017: –3.3 million euros). This results in earnings per share of –1.0 euros for 2018 (2017: –0.41 euros) based on the number of 7,744,088 weighted average shares.

Consolidated Net Assets

The balance sheet total as at December 31, 2018 increased by 3.8 % from 333.2 million euros to 345.7 million euros compared to the previous year's balance sheet date. The equity fell slightly from 159.9 million euros as of December 31, 2017 to 150.0 million euros as of the end of 2018. This development was primarily due to negative group earnings. This resulted in an equity ratio of 43.4 % (December 31, 2017: 48.0 %).

Long-term liabilities decreased slightly from 17.1 million euros at the end of 2017 to 15.7 million euros at the end of 2018.

Current liabilities amounted to 180.0 million euros on December 31, 2018, 15.2 % above the previous year's level (December 31, 2017: 156.2 million euros). Short-term financial liabilities amounted to 42.2 million euros as of the 2018 balance sheet date over the 36.1 million euros as of December 31, 2017. The reason for the increase is a higher demand for working capital in the project management. Liabilities for goods and services fell to 69.7 million euros as of December 31, 2018, following 88.9 million euros on the previous year's reporting date. With the introduction of IFRS 15 in fiscal year 2018, contractual liabilities in the amount of 42.3 million euros were recorded for the first time as of December 31, 2018. The other short term provisions added up to 12.0 million euros (December 31, 2017: 5.1 million euros). Other short-term liabilities amounted to 13.5 million euros at the end of 2018 (December 31, 2017: 11.7 million euros).

On the asset side, long-term assets decreased to 128.7 million euros as of December 31, 2018 (December 31, 2017: 129.5 million euros). Intangible assets increased slightly to 62.3 million euros (December 31, 2018: 58.7 million euros). Property, plant and equipment at 29.2 million euros also slightly exceeded the comparable value of 27.6 million euros at the end of 2017. The financial assets valued at 20.0 million euros decreased slightly compared to the previous year (December 31, 2017, 23.6 million euros). The other long-term assets remained virtually unchanged at 0.5 million euros (December 31, 2017: 0.5 million euros). Deferred taxes amounted to 4.9 million euros as of December 31, 2018, thus remaining virtually unchanged at the value of 4.9 million euros as of December 31, 2017.

Current assets amounted to 217.0 million euros as of December 31, 2018 (December 31, 2017: 203.7 million euros). Inventories increased from 45.7 million euros at the end of 2017 to 49.4 million euros as of December 31, 2018 as a result of the continuing positive order situation. With the application of IFRS 15 as of January 01, 2018, liabilities for goods and services are defined as unconditional claims for consideration and amount to 30.1 million euros. Prior to the introduction of IFRS 15, the balance sheet item also included future receivables from production contracts. In addition, contractual assets of more than 51.7 million euros are reported. The liquid assets on reporting date in 2018 were valued at 51.0 million euros (December 31, 2017: 47.8 million euros). As of December 31, 2018, unavailable financial resources of 21.0 million euros (previous year: 16.6 million euros) were reported under short-term financial assets.

Consolidated Financial Position

The starting point for the cash flow from operating activities of 14.9 million euros (previous year: 16.0 million euros) is the negative consolidated net profit of –8.0 million euros (previous year: –3.3 million euros). Compared with the previous year, the cash inflow from advance payments was significantly lower than in the previous year, in line with the progress made in realizing the CIGS major orders. The prepayments included in the contractual liabilities are for processing orders. In addition, the sale of NICE Solar Energy GmbH (formerly Manz CIGS Technology GmbH) resulted in a gain from asset disposals of 34.4 million euros in 2017, while in 2018 asset disposals resulted in a small loss of 0.4 million euros.

The cash flow from investing activities amounted to –15.2 million euros in fiscal year 2018 (previous year: –4.2 million euros). The outflow of funds resulted, on the one hand, from investments in intangible assets and property, plant and equipment, mainly in development services, in the amount of 10.8 million euros. On the other hand, funds not available in the reporting period increased by to 4.3 million euros. The increase can be traced back to the cash deposit of sureties.

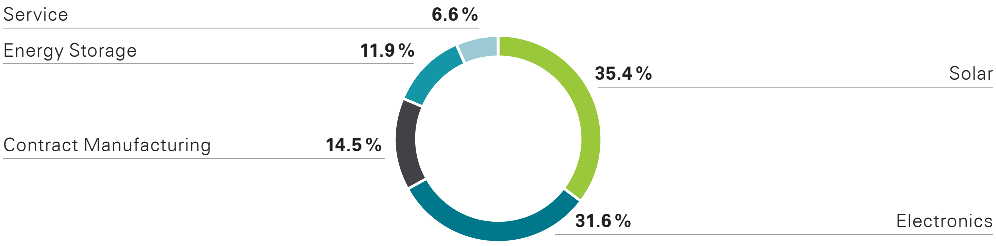
The cash flow from financing activities in fiscal year 2018 amounted to 3.8 million euros (previous year: –13.5 million euros) and resulted, on the one hand, from an increase in short-term financial liabilities for the project management. On the other hand, long-term financial liabilities were repaid. Considering the exchange rate variations, Manz AG had financial assets of 51.0 million euros as of December 31, 2018 (December 31, 2017: 47.8 million euros). Unused bank lines of credit amounted to 14.6 million euros as of the 2018 balance sheet date (December 31, 2017: 14.0 million euros).

With bank balances of 51.0 million euros (previous year: 64.5 million euros), net financial liabilities amount to –5.5 million euros (previous year: –31.9 million euros). Concerning additional statements regarding liquidity and the types of financing in the Group, please refer to the liquidity and financing risks in the Risk Report.

SEGMENT REPORTING

With regard to the explanations on the plan / actual deviation, we refer to the comments in the forecast report.

Revenues by Business Segment January 1 to December 31, 2018



Solar

In the Solar segment, Manz AG, in cooperation with its Chinese partners Shanghai Electric Group Co. Ltd., and China Energy Investment Corporation Limited (formerly Shenhua Group) focuses on the further development of innovative production solutions for the production of CIGS thin-film solar modules. CIGS thin-film solar modules offer significantly lower production costs per watt compared to crystalline solar cells and thus a clear competitive advantage. With a high newly installed capacity again in 2018 of 104 GW worldwide (previous year: 98 GW) and simultaneously falling global market prices for solar modules, per-watt cost is the key investment criterion for solar manufacturers and energy producers.

In 2018, Manz AG generated a revenue of 105.0 million euros in the Solar segment, which corresponds to 35.4 % of consolidated revenue (previous year: 104.3 million euros or 39.2 %). Furthermore, this segment is characterized by the implementation of CIGS major orders in China. Manz AG is in compliance here with the agreed milestones in the planned timetable. As contractually agreed, Manz AG last received a partial payment of 67 million euros in August 2018, which means that payments have so far totaled 211 million euros. The total volume of orders amounts to 263 million euros. However, there were customer-related delays in the overall project, as the buildings for CIGS*fab* were not completed on time, and therefore not all finished machines could be delivered to the customer. As a result of this delay, revenues scheduled for 2018 will now be realized in the 2019 financial year. The EBIT segment amounted to 14.4 million euros, compared to 31.0 million euros in the previous year. In 2017, however, EBIT still included a positive one-time effect of 34.4 million euros from the sale of NICE Solar Energy GmbH (formerly Manz CIGS Technology GmbH).

Electronics

Manz AG offers its customers highly efficient production, assembly and handling systems for the production of LCD, OLED and AMOLED flat screen displays, touch sensors, printed circuit boards and chip carriers, as well as smart phones, tablet computers, notebooks, wearables and other consumer electronics in the Electronics segment. Furthermore, the automated assembly solutions provide Tier 1 and Tier 2 companies in the automotive industry with cost-effective and competitive transformation solutions, from the classic powertrain to the future electric powertrain. Here, the company can profit from the increasing digitization and automation of production and final assembly. With its established production locations in Taiwan and China, Manz AG is active in hot spots of the target industries.

Revenue in the electronics business segment of 93.9 million euros in 2018 were significantly higher than the previous year's figure of 88.5 million euros. This was due partially to a follow-up order from one of the largest display manufacturers in China with a volume of roughly 76 million euros. This corresponds to a 31.6 % share of consolidated revenue (previous year: 33.3 %). The EBIT segment improved significantly with –12.0 million euros, compared to the previous year (–17.0 million euros). The result continued to be burdened by investments in the expansion of the sales network in Europe, Asia and the USA. Another negative factor was the fact that a follow-up order from the automotive industry was issued later in the year than originally expected.

Energy Storage

In the Energy Storage segment, Manz AG offers production, assembly and handling equipment for lithium-ion battery cells, modules, and packs, as well as for capacitors. The product portfolio covers production solutions for lithium-ion batteries and (super) capacitors for electronic end user equipment such as tablet PCs, cell phones, and notebooks, cordless power tools and gardening equipment, stationary energy storage for private households, and large-scale photovoltaic plants, as well as in the focus market e-mobility.

Revenue of this business segment amounted to 35.4 million euros in 2018, which was significantly higher than the comparable figure of 23.8 million euros and reflects the successful expansion of the customer base. This corresponds to a revenue contribution to the Group of 11.9 % after 9.0 % in the previous year. With rising revenue, the EBIT segment also increased and, at –9.9 million euros, improved significantly from the previous year's figure of –22.7 million euros.

Contract Manufacturing

The operating activities in the Contract Manufacturing segment are mainly carried out by the sites in Slovakia and Hungary as well as by an associated company at the site in Taiwan. This includes the production of equipment for the semi-conductor industry. In addition, at these locations, Manz AG is a high-tech partner for an increasing number of customers from a wide variety of industries for equipment manufacturing, parts production, and assembly work.

Revenue in this segment further increased in 2018, therefore, to 43.1 million euros; this corresponds to a 14.5 % consolidated revenue percentage (previous year: 32.0 million euros, or 12.0 %). EBIT in the Contract Manufacturing segment was 1.2 million euros due to portion of the one-time negative effect applicable to the segment of 4.7 million euros as a result of the cable fire at the site in Taiwan. EBIT amounted to 5.9 million euros, excluding the one-time effect, which corresponds to an EBIT margin of 13.7 % (previous year: 4.0 million euros, or 12.5 %). This includes the results of Talus Manufacturing Ltd., which is included in the consolidated companies of the Manz Group as an affiliated company.

Service

In the Service segment, Manz AG combines all services related to after-sales service, such as maintenance and repair or the conversion and upgrade of machines and assemblies.

The service segment contributed 19.5 million euros to the revenue in 2018, 6.6 % to the consolidated total revenue (previous year: 17.3 million euros, or 6.5 %). The EBIT segment in 2018 was 3.9 million euros and therefore below the previous year's level of 5.6 million euros. Margin development in this area was largely characterized by changes in the project mix.

OVERALL STATEMENT ON CORPORATE DEVELOPMENT 2018

Manz AG has come a decisive step closer to achieving its goal of sustainably increasing its competitiveness and profitability in fiscal year 2018. Thanks to consistent organizational, process, and procedure improvements, as well as an optimized product portfolio, Manz AG achieved a significant 11.6 % increase in revenue to 296.9 million euros and thus a marginally positive EBIT before non-operating one-off effects of 1.7 million euros in 2018. The Managing Board views this development as a confirmation of the company's strategy and sees Manz Group on the right track towards a solid and profitable long-term business development.

Further information on the achievement of goals is included in the relevant chapters of the forecast report.

CORPORATE GOVERNANCE

DECLARATION ON CORPORATE GOVERNANCE IN ACCORDANCE WITH SECTION 289F AND SECTION 315D HGB

The corporate governance statement in accordance with Sections 289f and 315d of the German Commercial Code (HGB) was prepared jointly for Manz AG and the Manz Group and published under the heading "Manz AG Corporate Governance Statement and Corporate Governance Report for the Fiscal Year 2018" on the company's website www.manz.com in the Investor Relations section under the heading "Corporate Governance – Corporate Governance Statement."

DISCLOSURES IN ACCORDANCE WITH SECTION 315A PARAGRAPH 1 HGB AND EXPLANATORY REPORT PURSUANT TO SECTION 176 PARAGRAPH 1 SENTENCE 1 AKTG TO THE DISCLOSURE ACCORDING TO SECTION 289A PARAGRAPH 1, SECTION 315A PARAGRAPH 1 HGB

Composition of subscribed capital

Manz AG's subscribed capital is valued at 7,744,088.00 euros and is divided into 7,744,088 no-par value bearer shares. All shares are associated with the same rights and duties. Each share grants its owner one vote at the Annual General Meeting. Each share offers the same share of profits. This excludes treasury shares held by Manz AG, which do not entitle the company to any rights. At the present time, the company does not hold any treasury shares. Incidentally, the rights and obligations of the shareholders arise from the provisions of the German Stock Corporation Act, in particular from Sections 12, 53a et seqq., 118 et seqq. and 186 AktG.

Restrictions that apply to voting rights or the transfer of shares

The Managing Board of Manz AG does not know of any agreements pertaining to restrictions on the use of voting rights or the transfer of shares.

Shareholdings that exceed 10 % of voting rights

As a result of notifications received regarding major holdings of voting rights pursuant to Sections 21 and 22 of the German Securities Trading Act (Wertpapierhandelsgesetz – WpHG) (in the version applicable prior to January 3, 2018) or pursuant to Sections 33 and 34 of the German Securities Trading Act (in the version applicable since January 3, 2018) and transactions involving company shares executed by managers pursuant to Article 19 of the Market Misuse Directive, the Managing Board is aware of the following direct and indirect holdings in the company's capital that exceed 10 % of the voting rights:

	Number of Voting Rights	Percentage of Voting Rights
Dieter Manz, Schlaitdorf	2,175,199	28.09 %
directly thereof (§ 33 WpHG)	953,942	12.32 %
attributed (§ 34 WpHG)	1,221,257	15.77 %
People's Republic of China, acting through the State-owned Asset Supervision Commission (SASAC) of the People's Government of Shanghai, People's Republic of China **Full chain of subsidiaries:** **Shanghai Electric (Group) Corporation** **Shanghai Electric Group Company Limited** **Shanghai Electric Hongkong Co. Limited** **Shanghai Electric Germany Holding GmbH (shareholder)**	1,523,480	19.67 %

Shares with special rights that confer an authority to exercise control

The company does not have shares with special rights that confer an authority to exercise control.

Type of voting right controls when employees are issued shares of company stock and do not directly exercise their control rights

Employees with holdings in the capital of Manz AG may directly exercise any control rights to which they are entitled based on the shares transferred to them in accordance with provisions of the company's Articles of Incorporation and the law.

Legal requirements and provisions of the Articles of Incorporation regarding the appointment and dismissal of members of the Managing Board and regarding amendments to the Articles of Incorporation

The appointment and dismissal of members of the Managing Board is governed by Sections 84 and 85 of the German Stock Corporation Act. These sections stipulate that members of the Managing Board are appointed by the Supervisory Board for a period lasting a maximum of five years. Members may be repeatedly appointed or have their term extended, in either case for another period lasting a maximum of five years. Pursuant to Section 5 of the company's Articles of Incorporation, the Managing Board may consist of one or more persons. The Supervisory Board appoints the members of the Managing Board pursuant to the provisions of the German Stock Corporation Act and determines their number. The Supervisory Board may appoint a member as chairperson of the Managing Board. Pursuant to Section 84(3) of the German Stock Corporation Act (AktG), the Supervisory Board may revoke the appointment of a member of the Managing Board and the appointment of a chairperson of the Managing Board for good cause.

Amendments to the Articles of Incorporation are governed by Sections 133 et seqq. and 179 et seqq. of the German Stock Corporation Act. In general, amendments require a resolution passed at the Annual General Meeting. A resolution passed at the Annual General Meeting requires a majority of at least three-quarters of the capital stock represented at the time the resolution is adopted. The Articles of Incorporation may determine a different capital majority, but only a greater capital majority, for any amendment to the purpose of the company.

Pursuant to Article 16(1) of the company's Articles of Incorporation, resolutions are passed at the Annual General Meeting by a simple majority of the votes cast, unless mandatory provisions of the German Stock Corporation Act stipulate otherwise. Where the German Stock Corporation Act also stipulates that a majority of the represented capital stock is required to pass a resolution, a simple majority of the represented capital fulfills this requirement, insofar as this is legally permissible.

Authority of the Managing Board to issue or repurchase company shares

The Managing Board may issue new shares only on the basis of resolutions passed at the Annual General Meeting in respect of an increase in capital stock or in respect of authorized and conditional capital. Purchasing treasury shares is governed by Section 71 et seqq. of the German Stock Corporation Act (AktG) and, in certain cases, is permitted by operation of law or as a result of authorization given at the Annual General Meeting.

Authorized capital

On the basis of a resolution passed by the Annual General Meeting of July 12, 2016 pursuant to Article 3, Sentence 3 of the Articles of Incorporation, the Managing Board is authorized to increase the company's capital stock, with Supervisory Board approval, in the period until July 11, 2021, on a one-time basis or in partial contributions, up to a total of 3,872,044.00 euros through the issuance of a total of 3,872,044.00 new bearer shares (no-par value shares) by means of cash contributions or contributions in kind (Authorized Capital 2016).

In principle, the new shares must be offered to shareholders for subscription. The new shares may also be taken over by banks designated by the Managing Board with the obligation to offer them to the shareholders for subscription (indirect subscription right). However, the Managing Board was authorized, with Supervisory Board approval, to exclude shareholders' subscription rights

- in the event of a capital increase for cash consideration, if the issue amount of the new shares is not significantly less, within the meaning of Section 203(1) and (2) and Section 186(3) sentence 4 of the German Stock Corporation Act (AktG), than the stock exchange price of shares of the company of the same type at the time of establishment of the issue price, which is to be as close in time as possible to the time of issue of new shares. This authorization for the exclusion of the subscription right applies only to the extent that shares to be issued in the capital increase do not in total represent a proportionate amount of the capital stock of more than 774,408.80 euros and overall do not comprise more than 10 % of the capital stock at the time the authorization is exercised. The pro rata amount of the share capital of shares that are issued or sold during the term of this authorization due to other authorizations in direct or analogous application of Section 186 (3), sentence 4 AktG, under exclusion of subscription rights shall be offset against this maximum amount for a subscription right exclusion;

- in the case of capital increases against contribution in kind for the acquisition of companies, parts of companies or participations in companies or other assets or for the purpose of business combinations;

- to the extent that it is necessary to give owners of warrant or convertible bonds, profit-sharing rights, or profit-sharing bonds (or combinations of these instruments) issued by the company or direct or indirect affiliates of the company a subscription right to new shares to the same extent as they would have upon exercising their option or conversion right or after fulfilling their conversion obligation;

- to exclude fractional amounts from the subscription right.

The Managing Board is authorized, with Supervisory Board approval, to establish the further details of the implementation of the capital increases from the authorized capital.

Authorization to issue partial debentures with option or conversion rights or conversion obligations, profit-sharing rights, and profit-sharing bonds (or combinations of these instruments), as well as Conditional Capital I

At the Annual General Meeting on July 9, 2014, a resolution was passed authorizing the Managing Board, with Supervisory Board approval, to issue bearer warrant or convertible bonds, profit-sharing rights and/or profit-sharing bonds, or a combination of these instruments (collectively referred to as "bonds"), up to a total nominal value of 150 million euros, on one or more occasions until July 8, 2019. In addition, the Managing Board was also authorized to grant owners of warrant bonds option rights and owners of convertible bonds conversion rights for bearer shares of the company with a proportionate amount of capital stock totaling up to 1,971,223.00 euros, in accordance with the detailed terms and conditions of the warrant/convertible bonds.

The statutory subscription right is granted to the shareholders in the way that the bonds are underwritten by a bank or a syndicate of banks with the obligation to offer them for subscription to shareholders. If bonds are issued by a Manz AG group company within the meaning of Section 18 AktG, the Company must accordingly ensure the granting of statutory subscription rights for the shareholders of Manz AG.

However, the Managing Board is authorized, with the approval of the Supervisory Board, to remove fractional amounts of shareholder's option rights and to exclude the option rights to the extent necessary to grant the holders of previously issued bonds with option or conversion rights or conversion obligations to put away an option right to the extent as they would be entitled to after exercise of the option or conversion rights or fulfillment of the conversion obligation as a shareholder.

Furthermore, the Managing Board is authorized, with Supervisory Board approval, to completely exclude shareholders' subscription rights to bonds issued with an option and/or conversion right or conversion obligation, provided the Managing Board, after dutiful examination, arrives at the view that the issue price of the bonds is not significantly below their hypothetical market value calculated according to accepted and, in particular, actuarial methods. This authorization to exclude the subscription right applies to bonds issued with an option and/or conversion right or a conversion obligation, carrying an option and/or conversion right or a conversion obligation for shares with a total proportionate amount of the capital stock which may not exceed 10 % of the capital stock, either at the time the authorization becomes effective or – in the event that this amount is lower – at the time this authorization is exercised. The following are offset against the aforementioned ten percent limit:

- new shares issued from authorized capital excluding subscription rights in accordance with Section 186 (3) sentence 4 AktG during the term of this authorization up to issue of bonds with option and / or conversion rights or conversion obligations pursuant to Section 186 Paragraph 3 Sentence 4 AktG, as well as

- such shares as are acquired on the basis of an authorization granted at the Annual General Meeting and are disposed of, with exclusion of the subscription right, pursuant to Section 71(1) no. 8 sentence 5 AktG, in conjunction with Section 186(3) sentence 4, of the German Stock Corporation Act during the term of this authorization up to the issue, subject to the exclusion of subscription rights pursuant to Section 186(3) sentence 4 of the German Stock Corporation Act, of the bonds carrying an option and/or conversion right or conversion obligation.

Where profit-sharing rights or profit-sharing bonds without an option right or conversion right/obligation are issued, the Managing Board is authorized, with Supervisory Board approval, to completely exclude shareholders' subscription rights if these profit-sharing rights or profit-sharing bonds have the characteristics of a debenture; i.e., do not give rise to any membership rights in the company, do not grant a share in the liquidation proceeds, and the interest payable is not calculated on the basis of the net income for the year, net retained profit, or the dividend. Moreover, in such a case, the interest payment and the issue price of the profit-sharing rights or profit-sharing bonds must reflect current market conditions at the time of issue.

Pursuant to Article 3(4) of the Articles of Incorporation, the capital stock of the company has been conditionally increased by up to 1,971,223.00 euros through the issue of up to 1,971,223 no-par value bearer shares (Conditional Capital I). The contingent capital increase will only be carried out to the extent that the holders of option or conversion rights or those obliged to convert from warrant or convertible bonds, profit participation rights or participating bonds issued by the Company or a Group company within the meaning of Section 18 AktG on the basis of issued or guaranteed at the Annual General Meeting on July 9, 2014 under agenda item 6, exercise their option or conversion rights or, if they are required to convert, fulfill their obligation to convert, unless a cash settlement is granted or treasury shares or shares of another listed company. The new shares are issued at the option or conversion price to be determined in each case in accordance with the aforementioned authorization resolution. The new shares shall participate in profit from the beginning of the fiscal year in which they are created on the basis of the exercise of option or conversion rights or of the fulfillment of conversion obligations. The Managing Board is authorized, with Supervisory Board approval, to establish the further details of the execution of the conditional capital increase.

Authorization to issue stock options under the 2015 Manz Performance Share Plan and Conditional Capital II

At the Annual General Meeting held on July 7, 2015, a resolution was passed authorizing the Managing Board, with Supervisory Board approval, to issue a total of up to 59,000 subscription rights ("Performance Shares") for a total of up to 118,000 shares of company stock to executives of affiliates as well as Manz's own managers below the executive level and managers of affiliates, both domestic and foreign, below the executive level on one or more occasions through June 30, 2020. The Supervisory Board was given authorization to issue a total of up to 56,000 subscription rights ("Performance Shares") for a total of up to 112,000 shares of company stock to members of Manz's Managing Board, on one or more occasions, through June 30, 2020.

The subscription rights will be granted, arranged, and exercised in accordance with the provisions defined in the resolution passed at the Annual General Meeting on July 7, 2015.

Pursuant to Article 3(5) of the Articles of Incorporation, the company's capital stock has been conditionally increased by up to 230,000.00 euros through the issue of up to 230,000 no-par value bearer shares (Conditional Capital II). The conditional capital increase serves to secure the rights of the holders of subscription rights ("Performance Shares") granted on the basis of the authorization granted by the Annual General Meeting on July 7, 2015. The issue of shares will be in the issue amount established in the authorization resolved at the Annual General Meeting on July 7, 2015. The conditional capital increase will be carried out only to the extent subscription rights are exercised and the company does not issue either treasury shares or a cash settlement for the purpose of fulfillment of the subscription rights. The new shares will be equivalent to already issued shares of the same class with respect to their dividend entitlement. The Managing Board and, to the extent members of the Managing Board are affected, the Supervisory Board are authorized to establish the further details of the conditional capital increase and its implementation.

Authorization to issue share subscription rights within the scope of the 2012 Manz Performance Share Plan as well as Conditional Capital IV

At the Annual General Meeting held on June 19, 2012, a resolution was passed authorizing the Managing Board, with Supervisory Board approval, to issue a total of up to 27,000 subscription rights for subscription of a total of up to 108,000 shares of company stock to executives of affiliates of the company, as well as Manz's own managers below the executive level and managers of affiliates, both domestic and foreign, below the executive level on one or more occasions through May 31, 2017. The Supervisory Board was given authorization to issue a total of up to 37,000 subscription rights for subscription of a total of up to 148,000 shares of company stock to members of Manz's Managing Board, on one or more occasions, through May 31, 2017.

The granting, structuring and exercising of the subscription rights takes place in accordance with the provisions laid down in the resolution of the Annual General Meeting on June 19, 2012.

The authorization of June 19, 2012, was revoked by a resolution passed at the Annual General Meeting of July 7, 2015, insofar as no subscription rights had yet been issued on the basis of the authorization.

Pursuant to Article 3(7) of the Articles of Incorporation, the company's capital stock has been conditionally increased by up to 256,000.00 euros through the issue of up to 256,000 no-par value bearer shares (Conditional Capital IV). The conditional capital increase serves to hedge the rights of the holders of subscription rights granted on the basis of the authorization granted by the Annual General Meeting on June 19, 2012. The issue of shares will be in the issue amount established in the authorization resolved at the Annual General Meeting on June 19, 2012. The conditional capital increase will be carried out only to the extent subscription rights are exercised and the company does not issue either treasury shares or a cash settlement for the purpose of fulfillment of the subscription rights. The new bearer shares will be equivalent to already issued shares of the same class with respect to their dividend entitlement. The Managing Board and, to the extent members of the Managing

Board are affected, the Supervisory Board are authorized to establish the further details of the conditional capital increase and its implementation.

Authorization to purchase and dispose of treasury shares

The Annual General Meeting held on July 7, 2015, authorized the Managing Board of the company to acquire treasury shares until July 6, 2020, pursuant to Section 71(1) number 8 of the German Stock Corporation Act (AktG) with a proportional value of up to 10 % of the capital stock at the time this authorization becomes effective or of the existing capital stock of the company at the time of exercise of the authorization, if such amount is lower, whereby at no point in time more than 10 % of the capital stock of the company may be represented by the shares acquired on the basis of this authorization together with other shares of the company, which the company has already acquired and still possesses or which are attributable to it pursuant to Sections 71d and 71e AktG. The provisions in Section 71(2) sentences 2 and 3 AktG must be observed.

The acquisition may take place only through the stock exchange or by means of a public purchase offer addressed to all of the shareholders and must satisfy the principle of equal treatment of shareholders (Section 53a AktG).

The Managing Board was authorized to sell the treasury shares acquired on the basis of the above authorization also in manners other than through the stock exchange or through an offer to other shareholders, under the condition that the sale is for cash and is at a price that is not significantly below the stock-exchange price, at the time of the sale, of company shares with the same features. This authorization of use is restricted to shares with a proportionate amount of capital stock that in total does not exceed 10 % of the capital stock of the company, neither at the time of coming into effect of this authorization, nor – if such amount is lower – at the time of exercise of the above authorization. The maximum limit of 10 % of the capital stock is reduced by the proportionate amount of the capital stock that is attributable to those shares that are issued or sold during the term of this authorization with exclusion of the subscription rights pursuant to or in accordance with Section 186(3) sentence 4 AktG. The maximum limit of 10 % of the capital stock is further reduced by the proportionate amount of the capital stock represented by those shares that were to be issued in order to service bonds with option or conversion rights and/or option or conversion obligations to the extent such bonds are issued during the term of this authorization with exclusion of subscription rights in analogous application of Section 186(3) sentence 4 AktG.

The Managing Board was further authorized to transfer own shares acquired on the basis of the above authorization to third parties insofar as this is for the purpose of acquiring companies, parts of companies or interests in companies or other assets, or to carry out business combinations.

The Managing Board and – to the extent there is an obligation with respect to members of the Managing Board – the Supervisory Board were further authorized to use the treasury shares acquired on the basis of the above authorization for the purpose of fulfillment of the subscription rights that were or are issued in the framework of the Manz Performance Share Plan 2012 resolved at the Annual General Meeting of June 19, 2012, under item 6 of the agenda or in the framework of the Performance Share Plan 2015 resolved at the Annual General Meeting of July 7, 2015, under item 6 of the agenda.

The Managing Board was also authorized to use the treasury shares acquired on the basis of the above authorization for the purpose of fulfillment of the subscription and conversion rights that result from exercising option or conversion rights or fulfilling option or conversion obligations that have been granted or imposed within the framework of issuing convertible or warrant bonds, profit-sharing rights, or profit-sharing bonds (or combinations of these instruments) of the company or its subsidiaries.

The Managing Board was further authorized to transfer own shares acquired on the basis of the above authorization to employees of the Company or employees or members of governing bodies of subordinate affiliates of the Company within the meaning of Sections 15 et seqq. AktG.

Significant company agreements that are conditional on a change of control as a result of a takeover bid

Patent and expertise license agreement with the ZSW

There is a patent and know-how license agreement from the year 2017 between Manz AG and the Center for Solar Energy and Hydrogen Research Baden-Württemberg (Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg, ZSW), which is a foundation under German civil law and a research institution of the state of Baden-Württemberg, under which the ZSW grants Manz AG certain licenses to its patents and know-how with regard to CIS and/or CIGS technology for the manufacture of thin-film solar cells. The patent and know-how license agreement can be terminated by ZSW for important cause if a competitor of ZSW acquires or exceeds 30% of voting rights at Manz AG in terms of Section 21 et seqq. of the German Securities Trading Act (WpHG) (in the version applicable before January 3, 2018).

Patent and know-how licensing agreement with NICE Solar Energy GmbH (formerly Manz CIGS Technology GmbH)

In addition, Manz AG and NICE Solar Energy GmbH (formerly Manz CIGS Technology GmbH), a subsidiary of NICE PV Research Ltd., in which China Energy Investment Corporation Limited (formerly Shenhua Group), Shanghai Electric Group Co. Ltd , and Manz AG hold an interest, entered into a patent and know-how licensing agreement in 2017 according to which NICE Solar Energy GmbH (formerly Manz CIGS Technology GmbH) granted to Manz

AG certain licenses to patents and know-how relating to CIS or CIGS technology for the production of thin-film solar cells. The patent and expertise licensing agreement can be terminated by NICE Solar Energy GmbH (formerly Manz CIGS Technology GmbH) for good cause if a third party directly or indirectly acquires at least 30.0 % of the shares in Manz AG, where a direct or indirect purchase of shares by Shanghai Electric Group Co. Ltd. or by China Energy Investment Corporation Limited (formerly Shenhua Group) exceeding 30.0 % or such acquisition by Dieter Manz does not give rise to the right of termination.

Joint Venture Talus Manufacturing Ltd

A contract regarding Talus Manufacturing Ltd. in Chungli, Taiwan, where Manz Taiwan Ltd. in the amount of 80.5 % and the partner in the amount of 19.5 % is involved, exists between the subsidiary Manz Taiwan Ltd. and a leading US manufacturer of equipment for the semiconductor industry. The Partner has a right to terminate the contract in the event that shares of the Manz AG are sold by their existing shareholders to third parties, with the result that a person or company from the People's Republic of China is involved in the amount of more than 30 % directly or indirectly in the company. If the right of termination is exercised, the Partner has the right to buy shares of Manz Taiwan Ltd. at Talus Manufacturing Ltd. to be acquired against payment of the participation value (purchase option).

Apart from the agreements mentioned above and in the section below, there are no significant company agreements that are conditional on a change of control as a result of a takeover bid.

Compensation agreements of the Company that have been made in the event of a takeover bid with members of the Managing Board or with employees

In the event of a change of control, the employment contract of Executive Board member Martin Drasch stipulates that the Executive Board member is entitled to terminate the employment contract with a notice period of three months to the end of a calendar month and to resign from his office as member of the Executive Board with the same deadline. These rights may be exercised only within six months after the change of control has occurred.

A change of control is deemed to have taken place when the company receives notification from a notifying party in accordance with Section 21(1), sentence 1 of the German Securities Trading Act (WpHG) (in the version applicable before January 3, 2018) that the notifying party, with inclusion of the voting rights attributable to him pursuant to Section 22 of the German Securities Trading Act (WpHG) (in the version applicable before January 3, 2018), has reached or exceeded a 25 % or higher share of voting rights in the company.

In the event of a termination of the employment contract pursuant to the above provisions, the member of the Managing Board shall receive a severance payment. This severance payment shall consist of the total amount of the fixed salary owed for the remaining term of the employment contract and the total amount of the cash bonus owed for the remaining term of the employment contract, whereby for the calculation of the amount, the average of the EBIT return in the last fiscal year before the termination and the EBIT return that is expected to be realized in the current fiscal year according to the forecast of the company are to be taken as the basis. The severance payment is limited to the amount that corresponds to 150 % of the severance cap. The value of two years' annual compensation is deemed to be the severance cap. If the remaining employment term on the date the resignation becomes effective amounts to more than two years, the severance payment is reduced, insofar as it is being granted for the exceeding period, by 75 % for the purposes of offsetting the severance payment with a lump sum equal to the member's expected income from other sources after ending employment. In addition, the amounts used in the calculation of the severance payment must also be discounted at 3 % p.a. each to the date on which the severance payment is due.

In other respects, the company has not entered into any agreements with members of the Managing Board or with employees that make provision for compensation payments in the event of a takeover bid.

COMPENSATION REPORT

The following compensation report presents the basic principles of the compensation systems for the Managing Board and Supervisory Board of Manz AG, as well as the salaries earned by the members of the Managing Board and Supervisory Board in the 2018 fiscal year.

System of compensation for the Managing Board

The aim of the compensation system is to compensate the members of the Managing Board commensurately according to their area of activity and responsibility, taking into account not only the personal performance of each respective Managing Board member, but also the company's overall situation and business success. The compensation structure is geared toward sustainable corporate growth.

The compensation paid to members of the Managing Board consists of fixed and variable components. In determining the amount of the elements of compensation, a distinction is usually made between the Chairman and the other members of the Managing Board.

Fixed elements of compensation

The fixed components of Managing Board compensation consist of a fixed monthly salary, benefits in kind, and contributions to a company retirement scheme.

The fixed salary is paid in twelve equal monthly installments. These fixed payments function as a base salary to cover Managing Board members' and their families' ongoing cost of living expenses irrespective of the company's performance.

An appropriate company car, which can also be used for private purposes, is provided to Managing Board members as a benefit in kind. In addition, the company has taken out accident insurance policies with appropriate benefits for each of the Managing Board members. These policies also cover non-work-related accidents. Furthermore, there is a directors and officers pecuniary damage liability insurance policy (so-called D & O insurance) for the members of the Management Board at the company's expense. In accordance with Section 93(2) sent. 3 AktG, the D&O insurance deductible corresponds to 10 % of the respective loss, but not more than one-and-a-half-times the fixed annual remuneration.

The company has undertaken to pay pension contributions to members of the Executive Board, Martin Drasch and Manfred Hochleitner, by paying annual contributions to a support fund. A corresponding obligation also existed for the Managing Board member Gunnar Voss of Dahlen, who left the Managing Board on March 23, 2018.

Variable elements of compensation

General

The variable compensation comprises an annual component linked to the company's success in the form of an annual cash bonus (short-term variable compensation) on the one hand, and on the other hand, a share-based component with a multi-year assessment in the form of annual stock options based on the 2015 Manz Performance Share Plan (long-term variable compensation).

The variable components complement the fixed elements of compensation, serving as a specific incentive to achieve sustained corporate growth while contributing to the Managing Board members' accumulation of personal assets and financial independence. In the interest of an alignment of variable compensation with sustainable corporate development, the fair value of the subscription rights granted on the basis of the recognized 2015 Manz Performance Share Plan outweighs the annual cash bonus.

Annual cash bonus

The aim of the annual cash bonus is to allow the members of the Managing Board to participate in the company's success in a given fiscal year as a result of their own personal management performance.

The cash bonus is granted annually, depending on the EBIT margin of the respective financial year. The EBIT margin is calculated as the ratio of earnings before interest and taxes to total revenues in accordance with the consolidated financial statements in accordance with IFRS. Moreover, the cash bonus is calculated based on the fixed salary of the particular Managing Board member for the given fiscal year (fixed annual salary).

The cash bonus grant requires that an EBIT margin of at least 0.1 % has been achieved.

The Executive Board member receives a cash bonus of 1 % of the annual fixed salary with an EBIT margin of 0.1 %. Accordingly, the percentage applicable for calculating the cash bonus increases by one percentage point for each full 0.1 percentage point by which the achieved EBIT margin exceeds 0.1 %. Therefore, the Managing Board member receives, for example, a cash bonus of 50 % of the annual fixed salary with an EBIT margin of 5.0 %, and, with an EBIT margin of 10 %, a cash bonus of 100 % of the annual fixed salary. The upper limit is set at an EBIT margin of 16.0 %, at which the cash bonus is 160 % of the annual fixed salary.

The Supervisory Board has set an EBIT margin of 6 % as the medium target of short-term variable compensation for the purpose of determining the ratio between the individual compensation elements. At this middle value, the cash bonus is 60 % of the fixed annual salary.

Manz Performance Share Plan 2015

The rights to Manz shares granted and to be granted on the basis of the 2015 Manz Performance Share Plan in the years 2015 to 2018 are intended to stimulate the Managing Board members to sustainably increase their internal and external company value and, therefore, their interests with those of the shareholders, but also with the other stakeholders.

The Supervisory Board may in principle determine the number of subscription rights to be granted to the individual members of the Managing Board at its own discretion – in line with the legal requirements for the appropriateness of the compensation. There is no contractual claim for the granting of performance shares.

However, the Supervisory Board has specified as a guideline that the annual long-term variable compensation in the form of performance shares (allocation value) should, as a rule, amount to 50 % of the annual total cash compensation of the respective Managing Board member. In this case, total cash compensation consists of the member’s annual fixed salary, as well as the middle target value of the annual cash bonus equal to 60 % of the annual fixed salary. The performance shares to be granted shall be valued upon issuance through the price of the Manz share in Xetra trading on the Frankfurt Stock Exchange on the basis of an appropriate period of time at the beginning of the particular issuing period.

The vesting period for exercising the subscription rights is more than four years. If subscription rights are exercised after the end of the vesting period and within the exercise periods of three months after the respective Annual General Meeting, Manz AG shares are issued to the beneficiaries at the exercise price equal to the legally prescribed minimum issue price, which is currently 1.00 euro each.

The subscription rights can be exercised after the end of the vesting period, if and insofar as the respective performance target was reached. The specified performance targets for exercising the subscription rights are the EBITDA margin and the development of company value of Manz AG. The EBITDA margin performance target is calculated as the average of the EBITDA margins according to Manz AG's consolidated financial statements during the performance period of four fiscal years beginning with the fiscal year in which Performance Shares are granted. The development of company value performance target is calculated as the increase in the market capitalization of Manz AG during the performance period of four calendar years beginning with the start of the issue period in which the Performance Shares are granted.

The EBITDA margin and development of company value performance targets are each assigned a weighting of 50 % for measuring the total degree of target attainment. There is an "objective," a "minimum value," and a "maximum value" for each performance target. The objective defines the value at which the degree of target attainment for the respective performance target is 100 %. The minimum value designates the lower limit of the target corridor, at or below which the degree of target attainment for the respective performance target is 0 %. The maximum value defines the value at or above which the degree of target attainment is 200 %.

For the EBITDA margin performance target, the minimum value for an EBITDA margin is 5 %. The objective is an EBITDA margin of 10 %. The maximum value for the EBITDA margin performance target is reached with an EBITDA margin of 15 %. For the development of company value target, the minimum value for development of company value is 0 %. The objective is a 20 % development of company value. The maximum value for this performance target is a development of company value of 30 %.

For each initial number of Performance Shares, up to two Manz AG shares may be issued for the respective tranche in accordance with the total degree of target attainment. However, the value of the Performance Shares when the option is exercised is limited to 300 % of the value of the Performance Shares at the time of allocation, and if this value is exceeded the final number of Performance Shares is correspondingly reduced (cap). Furthermore, in the event of extraordinary developments the Supervisory Board and the Managing Board are entitled, at their discretion, to limit the ability of members of the Managing Board and other managers to exercise the granted subscription rights.

Further details of the 2015 Manz Performance Share Plan and the subscription rights to shares of the Company issued on the basis thereof are set out in the "Corporate Governance Statement and Corporate Governance Report of Manz AG for the 2018 Financial Year" in Section VI, which can be downloaded from the Manz AG website www.manz.com in the Investor Relations section under the heading "Corporate Governance."

Severance cap in the event of early termination of Managing Board duties

The service contracts of the Managing Board members stipulate that, in the event of early termination of the term of office and service which is not based on cause, severance payments to the Managing Board member, including fringe benefits do not exceed two years' compensation (severance payment cap) and not more than the remainder of the employment relationship. The calculation of the severance payment cap will be based on the total compensation of the past financial year and, if applicable, the expected total compensation for the financial year in progress at the time of early termination.

Provisions in the event of a change of control

In the event of a change of control, the employment contract of CEO Martin Drasch stipulates that the member of the Management Board is entitled to terminate the employment contract with three months notice to the end of a calendar month and to resign from his office as member of the Managing Board with the same deadline. In principle, a change of control occurs when the company receives a communication from a party that the party, including the voting rights attributable to him, has reached or exceeded 25 % or a higher proportion of the voting rights in the company. In the event of a termination of the employment contract pursuant to the above provisions, the member of the Managing Board shall receive a severance payment.

Further details on the change of control provisions in the service contracts of the named members of the Managing Board are provided in this consolidated situation report in the "Disclosures in accordance with Section 315a Paragraph 1 HGB and explanatory report persuant to Section 176 Paragraph 1 Sentence 1 AktG to the disclosure according to Section 289a Paragraph 1, Section 315a Paragraph 1 HGB" in the subsection "Compensation agreements of the company that have been made in the event of a takover bid with members of the Management Board or with employees."

Compensation in the 2018 fiscal year

Compensation of the Managing Board

Compensation of the Managing Board according to DRS 17

The members of the Managing Board received total compensation of 1,060 thousand euros for carrying out their duties in the 2018 fiscal year (previous year: 1,295 thousand euros).

The following table provides an overview of the compensation paid to individual members of the Managing Board according to DRS 17 for performing their duties in the 2018 fiscal year:

Managing Board Compensation in the 2018 Fiscal Year

	Non performance related components		Performance-based components (short-term incentive)	Components with long-term incentive	
(in EUR tsd.) previous year's figures in brackets	**Fixed salary**	**Other benefits[1]**	**Cash bonus**	**Subscription rights to shares (fair value)**	**Total**
Martin Drasch, Chief Operations Officer, Chairman of the Managing Board since Oct. 1, 2018	247 (247)	35 (35)	0 (100)	102 (213)	**384 (595)**
Manfred Hochleitner, Chief Financial Officer (since July 1, 2018)	124	12	0	0	**136**
Eckhard Hörner-Marass, Chairman of the Managing Board (until Sept. 30, 2018)	361 (534)	0 (10)	113[2] (0)	0 (2)	**474 (546)**
Gunnar Voss von Dahlen, Chief Financial Officer (until March 23, 2018)	60 (140)	6 (14)	0 (0)	0 (0)	**66 (154)**
Total	**792** (921)	**53** (59)	**113** (100)	**102** (215)	**1,060** (1,295)

1 In particular, monetary advantages of benefits in kind and contributions to the company pension scheme (support fund)
2 Compensation of the annual cash bonus for fiscal year 2018

The subscription rights to shares of Manz AG on the basis of the Manz Performance Share Plan 2015 were measured at the so-called fair value using recognized mathematical finance methods.

In fiscal year 2018 subscription rights to Manz AG shares were granted to Managing Board member Martin Drash for 6,048 (previous year: 4,544) Performance Shares, entitling him to acquire, after the end of the vesting period and contingent upon target attainment, up to 12,096 Manz shares.

Remuneration for former members of the Board

Gunnar Voss von Dahlen left the Managing Board on March 23, 2018 and his employment contract ended effective the same date. In addition to declared total compensation as an active member of the Managing Board for the fiscal year 2018, he received a severance payment in the amount of 250 thousand euros in accordance with the severance cap. The total compensation for the fiscal year 2018 amounts to 316 thousand euros.

Eckhard Hörner-Marass left the Managing Board on September 30, 2018 and his employment contract ended effective December 31, 2018. In addition to declared total compensation as an active member of the Managing Board for the fiscal year 2018, he continued to receive remuneration payments for the months October to December 2018 in the amount of 120 thousand euros and a pro-rata bonus for the months October to December in the amount of 37.5 thousand euros. The total compensation for the fiscal year 2018 amounts to 631 thousand euros.

Compensation of the Managing Board according to the German Corporate Governance Code

The compensation of the Managing Board for the fiscal year 2018 is also disclosed on the basis of the presentation recommended by the German Corporate Governance Code in the framework of exemplary tables broken down by the benefits granted and the allocation.

The following table shows the benefits, including fringe benefits, granted to the individual members of the Managing Board for the reporting year and the previous year in accordance with the recommendations of the German Corporate Governance Code. The target values (payment at 100 % target achievement) as well as the minimum and maximum compensation achievable for the reporting year are specified for the variable compensation.

	Martin Drasch Chief Operations Officer Chairman of the Managing Board since Oct. 1, 2018					Manfred Hochleitner Chief Financial Officer (since July 1, 2018)			
Benefits granted (in EUR tsd.)	**2017** Target	**2018** Actual value	**2018** Target	**2018** (Min)	**2018** (Max)	**2017** Target	**2018**[2] Target	**2018** (Min)	**2018** (Max)
Fixed compensation	247	247	247	247	247		124	124	124
Fringe benefits	23	23	23	23	23		6	6	6
Total	**270**	**270**	**270**	**270**	**270**		**130**	**130**	**130**
Single-year variable compensation	142	0	144	0	384		72	0	192
Multi-year variable compensation									
Manz Performance Share Plan 2015 – Tranche 2017 (Term to 2021)	178								
Manz Performance Share Plan 2015 – Tranche 2018 (Term to 2022)		102	192	0	576				
Share Performance Bonus									
Total	**590**	**372**	**606**	**462**	**1,230**		**202**	**130**	**322**
Pension expense[1]	12	12	12	12	12		6	6	6
Total compensation	**602**	**384**	**618**	**474**	**1,242**		**208**	**136**	**328**

1 Contribution-based payments to the support fund for Martin Drasch and Manfred Hochleitner
2 The actual value for 2018 corresponds to the 2018 target value (Exception “Single-year variable compensation”: real value is 0)

	Eckhard Hörner-Marass Chairman of the Managing Board (until Sept. 30, 2018)					Gunnar Voss von Dahlen Chief Financial Officer (until March 23, 2018)			
Benefits granted (in EUR tsd.)	**2017** Target	**2018** Actual value	**2018** Target	**2018** (Min)	**2018** (Max)	**2017** Target	**2018**[2] Target	**2018** (Min)	**2018** (Max)
Fixed compensation	534	481	481	481	481	140	240	240	240
Fringe benefits	10	10	10	10	10	7	12	12	12
Total	**544**	**491**	**491**	**491**	**491**	**147**	**252**	**252**	**252**
Single-year variable compensation	151	113	274	0	730	84	144	0	384
Multi-year variable compensation									
Manz Performance Share Plan 2015 – Tranche 2017 (Term to 2021)									
Manz Performance Share Plan 2015 – Tranche 2018 (Term to 2022)									
Share Performance Bonus[3]	113	0	232	0	400				
Total	**808**	**604**	**997**	**491**	**1.621**	**231**	**396**	**252**	**636**
Pension expense[1]	0	0	0	0	0	7	12	12	12
Total compensation	**808**	**604**	**997**	**491**	**1.621**	**238**	**408**	**264**	**648**

1 Contribution-based payments to the support fund forGunnar Voss von Dahlen

2 The actual value for 2018 corresponds to the 2018 target value (Exception “Single-year variable compensation”: real value is 0)

3 The Share Performance Bonus, as distinct from the Performance Share Plan 2015, is calculated as follows: for every full percentage point that the stock market value of Manz AG on December 31, 2018 exceeds the stock market value of Manz AG on July 4, 2017, the authorized person will receive 10 thousand euros. However, the Share Performance Bonus is limited to an increase in the stock market value of Manz AG of 100 %.

The following table shows the allocation of the compensation granted to the individual members of the Managing Board in or for the reporting year and the previous year in accordance with the recommendations of the German Corporate Governance Code.

	Martin Drasch Chief Operations Officer Chairman of the Managing Board since Oct. 1, 2018		Manfred Hochleitner Chief Financial Officer (since July 1, 2018)	
Allocation (in EUR tsd.)	**2018**	**2017**	**2018**	**2017**
Fixed compensation	247	247	124	
Fringe benefits	23	23	6	
Total	**270**	**270**	**130**	
Single-year variable compensation	0	100[1]	0	
Multi-year variable compensation	–	–	–	
Other	0	0	0	
Total	**270**	**370**	**130**	
Pension expense[2]	12	12	6	
Total compensation	**282**	**382**	**136**	

1 Individual discretionary bonus in the 2017 financial year for the 2016 financial year.
2 Performance-based payments to the support fund for Martin Drasch und Manfred Hochleitner.

	Eckhard Hörner-Marass Chairman of the Managing Board (until Sept. 30, 2018)		Gunnar Voss von Dahlen Chief Financial Officer (until March 23, 2018)	
Allocation (in EUR tsd.)	**2018**	**2017**	**2018**	**2017**
Fixed compensation	361	534	60	140
Fringe benefits	0	10	3	7
Total	**361**	**544**	**63**	**147**
Single-year variable compensation	113[2]	0	0	0
Multi-year variable compensation	–	–	–	–
Other	0	0	0	0
Total	**474**	**544**	**63**	**147**
Pension expense[1]	0	0	3	7
Total compensation	**474**	**544**	**66**	**154**

1 Performance-based payments to the support fund for Gunnar Voss von Dahlen
2 Compensation of the annual cash bonus for the financial year 2018

Supervisory Board Compensation

The Supervisory Board compensation regulated in the Articles of Incorporation was amended by a resolution of the Annual General Meeting on July 3, 2018.

According to the regulation in force until July 3, 2018, each member of the Supervisory Board receives a fixed compensation payable after the end of the financial year amounting to 12,000.00 euros, in addition to the reimbursement of expenses. The compensation for the chairperson of the Supervisory Board is 24,000.00 euros, while, for the deputy chairperson, it is 18,000.00 euros. Supervisory Board members that are only members during a portion of a fiscal year receive proportionately less compensation.

The applicable rules since July 4, 2018, stipulate that each member of the Supervisory Board receives a fixed compensation of 16,000.00 euros, payable after the end of the financial year. The members of the Supervisory Board receive an additional fixed compensation for each financial year for their work on Supervisory Board committees, which amounts to 8,000.00 euros for each member of a committee. Committee activities shall be considered for a maximum of two committees. In addition, the members of the Supervisory Board receive an attendance fee of 1,500.00 euros for each attendance at a meeting of the Supervisory Board and its committees. Attendance fees shall be granted only once when several sessions take place in one day. The Chairman of the Supervisory Board receives three times the aforementioned compensation. His deputy receives double the fixed compensation mentioned in the first sentence.

The company also reimburses Supervisory Board members for any VAT to be paid on their compensation. Moreover, the company can insure Supervisory Board members at its own expense against civil and criminal recourse in connection with the execution of their official duties; the company can also take out corresponding liability insurance against legal expenses and property loss (D&O insurance).

The following table provides an overview of the compensation paid to individual members of the Supervisory Board for performing their duties in the 2018 fiscal year (previous year's values in parentheses):

Supervisory Board Compensation in Fiscal Year 2018

(in EUR tsd.) previous year's figures in brackets	
Prof. Dr. Heiko Aurenz, Chairperson	74.62 (24)
Prof. Dr.-Ing. Michael Powalla Deputy Chairperson of the Managing Board until July 3, 2018	18.51 (15)
Dieter Manz Deputy Chairman from July 3, 2018	33.27 (4)
Dr. Zhiming Xu	15.47 (2)
Total	**141.87** (57)

Furthermore, the company also covered the cost of D&O insurance for each member of the Supervisory Board.

As in the previous years, no loans or advances were granted to members of the Supervisory Board and no contingencies were entered into for their benefit.

KNOWLEDGE EDUCATION TRAINING

The best possible qualification for us is the key to sustainable success. Against this background, we maintain a variety of programs and initiatives for the further qualification of our employees and executives. We also want to establish the professional development opportunities of our global employees in a more diverse manner with the promotion of the international, internal job market.

Dual

Education is an investment in the future

Dual training and dual studies are very important to Manz AG. The internationalization of the dual training concept is also of great importance to us as a globally operating company. For example, at the location in Slovakia, in close cooperation with the German training department, a successful commercial/technical training structure based on the German model has been established.

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Qualification means you never stop learning

Lifelong learning is an essential part of our sustainability strategy. We offer a broad range of training and further education measures, as well as subject-specific qualification measures, as part of the Manz Academy. In 2018, a total of 32,132 hours of training were held. On average, each employee received 20.9 hours of training.

"The top tier" is also further developed

"Future Leadership@Manz" is a new program for the management level in the company, in the framework of which a common, cross-location understanding of leadership is developed.

REPORT ON OPPORTUNITIES AND RISKS

RISK MANAGEMENT AND INTERNAL MONITORING SYSTEM

The goal of Manz AG's risk management system is to identify possible risks early on and to initiate appropriate measures to avert any threat of damage. Manz AG is in a position to identify potential dangers throughout the group in good time, to evaluate and counteract them with appropriate measures by applying risk management integrated in the corporate management. In the course of its entrepreneurial activities, i.e. in the interplay between opportunities and risks, Manz AG also consciously takes risks that are commensurate with the expected benefit from the corresponding business activity. As such, risks cannot be completely avoided, but they are minimized or transferred where possible.

Risk management is managed centrally by the Risk Management Officer, reviewed regularly for effectiveness and appropriateness, and they are the complete responsibility of the CFO. Responsibility for risk monitoring, on the other hand, is decentralized and, depending on the risk category and scope, is the responsibility of both the division heads and managing directors as well as Manz AG's Managing Board members. Regular written and oral inquiries are used to detect potential risks in all business segments and, at the same time, they also provide the opportunity to take prompt countermeasures to prevent any negative developments. The Managing Board and the Supervisory Board are presented with an overall report at regular intervals for a comprehensive assessment of the risk situation.

The regular analysis and assessment of risks is based on a risk management system consisting of a defined group of risk managers, defined risk categories and a risk classification that reflects the potential danger and urgency of the need for action. The identification and handling of risks is anchored in the corporate principles and defined as the task of all Manz AG employees. Integrating the company's entire workforce enables risks to be identified quickly and communicated to the appropriate risk officer, who must then take appropriate steps in accordance with the principles of action defined across the Group. The risks are grouped for the most comprehensive possible coverage according to the topical industry risks, operating risks and financial risks.

These are assigned the following categories:

Industry risks
- Macroeconomic risks
- Risks from increasing competition
- Risks from rapid technological change and from launching products

Operating risks
- Project risks
- Dependency on key accounts

- Technological risks
- Personnel risks
- Risks arising from the use of IT systems

Financial risks
- Liquidity and financing risks
- Currency risks

In addition to this risk management system, as part of the planning process based on continuous technology and market observation, further activities are taking place both for risk identification and mitigation and for identifying opportunities.

The effectiveness and appropriateness of our risk management system have been assessed by the public auditors. He noted that the Managing Board has taken the measures required under Section 91 (2) AktG, in particular with regard to the establishment of a monitoring system, in an appropriate manner, and that the monitoring system is capable of identifying developments that endanger the continued existence of the company at an early stage. Manz AG thereby fulfills the requirements of the German Control and Transparency in Business Act (KonTraG).

Risk management system for the accounting process (Section 289, Paragraph (4) and Section 315, paragraph (4) HGB)

The goal of Manz AG's risk management system as it pertains to the accounting process is to identify and assess risks that might conflict with the compliance of the consolidated financial statements with the rules. Risk management encompasses the entirety of the organizational regulations and measures for detecting risks and for dealing with the risks associated with entrepreneurial activity. With regard to the accounting process, Manz has implemented the following structures and processes:

The CFO has total responsibility for the company's internal monitoring and risk management system as it pertains to the accounting process. All of the companies included in the consolidated financial statements are integrated via a defined management and reporting organizational structure. The separate financial statements of Manz AG and its subsidiaries are prepared in accordance with the corresponding national legislation and reconciled in financial statements in accordance with IFRS.

Uniform accounting and valuation based on the rules applicable to the parent company is ensured by the group accounting guidelines and the consolidated financial statements and adjusted at regular intervals to current external and internal developments. Furthermore, companies in the Group are prescribed report packages that they are required to prepare. The SAP SEM-BCS tool is used for the monthly consolidation process. Automatic plausibility checks are already carried out during data collection in order to test the consistency of the data. Consolidation measures and monitoring of adherence to chronological and process-related requirements are carried out by members of the consolidation department at Group level. Additional monitoring activities at Group level include analyzing, and if necessary, adjusting the separate financial statements submitted by the Group's subsidiaries, in accordance with the reports submitted by the auditors. Key elements of the company's strategy for monitoring risks in the accounting process also include the functional separation between entry, verification, and approval, as well as a clear allocation of responsibilities in the departments in question. The use of SAP as an IT financial system is another important means of systematically preventing errors. Furthermore, the company uses a dual control system at all process levels. If there are special issues of a technical or complex nature, the company also involves external experts. Further monitoring activities include analyzing and conducting plausibility checks on transactions as well as continuously monitoring project calculations. The illustrated structures, processes and features of the internal control and risk management system ensure that Manz AG's financial reporting is consistent and in accordance with legal requirements, generally accepted accounting principles, international accounting standards and consolidated internal guidelines. The Managing Board considers the established systems, which are reviewed annually for their ability to optimize and develop, to be appropriate.

Any potential improvements identified are implemented by the Managing Board in conjunction with Manz AG's employees.

RISK REPORT

Industry risks

Macroeconomic risks

Overall and financial developments in the central sales markets of Manz AG, especially in the main sales region Asia with China as the leading economic power, can have negative effects on business development. The possibility of Brexit could have negative effects on the future initiation of potential business deals. Planned investments in the target industries of Manz AG could be delayed due to financing bottlenecks. In addition, the refinancing of listed companies via the capital market might become much more difficult. There is a risk that potential customers of Manz AG, in general, do not have the necessary capital available for investment in new equipment. Manz operates a continuous market and competitive observation and analysis to detect such developments at an early stage. The flexibility of the entire corporate organization, the expansion of the product portfolio, the customer base and global sales capacities, and the focus on growth markets of the three core regions of Asia, Europe and the United States make it possible to react quickly to changes in the market environment. Together with the increase in productivity along the entire value chain and the associated increase in profitability, these risks are kept manageable by the company.

Risks from increasing competition

Existing and potential competitors, especially Asian manufacturers, could seek to gain market share in Manz AG's target industries, notably through aggressive pricing, imbalances through local tax and subsidy policies by states and governments, or through import restrictions to support national companies. Another risk is the manufacturer of copies in Asia. This could have a direct impact on the service, revenue and earnings situation of Manz AG and on the associated development of the market shares of the company. In order to counteract these risks effectively, the newly created „Market Intelligence" division constantly conducts market and competitive surveys, which are discussed in detail in international sales meetings on a quarterly basis and serve as a basis for possible countermeasures. Furthermore, the CRM system (Customer Relationship Management System) provides leading indicators for assessing future market development. A detailed analysis of lost projects provides clarity about the competitive situation in a timely manner. The process of „product identification, development, and market introduction" introduced in 2017 also aims to provide the necessary competitive edge in growth markets with strategic innovations and to further accelerate the expansion of Manz AG's technological leading market position. With its local facilities in Taiwan and China, the associated production costs that are standard for the local area, and direct customer contacts, Manz counteracts any churn to domestic competitors.

Risks from rapid technological change and from launching products

To maintain its technological leading market position, research and development activities as well as an innovative product portfolio are of key importance to the company. The industries for which Manz AG develops and manufactures its machines and equipment are characterized by rapid technological change. Through the development of the corresponding new technologies or better market knowledge or structures, competitors of Manz AG could succeed in reacting more quickly or better to changed customer requirements and thus achieve a competitive advantage over Manz AG. In these cases, the demand for the products of Manz AG could be significantly impaired. Furthermore, the Manz Group could develop machines and equipment for which there is little or no demand on the market.

Manz AG maintains close contact with its customers and can thus identify new trends at an early stage. The proximity to the customer further enhances Manz AG through the constant expansion of the associated service business, in particular with after-sales service. The company carefully examines possible market potential in advance in order to estimate the returns of development projects and thus make the best possible use of resources. Manz AG also counters the basic risk involved in the development and introduction of new products for individual customers by expanding its product portfolio to include machine components that can be modularly customized to assemblies or complete production machines.

Operating risks

Project risks

Project risks relate primarily to non-standardized major contracts. Risks arise here from the possible failure to meet the planned costs and the timetable, the non-fulfillment of acceptance criteria, as well as from order cancellations and the associated non-acceptance of orders and the resulting contract risks. By expanding the share of standardized machine components in the product portfolio, which can be modularly customized to modules or entire production machines according to the customer's requirements, Manz AG intends to reduce the aforementioned project risks overall.

Project risks also exist, in particular with regard to contracts concluded with Shanghai Electric Group and China Energy Investment Corporation Limited for the supply of a CIGS production line, and a CIGS research line with a total order volume of 263 million euros. Project handling risk is reduced through the use of external project management experts experienced in such major projects, some of whom are also temporarily engaged, as well as through a monthly steering committee, which also includes all members of the Managing Board. The financial risk is reduced through agreed advance payments made by the principals to Manz AG.

Dependency on key accounts

The development of production planning for industrial operations often entails significant levels of contract volume for individual projects and customers. Manz AG generated more than 50 % of its revenue from 3 customers in fiscal year 2018, with handling major CIGS orders being especially important in this respect. If a large customer is lost and it is not possible to compensate for this loss, this could have negative effects on the company or goodwill value of holdings. For this reason, Manz pursues the goal of balancing the order structure. Standard machines, as well as „small lines" and large-scale projects (> 10 million euros single order) should balance each other, thereby avoiding the risk of negative effects in case of a decline in major customers by broadening the customer base and diversifying project volumes of the business model into markets, regions as well as products and services within the whole group.

Technological risks

In the company's opinion, the Manz Group has a leading market position in the key technologies of its portfolio. In particular, in their Electronics and Energy Storage segments, a number of other companies are active, which try to make up for the technological advantage of the Manz Group and thereby threaten this market position. Manz therefore depends on continuously developing new and future-oriented production equipment. Due to the recent occasional rapid technological development and the intensive efforts of the competitors, there is the risk that the company will not be able to do the same in both segments at the same time, in particular to carry out time-consuming and costly development projects to the extent required to maintain a leadership role and market position. Manz endeavors to reduce this risk by continually improving the Group's financial and earnings position, while also strengthening the business with standard products and system solutions based on a modular system.

Personnel risks

Qualified and motivated managers and employees are crucially important to the success of a high-tech equipment manufacturer. The departure of executives or key employees could have a negative impact on the company's business performance, thereby affecting its net assets, financial position and operational results. At the same time, there is also a risk that the company will not be able to hire a sufficient number of new, suitable executives or additional employees. Manz creates a positive working environment with measures such as flexible working time models or employees' financial participation in the success of the company, and can therefore retain employees and expertise in the company in the long term. As a listed company, Manz AG enjoys greater attention from potential employees than do unlisted companies. This allows Manz AG to better present the company and its offering to employees, such as flat hierarchies, exciting activities and flexible working hours. However, it also brings extra attention in economically challenging times, which can temporarily make it harder to recruit. Another positive aspect of stock market listing is the ability to bind employees more closely to the company through the issue of shares and a corresponding profit share.

Risks arising from the use of IT systems

The main business area of the Manz Group is not in the IT area. Nevertheless, IT systems and Internet connections are of central importance to Manz as an international company in day-to-day operations. Against this background, and in view of generally rising cybercrime, the security and reliability of data, networks and systems is essential. Manz counters the risks of possible attacks with constant monitoring and the use of protection systems and regular training and further education. The Manz Group prevents technical disruptions through modern data structures and systematic backups. Manz understands IT security as a continuous process and continuously evaluates new risks and security options.

Financial risks

Liquidity and financing risks

The parent company Manz AG currently has no cash credit lines. Discussions with financial institutions regarding the procurement of new credit lines are currently on-going. The subsidiaries in Slovakia, Hungary, Italy, China and Taiwan are financed primarily through short-term overdraft facilities and, to a lesser extent, long-term loans. On the reference date December 31, 2018, the Manz Group had available unchanged credit lines of 14.6 million euros (previous year: 14.0 million euros).

The Manz companies are required, where possible, to process orders to stay cash-positive in order to reduce liquidity and financing risks. Here, the deposits should exceed the payouts over the entire term of the respective project.

As normal for project business, a delay of incoming order or down payments has a significant effect on the liquidity of the relevant company and also on the Group. In order to quickly detect these risks from delayed down payments, the Manz Group works with rolling liquidity forecast, which is updated every two weeks.

Based on the current corporate planning, the Managing Board assumes that Manz AG will be able to fulfill its payment obligations for the 2019 and 2020 fiscal years.

Currency risks

Manz AG's currency risks arise from operating activities. These transactions of the Asian companies in USD and EUR mainly pertained to the sale of machinery In the fiscal year 2017. The transaction-based currency risk is fundamentally – where necessary and possible – through forward exchange transactions. Furthermore, economic currency risk is generally also reduced by distributing the production locations over several countries (natural hedging).

OPPORTUNITIES REPORT

Industry focus with competitive and customer-oriented, innovative technology portfolio

With many years of proven expertise in automation, laser processing, vision, metrology, wet chemistry and roll-to-roll processes, Manz AG is active in the Solar, Electronics and Energy Storage business segments. Manz AG offers a broad portfolio of innovative products to producers and their suppliers in a wide variety of industries worldwide. This includes customer-specific production systems right up to machines that can be intelligently linked together to form complete, individual system solutions based on a modular system. Manz AG also offers services around its core technological competencies. With diversification across technologies, industries and regions, with the stability needed for sustainable business development, production capacity can be adjusted according to the investment cycles of individual industries and efficiently leveraged by other segments within the Group. At the same time, this diversified business model gives the company the opportunity to benefit from the growth potential of several dynamic target markets. From a stable base, Manz is thus giving the entire business model entrepreneurial flexibility to react quickly to market developments and take profitable advantage of growth opportunities.

Sustainable competitiveness and profitability through profitable growth

Manz AG's diversified business model forms the basis for sustainable stability and steady, profitable growth. With the aim of significantly expanding the customer base and thus further stabilizing the business model, Manz AG decided in mid-2017 for all business segments to significantly increase the share of modular machines in the product portfolio in addition to customized solutions. These modular machines can be intelligently linked to complete, individual system solutions based on a modular system. This step significantly reduces development risks, effort and duration and thus significantly shortens the depreciation of development efforts (RoI). At the same time, this creates synergy effects for Manz AG which increase the productivity of the entire Group.

Cost-conscious corporate management is of great importance. To this end, we are working consistently on further cost optimization, including through improved cost transparency, responsibility and control, strategic product development, improved sales structures, optimized capacity utilization of all locations, more efficient internal processes. With its diversified business model and the measures taken, Manz AG sees itself on the right track to remain competitive and profitable in the long term.

Cross-segment technology deployment offers synergy effects and flexibility

In developing its production systems, Manz AG carries out an active technology transfer between the relevant target industries. By applying its comprehensive technological expertise across industries, Manz AG can offer its customers innovative production solutions. Manz thus makes a significant contribution to minimizing the manufacturing costs for its customers, and contributes significantly to economic production. At the same time, the synergy effects achieved between the business segments contribute to increasing productivity and profitability of the Manz Group. Utilizing synergy effects between the individual business segments also enables Manz AG's business model to be flexible in its response to new growth trends and sales markets with additional revenue and earnings potential while, at the same time, making it possible to permanently reinforce the company's good competitive position as an innovation leader.

Strategic cooperation with Chinese partners opens up growth potential

By entering into the strategic cooperation agreement between Manz AG, Shanghai Electric Group, and the China Energy Investment Corporation Limited at the beginning of 2017, the partners have formed a unique worldwide strategic cooperation in the CIGS thin-film sector, in which they have bundled their individual strengths. China Energy Investment Corporation Limited is one of China's largest energy producers. Shanghai Electric is China's leading supplier of equipment to generate electricity, with extensive experience in the renewable energies sector. As a high-tech equipment manufacturer and PV pioneer, Manz AG has contributed its CIGS technology with a record efficiency of 22.6 % on a standardized laboratory cell format and its unique CIGS research team to this cooperation. By combining their complementary expertise in power generation, large-scale equipment and plant manufacturing, and world-class leading edge technology, the partners form a strong alliance to further develop and commercialize CIGS technology in China and around the world. Manz AG is directly and indirectly the exclusive distribution partner.

As part of the strategic cooperation agreement, Manz AG also received two major CIGS contracts with a total volume of 263 million euros. The realization of the orders, which began with the first payment at the end of May 2017, continues to proceed according to plan, and Manz has been able to reach all significant milestones on schedule. By August 2018, Manz AG had received several installments of around 75% of the agreed total payments. Due to customer-induced delays in the overall project, Manz expects CIGS*fab* to start production in the fourth quarter of 2019, and CIGS*lab* will start production by the middle of 2020. In view of the positive project progress to date, the opportunities for follow-up orders are good from the Managing Board's point of view. The cooperation with anchor investor Shanghai Electric generally provides Manz AG with improved access to the Chinese market, and also creates further medium-term growth potential in the Energy Storage business segment, with the future electromobility and stationary energy storage trends, and also in the strategic Electronics business segment.

Assessment and Summary of the Risk and Opportunity Situation

Manz AG's risk portfolio consists of risks that can be influenced by the Group as well as risks that cannot be influenced, such as economic activity and sector development. The company regularly monitors and analyses the situation in these areas. Risks that can be controlled are strategic, operational and financial risks that are to be identified at an early stage by means of appropriate monitoring and control systems and thus avoided. Significant risks, which are likely to have serious negative effects on the ecological or social aspects, cannot be deduced from the business model of Manz AG.

The identification of risks and opportunities has not given rise to any risks that could jeopardize the continued existence of the Group or its individual subsidiaries for the fiscal year 2018 or for the forecast period 2019. Risks that endanger the continued existence of the company are defined as risks with a probability of occurrence of more than 60% and a financial impact on EBIT of more than 20 million euros.

In the fiscal year 2018, the overall risk and opportunity situation improved slightly compared with the previous year. The risks and their possible effects are known, as are the measures to be introduced. The resulting opportunities are analyzed and, if necessary, implementation is initiated. Risks that arise in the fiscal year 2019 (forecast period) and could lead to deviations in the development of revenue and/or earnings are evaluated as follows:

Risks	Impact	Likelihood of occurrence	Net risk in millions of euros
Industry risks			
Macroeconomic risks	■■	■	1.25
Risks from increasing competition	■■	■■■	3.75
Risks from rapid technological change and from launching products	■■	■■■	3.75
Operating risks			
Project risks	■■■	■	5
Dependency on key accounts	■■■	■	5
Technological risks	■■■	■	5
Personnel risks	■■	■■■	3.75
Risks arising from the use of IT systems	■■	■	1.25
Financial risks			
Liquidity and financing risks	■■■	■	5
Currency risks	■■	■	1.25

Opportunities	Impact	Likelihood of occurrence
Comprehensive innovative technology portfolio	■■■	■■■
Competitiveness and profitability through profitable growth	■■■	■■■
Cross-segment technology deployment	■■■	■■■
Strategic cooperation with Chinese partners	■■	■■■

■ low ■■ moderate ■■■ high

The Managing Board of Manz AG thus fulfills its obligation to inform the Supervisory Board and shareholders about the opportunities and risks of the company. It regards this reporting as an important element of corporate governance in practice.

From today's perspective, there are no risks to the future development of Manz AG that could have a significant material adverse effect on the Group's earnings, financial position and net assets.

FORECAST REPORT

ECONOMIC AND SECTORAL OUTLOOK

According to the Kiel Institute for the World Economy, the slowdown in the global economy will continue in 2019 as well. Overall, however, the major economies remain on a somewhat slower growth curve. An impending tightening of trade conflicts of the recent past is mentioned as the most important influencing factor. The imminent exit of Great Britain from the EU poses another risk to the economy if a UK-EU27 settlement is not found in time. Against this background, global economic growth of 3.4 % is forecast for 2019, after 3.7 % in 2018. At 2.5 % (2018: 2.9 %), the US is growing more slowly than the global average, as is Europe at 1.7 % (2018: 1.9 %). Germany itself is defying the global trend and after a growth rate in 2018 of 1.5 % is now expected to grow by 1.8 % in 2019. Economic growth in China will be weaker again in 2019 than previously, with Kiel's economists expecting only 6.1 % growth (2018: 6.6 %). The German Mechanical Engineering Industry Association (VDMA) also expects 2.0 % revenue growth for the German mechanical engineering industry in 2019 to be weaker than in 2018 (5.0 %). The Chinese market, which is important for Manz, is defying the global trend and revenue is expected to grow by 3 % in 2019 (2018: 2.0 %).

In the important customer segments of Manz AG, German manufacturers of PV production equipment are more subdued than last year and expect an average increase in revenue of 1.2 % (2018: 4.2 %). IHS Markit once again expects a significant increase in newly installed capacity of 123 GW in 2019 (2018: 104 GW).

According to the German Mechanical Engineering Industry Association (VDMA), German electronics manufacturers expect revenue to increase by 5.1 % in 2019 (2018: 6.4 %). IHS Markit expects a slight year-on-year increase of 1.7 % in 2019 in the global market for LCD and AMOLED displays, following a market correction and the associated decline in revenue in the past year. The share of revenue is shifting slightly in favor of the AMOLED displays, for which a revenue share of 21 % is expected in 2019 (2018: 18 %). The revenue share of LCD displays in the market as a whole is therefore decreasing slightly from 81 % in 2018 to now 77 %. According to Prismark, global printed circuit boards revenue should grow by 2.9 % in 2019 compared to the previous year (2018: 3.8 %). For mechanical engineering companies' creation of value relating to electric powertrains, the VDMA expects a growth rate above 20 % again for 2019.

In the Energy Storage segment, German manufacturers expect revenue to increase by 22 % in 2019, in comparison to 19 % in the previous year, according to VDMA. Global demand for lithium-ion batteries is also expected to grow strongly after several very dynamic years. This market is likely to be influenced by the strong development of automotive applications and to have a corresponding dynamic in 2019.

COMMENT ON 2018 GOAL ACHIEVEMENT

Based on Group revenue of 266.1 million euros in fiscal year the 2017, the Managing Board of Manz AG had forecasted an increase in revenue of 10–14% for the year 2018. This forecast was achieved with revenue of 296.9 million euros, which corresponds to 11.6% revenue growth. The forecast was also met in terms of earnings, with an EBIT of 1.7 million euros before the negative special effect of the cable fire in Taiwan.

Revenue remained slightly below expectations in the Solar segment at 105.0 million euros. This is due to a customer-induced delay in CIGS major orders and a shift to 2019 in corresponding revenue. The forecast EBIT margin of 4–6%, however, was significantly exceeded by 13.7%.

The projected revenue growth in Electronics segment of 2–7% was achieved, with growth of 6.0%. Due to the delayed issuance of a follow-up order from the automotive industry, expenses for developing new markets and a changed product mix made EBIT of –12.0 million euros –albeit significantly improved compared to the previous year – fall short of expectations.

The Energy Storage segment shows strong revenue growth of 48.3%, significantly exceeding the forecast for 2018. The segment EBIT was –9.9 million euros, significantly higher than in the previous year and in line with expectations.

The Contract Manufacturing business segment also performed well, exceeding expectations with revenue growth of 34.7%. The Taiwanese fire resulted in a missed earnings forecast of 4–6%. Adjusted for this one-time effect, however, EBIT development was within the forecast range.

In the Service segment, both revenue trend and segment EBIT were in line with the expectations.

Revenue forecast

	ACTUAL 2017	Prognosis 2018	ACTUAL 2018	Prognosis 2019
	Revenues in million euros	Revenue trend	Revenues in million euros	Revenue trend
Group	266.1	between +10 % and +14 %	296.9	between +10 % and +14 %
Solar	104.3	between +5 % and +10 %	105.0	between –30 % and –40 %
Electronics	88.5	between +2 % and +7 %	93.9	between +30 % and +40 %
Energy Storage	23.8	between +25 % and +35 %	35.4	between +70 % and +90 %
Contract Manufacturing	32.0	between +15 % and +20 %	43.1	between +15 % and +20 %
Service	17.3	between +5 % to +10 %	19.5	between +5 % to +10 %

Earnings forecast

	ACTUAL 2017	Prognosis 2018	ACTUAL 2018	Prognosis 2019
	EBIT in million euros	EBIT development	EBIT in million euros	EBIT/EBIT margin
Group	0.6	slightly positive without special effect	–3.4	EBIT margin in low single-digit percentage range
Solar	31.0	4 % to 6 %	14.4	balanced EBIT
Electronics	–17.0	low single-digit negative million euros range	–12.0	balanced EBIT
Energy Storage	–22.7	high negative single-digit million euros range	–9.9	balanced EBIT
Contract Manufacturing	4.0	4 % to 6 %	1.2	EBIT margin in high single-digit percentage range
Service	5.6	15 % to 20 %	3.9	15 % to 20 %

EXPECTED DEVELOPMENT OF THE GROUP AND THE SEGMENTS

Based on the stable economic situatuion in the countries and markets relevant to Manz AG as well as the positive industry prospects, the Managing Board assumes that Manz AG will continue to experience profitable growth in 2019. The Managing Board expects an increase in revenue compared to 2018 of between 10 % and 14 %, a positive EBITDA margin in the mid-single digit percentage range and a positive EBIT margin in the low single digit percentage range. For the equity ratio a figure slightly above 40 % is expected. With regard to gearing, the Managing Board expects an increase of 10 to 25 percentage points due to the application of IFRS 16.

It also expects significant sales growth in the segments Electronics, Energy Storage, Contract Manufacturing and Service. In the Solar segment, the Managing Board expects a regressing revenue trend compared to the previous year, because due to the delays from the customer side in the overall project, production and follow-up orders are only predicted to start at the end of 2019. The overall positive expectations for 2019 are also substantiated by a positive development in demand intensity, in order intake and a solid order backlog of 215.2 million euros on December 31, 2018 (previous year: 222.0 million euros).

The goal of the Managing Board is to further develop the comprehensive technology portfolio on the one hand, and to strengthen and expand Manz AG's favorable market position in all segments on the other. The Managing Board believes that Manz AG's liquidity for fiscal years 2019 and 2020 will be secure, and expects a figure regarding this performance indicator slightly below last year's level.

FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements, which are based on the current assumptions and forecasts of Manz AG's Managing Board. Such statements are subject to both risks and uncertainties. These and other factors could cause the actual results, financial position, developments or performance of the Company to differ materially from the estimates given here. Our company assumes no obligation to update these forward-looking statements or adapt them to future events or developments.

Reutlingen, March 21, 2019

The Managing Board

Martin Drasch

Manfred Hochleitner

RESEARCH INNOVATION TECHNOLOGY

Over 500 engineers, technicians, and scientifically trained employees, as well as numerous partnerships with renowned universities, colleges, and institutes, demonstrate the importance of research and development at Manz. We not only ensure the sustainable development of our company with continuous innovation, but we also make a significant contribution to the success of our customers with our high-quality, demand-oriented products and services.

CONSOLIDATED FINANCIAL STATEMENT

094 CONSOLIDATED INCOME STATEMENT

095 CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

096 CONSOLIDATED BALANCE SHEET

098 CONSOLIDATED CASH FLOW STATEMENT

099 CONSOLIDATED STATEMENT OF CHANGES TO EQUITY 2017

100 CONSOLIDATED STATEMENT OF CHANGES TO EQUITY 2018

101 NOTES

102 Accounting Principles
129 Notes to the Income Statement
137 Notes to Segment Reporting
140 Notes to the Cash Flow Statement
142 Notes to the Balance Sheet
164 Reporting on Financial Instruments
176 Contingencies and Other Financial Obligations
177 Related Parties Disclosures

180 AUDITOR'S FEE

180 CORPORATE GOVERNANCE CODE

181 ASSURANCE OF LEGAL REPRESENTATIVES

182 INDEPENDENT AUDITOR'S REPORT

193 IMPRINT

CONSOLIDATED INCOME STATEMENT

(in EUR tsd.)

	Notes	2018	2017[1]
Revenues	1	296,920	266,092
Inventory changes, finished and unfinished goods		–2,420	–3,514
Work performed by the entity and capitalized	2	4,924	9,478
Total operating performance		**299,424**	**272,056**
Other operating income	3	6,746	38,397
Material costs	4	–182,520	–167,491
Personnel expenses	5	–70,231	–70,929
Other operating expenses	6	–41,316	–64,012
Share of profit (loss) of associates		–2,590	2,042
EBITDA		**9,513**	**10,064**
Amortization/depreciation	7	–12,897	–9,495
Result of operating activities (EBIT)		**–3,385**	**569**
Finance income		96	39
Finance costs	8	–1,615	–1,754
Earnings before taxes (EBT)		**–4,904**	**–1,146**
Income taxes	10	–3,116	–2,148
Consolidated net profit/loss		**–8,020**	**–3,294**
attributable to non-controlling interests	11	–261	–143
attributable to shareholders of Manz AG		–7,760	–3,150
Weighted average number of shares		7,744,088	7,744,088
Earnings per share (diluted = undiluted) in euros per share	12	–1.00	–0.41

1 Adjustment after restatement due to deconsolidation of a company

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

(in EUR tsd.)

	2018	2017 [1]
Consolidated profit or loss	**–8,020**	**–3,294**
Difference resulting from currency translation	979	945
Cash flow hedges	16	1
Tax effect resulting from components not recognized in profit/loss	–4	0
Available-for-sale financial assets	0	–670
Share of other comprehensive income from investments in associates	–30	–32
Total of expenditures and income recorded directly in equity capital with future reclassification with tax effect	**961**	**244**
Fair value through profit or loss	–3,569	0
Tax effect resulting from components not recognized in profit/loss	1,021	279
Revaluation of defined benefit pension plans	124	–352
Total of expenditures and income recorded directly in equity capital without future reclassification with tax effect	**–2,423**	**–73**
Group comprehensive income	**–9,483**	**–3,122**
attributable to non-controlling interests	–267	–135
attributable to shareholders of Manz AG	–9,215	–2,987

1 Adjustment after restatement due to deconsolidation of a company

CONSOLIDATED BALANCE SHEET

ASSETS (in EUR tsd.)

	Notes	Dec. 31, 2018	Dec. 31, 2017[1]	Jan. 1, 2017[1]
Non-current assets				
Intangible assets	13	62,328	58,666	77,762
Property, plant and equipment	14	29,160	27,595	30,519
Investment in an associated companies	15	11,763	14,201	12,841
Financial assets	16	20,006	23,575	0
Other non-current assets		523	502	694
Deferred tax assets	10	4,913	4,924	3,466
		128,693	**129,464**	**125,282**
Current assets				
Inventories	17	49,368	45,688	46,239
Trade receivables	18	30,138	82,718	67,120
Contract assets	19	51,029	0	0
Current income tax receivables		443	4	651
Derivative financial instruments	20	2	29	0
Other current assets	21	35,038	27,454	7,267
Cash and cash equivalents	22	51,006	47,845	49,718
		217,024	**203,739**	**170,995**
Total assets		**345,717**	**333,203**	**296,277**

1 Adjustment after restatement due to deconsolidation of a company

SHAREHOLDERS' EQUITY AND LIABILITIES (in EUR tsd.)

	Notes	Dec. 31, 2018	Dec. 31, 2017[1]	Jan. 1, 2017[1]
Equity	23			
Issued capital		7,744	7,744	7,744
Capital reserves		78,626	98,917	143,681
Retained earnings		44,438	32,330	–9,519
Accumulated other comprehensive income		18,696	20,151	19,987
Shareholders of Manz AG		**149,503**	**159,142**	**161,893**
Non-controlling interests		471	738	34
		149,974	**159,880**	**161,928**
Non-current liabilites				
Non-current financial liabilities	24	1,138	3,332	2,036
Pension provisions	25	7,051	7,310	7,620
Other non-current provisions	26	3,114	2,716	2,868
Other non-current liabilities		55	248	335
Deferred tax liabilities	10	4,371	3,480	2,127
		15,729	**17,086**	**14,986**
Current liabilites				
Current financial liabilities		42,173	36,130	52,390
Trade payables	27	69,683	88,874	35,977
Payments received	28	0	13,395	9,827
Contract liabilities	28	42,285	0	0
Current income tax liabilities		384	958	592
Other current provisions	29	12,034	5,142	6,521
Derivative financial instruments	20	2	7	158
Other current liabilities	30	13,453	11,730	13,899
		180,014	**156,237**	**119,363**
Total liabilities		**345,717**	**333,203**	**296,277**

1 Adjustment after restatement due to deconsolidation of a company

CONSOLIDATED CASH FLOW STATEMENT

(in EUR tsd.)

	Dec. 31, 2018	Dec. 31, 2017[1]
Consolidated net profit/loss	–8,020	–3,294
Amortization/depreciation	12,897	9,495
Increase (+)/decrease (–) of pension provisions and other non-current provisions	139	–229
Interest income (–) and expenses (+)	1,519	1,715
Taxes on income and earnings	3,116	2,148
Other non-cash income (–) and expenses (+)	–3,452	236
Gains (–)/losses (+) from disposal of assets	395	–34,806
Share of profit/loss of an associated company	2,590	–2,042
Increase (–)/decrease (+) in inventories, trade receivables, contract assets and other assets	–12,947	–17,700
Increase (+)/decrease (–) in trade payables, contract liabilities and other liabilities	24,309	62,847
Received (+)/Paid income taxes (–)	–4,130	–701
Interest paid	–1,615	–1,754
Interest received	96	39
Cash flow from operating activities	**14,898**	**15,955**
Cash receipts from the sale of fixed assets	706	725
Cash payments for the investments in intangible assets and property, plant and equipment	–11,531	–12,791
Cash receipts for the sale of consolidated entities less liquid funds withdrawn	0	48,676
Cash payments for the acquisition of subsidiaries and other business entities less liquid funds received	0	–24,221
Investments in financial assets	–4,333	–16,634
Cash flow from investing activities	**–15,158**	**–4,244**
Cash receipts from the assumption of non-current financial liabilities	657	3,700
Cash payments for the repayment of non-current financial liabilities	–2,855	–886
Cash receipts from the assumption of current financial liabilities	42,173	36,130
Cash payments for the repayment of current financial liabilities	–36,130	–52,379
Purchase of treasury shares	–82	–9
Cash payment for the repayment of fiancial leases	0	–11
Cash flow from financing activities	**3,763**	**–13,455**
Cash and cash equivalents at the end of the period		
Net change in cash funds (subtotal 1–3)	3,503	–1,743
Effect of exchange rate movements on cash and cash equivalents	64	–130
Credit risk allowance on bank deposit	–407	0
Cash and cash equivalents on January 1, 2018	47,846	49,718
Cash and cash equivalents on December 31, 2018	**51,006**	**47,846**
Composition of cash and cash equivalents		
Cash and cash equivalents	51,006	47,846
Cash and cash equivalents on December 31, 2018	**51,006**	**47,846**

The cash flow statement is discussed in the notes

1 Adjustment after restatement due to deconsolidation of a company

CONSOLIDATED STATEMENT OF CHANGES TO EQUITY 2017

(in EUR tsd.)

					Accumulated other comprehensive income								
					Components which are not transferred to profit or loss	Components which may be transferred to profit or loss							
	Issued capital	**Capital reserves**	**Treasury shares**	**Retained earnings**	Remeasurement of pensions	Available-for-sale financial assets	Cash flow hedges	Investment accounted for shares of associates	Currency translation	**Accumulated other comprehensive income**	**Equity attributable to share-holders of Manz AG**	**Non-controlling interests**	**Total equity**
As of Dec. 31, 2016	**7,744**	**143,681**	**0**	**–10,839**	**–2,047**	**0**	**–15**	**0**	**21,995**	**19,933**	**160,519**	**4,587**	**165,106**
Change due to retro-spective adjustments	0	0	0	–1,319	0	0	0	67	–122	–55	–1,374	4,553	3,178
As of Jan. 1, 2017	**7,744**	**143,681**	**0**	**–9,520**	**–2,047**	**0**	**–15**	**–67**	**22,117**	**19,988**	**161,893**	**34**	**161,928**
Consolidated net profit/loss	0	0	0	–3,150	0	0	0	0	0	0	–3,150	–143	–3,293
Other comprehensive income	0	0	0	0	–268	–475	1	–32	937	163	163	8	171
Consolidated income statement	0	0	0	–3,150	–268	–475	1	–32	937	163	–2,987	–135	–3,122
Withdrawal from Capital reserves	0	–45,000	0	45,000	0	0	0	0	0	0	0	0	0
Purchase of treasury shares	0	0	–9	0	0	0	0	0	0	0	–9	0	–9
Use of treasury shares	0	0	9	0	0	0	0	0	0	0	9	0	9
Share-based payment	0	236	0	0	0	0	0	0	0	0	236	0	236
Changes to the basis of consolidation	0	0	0	0	0	0	0	0	0	0	0	839	839
As of Dec. 31, 2017	**7,744**	**98,917**	**0**	**32,330**	**–2,315**	**–475**	**–14**	**–100**	**23,055**	**20,151**	**159,142**	**738**	**159,880**

Further information of the Statement of Changes in Equity is provided in the Note 23

CONSOLIDATED STATEMENT OF CHANGES TO EQUITY 2018

(in EUR tsd.)

					Accumulated other comprehensive income								
					Components which are not transferred to profit or loss	Components which may be transferred to profit or loss							
	Issued capital	**Capital reserves**	**Treasury shares**	**Retained earnings**	Remeasurement of pensions	Fair value through profit or loss (Previous year: Available-for-sale financial assets)	Cash flow hedges	Investment accounted for shares of associates	Currency translation	**Accumulated other comprehensive income**	**Equity attributable to share-holders of Manz AG**	**Non-controlling interests**	**Total equity**
As of Jan. 1, 2018	**7,744**	**98,917**	**0**	**32,330**	**–2,315**	**–475**	**–14**	**–100**	**23,055**	**20,151**	**159,142**	**738**	**159,880**
Effects of changing of accounting rules	0	0	0	–133	0	0	0	0	0	0	–133	0	–133
Consolidated net profit/loss	0	0	0	–7,760	0	0	0	0	0	0	–7,760	–261	–8,020
Other comprehensive income	0	0	0	0	106	–2,529	12	–30	986	–1,455	–1,455	–7	–1,462
Consolidated income statement	0	0	0	–7,760	106	–2,529	12	–30	986	–1,455	–9,215	–267	–9,483
Withdrawal from Capital reserves	0	–20,000	0	20,000	0	0	0	0	0	0	0	0	0
Purchase of treasury shares	0	0	–78	0	0	0	0	0	0	0	–78	0	–78
Use of treasury shares	0	0	78	0	0	0	0	0	0	0	78	0	78
Share-based payment	0	–291	0	0	0	0	0	0	0	0	–291	0	–291
Changes to the basis of consolidation	0	0	0	0	0	0	0	0	0	0	0	0	0
As of Dec. 31, 2018	**7,744**	**78,626**	**0**	**44,438**	**–2,209**	**–3,004**	**–2**	**–130**	**24,041**	**18,696**	**149,503**	**471**	**149,974**

Further information of the Statement of Changes in Equity in note 23

CORPORATION APPENDIX FOR FISCAL YEAR 2018

GENERAL DISCLOSURES

Manz AG has its headquarters at Steigaeckerstrasse 5 in 72768 Reutlingen, Germany. Manz AG and its subsidiaries („Manz Group" or „Manz") have many years of expertise in automation, laser processing, vision and metrology, wet chemistry, and roll-to-roll processes. Manz AG shares are traded on the regulated market (Prime Standard segment) of the Frankfurt Stock Exchange.

Manz AG's consolidated financial statements as of December 31, 2018, were prepared in accordance with International Financial Reporting Standards (IFRS), as applicable in the EU, and the supplementary provisions of German commercial law and company law to be applied under Section 315e (1) of the German Commercial Code (HGB). All mandatory standards and interpretations were taken into account. IFRS standards that have not yet become mandatory are not applied.

To aid clarity, individual items have been combined in the balance sheet and the income statement and listed separately and explained in the notes. The Manz Group's fiscal year covers the period from January 1 to December 31 of any year. The consolidated financial statements are prepared in euros. Unless otherwise stated, the disclosures in the appendix are made in thousands of euros. The income statement is prepared in accordance with the total cost method. On March 22, 2019, the Managing Board resolved to release the 2018 consolidated financial statements for submission to the Supervisory Board.

ACCOUNTING PRINCIPLES

CONSOLIDATION RANGE

The consolidated financial statements of Manz AG include all domestic and foreign companies over which Manz AG can exercise direct or indirect control. Controlling influence exists when Manz AG is exposed to, or has rights to, fluctuating returns on its investment and has the ability to influence these returns through its power over the company.

In addition to Manz AG, the following foreign subsidiaries belonged to the group of consolidated companies as of December 31, 2018:

		Participation in %
Manz USA Inc.	North Kingstown/USA	**100.0 %**
Manz Hungary Kft.	Debrecen/Hungary	**100.0 %**
Manz Slovakia s.r.o.	Nove Mesto nad Vahom/Slovakia	**100.0 %**
Manz Italy S.r.l.	Sasso Marconi/Italy	**100.0 %**
Suzhou Manz New Energy Equipment Co., Ltd.	Suzhou/PR China	**56.0 %**
Manz Asia Ltd.	Hong-Kong/PR China	**100.0 %**
Manz China Suzhou Ltd.	Suzhou/PR China	100.0 %
Manz (Shanghai) Trading Company Ltd.	Shanghai/PR China	100.0 %
Manz India Private Ltd.	New Delhi/India	75.0 %
Manz Chungli Ltd.	Chungli/Taiwan	100.0 %
Manz Taiwan Ltd.	Chungli/Taiwan	100.0 %
Manz (B.V.I.) Ltd.	Road Town/British Virgin Islands	100.0 %
Intech Machines (B.V.I.) Co. Ltd.	Road Town/British Virgin Islands	100.0 %

The financial statements of the subsidiary companies are prepared on the reporting date of the consolidated financial statements, which corresponds to the reporting date of Manz AG.

At the end of June 30, 2018, Manz China WuZhong Co. Ltd., Suzhou / PR China and Manz China Shanghai Ltd, Shanghai / PR China were liquidated. Its assets, liabilities and equity are held by Manz Asia Ltd. Hong Kong / PR China.

In addition there is a stake of over 15 % in NICE PV Research Ltd. Beijing, PR China, which is included in the consolidated financial statement according to the IFRS 9 as an equity instrument to fair value through other comprehensive income.

Adjustment of previous year´s values

Talus Manufacturing Ltd., Chungli, Taiwan was founded in 2015. Manz holds 80.5 % of the voting rights and shares in Talus, a partner holds 19.5 %. Due to the provisions of the articles of incorporation, all significant decisions regarding business activities must be unanimous. The partner also has a purchase option. Due to an adjustment, Manz has retrospectively deconsolidated the previously fully consolidated Talus Manufacturing Ltd. Control has not existed since the date of initial consolidation in fiscal year 2015.

Talus was therefore included at equity in the consolidated financial statement due to the presence of a significant influence. The previous year's numbers were adjusted accordingly. The adjustment results the following picture:

(in EUR tsd.)

	Jan. 1 to Dec. 31, 2017 published	Adjustment	Jan. 1 to Dec. 31, 2017 adjusted
Revenues	324,967	–58,875	266,092
Inventory changes, finished and unfinished goods	661	–4,175	–3,514
Work performed by the entity and capitalized	9,478	0	9,478
Overall performance	**335,106**	**–63,050**	**272,056**
Other operating cincome	38,643	–246	38,397
Material costs	–222,620	55,129	–167,491
Personnel expenses	–74,517	3,588	–70,929
Other operating expenses	–65,161	1,149	–64,012
Share of profit/loss of associated companies	0	2,042	2,042
EBITDA	**11,451**	**–1,387**	**10,064**
Amortization/depreciation	–9,895	400	–9,495
Operating earnings (EBIT)	**1,556**	**–987**	**569**
Finance income	96	–57	39
Finance costs	–1,754	0	–1,754
Earnings before taxes (EBT)	**–102**	**–1,044**	**–1,146**
Income taxes	–2,696	548	–2,148
Consolidated net profit	**–2,798**	**–496**	**–3,294**
attributable to non-controlling interests	345	–488	–143
attributable to shareholders of Manz AG	–3,143	–7	–3,150
Weighted average number of shares	7,744,088	0	7,744,088
Earnings per share (diluted = undiluted) in euros per share	–0.41	0	–0.41

Assets (in EUR tsd.)

	Dec. 31, 2017 published	adjustment	Dec. 31, 2017 adjusted	Dec. 31, 2016 published	adjust-ment	Jan. 1, 2017 adjusted
Intangible assets	58,729	–63	58,666	77,796	–34	77,762
Property, plant, and equipment	38,070	–10,475	27,595	39,395	-8,876	30,519
Interests in associated companies	0	14,201	14,201	0	12,841	12,841
Financial assets	23,575	0	23,575	0	0	0
Other non-current assets	540	–38	502	723	–29	694
Deferred tax assets	4,934	–10	4,924	3,500	–34	3,466
Inventories	62,159	–16,471	45,688	48,950	-2,711	46,239
Trade receivables	95,709	–12,991	82,718	77,726	-10,606	67,120
Contract assets	0	0	0	0	0	0
Current income tax receivables	4	0	4	651	0	651
Derivative financial instruments	29	0	29	0	0	0
Other current assets	12,271	15,183	27,454	7,651	–384	7,267
Cash and cash equivalents	72,209	–24,364	47,845	55,722	–6,004	49,718
	368,228	**–35,027**	**333,203**	**312,114**	**–15,837**	**296,277**

Liabilities (in EUR tsd.)

	Dec. 31, 2017 published	adjustment	Dec. 31, 2017 adjusted	Dec. 31, 2016 published	adjust-ment	Jan. 1, 2017 adjusted
Issued capital	7,744	0	7,744	7,744	0	7,744
Capital reserves	98,917	0	98,917	143,681	0	143,681
Retained earnings	31,018	1,312	32,330	–10,839	1,320	–9,519
Accumulated other comprehensive income	20,125	26	20,151	19,933	55	19,988
Shareholders of Manz AG	157,804	1,338	159,142	160,519	1,374	161,893
Non-controlling interests	5,549	-4,811	738	4,587	–4,553	34
Non-current financial liabilities	3,332	0	3,332	2,036	0	2,036
Pension provisions	7,435	–125	7,310	7,704	–84	7,620
Other non-current provisions	2,716	0	2,716	2,868	0	2,868
Other non-current liabilities	248	0	248	335	0	335
Deferred tax liabilities	3,480	0	3,480	2,127	0	2,127
Current financial liabilities	36,973	-843	36,130	52,379	0	52,379
Trade payables	117,509	-28,635	88,874	47,228	–11,251	35,977
Prepayments received	13,395	0	13,395	9,827	0	9,827
Contract liabilities	0	0	0	0	0	0
Current income tax liabilities	1,406	–448	958	686	–94	592
Other current provisions	5,180	–38	5,142	7,294	–773	6,521
Derivative financial instruments	7	0	7	158	0	158
Other current liabilities	13,194	–1,464	11,730	14,355	–456	13,899
Financial liabilities arising from leases	0	0	0	11	0	11
	368,228	**–35,026**	**333,203**	**312,114**	**–15,837**	**296,277**

Consolidated cashflows statement (in EUR tsd.)

	Dec. 31, 2017 published	adjustment	Dec. 31, 2017 adjusted
Consolidated profit/loss	–2,798	–496	–3,294
Amortization/depreciation	9,895	–400	9,495
Increase (+)/decrease (–) of pension provisions and other non-current provisions	–187	–42	–229
Interest income (–) and expenses (+)	1,658	57	1,715
Taxes on income and earnings	2,696	–548	2,148
Other non-cash income (–) and expenses (+)	236	0	236
Gains (–)/losses (+) from disposal of assets	–34,806	0	–34,806
Share of associate's profit/loss	0	–2,042	–2,042
Increase (–)/decrease (+) in inventories, trade receivables and other assets	–33,947	16,247	–17,700
Increase (+) / decrease (–) in trade payables and other liabilities	79,332	–16,485	62,847
Received (+) / Paid income taxes (–)	–896	195	–701
Interest paid	–1,754	0	–1,754
Interest received	96	–57	39
Cashflows from operating activities	**19,525**	**–3,570**	**15,955**
Cash receipts from the sale of fixed assets	726	–1	725
Cash payments for the investments in intangible assets and property, plant and equipment	–15,207	2,416	–12,791
Cash receipts for the sale of consolidated entities less liquid funds withdraw	48,676	0	48,676
Cash payments for the acquisition of subsidiaries and other business entities less liquid funds received	–24,221	0	–24,221
Investments in financial assets	–16,634	0	–16,634
Cashflows from investing activities	**–6,660**	**2,416**	**–4,244**
Cash receipts from the assumption of non-current financial liabilities	3,700	0	3,700
Cash payments from the assumption of non-current financial liabilities	–886	0	–886
Cash receipts from the assumption of current financial liabilities	–15,406	51,536	36,130
Cash payments from the assumption of current financial liabilities	0	–52,379	–52,379
Purchase of treasury shares	–9	0	–9
Cash payments for the repayment of financial leases	–11	0	–11
Cashflows from financing activities	**–12,612**	**–843**	**–13,455**
Cash and cash equivalents at the end of the period			
Net change in cash funds (subtotal 1-3)	253	–1,998	–1,745
Effect of exchange rate movements on cash and cash equivalents	–400	270	–130
Cash and cash equivalents on January 1	55,722	–6,004	49,718
Cash and cash equivalents as of December 31	55,575	–7,730	47,845
Composition of cash and cash equivalents			
Cash and cash equivalents	72,209	–24,364	47,845
Liquid funds as of December 31	**55,575**	**–7,730**	**47,845**

CONSOLIDATION PRINCIPLES

Acquisition accounting uses the purchase method. In this case, the acquired assets and liabilities are measured at their fair values at the acquisition date. The acquisition costs for the acquired shares are then offset against the proportionate newly measured equity of the subsidiary. Any remaining positive difference from offsetting the purchase price against the identified assets and liabilities is presented as goodwill in intangible assets. Costs incurred as part of the corporate merger are expensed and therefore do not represent any part of the acquisition costs.

If a previous subsidiary is deconsolidated, the difference between the consideration received and the outgoing net assets at the date when control is lost is recognized in profit or loss.

Expenses and income, receivables and payables as well as cash flows from transactions between consolidated companies are fully offset and subtotals eliminated. The necessary tax deferrals are carried out on consolidation processes. Furthermore, guarantees assumed by Manz AG or one of its consolidated subsidiaries in favor of other consolidated subsidiaries are eliminated.

NON-CONTROLLING INTERESTS

Non-controlling interests represent that part of the result and the net assets that is not attributable to the Group. Non-controlling interests are presented separately in the consolidated income statement and the consolidated balance sheet. They are recognized within equity in the consolidated balance sheet, separately from the equity attributable to the shareholders of the parent company.

ASSOCIATED COMPANIES

Companies on which Manz has a significant influence pursuant to IAS 28 Investments in Associates and Joint Ventures are entered into the balance sheet by the equity method and only then assessed at the acquisition costs. Manz' share in the results of the associated company is shown in the consolidated profit and loss statement. Changes to the equity of the associated company which do not have an effect on profit/loss are considered pro rata in the Group equity. The investment book value of the associated company is increased or reduced by the overall changes. The book value of the investment an all non-current shares assigned to the net investment of the associated company are consistent with the investment of Manz AG in the company.

CURRENCY CONVERSION

The financial statements of subsidiaries included in the Group which are prepared in foreign currency are translated into euros in accordance with IAS 21. The functional currency of the included companies, with one exception,is the same as the respective national currency, as these subsidiaries run their business activities independently in financial, economic and organizational respects. For a subsidiary, the functional currency differs from the national currency in euro, as significant expenses and income are incurred or generated in euros. Assets, liabilities, and contingencies are translated using the exchange rate on the reporting date, while equity is translated using historical exchange rates. The income statement is translated at the average annual exchange rate. Translation differences resulting from the translation of the financial statements are directly recognized in accumulated other equity until the subsidiary is disposed of.

In the annual financial statements of the companies included in the consolidated financial statements, foreign currency items are initially measured at cost. Exchange rate gains and losses as of the balance sheet date are recognized in profit or loss. Monetary items are valued at the closing rate on the balance sheet date.

To determine the exchange rate, which is used in the first recording of the assets, expenses or returns (or part thereof) in the charge-off of a non-monetary asset or non-monetary liability from prepaid quid pro quo services, the time of the transaction is consistent with the time of first recording of the non-monetary asset or the non-monetary liability from the prepayment. If multiple deposits or payments are made in advance, the Group will set the transaction time for each deposit or payment of a prepaid consideration.

Exchange rates of the most important currencies

(Corresponds to 1 euro)		Closing rate		Average rate	
		Dec. 31, 2018	**Dec. 31, 2017**	**2018**	**2017**
USA	USD	1.1446	1.1980	1.1811	1.1302
China	CNY	7.8733	7.7973	7.8085	7.6321
Hong-Kong	HKD	8.9653	9.3817	9.2576	8.8091
Taiwan	TWD	35.0286	35.6042	35.6126	34.4040

ACCOUNTING AND VALUATION PRINCIPLES

Manz AG's assets and liabilities and those of the subsidiaries included by way of full consolidation are recognized and measured using uniform accounting policies applicable within the Manz Group as of December 31, 2018. On the principle of this, there are two exceptions for the consolidated financial statement of Manz AG on December 31, 2018 as a result of the first application of IFRS 9 financial instruments and IFRS 15 revenue from contracts with customers. Manz utilized the relieve provisions within the framework of the transition to these standards and displayed the previous year's values according to IAS 39 financial Instruments: Recognition and Measurement as well as IAS 11 Construction Contracts and IAS 18 Revenue. Comparative periods are therefore only of limited comparison with the fiscal year 2018. The nature and effects are described below.

IFRS 9 FINANCIAL INSTRUMENTS

IFRS 9 Financial Instruments replaces IAS 39 Financial Instruments: Recognition and measurement for financial years beginning on or after January 1, 2018.

Manz utilizes the option for simplified first application of IFRS 9. This means that any conversion effects are recognized as of January 1, 2018 in retained earnings and the previous period is not adjusted.

As a result of the application of IFRS 9, the value reduction of financial assets will be reported separately in the notes . In particular, the rules on the classification and measurement of financial assets have been fundamentally revised compared with IAS 39. Financial assets are classified in accordance with IFRS 9 on the basis of the company's business model for managing financial assets and the characteristics of contractual cash flows. Depending on this, financial assets are classified and measured in the various measurement categories as follows:

- Amortized cost (AC)
- Fair Value Through Other Comprehensive Income (FVOCI)
- Fair Value Through Profit or Loss (FVTPL)
- Equity instruments classified as FVOCI. Fluctuations in fair value are recognized in other comprehensive income if designated accordingly.

IFRS 9 eliminates the previous categories of IAS 39: financial asses at fair market value through profit or loss and financial assets held for trading, investments held to maturity, financial assets available for sale, loans and receivables.

The assignment of financial assets and liabilities to the assessment categories according to IFRS 9 is shown in chapter VII. "Reporting on Financial Instruments"
The main features of the recognition of impairment losses were revised with the introduction

of IFRS 9. Accordingly, it is no longer only occurred losses that are to be reported, but also expected losses. When reporting expected losses, a further distinction is made as to whether the default risk of financial assets has deteriorated significantly since addition or not.

If there is a significant increase in credit risk at the balance sheet date since the addition of the asset, the entire expected loss over the remaining life of the instrument shall be recognized. If the default risk is not significantly increased at the balance sheet date, only the expected losses within the next twelve months have to be taken into account.

There is also an exception for assets without significant financing components, such as trade receivables and contract assets, for which the total expected loss must always be recognized over the remaining term, irrespective of the change in the default risk. If assets such as trade receivables, contract assets and lease receivables contain a material financing component, a corresponding option exists.

To implement the new depreciation requirements, valuation models have been developed that are used to determine default rates for trade receivables and contract assets. Default rates are applied under consideration of different regions. In addition, the individual default rates are reviewed by the responsible management.

The simplified impairment approach as defined by IFRS 9 is applied to all trade receivables and contract assets. Current adjustments are recognized in profit and loss in the amount of the expected credit losses for financial instruments over their lifetime. The application of IFRS 9 did not result in valuation differences for financial instruments.

Risk prevention measures for current financial assets as well as cash and cash equivalents are formed on the basis of the expected credit losses for the next twelve months. They are valued at nominal value less risk provisioning. The amount of risk provisions is based on current market data.

The change to IFRS 9 resulted in the following adjustment effect for the value allowances of financial assets as of January 1, 2018:

(in EUR tsd.)	
Value adjustments as of December 31, 2017 (according to IAS 39)	4,100
Adjustment effect recognized in retained earnings	124
Value adjustment as of January 1, 2018 (according to IAS 9)	4,224

IFRS 9 largely retains the existing requirements for the classification of financial liabilities. The first-time application of IFRS 9 had no fundamental impact on the Group's accounting policies with respect to financial liabilities and derivative financial instruments. Under IFRS 9, the hedge accounting regulations of IAS 39 can continue to be applied. Manz makes use of this right to vote.

IFRS 15 REVENUE FROM CONTRACTS WITH CUSTOMERS

IFRS 15 replaces IAS 11 Construction Contracts, IAS 18 Revenue and the associated interpretations and applies to revenue from contracts with customers with a few exceptions. The core principle of IFRS 15 is that an entity will recognize revenue to reflect the transfer of goods or services to the customer, measured as the amount to which the entity expects to be entitled in exchange for those goods or services.

IFRS 15 also regulates the financial accounting of the additional costs for the initiation of a contract and the costs directly associated with the fulfillment of a contract.

During the first application of IFRS 15 on January 1, 2018, Manz selected the modified retrospective approach. According to this, the standard can either apply to all contracts existing at the time of first application, or only to contracts that were not yet fulfilled at that time. Manz decided to apply the standard to all contracts on January 1, 2018.

The cumulative effect of the first application of IFRS 15 will be recorded on January 1, 2018 as the time of first application as an adjustment of the opening balance value of the retained earnings. Accordingly, the reference information is not revised and instead will continue to be stated pursuant to IAS 11, IAS 18 and the corresponding interpretations.

The first application of IFRS 15 on January 1, 2018 has the following effects:

(in EUR tsd.)	reference	IAS 18 / IAS 11 Dec. 31, 2017	Reclassification	IFRS 15 Jan. 1, 2018
Intangible assets	(c)	58,666	5,143	63,809
Trade receivables	(a)	82,718	–48,518	34,200
Contract assets	(a)	0	43,375	43,375
Payments received	(b)	13,395	–13,395	0
Contract liabilities	(b)	0	13,395	13,395

The type of adjustments on January 1, 2018 and the reasons for the changes in the balance sheet on December 31, 2018 and in the profit and loss calculation for the fiscal year from January 1 to December 31, 2018 are explained below.

(a) Contingent claims to consideration
Before the first application of IFRS 15, Manz reported future trade receivables from construction contracts among the trade receivables, even if the collection of the complete considersation depended on the completion of the contract. According to IFRS 15, every contingent claim on consideration should be recorded as a contract asset and not as trade receivables. Thus, in first application of IFRS 15 Manz reclassified 48,510 thousand euros from trade receivables into contract assets as of January 1, 2018.

Due to this amendment, on December 31, 2018, qualified contingent claims to consideration in the amount of 51,029 thousand euros were not recorded as trade receivables but as contract assets.

(b) Payments received
Before the first application of IFRS 15, Manz recorded a liability only for payments received until first service provision. However, according to IFRS 15 a liability has to be recognized for unconditional and simultaneously due payments received until performance obligations are rendered. To take the changed content of the post into account, on January 1, 2018 the no longer fitting post "payments received" was replaced by "Contract liabilities".

Based on this change, on December 31, 2018, payments received in the amount of 42,285 thousand euros were recorded not as payments received but as contract liabilities.

(c) Additional costs for obtaining a contract
Finally, according to IFRS 15, on January 1, 2018, additional costs for obtaining a contract in the amount of 5,143 thousand euros were capitalized as intangible assets. Until the first application of IFRS 15, these costs were recorded when they arose in the other operating expenses. In the reporting period, amortization of 2,743 thousand euros was charged.

In fiscal year 2018, additional costs of 4,747 thousand euros were capitalized for obtaining a contract for a project with an underlying project maturity of less than twelve months. Amortization on these assets amounted to 2,070 thousand euros. As a result of capitalization, other operating expenses were 4,747 thousand euros lower, while amortization increased by 2,070 thousand euros.

(d) Deferred taxes
As a result of the capitalization of the costs for obtaining a contract, the deferred tax liabilities were also increased.

In the following charts the adjusted amount for each individual affected financial statement post, which results from the comparison from the application of IFRS 15 on December 31, 2018 and for the fiscal year from January 1, 2018 to December 31, 2018 compared to the previously valid IAS 11 / IAS 18 and the corresponding interpretations. The first application of IFRS 15 did not have any significant effects on the other comprehensive income or the cash flow from operating activities, investment activities and the financing activities of the group.

The following chart compare the affected items from the balance sheet and income statement in accordance with IFRS 15 and the previous legal status in accordance with IAS 18 / IAS 11:

(in EUR tsd.)	IFRS 15 Dec. 31, 2018	IAS 18 / IAS 11 Dec. 31, 2018	deviation
Non-current assets			
Intangible assets	62,328	59,928	2,400
Current assets			
Trade receivables	30,138	78,428	–48,290
Contract assets	51,029	0	51,029
Other current assets	35,038	32,361	2,677
Equity			
Revenue reserves	44,438	45,433	–995
Current liabilities			
Payments received	0	42,285	–42,285
Contract liabilities	42,285	0	42,285

According to the legal status of IAS 18 / IAS 11, future receivables from long-term construction contracts would be a component of trade receivables, whereas they are now reported as contract assets in accordance with IFRS 15.

(in EUR tsd.)	IFRS 15 Dec. 31, 2018	IAS 18 / IAS 11 Dec. 31, 2018	deviation
Revenues	296,920	297,849	–929
Other operating expenses	41,316	46,063	–4,747
EBITDA	9,513	5,695	3,818
Amortization/depreciation	12,897	8,084	4,813
EBIT	–3,385	–2,390	–995
Earnings per share	–1,00	–0,87	–0,13

According to the legal status of IAS 18 / IAS 11, without consideration of IFRS 15, the revenues would be 297,849 thousand euros, which can be essentially traced back to the new regulation of the capitalization of contract costs. Pursuant to the former legal status these would be a part of the project costs. In accordance to the application of cost-to-cost-method to determine the stage of completion, these costs would have an impact on the revenues.

As stated by the legal basis of IAS 18 / IAS 11 the additional contract costs would have been recorded immediately into the income statement. Thus, the other operating expenses would have been increased by 4,747 thousand Euros. However the amortization would be declined by 4,813 thousand euros, since the additional contract costs would not have been capitalized and hence there would not have been recorded an amortization. According to the previous legal status, these would be a component of project costs and would influence sales revenues by applying the cost-to-cost method to determine the stage of completion.

There were no significant effects on the consolidated statement of cash flows for the 2018 financial year.

FIXED ASSETS

Intangible assets that are not acquired in a business combination are initially recognized at acquisition or manufacturing cost. The cost of intangible assets acquired in a business combination is fair value at acquisition. Following initial recognition, intangible assets are carried at acquisition or manufacturing cost, less any accumulated amortization and impairment losses. Costs for internally generated intangible assets, with the exception of capitalized development costs, are not capitalized, but recognized in profit or loss in the period in which they are incurred.

A distinction was drawn between intangible assets with a finite useful life and those with an indefinite useful life.

Intangible assets with a finite useful life are amortized on a straight-line basis over their economic useful life and checked for possible impairment, if there are indications that the intangible asset may be impaired. The period and method of amortization for intangible assets with a finite useful life are reviewed at least at the end of each fiscal year. Any necessary changes to the method or period of amortization due to changes in the anticipated useful life or to the anticipated use of the future economic benefit of the asset are accounted for as changes in estimates.

As in the previous year, the useful lives for the individual classes of intangible assets are listed below:

	Years
Software	3 to 5
Patents	3 to 8
Capitalized development costs	3 to 9
Technologies	6 to 8
Customer relationships	6 to 8

Intangible assets with an indefinite useful life are not amortized. The indefinite nature of the useful life of brands is based on the assessment that the inflow of economic benefits from these assets cannot be attributed to a specific period (further information on subsequent measurement is provided in the section entitled "Impairment test"). Goodwill and brand names from business combinations are generally not amortized.

Development costs for equipment and equipment components are capitalized as long as the conditions of IAS 38 are fulfilled. In this case, acquisition and manufacturing cost covers all the costs directly attributable to the development process, as well as a reasonable share of development-related overheads. Capitalized development costs are amortized beginning at the start of production using the straight-line method over the expected product life cycle, usually three to nine years. If capitalized development costs are not yet amortized, each individual asset or cash-generating unit is tested for impairment at least once a year. Research costs and development costs that cannot be capitalized are expensed as incurred.

Items of property, plant, and equipment are measured at cost, less depreciation in accordance with their ordinary useful life and write-downs based on impairments. Costs for repairs and maintenance are recognized as current expenses. Straight-line depreciation is carried out according to the anticipated progress of the consumption of the future economic benefit. Systematic depreciation is based predominantly on the following useful lives:

	Years
Buildings	20 to 50
Technical equipment and machinery	2 to 21
Other equipment, operating and office equipment	2 to 23

Residual values, useful lives, and depreciation methods of assets are reviewed at the end of a given fiscal year and adjusted prospectively if necessary. The parameters from 2018 correspond to the previous year.

If a considerable period of time is required for the acquisition or manufacture of a qualified asset to prepare it for its intended use, the directly attributable borrowing costs are capitalized until the asset is ready for its intended use. No borrowing costs were capitalized in the current and previous fiscal years.

IMPAIRMENT TEST

Intangible assets with indefinite useful lives such as goodwill and investments are not amortized according to a plan. However, the recoverable amount of the cash-generating unit is reviewed annually to determine whether it is impaired. These checks are based on detailed budget and forecast calculations. The underlying planning period for goodwill is three years; for financial assets five years. Intangible assets with indefinite useful lives such as goodwill are checked for impairment regularly once a year unless there are specific indications that a cash-generating unit may be impaired.

The recoverable amount is generally estimated separately for each asset. If this is not possible, it is determined on the basis of a group of assets that represents a cash-generating unit. The individual cash-generating units correspond to the management-relevant business segments (Solar, Electronics, Energy Storage, Contract Manufacturing and Service).

Capitalized development costs and other intangible assets with finite useful lives as well as property, plant and equipment are amortized over the duration of their useful lives. In addition, an impairment test is only carried out if there are concrete indications of any impairment.

In an impairment test, the recoverable amount of the cash-generating unit of goodwill is compared with the carrying amount. If the carrying amount of the cash-generating unit allocated to goodwill exceeds the recoverable amount, an impairment loss must be recognized this amount in profit or loss for the cash-generating unit.

The recoverable amount of a cash-generating unit is the higher of the two amounts from their fair market value minus sales costs and their utility values. Value in use is determined using the discounted cash flow method on the basis of the estimated future cash flows expected to arise from the continuing use of an asset and its disposal. An interest rate before taxes corresponding to market conditions is used as the discount rate.

If the reasons for an impairment that have been charged in previous years no longer apply, the impairment is reversed to the recoverable amount (with the exception of goodwill). The amount reversed must not exceed the amount that would have been determined as the carrying amount, taking any depreciation and amortization into account, if no impairment loss had been recognized for the asset in prior years.

INVENTORIES

Inventories are recognized at acquisition or manufacturing cost or the lower net realizable value, in accordance with IAS 2 Inventories. Manufacturing cost includes not only direct costs, but also appropriate parts of the necessary material costs and production overheads, as well as production-related depreciation and proportionate administrative overheads, that can be directly allocated to the manufacturing process. Where required, the average cost method is used as the simplified measurement method.

SALES REVENUES, TRADE RECEIVABLES, CONTRACT ASSETS, CONTRACT LIABILITIES AND CAPITALIZED CONTRACT COSTS (SINCE 2018)

Revenues

Manz generates revenues for all items from customer-specific construction contracts in the equipment business. The following services are performed to a limited scope.

The revenues from the service obligations to manufacture the equipment are regularly realized pursuant to the Percentage-of-Completion method (PoC method) according to the degree of completion of a contract over the service period. The service is provided over the time period of the construction of the equipment and accordingly, the revenue earned over the service period, because the equipment constructed has no alternative option for use of Manz and Manz has a legal claim to payment for the service already provided during the period of service provision. The degree of completion is calculated from the ratio of the costs accrued to the overall expected costs of an order (Cost-to-Cost method). Through this method of progress recognition, both the revenue and the associated costs are systematically recorded and thus the results are realized appropriate to the period in which the power of disposition can be transferred to the goods and services. The Cost-to-Cost method provides an accurate picture of the service progress because Manz uses and IT-supported project controlling system, which allows for a reliable estimation of planning costs and monitors overall costs. Through this, the necessary adjustments can be made to costs that do not contribute to the progress of our service provision in the fulfillment of the contractual obligations or do which are not associated with the progress of our provision of services in the fulfillment of the contractual obligations.

Sometimes the contracts with the customers have variable components for the return in the form of discounts and penaltied. In these cases, Manz determines the amount of the return that it is owed in exchange for the transfer of the goods and services to the customer. The variable return is estimated at the beginning of the contract and may only be included in the transaction price if it is highly probable that there will not be a significant cancellation of the determined cumulative revenue as soon as there is no longer insecurity in connection with the variable return.

Contract assets

A contract asset is the claim to receipt of a return in exchange for goods or services transferred to a customer. If Manz fulfills its contractual obligations by transferring goods or services to a customer before the customer performs the consideration or before payment is due, a contract asset is created for the contingent claim for consideration. For information on the application of the impairment model to contract assets, please refer to the section on financial instruments in accordance with IFRS 9 from the financial year 2018.

Trade receivables

However, trade receivables, different from a contract asset, is the implicit claim of the Group to consideration (meaning immediately payable automatically after a due date). Implicit and payable claims to prepayments are recorded as receivables. For information on the application of the impairment model to receivables, please refer to the section on financial instruments in accordance with IFRS 9 from the financial year 2018.

Contract liabilities

A contract liability is the obligation of the Group to transfer goods or services to a customer for which it receives a consideration (or will receive one). If a customer pays a consideration before the Group delivers the goods or services, this creates a contract liability when the payment is made or becomes due (depending on which comes first). Contract liabilities are recorded as revenue as soon as the Group fulfills its contractual obligations.

Capitalized contract costs

Furthermore, the additional costs for contract initiation are capitalized. These are sales commissions. The capitalized costs are amortized in a simplified linear manner over the planned duration of the project. Value reduction expensed on capitalized contract initiations costs are recorded effective immediately if the residual book value of the capitalized contract initiation costs is higher than the remaining part of the consideration minus the costs immediately associated with the delivery of the goods or provisions of services and which have not yet been recognized in the income statement.

CONSTRUCTION CONTRACTS (UNTIL 2017)

Manz generates most of its revenues from construction contracts that were accounted for using the percentage-of-completion method (PoC method) until financial year 2017 in accordance with IAS 11. In this case, revenue and expected margins were recognized in proportion to the stage of completion of a contract. This calculation was based on the contract revenue as agreed with the customer and the expected contract costs. The stage of completion of a contract, which determines what portion of revenue is recognized, was determined based on the ratio between the order costs accrued as of the reporting date and the calculated total costs (cost-to-cost method). As a result of this accounting method, both revenues and the related costs were realized in the period in which they were generated or incurred.

If the total of incurred contract costs and disclosed profits exceeded payments received, the construction contracts were recognized on the asset side under future receivables from construction contracts as a component of "Trade receivables." A negative balance was reported under "Payments received." Expected losses from custom construction contracts were accounted for as an expense in the full amount by writing off capitalized assets and, in addition, recognizing provisions.

Other revenue was recognized, in accordance with IAS 18, “Revenue,” once the relevant opportunities and risks have been transferred. This was usually the date on which the finished goods or merchandise were delivered or the services rendered.

FINANCIAL INSTRUMENTS IN ACCORDANCE WITH IFRS 9 FROM THE 2018 FINANCIAL YEAR

A company shall recognize a financial asset or financial liability in its balance sheet when it becomes a party to the financial instrument. A financial asset is recognized as such if a contract gives the right to receive cash or another financial asset from the other contract party. Common market purchases and sales of financial assets are recognized at the time the risks and rewards are transferred. A financial liability is recognized as such if the obligation to transfer cash or other financial assets to the other party arises from a contract. A financial instrument is initially measured at fair value. Transaction costs are included. Financial instruments were subsequently measured either at amortized cost or at fair value through profit or loss.

FINANCIAL ASSETS

Other non-current assets, financial assets, trade receivables against third parties and associated companies, derivative financial assets, other current financial assets and cash and cash equivalents are classified as financial assets. The first valuation occurs for the fair value including the transaction costs accrued, if the financial instruments are not classified under the category of Fair Value.

The fair values of the financial assets recognized in the balance sheet commonly correspond to the market prices of the financial assets. The classification and, derived from this, the valuation are carried out in accordance with the underlying business model and the contractually agreed cash flow conditions.

Valuation of financial assets and contract assets

In accordance with IFRS 9, an impairment test is performed on financial assets at each balance sheet date. To determine the impairment requirement, the expected losses are considered over the duration of the entire term. For all other financial assets, the expected losses are considered over a period of twelve months if there are no indications of an increase in credit risk.

FINANCIAL LIABILITIES

Financial liabilities include primary and derivative liabilities with a negative fair value. Primary financial liabilities are measured at fair value upon initial recognition. Subsequent measurement is at amortized cost or, regarding contingent purchase price rates to fair value. Derivative financial liabilities are measured at fair value through profit or loss. Manz makes use of derivative financial instruments to hedge future cash flows (cash flow hedges). In this case, at the start of the hedging relationship, the relationship between the hedged item and the hedge was documented, including the risk management objectives. In the first application of IFRS 9 on January 1, 2018, the voting right still existed to follow the Hedge Accounting provisions of IFRS 9 or to continue to use those of IAS 39. Manz decided to continued to use the Hedge Accounting provisions according to IAS 39.

FINANCIAL INSTRUMENTS ACCORDING TO IAS 39 UNTIL FINANCIAL YEAR 2017

According to IAS 39, a financial instrument is any contract that gives rise to a financial asset at one company and a financial liability or equity instrument at another company. If the trade date of a financial asset can differ from the settlement date, the settlement date determines initial recognition. A financial instrument was initially measured at fair market value. Transaction costs were included. In terms of subsequent measurement, financial instruments were recognized either at their fair value or at amortized cost.

IAS 39 distinguished between financial assets in the categories for the valuation:

- Financial assets at fair market value through profit or loss and financial assets held for trading
- Investments held to maturity
- Financial assets available for sale
- Loans and receivables

Financial liabilities are assigned to the following two categories:

- Financial liabilities at fair value through profit or loss
- Financial liabilities measured at amortized costs

Fair value corresponded to the market or exchange price as long as the financial instruments to be measured are traded in an active market. If there was no active market for a financial instrument, fair market value was established using suitable financial valuation methods, such as recognized option pricing models or discounted future cash flows using the market rate of interest and checked by confirmations from banks that handle the transactions. Amortized cost corresponds to the acquisition costs less repayments, impairments and the amortization of a difference between the acquisition costs and the amount repayable on maturity, which was taken into account in accordance with the effective interest method. Financial instruments were recognized as soon as Manz became a contractual party to the financial instrument. The financial instrument was generally derecognized if the contractual right to cash flows expired or this right was transferred to a third party.

PRIMARY FINANCIAL INSTRUMENTS (UP TO 2017)

The original financial instruments particularly included receivables from customers and cash and cash equivalents, as well as financial liabilities and trade payables. Primary financial instruments were initially recognized at their fairvalue. At initial measurement, fair market value corresponded, in principle, to the transaction price; i.e., the consideration given or received.

After initial recognition, primary financial instruments were measured either at their fair market value or at amortized cost, depending on the category to which they belong.

Loans and receivables were generally carried at amortized cost, less impairment. Impairments were charged if there is objective evidence for such. Evidence of impairment may exist if there are signs that the debtor or a group of debtors is in considerable financial difficulties, if interest or principal payments are missed or delayed, if insolvency is likely, and if observable data point to a measurable reduction in expected future cash flows, such as a change in arrears or economic conditions that correlate with defaults. In the Manz Group, this category primarily covered receivables from customers and other receivables.

Impairments were charged using an impairment account.

Assets held for trading and held for sale were measured at fair market value. The change in the fair value of assets held for trading was recognized in profit or loss. Changes in the fair market value of assets held for sale were recognized in accumulated other comprehensive income, less a tax component.

Financial instruments held to maturity were measured at amortized cost. Gains and losses from their subsequent measurement were recognized in profit or loss.

Financial liabilities, with the exception of derivative financial instruments and the contingent purchase price ratewere subsequently measured at amortized cost.

DERIVATIVE FINANCIAL INSTRUMENTS (UP TO 2017)

Manz AG used derivative financial instruments only to hedge against interest and currency risks resulting from operating activities.

In accordance with IAS 39, derivative financial instruments were recognized at their fair value on both initial recognition and subsequent measurement. The fair values of traded derivative financial instruments corresponded to their market prices. Non-traded derivative financial instruments were calculated by applying recognized measurement models based on discounted cash flow analysis and by referring to current market parameters.

In terms of recognition of the change in fair values – recognition in the income statement or recognition directly in equity capital – what is crucial is whether or not the derivative financial instrument was involved in an effective hedging relationship according to IAS 39. If there was no hedging relationship, changes to the fair values of the derivative instruments were immediately recognized in profit or loss. If, on the other hand, there was an effective hedging relationship according to IAS 39, the hedge was accounted for as such.

At Manz, the hedge accounting regulations under IAS 39 were applied to hedge future cash flows (cash flow hedges). In this case, at the start of the hedging relationship, the relationship between the hedged item and the hedge was documented, including the risk management objectives. Furthermore, when the hedging relationship was entered and throughout its course, it was regularly documented whether the hedging instrument designated in the hedging relationship is effective to a large degree with regard to compensating for the change in the cash flows of the hedged items.

The effective part of the change in the fair value of a derivative or a primary financial instrument that has been designated as a hedging instrument was recognized in equity capital under retained earnings from cash flow hedges, after deduction of deferred taxes. The profit or loss attributable to the ineffective part was immediately presented in profit or loss in “Other operating income” or “Other operating expenses.”

Amounts recognized in equity capital were transferred to the income statement in the period in which the hedged item was recognized in profit or loss. If the original hedged item was no longer expected to occur, the accumulated, unrealized profits and losses reported in equity up to that point were also recognized in profit or loss.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents comprise cash accounts and short-term financial investments with banks that have a remaining term of up to three months on initial recognition. Deviating from the previous year, risk prevention was created for the first time as a result of the use of IFRS 9 since January 1, 2018.

SHARE-BASED PAYMENT

As an additional incentive-based payment for the services that they have rendered, Manz Group employees (including executives) receive share-based compensation in the form of equity instruments. Equity instruments are measured at fair value at the date granted. This Performance Share Plan and was first introduced in the 2008 fiscal year. Currently, the Manz Performance Share Plan 2015 is being applied, which includes the achievement of performance targets. These new targets consist of the EBITDA margin and the company's growth, measured by the change in the share price between the time the subscription rights are issued and the end of the waiting period. The stock awards expire when the employment is terminated or a termination agreement is concluded. The share awards do not earn dividends during the vesting period. Fair value is determined by applying an appropriate measurement model (for more details, see (9) Share-based compensation).

The expenses resulting from the granting of equity instruments and the corresponding increase in equity are recognized over the period in which the exercise and performance conditions have to be fulfilled (vesting period). This period ends on the vesting date; i.e., the date when the employee in question becomes irrevocably entitled. The accumulated expenses from the granting of equity instruments disclosed on each reporting date up to the vesting date reflect the part of the vesting period that has already expired and the number of equity instruments that can actually be exercised when the vesting period expires, according to the Group's best estimates. The income or expense recognized in the profit or loss for the period corresponds to the development of the accumulated expenses recognized at the beginning and end of the reporting period.

No expense is recognized for compensation rights that do not become exercisable. Exceptions to this are compensation rights for which certain market conditions have to be fulfilled before they can be exercised. Irrespective of whether the market conditions are fulfilled, these are seen as exercisable, provided that all other performance conditions are fulfilled.

If the conditions of a compensation agreement compensated by equity instruments are modified, expenses are recognized in the amount in which they would have been incurred if the conditions of the agreement had not been modified. The company also recognizes the effects of modifications that increase the total fair value of the share-based compensation agreement or are associated with another benefit for the employee, measured at the time of the modification.

If a compensation agreement compensated by equity instruments is canceled, this is treated as if it had been exercised on the cancellation date. The expense not yet recognized is immediately recognized. This is applied to all compensation agreements if non-vesting conditions, over which either the company or the counterparty has an influence, are not fulfilled. If the annulled compensation agreement is replaced by a new compensation agreement, however, and the new compensation agreement is declared as a replacement for the annulled compensation agreement on the day it is granted, the annulled and the new compensation agreement are accounted for as if they were a modification to the original compensation agreement (see section above).

The dilutive effect of outstanding share awards when calculating earnings per share (diluted) is considered as an additional dilution (for details, see disclosure 12).

TREASURY SHARES

Any treasury shares that the Group acquires are recognized at cost and deducted from equity capital. The purchase, sale, issue, or withdrawal of treasury shares is not recognized in profit or loss.

GOVERNMENT GRANTS

Government grants are recognized if there is adequate assurance that grants will be provided and that the company complies with the attached conditions. Expenditure-related grants are recognized as income on a scheduled basis over the period required to offset them against the corresponding expenses for which the grants are intended to compensate. Grants for capitalized development projects reduce the acquisition and manufacturing cost of the associated assets.

ACTUAL INCOME TAXES

The amount of current tax assets and liabilities for the current period is calculated based on the tax rates and tax laws applicable on the reporting date in the countries in which the Group operates and generates taxable income.

DEFERRED TAXES

Deferred taxes are recognized for all temporary differences between the carrying amounts in the IFRS consolidated balance sheet and the tax base, as well as for tax loss carryforwards and tax credits. This does not apply to taxable temporary differences arising from goodwill. Deferred tax assets are deposited when their use is mainly probable.

The measurement of deferred taxes is based on the tax rates on the realization date that apply or are anticipated, based on the current legal situation in the individual countries. Deferred taxes that relate to items directly recognized in equity capital are presented in equity. Deferred tax assets and deferred tax liabilities are offset against each other if the Group has an enforceable claim for actual tax refunds to be offset against actual tax liabilities and these relate to income tax on the same tax subject that is levied by the same tax authority.

PENSION PROVISIONS

Defined contribution plans are shown under pension provisions. Provisions for pensions are determined according to the projected unit credit method pursuant to IAS 19. In addition to the pensions and acquired benefits known on the balance sheet date, this method also takes expected future salary and pension increases into account. If pension obligations have been re-insured using plan assets, these are reported net.

The calculation is based on actuarial expert opinions, taking biometric calculation principles into account. Actuarial gains and losses are recognized in other comprehensive income. The service cost is reported in personnel expense, the interest element of the allocation to provision in the financial result.

OTHER PROVISIONS

Other provisions are recognized if a past event has led to a current legal or constructive obligation to third parties, which is expected to lead to a future outflow of resources that can be reliably estimated. Provisions are generally measured at the expected settlement amount, taking into account all identifiable risks. Calculation of the settlement amount is based on best estimates. The settlement amount also includes anticipated cost increases. Provisions with a term of more than one year are discounted to their present value at the market interest rate.

Accruals are not presented under provisions, but under trade payables or other liabilities, depending on their nature.

LIABILITIES

Long-term liabilities are recognized at amortized cost. Differences between their historical cost and their repayment amount are accounted for using the effective interest method. Short-term liabilities are recognized at their settlement amount.

CONTINGENT LIABILITIES

A contingent liability is a possible obligation to third parties that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Manz Group. A contingent liability may also be a present obligation that arises from past events, but is not recognized because an outflow of resources is not probable or the amount of the obligation cannot be estimated with sufficient reliability.

MANAGEMENT ESTIMATES AND JUDGMENTS

The preparation of consolidated financial statements requires assumptions and estimates that have an effect on the recognition, measurement, and presentation of assets, liabilities, income, and expenses, as well as contingent assets and contingent liabilities. The main circumstances affected by such discretionary judgments and estimates relate to the viability of receivables, determination of defining the percentage of completion of long-term manufacturing projects, assumptions about future cash flows from cash-generating units, and development projects, as well as the recognition and measurement of provisions. The values that actually occur may differ from the estimates in individual cases. The carrying amounts of assets and liabilities affected by estimates can be seen in the breakdowns of the individual balance sheet items.

The assumptions and estimates are based on premises that reflect the currently available level of knowledge. Specifically, the expected future business performance is based on the circumstances known at the date of preparation of the consolidated financial statements and a realistic assessment of the future development of the global and sector-specific environment. Developments in this environment that diverge from the assumptions and that are outside the control of management may result in amounts that differ from the original estimates. The most important future-related assumptions, as well as other sources of uncertainty surrounding estimates on the reporting date, on the basis of which there is a significant risk that a considerable adjustment will be necessary to the carrying amounts of assets and liabilities within the next fiscal year, are explained below:

Goodwill: Goodwill and other intangible assets are not amortized; instead, an annual impairment test is performed on the cash-generating units with the aim of adequately determining future cash surpluses. Parameters are defined for the calculation, such as the planning horizon (three years), the choice of interest rate or the weighting of the opportunities and risks to be considered. Please also refer to IV. “Notes to he Balance Sheet Goodwill and trademark rights”.

Sales revenue: Manz made the following discretionary decisions, that had a significant influence on the determination of the amount and time of revenues from contracts with customers:

Determination of the method and estimation of the variable considerations and assessment of the restriction

Scales of discount and penalties lead to variable considerations for Manz. In the estimation of the variable considerations, the Group must either use the expected value principle of the method of most probable amount. The method with which the consideration owed to the Group can be most reliably estimated must be selected. The Group made the decision that the method of most probable amount is the most suitable method for the estimation of the variable considerations for delivery of goods and services with scales of discount and contractual penalties. This estimation of the variable considerations is included in the transaction price to the extent that there will most probably not be a significant cancellation of the realized sales revenues, as soon as there is not longer any insecurity about the variable consideration.

Estimation of the overall cost of the project

The use of the PoC method based on an estimation of the overall cost of the project. It is therefore possible, based on the insecurities here, that the estimations of the expenses required for completion must be reported retroactively. This type of reporting of expenses and income are recognized in the period in which the need for adaptation is determined.

Risk prevention for trade accounts receivable and other assets

An impairment model in accordance with IFRS 9 is applied to trade receivables and contract assets, in which expected losses must be taken into account. For this, valuation models have been developed that are used to determine default rates for trade receivables and contract assets. An analysis of the historical default rates takes into account different regions. These historical default rates are adjusted by the influence of forward-looking information in the macroeconomic environment. In addition, the individual default rates are reviewed iby the responsible management. Factors such as maturity structures of receivables balances, customer creditworthiness or macroeconomic data are included in the review.

Pension provisions: We refer to IV. “Notes to the Balance Sheet (25) Pension provisions”

Provisions for warranties are recognized in accordance with previous claims history or the estimated future level of claims. Non-current provisions are recognized at their settlement amount, discounted to the balance sheet date. The interest rate used is a pretax rate that reflects current market expectations with regard to the interest effect and the risks specific to the circumstances. The interest expense resulting from the unwinding of the discount is presented in finance costs. We refer to (26) “Other non-current provisions”

Provisions for impending losses: The formation of provisions for impending losses is largely determined by estimates, both in terms of their basis and their amount. Manz forms provisions for impending losses for customer orders for which the estimated total costs at the balance sheet date exceed the agreed revenues. As part of project controlling, regular checks and assessments of the project progress of customer orders are carried out, which forms the basis for the formation of provisions for impending losses. We refer to (30) "Other current provisions"

Income taxes: Estimates equally need to be made with regard to the recognition of tax provisions and with regard to assessment of the recoverability of deferred taxes on loss carry-forwards. In any assessment of the recoverability of deferred taxes, there are uncertainties in relation to the interpretation of complex tax regulations and to the amount and timing of future taxable income. Deferred taxes are recognized for all unused tax loss carry-forwards to the extent it is probable that taxable income will be available to enable the loss carry-forwards to be actually utilized. When calculating the value of deferred tax assets that can be capitalized, management is required to make key judgments at their own discretion regarding the expected point in time and the value of future taxable income, as well as the future tax-planning strategies.

FURTHER CHANGES TO ACCOUNTING POLICIES

The following is a list of the accounting standards that must be applied for the first time from the 2018 financial year, but are of minor significance for Manz's consolidated financial statements:

- Changes to IAS 19 Employee Benefits
- Changes to IFRS 2 Share-based payment
- Changes to IAS 40 Investment property
- Changes to IFRIC 22 Foreign Currency Transactions and Advance Consideration

PUBLISHED, ADOPTED BY THE EU BUT NOT YET APPLIED IFRS

IFRS 16 Leases

In January 2016, the IASB published a new standard in accounting for leases. IFRS 16 replaces the previous standard IAS 17, as well as the corresponding interpretations IFRIC 4, SIC-15, and SIC-27, and is mandatory from January 1, 2019, onwards.

Manz will apply the new standard as a lessee according to the modified retrospective approach for the first time from January 1, 2019. The adjustment of the comparative figures for the prior-year periods will not take place. The payment obligations from the previous rental leasing agreements are discounted at the marginal interest rate on borrowed capital and then stated as leasing liabilities. This is offset by the capitalization of the corresponding rights of use. At Manz, IFRS 16 is applied to all leasing agreements. Manz AG leases its buildings, vehicles and information technology. The recognition options for Manz's current and low-value assets are used.

The conversion had the following effects as of January 1, 2019:

As a result of the introduction of IFRS 16, both rights of use to the assets and the discounted, cumulative remaining payment obligations from the leasing agreements will in future be recognized as liabilities in the balance sheet for the existing leases. Prospectively, the conversion will have an anticipated balance sheet extension of 23–24 million euros, so that the equity ratio will be reduced about four percentage points. The net debt will increase accordingly as a result of the increase in leasing liabilities. Gearing (net debt to equity) increases by around seventeen percentage points.

As the lease payments are no longer shown in the income statement as current rental expenses under other operating expenses, EBITDA will not be affected by future lease payments. This is expected to increase the EBITDA margin by around 1–2 %. In addition, IFRS 16 is expected to increase financial expenses by 1 million euros.

The cash flow statement also no longer includes the full amount of lease payments directly in cash flow from operating activities. Instead, the repayment portions of the individual lease installments are now reported in cash flow from financing activities. The amendment therefore leads to an increase in cash flow from operating activities, while cash flow from financing activities is reduced. By contrast, cash flow from investing activities remains unaffected by IFRS 16.

EXPLANATIONS OF THE PROFIT AND LOSS ACCOUNT

REVENUES (1)

The breakdown of revenues by business segment and region is shown in the segment reporting. Please also refer to our notes on the segment report in Section IV.

The sales revenue from construction contracts was 264,350 thousand euros in the previous year under the purview of IAS 11.39.

During the fiscal year 2018, 276,860 thousand euros fall to the revenue recognition for a certain period of time. In addition, sales revenues were recognized in the amount of 20,240 thousand euros for a set period of time.

INTERNAL WORK CAPITALIZED (2)

For the fiscal year 2018, development costs, in particular in the Solar business segment were capitalized in the amount of 3,449 thousand euros, and there was capitalization to a lesser extent in the business segments Energy Storage with 940 thousand euros and Electronics with 504 thousand euros. In addition, 31 thousand euros was capitalized in the Contract Manufacturing segment.

OTHER OPERATING INCOME (3)

(in EUR tsd.)	2018	2017[1]
Income from the deconsolidation of NICE Solar Energy GmbH (previously Manz CIGS Technology GmbH)	0	34,356
Income from the disposal of fixed assets	98	462
Liquidation of valuation allowances on receivables	464	171
Subsidies	578	130
Income from the reversal of provisions	2,553	203
Exchange rate gains	1,258	230
Other	1,795	2,845
	6,746	**38,397**

1 Adjustment after restatement due to deconsolidation of a company

MATERIAL COSTS (4)

(in EUR tsd.)	2018	2017[1]
Cost of raw materials, consumables, and supplies, and of purchased merchandise	164,855	148,261
Cost of purchased services	17,665	19,230
	182,520	**167,491**

1 Adjustment after restatement due to deconsolidation of a company

PERSONNEL EXPENSES (5)

(in EUR tsd.)	2018	2017[1]
Wages and salaries	58,180	58,787
Share-based payment	290	236
Social security, post-employment, and other employee benefit costs	11,761	11,906
	70,231	**70,929**

1 Adjustment after restatement due to deconsolidation of a company

OTHER OPERATING EXPENSES (6)

(in EUR tsd.)	2018	2017[1]
Advertising and travel expenses	7,029	7,805
Rent and leasing	4,757	4,978
Outgoing freight	4,741	3,153
Research-related (project-related) other operating expenses	4,033	18,315
Other personnel-related expenses	2,198	2,142
Impairment expenses on financial assets	2,038	2,117
Other	16,520	25,502
	41,316	**64,012**

1 Adjustment after restatement due to deconsolidation of a company

AMORTIZATION/DEPRECIATION (7)

Depreciation in the reporting period amounted to 12,897 thousand euros. Thereof, 10,827 thousand euros relates to depreciation of property, plant and equipment and intangible assets. In addition, a loss of value of 2,070 thousand euros of the short-term costs for the initiation of contracts is shown.

FINANCE COST (8)

(in EUR tsd.)	2018	2017[1]
Interest costs on long-term liabilities	4	429
Interest costs on current liabilities	1,482	1,179
Interest component of long-term provisions	122	138
Other interest expenses	7	8
	1,615	**1,754**

1 Adjustment after restatement due to deconsolidation of a company

SHARE-BASED PAYMENT (9)

Performance Share Plan

The Group introduced a so-called Performance Share Plan for members of the Managing Board and other eligible employees. The new targets consist of the EBITDA margin and the company's growth, measured by the change in the share price between the time the sub-scription rights are issued and the end of the waiting period. The stock awards expire when the employment is terminated or a termination agreement is concluded. The share awards do not earn dividends during the vesting period. Manz AG can fulfill its obligations from share awards with newly issued shares or treasury shares.

The share awards (subscription rights) are issued at the discretion of the Managing Board with the approval of the Supervisory Board – or where members of the Managing Board are involved, at the sole discretion of the Supervisory Board – in annual tranches, within a period of three months after the expiry of four weeks after the publication of the consolidated finan-cial statements for the previous fiscal year.

In the 2018 fiscal year, 18 employees and members of the Managing Board (previous year 19) received a total of 21,928 (previous year: 18,451) share awards/subscription rights. Of this 6,048 (previous year: 4,544) were attributable to the Managing Board.

The following table shows the changes to share awards/share options with the corresponding weighted average fair market values per share on the date they were granted:

	(in shares)	(in euros)
	Share awards/ subscription rights	Weighted average fair value on the grant date
Shares at the beginning of the year (not vested)	63,746	32.51
Lapsed during the reporting period	0	0.00
Granted during the reporting period	21,928	17.08
Inventory at the end of the year (not vested)	**85,674**	**22.68**

Share awards are accounted for pursuant to IFRS 2 at the fair value of the stock awards on the date they are granted and are recognized in personnel expenses as well as in a corresponding equity increase (capital reserve). Fair market value measurement is carried out using the Black Scholes model.

Fair market value measurement is based on the following parameters:

	2018	2017[1]
Strike price (in euros)	1.00	1.00
Risk-free annual interest rate (in %)	0	0.12
Volatility (in %)	97.3	105.9
Expected dividends (in euros)	0.00	0.00
Fair value of each share award (in euros)	17.08	22.69

1 Adjustment after restatement due to deconsolidation of a company

In the reporting year, personnel expenses of 290 thousand euros from the Performance Share Plan (previous year 236 thousand euros) were recognized.

INCOME TAXES (10)

Income taxes include both actual and deferred income taxes arising from temporary differences and existing tax loss carry-forwards.

(in EUR tsd.)	2018	2017[1]
Actual tax expense		
Current period	809	1,737
Previous periods	444	71
Deferred tax income/expenses (+)	1,863	340
	3,116	**2,148**

1 Adjustment after restatement due to deconsolidation of a company

The current income tax expense is calculated using the tax rates effective as of the balance sheet date. When calculating deferred taxes for domestic subsidiaries, the domestic tax rate of 29.13 % (previous year: 29.13 %) was applied. Tax rates between 15 % and 25 % were used for foreign subsidiaries.

The income tax expense in the reporting year in the amount of 3,116 thousand euros (previous year: 2,148 thousand euros) is derived as follows from an "expected" income tax expense that would have resulted from the application of the statutory income tax rate of the parent company to income before income taxes:

(in EUR tsd.)	2018	2017[1]
Earnings before income taxes	–4,904	–1,146
Manz AG income tax rate	29.13%	29.13%
Expected income tax expense	**–1,429**	**–334**
International tax rate differences	–396	–379
Change in tax rate	0	5
Non-deductible expenses	2,564	–58
Prior-period taxes	444	78
Tax-free income	–1,984	–10,803
Non-recognition of tax loss carry forwards	6,645	14,612
Valuation allowance on deferred taxes	–2,483	–1,042
Other	–245	69
Reported income tax expense	**3,116**	**2,148**
Effective tax rate	**n.a.**	**n.a.**

1 Adjustment after restatement due to deconsolidation of a company

The following table shows deferred tax assets and liabilities:

(in EUR tsd.)	Deferred tax assets		Deferred tax liabilities	
	31.12.2018	31.12.2017[1]	31.12.2018	31.12.2017[1]
Intangible assets	837	1,191	4,894	4,259
Property, plant, and equipment	0	0	49	28
Investments	1,235	195	0	0
Percentage-of-Completion method	7,664	2,861	15,982	5,309
Inventories	538	359	0	0
Receivables	544	469	502	3,308
Cash and cash equivalents	111	0	0	0
Pension provisions	673	501	0	0
Trade payables	2,638	2,007	1,654	993
Provisions	210	271	0	0
Tax loss carry forwards	9,173	7,487	0	0
Gross value	23,623	15,341	23,081	13,897
Offsetting	–18,710	–10,417	–18,710	–10,417
Balance according to consolidated balance sheet	**4,913**	**4,924**	**4,371**	**3,480**
Net amount of deferred tax assets	**542**	**1,444**		

1 Adjustment after restatement due to deconsolidation of a company

The net amount of deferred tax assets has developed as follows:

(in EUR tsd.)	2018	2017[1]
As of January 1	**1,444**	**1,373**
Deferred tax expense (-)/income in the income statement	–1,863	–340
Changes in deferred taxes recognized in other comprehensive income on actuarial gains / losses on pensions	–18	84
Derivative financial instruments	–4	1
Financial assets available for sale	1,039	195
Currency conversion	–56	131
As of December 31	**542**	**1,444**

1 Adjustment after restatement due to deconsolidation of a company

Deferred taxes are recognized for tax loss carry-forwards only if there is sufficient certainty that they will be realized. Deferred tax assets were shown for four companies who suffered tax losses in the current or previous period. Based on the short and medium term planning, Manz assumes that these four companies will achieve a taxable result in the future, against which the not yet utilized tax losses can be charged.

The tax loss carry forwards totaled 220,736 thousand euros as of the balance sheet date (previous year: 215,623 thousand euros). Of these, 1,222 thousand euros (previous year: 438 thousand euros) temporally limited to five years and 10,181 thousand euros (previous year: 11,253 thousand euros) to ten years and the rest for unlimited carry forward. For loss carry forwards amounting to 182,650 thousand euros (previous year: (previous year: 184,034 thousand euros), no deferred tax assets were recognized because, in the case of losses in the more recent past, IAS 12 requires high capitalization requirements that are not met by the balance sheet date.

In accordance with IAS 12, deferred taxes for temporary differences in connection with shares in Group companies must be accounted for (outside basis differences). No deferred tax liabilities were created for Outside Basis Differences of 11.5 million euros (previous year: 34 million euros), because these profits will be reinvested over an undetermined time.

SHARE OF PROFITS NON-CONTROLLING INTERESTS (11)

The share of profits attributable to non-controlling interests consists of allocated earnings in the amount of –261 thousand euros (previous year: –143 thousand euros).

EARNINGS PER SHARE (12)

The undiluted earnings per share are calculated by dividing Manz AG shareholders' share of earnings by the weighted average number of shares in circulation during the fiscal year. The earnings per share are diluted as a result of so-called "potential shares." These include option and subscription rights if such rights result in the issue of shares at a value below the share's average stock exchange price. There was a dilution effect from the share awards in the context of the Performance Share Plan.

Earnings per share was calculated in accordance with IAS 33.

	2018	2017[1]
Consolidated profit/loss attributable to Manz AG's shareholders (in thousand euros)	–7,760	–3,150
Weighted average number of outstanding shares	7,744,088	7,744,088
Effect from share-based compensation shares	160,960	137,880
Weighted average number of outstanding shares (diluted)	**7,905,048**	**7,881,968**
Earnings per share in euros (diluted = undiluted)	–1.00	–0.41

1 Adjustment after restatement due to deconsolidation of a company

NOTES TO SEGMENT REPORTING

Manz discloses the results of operations grouped by division and region in accordance with IFRS 8 Operating Segments within the scope of business segment reporting. This grouping is based on internal management and takes the business segments' different risk and earnings structures into account.

The „Solar" business segment includes system solutions for the manufacturing costs of thin film solar modules and CIGS thin film technology. Business in equipment for the production of lithium-ion batteries is reported in the „Energy Storage" business segment. The „Electronics" business segment focuses on the manufacture of production systems for the manufacture of consumer electronics.

In addition to the three strategic business segments, there were two reporting segments, „Contract Manufacturing" (equipment and parts production and assembly work for customers in various industries) and „Service" which offers services relating to Manz AG's core technological expertise.

The primary factor used to evaluate and control a business segment's cash flow is operating profit (EBIT).

Segment reporting shows revenues and profits in the Group's individual business segments. Delivery and service relationships exist only to a limited extent between the individual business segments. The exchange of services between the business segments is carried out at market prices.

In the Solar business segment, sales revenues of 66,329 thousand euros were generated with one customer in the year under review. In addition, sales revenue in the amount of 31,560 thousand euros were included in the Contract Manufacturing business segment.

SEGMENT REPORTING BUSINESS UNITS

As of Dec. 31, 2018

(in EUR tsd.)	Solar	Electronics	Energy Storage	Contract Manu-facturing	Service	Consoli-dation	Group
Revenues with third parties							
2017 [1]	104,344	88,539	23,831	32,038	17,340	0	266,092
2018	105,020	93,877	35,351	43,147	19,525	0	296,920
Revenues with other segments							
2017 [1]	0	3,411	0	0	0	–3,411	0
2018	0	3,556	0	0	0	–3,556	0
Total revenues							
2017 [1]	**104,344**	**91,950**	**23,831**	**32,038**	**17,340**	**–3,411**	**266,092**
2018	**105,020**	**97,433**	**35,351**	**43,147**	**19,525**	**–3,556**	**296,920**
Share of profit (loss) of an associate							
2017 [1]	0	0	0	2,042	0	0	2,042
2018				–2,590			–2,590
EBITDA							
2017 [1]	33,769	–13,393	–20,397	4,646	5,763	–324	10,064
2018	18,109	–6,636	–6,861	1,755	4,080	–935	9,513
Depreciation							
2017 [1]	2,817	3,577	2,325	651	126	0	9,496
2018	3,731	5,381	3,038	535	215	–3	12,897
EBIT							
2017 [1]	**30,952**	**–16,970**	**–22,722**	**3,996**	**5,637**	**–324**	**569**
2018	**14,378**	**–12,017**	**–9,899**	**1,220**	**3,866**	**–932**	**–3,385**
Finance costs							
2017 [1]	–608	–745	–311	–39	–13	0	–1,715
2018	–294	–375	–359	–522	31	0	–1,519
Earnings before taxes (EBT)							
2017 [1]	30,344	–17,715	–23,033	3,957	5,625	–324	–1,146
2018	14,084	–12,392	–10,258	698	3,896	–932	–4,904
Income taxes							
2017 [1]	–1,928	–988	1,106	–240	–97	0	–2,148
2018	–1,541	–1,144	175	–492	–114	0	–3,116
Consolidated profit or loss							
2017 [1]	**28,415**	**–18,703**	**–21,927**	**3,717**	**5,527**	**–324**	**–3,294**
2018	**12,543**	**–13,535**	**–10,083**	**205**	**3,782**	**–932**	**–8,020**

SEGMENT REPORTING REGIONS

As of Dec. 31, 2018

(in EUR tsd.)	Revenues	Non-current assets (exclude deferred taxes)
Germany		
2017 [1]	24,752	47,285
2018	46,393	47,715
Rest of Europe		
2017 [1]	34,492	21,113
2018	42,239	21,788
China		
2017 [1]	180,833	14,405
2018	168,465	13,986
Taiwan		
2017 [1]	8,325	41,184
2018	22,128	39,043
Rest of Asia		
2017 [1]	10,119	11
2018	9,880	709
USA		
2017 [1]	7,184	40
2018	6,149	17
Other Regions		
2017 [1]	387	0
2018	1,666	0
Group		
2017 [1]	266,092	124,038
2018	296,920	123,258

1 Adjustment after restatement due to deconsolidation of a company

1 Adjustment after restatement due to deconsolidation of a company

NOTES TO THE CASH FLOW STATEMENT

The cash flow statement shows how cash has changed in the Manz Group over the course of the reporting year due to cash inflows and outflows. Pursuant to IAS 7 (Cash Flow Statement), a distinction is drawn between cash flows from operating, investing, and financing activities. Effects from changes to the basis of consolidation and exchange rates are eliminated in the respective items. The change in liquid assets due to changes in exchange rates is presented separately.

The cash and cash equivalents reported in the cash flow statement comprise all cash and cash equivalents reported in the balance sheet consisting of cash on hand and bank balances with a term of up to three months and only insignificant fluctuations in value. In the previous year, cash and cash equivalents included EUR 16,634 thousand in unavailable funds from securing advance payment guarantees.

The cash inflows and outflows from investing and financing activities are presented in accordance with the direct method. Cash inflows and outflows from investing activities in operating business comprise inflows to property, plant, and equipment and intangible assets. Cash payments for the acquisition of subsidiaries are reduced by the transferred liquid funds. In financing activities, besides cash inflows from equity increases and the issuance of other financial liabilities, cash outflows from the repayment of loans are also presented.

On the other hand, cash inflows and outflows from operating activities are derived indirectly from consolidated net income. For this purpose, consolidated net profit is adjusted by non-cash expenses and income, which primarily involve depreciation and changes in non-current provisions and deferred taxes, and amended to include changes in operating assets and liabilities.

Investing and financing processes which have not led to a change in cash are not part of the cash flow statement.

DEVELOPMENT OF LIABILITIES FROM FINANCING ACTIVITIES

(in EUR tsd.)	Carrying amount as of Jan. 1, 2018	Effective for payment	Non-cash: Currency difference	Non-cash: Changes in fair values	Non-cash: Other changes	Carrying amount as of Dec. 12, 2018
Non-current financial liabilities from financial institutions	3,332	–2,194				1,138
Current financial liabilities from financial institutions	36,130	5,764	279			42,173
Derivative financial instruments	7			–5		2
	39,469	**3,570**	**279**	**–5**	**0**	**43,313**

(in EUR tsd.)	Carrying amount as of Jan. 1, 2017[1]	Effective for payment	Non-cash: Currency difference	Non-cash: Changes in fair values	Non-cash: Other changes	Carrying amount as of Dec. 12, 2017[1]
Non-current financial liabilities from financial institutions	2,036	1,296				3,332
Current financial liabilities from financial institutions	52,379	–14,286	–1,963			36,130
Derivative financial instruments	158			-151		7
Financial liabilities arising from leases	11	–11				0
	54,584	**–13,001**	**–1,963**	**–151**	**0**	**39,469**

1 Adjustment after restatement due to deconsolidation of a company

NOTES TO THE BALANCE SHEET

INTANGIBLE ASSETS (13)

(in EUR tsd.)	Licenses, software, and similar rights	Capitalized development costs	Goodwill	Plants under construction/ Advance payments	Capi-talized contract costs	Total
Acquisition/manufacturing costs						
As of January 1, 2017	**54,075**	**87,187**	**38,015**	**1**	**0**	**179,277**
Currency adjustment	–34	–192	21	0	0	–205
Changes to the basis of consolidation	–22,693	–21,453	–4,705	0	0	–48,851
Additions	1,236	8,176	2,338	0	0	11,750
Disposals	–364	–3,773	–2,338	–1	0	–6,475
Reclassifications	–8	0	0	0	0	–8
As of December 31, 2017[1]	**32,212**	**69,945**	**33,331**	**0**	**0**	**135,488**
Depreciation						
As of January 1, 2017[1]	**37,968**	**64,859**	**0**	**0**	**0**	**102,827**
Currency adjustment	–35	–85	0	0	0	–120
Changes to the basis of consolidation	–14,913	–11,729	0	0	0	–26,642
Additional deprecation (scheduled)	2,900	1,952	0	0	0	4,852
Disposals	–362	–3,733	0	0	0	–4,095
As of December 31, 2017[1]	**25,558**	**51,264**	**0**	**0**	**0**	**76,822**
Acquisition/manufacturing costs						
As of January 1, 2018	**32,212**	**69,945**	**33,331**	**0**	**5,143**	**140,631**
Currency adjustment	24	42	1,164	0	0	1,230
Additions	4,371	4,517	0	61	0	8,949
Disposals	–3,548	–418	0	0	0	–3,966
Reclassifications	21	0	0	0	0	21
As of December 31, 2018	**33,080**	**74,086**	**34,495**	**61**	**5,143**	**146,865**
Depreciation						
As of January 1, 2018	**25,558**	**51,264**	**0**	**0**	**0**	**76,822**
Currency adjustment	11	26	0	0	0	37
Additional deprecation (scheduled)	2,020	3,032	0	0	2,743	7,795
Disposals	–117	0	0	0	0	–117
As of December 31, 2018	**27,472**	**54,322**	**0**	**0**	**2,743**	**84,537**
Residual carrying amount as of December 31, 2017[1]	6,654	18,681	33,331	0	0	58,666
Residual carrying amount as of December 31, 2018	**5,608**	**19,764**	**34,495**	**61**	**2,400**	**62,328**

1 Adjustment after restatement due to deconsolidation of a company

Capitalized development costs

Development costs are capitalized in accordance with the requirements of IAS 38 „Intangible assets“ in the accounting policies presented. For the purposes of determining the amounts to be capitalized, management has to make assumptions about the level of anticipated future cash flows from assets, the applicable discount rates, and the period of inflow from anticipated future cash flows that generate assets.

As part of the annual review of capitalized development costs that have not yet been amortized, no impairment losses (previous year: none) were recognized in the year under review.

The following amounts were recognized in profit or loss:

(in EUR tsd.)	2018	2017[1]
Total research and development costs	–14,893	–20,056
Scheduled amortization on development costs	–3,300	–1,952
Capitalized development costs	4,924	9,478
Research and development costs offset as expenses	**–13,269**	**–12,530**

1 Adjustment after restatement due to deconsolidation of a company

Goodwill and trademark rights

The goodwill values and intangible assets with an indefinite useful life (trademark rights) are attributable to the individual business segments as follows:

(in EUR tsd.)	Goodwill		Trademark rights	
	Dec. 31, 2018	**Dec. 31, 2017[1]**	**Dec. 31, 2018**	**Dec. 31, 2017[1]**
Solar	16,845	16,342	1,806	1,777
Electronics	10,968	10,307	2,708	2,664
Energy Storage	6,682	6,682	0	0
Contract Manufacturing	0	0	0	0
Service	0	0	0	0
	34,495	**33,331**	**4,514**	**4,441**

1 Adjustment after restatement due to deconsolidation of a company

The remaining changes to the value of goodwill and trademark rights are due to currency translations.

The recoverability of goodwill and trademark rights is tested at least once a year by comparing the carrying amounts of their respective underlying units with their value in use. In principle, the value in use of the cash-generating unit in question is used. The business segments Solar, Electronics, Energy Storage, Contract Manufacturing and Service are used as cash-generating unit. Value in use is determined using the discounted cash flow method. The starting point is the current three-year plan for the respective business segment.

As part of this test, estimates must be made above all in relation to future cash surpluses. To determine the recoverable amount, an appropriate discount rate needs to be selected.

The calculation of discount rates takes into account the circumstances of the Group and its segments and is based on its weighted average cost of capital (WACC). The average cost of capital takes debt and equity into account. The cost of equity is determined on the basis of a peer group. They include the basic interest rate including country risk and a market risk premium. The segment-specific risk is included by applying individual beta factors. Borrowing costs are based on the interest-bearing debt for which the Group is required to service its debt. They include the debt spread, base interest rate and country risk. The debt spread was calculated on the basis of the interest difference between the yield of a basket of industrial companies rated BBB+ to BBB– and the yield on German government bonds.

The planning assumptions include in particular the expected market development in relation to the development of the Manz Group, the development of material production and other costs, the discounting factor and the growth rates. General market forecasts, current developments and past experience are taken into account in establishing the assumptions. As the demand for electric cars continues to rise, the need for battery drives is also growing. A significant improvement in results and increased in earnings is therefore expected in the Energy Storage segment. Due to the positive project progress of the CIGS major orders to date, a further major order in the solar sector was planned. The large market for display technology offers Manz AG great potential. Therefore, a significant sales expansion and improvement in results is expected in the Electronics segment in the future. The competitiveness and profitability of Manz AG will be further sustainably increased and the associated turnaround strategy of the previous years continued.

Cash flows are predicted individually for each business segment that has goodwill and trademark rights attributed to it on the basis of revenue and cost planning. Growth rates remained unchanged, and were applied using values from 1.0 % to 1.5 %. Due to the very strong global growth in the Solar and Electronics segments, a growth rate of 1.5 % continued to be used for the corresponding business segments. The after-tax discount rate used for discounting (weighted average cost of capital (WACC)) is between 7.5 % and 10.4 %. In this context, the cost of equity is calculated on the basis of a comparable group (peer group). The discount rates and growth rates are listed in the following table:

(in %)	Discount rate before taxes		Growth rate	
	Dec. 31, 2018	Dec. 31, 2017[1]	Dec. 31, 2018	Dec. 31, 2017[1]
Solar	14.7	10.7	1.5	1.5
Electronics	9.3	8.2	1.5	1.5
Energy Storage	12.5	8.4	1.0	1.0
Contract Manufacturing	11.6	9.4	1.0	1.0
Service	14.7	10.7	1.0	1.0

1 Adjustment after restatement due to deconsolidation of a company

Equity and borrowing cost rates calculated in this way were weighted on the basis of the peer group's average capital structure.

Goodwill is considered impaired when a segment's carrying amount exceeds its value in use. For the 2018 and 2017 fiscal years, there was no need to recognize impairments of the capitalized goodwill or intangible assets with an indefinite useful life.

A WACC that is 1 % higher and a calculation without assumed growth in perpetuity does not influence the intrinsic value of goodwill. Even a subsequent additional 10 % reduction of the EBIT margin over the entire planning period would not have led to an impairment of goodwill or trademark rights in fiscal year 2018 or 2017.

Capitalized contract costs

In financial year 2018, capitalized contract costs for the acquisition of a contract were reported under intangible contract assets for the first time if they are covered by income from the contract and are clearly attributable to a project. The capitalized costs are reduced linearly by the consumption of value over the planned project duration.

The balance as of January 1, 2018 was 5,143 thousand euros. A loss of value of 2,743 euros was recorded in the reporting period. As of December 31, 2018, the carrying amount amounted to 2,400 thousand euros.

PROPERTY, PLANT, AND EQUIPMENT (14)

(in EUR tsd.)	Land and buildings	Technical equipment and machinery	Other equipment, operating and business facilities	Equipment under construction/	Total
Acquisition/manufacturing costs					
As of January 1, 2017[1]	**26,072**	**26,895**	**11,528**	**98**	**64,593**
Currency adjustment	–1,151	–151	–255	–4	–1,561
Changes to the basis of consolidation	–569	–2,584	–284	–1	–3,438
Additions	666	423	902	1,892	3,883
Disposals	–87	–887	–948	–107	–2,029
Reclassifications	6	–101	101	3	9
As of December 31, 2017[1]	**24,937**	**23,595**	**11,044**	**1,881**	**61,456**
Depreciation					
As of January 1, 2017[1]	**5,364**	**20,196**	**8,515**	**0**	**34,075**
Currency adjustment	–244	–96	–182	0	–522
Changes to the basis of consolidation	–22	–2,361	–145	0	–2,528
Additional deprecation (scheduled)	1,185	2,255	1,203	0	4,643
Disposals	–35	–887	–884	0	–1,806
As of December 31, 2017[1]	**6,248**	**19,107**	**8,507**	**0**	**33,862**
Acquisition/manufacturing costs					
As of January 1, 2018	**24,937**	**23,595**	**11,044**	**1,881**	**61,456**
Currency adjustment	–127	10	6	0	–111
Additions	548	1,684	2,351	743	5,326
Disposals	–754	–435	–2,698	–58	–3,945
Reclassifications	391	0	2,045	–2,458	–22
As of December 31, 2018	**24,995**	**24,854**	**12,748**	**108**	**62,704**
Depreciation					
As of January 1, 2018	**6,248**	**19,107**	**8,507**	**0**	**33,862**
Currency adjustment	–28	6	10	0	–12
Additional deprecation (scheduled)	1,124	1,041	866	0	3,031
Disposals	–420	–405	–2,512	0	–3,337
As of December 31, 2018	**6,924**	**19,749**	**6,871**	**0**	**33,544**
Residual carrying amount as of December 31, 2017[1]	18,689	4,488	2,537	1,881	27,595
Residual carrying amount as of December 31, 2018	**18,071**	**5,105**	**5,877**	**108**	**29,160**

1 Adjustment after restatement due to deconsolidation of a company

Land and buildings of Manz Slovakia s.r.o. with a carrying amount of 3,866 thousand euros (previous year: 3,774 thousand euros), are used as collateral for bank loans.

INVESTMENT IN ASSOCIATED COMPANIES (15)

Manz AG has an 80.5 % stake in Talus Manufacturing Ltd. headquartered in Chungli, Taiwan. This company is active in production, sales and service. Talus Manufacturing Ltd. is not listed on the stock exchange and is balanced according to the equity method. The following tables contain the summarized financial information for Talus Manufacturing Ltd.:

(in EUR tsd.)	2018	2017[1]
Current assets	45,157	38,710
Non-current assets	19,734	17,583
Current liabilities	42,344	31,496
Non-current liabilities	821	125
Equity	**21,726**	**24,672**
Stake of Group in equity	80,5	80,5
Goodwill	–	–
Book value of the Group stake	**11,763**	**14,201**

1 Adjustment after restatement due to deconsolidation of a company

(in EUR tsd.)	2018	2017[1]
Revenues	70,509	59,506
Operating earnings (EBIT)	–4,082	2,996
Earnings before taxes (EBT)	–4,029	3,053
Tax expense	779	–549
Earnings after taxes	–3,250	2,504
Other comprehensive income	–161	–124
Overall result for the fiscal year	**–3,411**	**2,380**

1 Adjustment after restatement due to deconsolidation of a company

FINANCIAL ASSETS (16)

Manz AG holds an other 15 % stake in NICE PV Research Ltd. Beijing, PRC. The acquisition costs amounted to 24,245 thousand euros. The fair value (determined by a discounted cashflow method) at the balance sheet date was 20,006 thousand euros. Future anticipated cashflows will affect the valuation of the investment, significantly.

INVENTORIES (17)

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
Raw materials, consumables and supplies	18,813	15,735
Unfinished goods, services in progress	7,658	14,198
Finished goods and merchandise	11,990	12,263
Prepayments	10,907	3,492
	49,368	**45,688**

1 Adjustment after restatement due to deconsolidation of a company

After taking into account exchange rate differences and consumption, the total value adjustments on inventories increased to 10,475 thousand euros (previous year: 9,757 thousand euros). Allocations to value adjustments are generally recognized in the income statement. In the current period, expenses of 718 thousand euros (previous year: 9,788 thousand euros) were recognized for this purpose.

The carrying amount of inventories pledged as collateral amounts to 9,475 thousand euros.

TRADE RECEIVABLES (18)

Trade receivables do not bear interest and are usually due within one year.

(in EUR tsd.)	Dec. 31, 2018	Jan. 1, 2018	Dec. 31, 2017[1]
Trade receivables from third parties	30,041	34,140	82,658
Trade receivables from associated companies	97	60	60
	30,138	**34,200**	**82,718**

1 Adjustment after restatement due to deconsolidation of a company

Pursuant to the legal basis of IAS 11 / IAS 18, future receivables from construction contracts are shown under the receivables from delivery of goods and services.

(in EUR tsd.)	Dec. 31, 2017[1]
Manufacturing costs, including profit or loss on the construction contracts	175,805
Minus advance payments received	–127,287
	48,518

1 Adjustment after restatement due to deconsolidation of a company

Changes in valuation allowances were as follows:

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
Specific valuation allowances		
Trade receivables from third parties	2,029	4,076
Receivables from construction contracts	0	0
Generalized specific allowances	1,949	24
	3,978	**4,100**

1 Adjustment after restatement due to deconsolidation of a company

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
As of January 1	4,100	3,532
Currency translation	–32	–106
Utilization	517	436
Reversal	463	171
Addition	890	1,281
As of December 31	**3,978**	**4,100**

1 Adjustment after restatement due to deconsolidation of a company

CONTRACT ASSETS (19)

Contract assets existed on January 1, 2018 in the following amount:

(in EUR tsd.)	Dec. 31, 2018	Jan. 1, 2018
Manufacturing costs, including profit or loss on the construction contracts	298,624	175,805
Minus advance payments received	–247,595	–127,287
	51,029	**48,518**

Changes in valuation allowances on contract assets were as follows:

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
As of January 1	0	0
Currency translation	0	0
Utilization	0	0
Reversal	0	0
Addition	371	0
As of December 31.	**371**	**0**

1 Adjustment after restatement due to deconsolidation of a company

DERIVATIVE FINANCIAL INSTRUMENTS (20)

On the balance sheet date, the following forward exchange transactions were used within hedge accounting to hedge the exchange rate of USD/TWD transactions and interest rate derivatives anticipated in the course of the following fiscal year:

(in EUR tsd.)	Dec. 31, 2018		Dec. 31, 2017[1]	
	Currency hedging	Interest rate derivatives	Currency hedging	Interest rate derivatives
Change in fair value	–27	5	187	–7
Nominal value	5,242	600	4,173	2,850
Positive fair value	2	0	29	0
Negative fair value	0	–2	0	–7
Remaining term	max. 05/2019	max. 12/2019	max. 05/2018	max. 12/2019

1 Adjustment after restatement due to deconsolidation of a company

In the current financial year it was 12 thousand euros (previous year: 1 thousand euros), from current cash flow hedges, taken directly out of accumulated other equity.

There is an economic relationship between the hedged item and the hedging instrument. Manz AG has defined a hedging ratio of 1:1 for the hedging relationship, as the risk of the hedging instrument is identical to the hedged risk component. The average exercise price for the interest rate derivatives is 0.57 and the average forward rate for currency hedging is 30.56 (USD/TWD). Currency hedging involves a currency risk, as the amount of forward exchange contracts varies according to purchases and sales in foreign currencies. There are also fluctuations in exchange rates. The interest rate derivatives contain an interest rate risk as it can lead to a negative fair value due to changes in market interest rates. If planned transactions do not occur as planned, this can lead to ineffectiveness.

OTHER CURRENT ASSETS (21)

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
Receivables for employees	420	510
Other deferrals (primarily insurance policies)	1,119	571
Capitalized current contract costs	2,677	0
Tax receivables (not income taxes)	4,396	4,429
Restricted cash	20,967	16,634
Other	5,459	5,310
	35,038	**27,454**

1 Adjustment after restatement due to deconsolidation of a company

Restricted cash are included in the other current assets, which fall under the application of IFRS 9 from fiscal year 2018. Thus, on January 1, 2018, there is an adjustment of the fair market value of 42 thousand euros. On December 31, 2018, a risk provisioning of 229 thousand euros was accounted for.

In the course of the application of IFRS 15, intrayear current contract costs of 4,747 thousand euros were capitalized, and in that period, amortized by 2,070 thousand euros. The book value of the capitalized current contract costs was consistent with fair value. No impairment was performed.

The other current assets are not overdue.

CASH AND CASH EQUIVALENTS (22)

Cash and cash equivalents include cash on hand, cash accounts, and short-term bank deposits. The book value of these assets corresponds to their fair value. The application of IFRS 9 as of January 1, 2018 resulted in an adjustment to fair value of 82 thousand euros. On December 31, 2018, a risk provisioning of 407 thousand euros was accounted for.

(in EUR tsd.)	Dec. 31, 2018	Jan 1, 2018	Dec. 31, 2017[1]
Cash and cash equivalents	51,006	47,763	47,845

1 Adjustment after restatement due to deconsolidation of a company

EQUITY (23)

Changes in the equity and comprehensive income are presented separately in the "Consolidated Statement of Changes in Equity". The components of comprehensive income are presented in aggregate form in the other comprehensive income statement.

The Managing Board and Supervisory Board have defined a minimum equity ratio of 40 % and gearing of less than 50 % as targets.

Issued capital

The capital stock of the parent company, Manz AG, is reported as subscribed capital. The subscribed capital of 7,744,088.00 is divided into 7,744,088 no-par-value bearer shares.

Authorized capital

By resolution of the Annual General Meeting on July 12, 2016, the Managing Board was authorized, with Supervisory Board approval, to increase the share capital of the company by a total of up to 3,872,044.00 euros by issuing a total of 3,872,044 new bearer shares (no-par-value shares) in exchange for cash or non-cash contributions (authorized capital 2016) on one or more occasions up to July 11, 2021. In principle, the new shares must be offered to shareholders for subscription. However, the Managing Board is authorized, with the approval of the Supervisory Board, to exclude the subscription rights of the shareholders in certain cases.

Conditional capital I

At the Annual General Meeting on July 9, 2014, a resolution was passed authorizing the Managing Board, with Supervisory Board approval, to issue bearer warrant or convertible bonds, profit-sharing rights and/or profit-sharing bonds, or a combination of these instruments (collectively referred to as "bonds"), up to a total nominal value of 150 million euros, on one or more occasions until July 8, 2019. In addition, the Executive Board was also authorized to grant owners of warrant bonds option rights and owners of convertible bonds, conversion rights for bearer shares of the company with a proportionate amount of capital stock totaling up to 1,971,223.00 euros, in accordance with the detailed terms and conditions of the warrant/convertible bonds.

The Managing Board is however authorized, with Supervisory Board approval, to exclude fractional amounts from shareholders' subscription rights and also to exclude the shareholders' subscription rights to the extent that is necessary in order to give owners of already issued bonds with option rights or conversion rights and/or conversion obligations a subscription right to the extent to which they would be entitled after exercising their option or conversion rights or upon fulfilling their conversion obligation. The Managing Board is also authorized, with the approval of the Supervisory Board to completely exclude shareholders' subscription rights to bonds that are issued with option and / or conversion rights or conversion obligations. Insofar as profit participation rights or participating bonds without option rights or conversion rights / obligations are issued, the Managing Board is authorized to exclude the subscription rights of shareholders with the consent of the Supervisory Board if these profit participation rights or participating bonds are similar to obligations.

The equity capital is conditionally increased by up to 1,971,223.00 euros, divided into up to 1,971,223 new bearer shares (no-par value shares) pursuant to section 3 (4) of the Articles of Incorporation of the Company (Conditional Capital I). The conditional capital increase serves to grant bearer shares of no par value to holders of option or convertible bonds, profit participation rights, or participating bonds (or combinations of these instruments) with options or conversion rights or conversion obligations issued on the basis of the aforementioned authorization. The new shares are issued at the option or conversion price to be determined in each case in accordance with the authorization resolution described above.

Conditional capital II

The Annual General Meeting on 7 July, 2015, approved the authorization to grant subscription rights in accordance with the Manz Performance Share Plan 2015.

The Managing Board was authorized, with the approval of the Supervisory Board, until June 30, 2020, once or several times to grant a total of up to 59,000 subscription rights to acquire up to 118,000 shares of the company to executives of affiliated companies, managers of the company below the Managing Board level, and managers of affiliated companies, both at home and abroad.

The Supervisory Board was authorized to grant one or several times a total of up to 56,000 subscription rights for the purchase of up to 112,000 shares in the company to members of the company's Managing Board until June 30, 2020. The granting, structuring, and exercising of the subscription rights takes place in accordance with the provisions laid down in the resolution of the Annual General Meeting on July 7, 2015.

Pursuant to Article 3(5) of the Articles of Incorporation, the company's capital stock has been conditionally increased by up to 230,000.00 euros through the issue of up to 230,000 no-par value bearer shares (Conditional Capital II). The conditional capital increase serves to secure the rights of the holders of subscription rights granted on the basis of the aforementioned authorization.

The number of subscription rights issued as of the balance sheet date in relation to Conditional Capital II amounts to 80,480 (previous year: 58,552).

Conditional capital IV

The Annual General Meeting on June 19, 2012 approved the authorization to grant subscription rights under the Manz Performance Share Plan 2012. The authorisations were cancelled by resolution of the Annual General Meeting on July 7, 2015 to the extent that no subscription rights had yet been issued on the basis of the authorisation.

In accordance with Article 3 (7) of the Company's Articles of Association, the share capital has been conditionally increased by up to EUR 256,000.00 by issuing up to 256,000 non-par value bearer shares (Conditional Capital IV). The conditional capital increase serves to secure the rights of the holders of subscription rights granted on the basis of the aforementioned authorization.

The number of subscription rights issued in relation to Conditional Capital IV at the balance sheet date amounts to 5,194 (previous year: 5,194).

Capital reserves

Capital reserves are comprised primarily of contributions from shareholders pursuant to Section 272(2), No. 1 of the Commercial Code, minus financing costs after taxes. Furthermore, this also includes the value of share-based compensation granted to management (including the Managing Board) as a salary component in the form of equity instruments.

Treasury shares

In a resolution passed at the Annual General Meeting on July 7, 2015, the company was authorized to purchase its own shares up to a computed value of 10 % of the company's capital stock as of the day of the meeting pursuant to Section 71(1), no. 8 of the German Stock Corporation Act. The resolution grants the company authorization to execute these purchases until July 6, 2020.

Purchases may be made through the stock exchange or through a public purchase offer that is directed at all shareholders. The Managing Board is authorized to use company shares which are or were purchased as a result of this authorization or earlier authorizations for all purposes allowed by law. The authorization to purchase the company's own shares, to retire these shares, and to resell or utilize these shares in other ways can be exercised once or more than once, individually, or in conjunction with one another as well as only in parts. Shareholders' statutory subscription rights to these shares are exempted insofar as these shares are to be used in accordance with the aforementioned authorizations.

In the 2018 fiscal year, the company purchased 2,522 of its own shares (previous year: 251) at an average price of 32.41 euros (previous year: 34.32 euros) per share with a market value of 82 thousand euros (previous year: 9 thousand euros). The company purchased its own shares in the reporting period for employee anniversaries. As of December 31, 2018 the company has no further treasury shares in its portfolio.

Retained earnings

Retained earnings include the results achieved in the past by the companies included in the consolidated financial statements, insofar as they have not been distributed.

Accumulated other equity

Accumulated other equity capital includes reserves for the revaluation of pensions, hedging of cash flows, and currency translation from the translation of the financial statements of foreign subsidiaries.

Non-controlling interests

The non-controlling interests refer to Manz India Private Limited, in which Manz Asia Ltd. holds 75 % of as well as Suzhou Manz New Energy Equipment Ltd., in which Manz AG holds 56 % of the shares. The share of equity capital and annual profit/loss attributed to the minority shareholders is disclosed separately in the balance sheet and/or income statement.

Proposed appropriation of profits

Pursuant to Article 58, Section 2, of the German Stock Corporation Act, the distribution of dividends by Manz AG is based on the net earnings disclosed in the annual financial statements (individual financial statement) dated December 31, 2018. The annual financial statements of Manz AG as of Monday, December 31, 2018, closed with a net loss of 5,848 thousand euros (previous year: 4,753 thousand euros).

Information regarding capital management

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
Cash and cash equivalents	51,006	47,845
Financial liabilities	43,311	39,462
Net financial liabilities	–7,695	–8,383
Total Manz AG shareholders equity	**149,503**	**159,142**
Equity ratio (in %)	43.38	47.98
Gearing (in %)	–5.1	–5.3

1 Adjustment after restatement due to deconsolidation of a company

The net financial liabilities fell slightly during the 2018 fiscal year. Despite this, the inventory of cash and cash equivalent continued to cover these completely with a coverage of 7,695 thousand euros.

Compared to the previous year, the equity capital ratio was regressive, however it continued to fulfill the minimum equity ratio of 40 % set by the Managing Board and the Supervisory Board.

Through the regression of the equity capital and the net financial liabilities, Gearing increased as a ratio of the net financial liabilities to equity capital before non-controlling shares to –5.1 % (previous year –5.3 %). The Managing Board and Supervisory Board have defined gearing of less than 50 % as a target. The proscribed target figures were achieved in the 2018 fiscal year.

NON-CURRENT FINANCIAL LIABILITIES (24)

The non-current financial liabilities of 1,138 thousand euros consist of long-term loans from Manz Italy S.r.l. and with a residual term of between one and five years.

PENSION PROVISIONS (25)

In the calculation of pension provisions, the selection of the discount rate or trend assumptions plus the formation of biometric probabilities, leads to differences in comparison to the actual obligations emerging over the course of time.

Contrary to the previous year, the Heubeck mortality tables RT 2018 G were used for the first time in the 2018 financial statements to measure Manz AG's pension provisions. The change in the biometric assumptions resulted in a difference of 61 thousand euros which was recognized in other comprehensive income.

The components of expenses for pension benefits recognized in the Group's income statement and the amounts carried in the balance sheet are presented in the following charts.

The present value of performance-based obligations at the end of the year is balanced against the plan assets at fair market value (financing status).

Pension Provisions

(in EUR tsd.)	2018	2017[1]
Changes in the present value of benefits		
Present value of performance-based obligations as of January 1	**7,650**	**7,914**
Changes to the basis of consolidation	0	0
Disposal due to sale of packaging division	0	–478
Service cost	12	16
Interest cost	115	134
Benefits paid	–234	–399
Actuarial losses (+)/gains (–)	0	
due to changes in demographic assumptions	49	–19
due to changes in financial assumptions	81	582
due to adjustments based on past experience	–261	–20
Currency differences from international plans	34	–80
Present value of performance-based obligations as of December 31 .	**7,446**	**7,650**
Change in plan assets		
Value of plan assets as of January 1	**340**	**527**
Income from plan assets	5	11
Company contributions	63	64
Benefits paid	–27	–248
Actuarial losses(+)/gains(–)	8	1
Currency differences from international plans	4	–15
Value of plan assets as of December 31	**394**	**340**
Financing status{= pension reserves)	**7,051**	**7,310**
which apply to:		
Manz AG, Reutlingen	3,701	3,882
Manz Italy S.r.l., Sasso Marconi/Italy	1,626	1,656
Manz Taiwan Ltd., Chungli/Taiwan	1,725	1,772

1 Adjustment after restatement due to deconsolidation of a company

The pension obligations of Manz AG consist of a single commitment with a constant amount as well as an occupational pension scheme of the former Manz Tübingen GmbH, which was closed for new acquisitions from July 15, 1997.

The obligations at Manz Italy S.r.l. include the statutory compensation for the separation of employees in each employment relationship.

Manz Taiwan Ltd. has both a performance-based and contribution-based pension plan for its employees. Employees hired after July 1, 2005, can only select the contribution-based pen-sion plan. Those employed before July 1, 2005, can choose between the two pension plans.

The following amounts have been included in the income statement:

(in EUR tsd.)	2018	2017
Service cost	–12	–16
Net interest cost	–110	–123

The service cost is reported in personnel expenses, while the interest cost is reported under financial expenses.

In the coming fiscal year, employer contributions to the plan assets are expected to total 29 thousand euros and pension payments are expected to total 2,186 thousand euros.

The plan assets for German pension obligations consist exclusively of reinsurance policies. The plan assets for Manz Taiwan Ltd. are endowments stipulated by law that must be paid into an external central trust (Taiwan's Labor Pension Fund). The fund's assets comprise re-insurance policies (Germany) and trust assets (Taiwan), which make up 20% and 80% of the fund's total assets, respectively.

For contribution-based pension plans, payments were made totaling 21 thousand euros. In addition, due to statutory provisions, contributions to the state pension insurance company amounting to 2,379 thousand euros were charged to domestic companies. (previous year: 2,322 thousand euros).

The calculation of pension reserves was carried out based on the following underlying assumptions:

(in %)	Germany		Italy		Taiwan	
	2018	2017	2018	2017	2018	2017
Discount rate	1.72	1.74	1.13	1.30	1.31	1.60
Salary and wage increases	2.50	2.50	2.63	2.63	3.00	3.00
Pension increases	1.70	1.70	1.50	1.50	1.31	3.00

An increase or decline in key actuarial assumptions would have the following effect on the present value of pension obligations:

(in EUR tsd.)		2018
Discount rate sensitivity	+0.50 %	–283
Discount rate sensitivity	–0.50 %	310
Sensitivity for pension dynamics	+0.50 %	211
Sensitivity for pension dynamics	–0.50 %	–194

The weighted average duration of performance-based obligations was 13.1 years at the end of the reporting year (2017: 13.9 years).

OTHER NON-CURRENT PROVISIONS (26)

Other non-current provisions developed as follows (in thousand euros):

(in EUR tsd.)	Jan. 1, 2018	Currency adjustment	Utilization	Reversal	Discount rate	Addition	Dec. 31, 2018
Warranties	2,262	12	812	962	6	2,374	2,868
Personnel	454		299	148	1	240	246
	2,716	**12**	**1,111**	**1,110**	**7**	**2,614**	**3,114**

Non-current personnel obligations contain obligations from the partial retirement as well as jubilee obligations. The provision for partial retirement was supplemented by the plan assets of 74 thousand euros, net (previous year: 245 thousand euros).
Provisions for warranty obligations are recognized on the basis of past experience. It is expected that the costs will be incurred within the next two fiscal years.

TRADE PAYABLES (27)

Trade payables are accounted for at amortized cost. Their balance sheet values generally correspond to their market values and they are due within one year.

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
Liabilities to third parties	69,660	88,864
Liabilities to associated companies	23	10
	69,683	**88,874**

1 Adjustment after restatement due to deconsolidation of a company

CONTRACT LIABILITIES (FROM 2018)/PAYABLES RECEIVED (TO 2017) (28)

As a result of the introduction of IFRS 15, the passive excess of advance payments from customer orders on the liabilities side has been reported as contract liabilities since January 1, 2018.

Contract liabilities consisted of the following amounts on January 1, 2018 and on December 31, 2018:

(in EUR tsd.)	Dec. 31, 2018	Jan. 1, 2018
Contract liabilities	42,285	13,395

The significant rise in contract liabilities can be traced back to the positive development of the order situation. Of the contractual liabilities as of January 1, 2018 in the amount of 13,395 thousand euros, revenues of 10,375 thousand euros were recognized in the period up to December 31, 2018.

Payments received (2017)

Where payments received exceed the total of contract costs incurred and profits reported for the relevant order, such advances are accounted for on the liabilities side under "payments received."

(in EUR tsd.)	31.12.2017[1]
Manufacturing costs including order result	25,765
Minus payments received	–39,160
	–13,395

1 Adjustment after restatement due to deconsolidation of a company

OTHER CURRENT PROVISIONS (29)

Other current provisions developed as follows:

(in EUR tsd.)	Jan 1, 2018	Currency adjustment	Utilization	Liquidation	Addition	Dec. 31, 2018
Personnel	1,203	7	1,056	154	2,430	2,430
Sales commissions	1,280	58	513	825	4,823	4,823
Reworking	194	0	194	0	195	195
Other	2,465	3	2,004	464	4,586	4,586
	5,142	**68**	**3,767**	**1,443**	**12,034**	**12,034**

Provisions for warranties, threatened losses and annual accounting costs in particular are recognized in the area "Other".

The provisions lead to payments being made in the following year.

OTHER CURRENT LIABILITIES (30)

(in EUR tsd.)	Dec. 31, 2018	Dec. 31, 2017[1]
Tax liabilities	1,673	808
Earn-out liabilities	3,106	3,181
Personnel liabilities	5,865	6,033
Other	2,809	1,708
	13,453	**11,730**

1 Adjustment after restatement due to deconsolidation of a company

The tax liabilities are primarily made up of value added tax liabilities. 3,000 thousand euros of the earn-out liabilities relate to the earn-out component from the acquisition of CIGS Technology GmbH in 2012, which is unlimited in time and dependent on the sale of CIGS equipment, and 106 thousand euros (previous year: 181 thousand euros) to the current portion of the earn-out component from the acquisition of KLEO Halbleitertechnik GmbH in fiscal year 2015. All liabilities are due within one year.

REPORTING ON FINANCIAL INSTRUMENTS

The following table shows the reconciliation of balance sheet items to the categories of financial instruments, divided according to the carrying amounts and fair values of the financial instruments.

Trade receivables, contract assets, other current assets, cash and cash equivalents, trade payables and the majority of other liabilities within the scope of IFRS 7 have short remaining terms. The carrying amounts of these financial instruments are therefore assumed to equate approximately to their fair market values.

Carrying amounts by measurement category

Assets (in EUR tsd.)	**Classification category IAS 39**	**Classification category IFRS 9**	**Dec. 31, 2017[1] Book value**	**Jan. 1, 2018 Book value**	**Dec. 31, 2018 Book value**
Financial assets	Financial assets available for sale	Fair value through other comprehensive income (Equity instruments)	23,575	23,575	20,006
Other non-current assets	Loans and receivables	Amortized cost	502	502	523
Trade receivables from third parties	Loans and receivables	Amortized cost	82,658	34,140	30,041
Trade receivables from associated companies	Loans and receivables	Amortized cost	60	60	97
Derivative financial instruments	Assigned hedging instruments	Assigned hedging instruments	29	29	2
Other current assets	Loans and receivables	Amortized cost	23,024	22,982	27,965
Cash and cash equivalents	Loans and receivables	Amortized cost	47,845	47,763	51,006
			177,693	**129,051**	**129,640**

Liabilities (in EUR tsd.)					
Financial liabilities	Amortized cost	Amortized cost	39,462	39,462	43,311
Trade payables from third parties	Amortized cost	Amortized cost	88,864	88,864	69,660
Trade payables from associated companies	Amortized cost	Amortized cost	10	10	23
Derivative financial instruments	Assigned hedging instruments	Assigned hedging instruments	7	7	2
Other liabilities					
	Fair Value Through Profit or Loss (FVTPL)	Fair Value Through Profit or Loss (FVTPL)	3,422	3,422	3,106
	Amortized cost	Amortized cost	1,715	1,715	2,863
			133,480	**133,480**	**118,965**

1 Adjustment after restatement due to deconsolidation of a company

The following table shows the reconciliation of balance sheet items to the categories of financial instruments, divided according to the carrying amounts and fair values of the financial instruments.

Assets as of December 31, 2018

IFRS 9 – Financial Assets	Carrying amounts by measurement category					
(in EUR tsd.)	Fair value	At continued acquisition cost	Profit-neutral for fair value in other comprehensive income (equity instruments)	Designated hedge fund instruments (cash flow hedges)	Not in the application area IFRS 7, IAS 9	Carrying amount Dec. 31, 2018
Financial assets	20,006	–	20,006	–	–	20,006
Other non-current assets	523	523	–	–	–	523
Trade receivables from third parties	30,041	30,041	–	–	–	30,041
Trade receivables from associated companies	97	97	–	–	–	97
Derivative financial instruments	2	–	–	2	–	2
Other current assets	35,038	27,965	–	–	7,073	35,038
Cash and cash equivalents	51,006	51,006	–	–	–	51,006
	136,713	**109,632**	**20,006**	**2**	**7,073**	**136,713**

Liabilities as of December 31, 2018

IFRS 9 – Financial Liabilities	Carrying amounts by measurement category					
(in EUR tsd.)	Fair value	Fair Value Through Profit or Loss	At continued acquisition cost	Designated hedging instruments (cash flow hedges)	Not in the application area IFRS 7, IAS 9	Carrying amount Dec. 31, 2018
Financial liabilities	43,311	–	43,311	–	–	43,311
Financial liabilities from leases	–	–	–	–	–	0
Liabilities to third parties from delivery of goods and services	69,660	–	69,660	–	–	69,660
Liabilities to associated companies from goods and services	23	–	23	–	–	23
Liabilities from goods and services						
Derivative financial instruments	2	–	–	2	–	2
Other liabilities	13,508	3,106	2,863	–	7,539	13,508
	126,504	**3,106**	**115,857**	**2**	**7,539**	**126,504**

Assets as of Dec. 31, 2017[1]

IAS 39 – Financial Assets (in EUR tsd.)	Fair value	Carrying amounts by measurement category: Loans and receivables	Financial assets available for sale	Designated hedge fund instruments	Not in the application area IFRS 7, IAS 39	Carrying amount Dec. 31, 2017[1]
Investments	23,575	–	23,575	–	–	23,575
Other non-current assets	502	502	–	–	–	502
Trade receivables from third parties	82,658	34,140	–	–	48,518	82,658
Trade receivables from associated companies	60	60	–	–	–	60
Derivative financial instruments	29	–	–	29	–	29
Other current assets	27,454	23,024	–	–	4,430	27,454
Cash and cash equivalents	47,845	47,845	–	–	–	47,845
	182,123	**105,571**	**23,575**	**29**	**52,948**	**182,123**

1 Adjustment after restatement due to deconsolidation of a company

Liabilities as of Dec. 31, 2017[1]

IAS 39 – Financial Liabilities (in EUR tsd.)	Fair value	Carrying amounts by measurement category: At fair value through profit or loss	At continued acquisition cost	Designated hedging instruments (cash flow hedges)	Not in the application area IFRS 7, IAS 39	Carrying amount Dec. 31, 2017[1]
Financial liabilities	39,462	–	39,462	–	–	39,462
Financial liabilities from leases	–	–	–	–	–	0
Trade payables from third parties	88,864	–	88,864	–	–	88,864
Trade payables from associated companies	10	–	10	–	–	10
Derivative financial instruments	7	–	–	7	–	7
Other liabilities	11,978	3,422	1,715	–	6,841	11,978
	140,321	**3,422**	**130,051**	**7**	**6,841**	**140,321**

1 Adjustment after restatement due to deconsolidation of a company

MEASUREMENT CLASSES

The Group uses the following hierarchy to determine and present the fair values of financial instruments for each measurement method:

Level 1: (unadjusted) prices for identical assets or liabilities quoted on active markets.

Level 2: input data that is observable either directly (i.e., as prices) or indirectly (i.e., derived from prices) for the asset or liability and that does not represent any quoted price as described in Level 1.

Level 3: input data that is not based on observable market data for the measurement of the asset or liability (unobservable input data).

The financial assets and liabilities recognized by Manz at fair value break down as follows in the fair market value hierarchy levels:

ASSIGNED TO FAIR MARKET VALUE HIERARCHY LEVELS

		Fair value hierarchy		
(in EUR tsd.)	**Dec. 31, 2018**	**Step 1**	**Step 2**	**Step 3**
Assets at fair value – affecting net income				
Derivatives with on-balance-sheet hedging relationship	2	–	2	–
Assets at fair value – not affecting net income				
Investments	20,006	–	–	20,006
Liabilities at fair value – affecting net income				
Conditional purchase price liabilities	3,106	–	–	3,106
Liabilities at fair value – not affecting net income				
Derivatives with on-balance-sheet hedging relationship	2	–	2	–

		Fair value hierarchy		
(in EUR tsd.)	**Dec. 31, 2017[1]**	**Step 1**	**Step 2**	**Step 3**
Assets at fair value – affecting net income				
Derivatives with on-balance-sheet hedging relationship	29	–	29	–
Assets at fair value – not affecting net income				
Investments	23,575	–	–	23,575
Liabilities at fair value – affecting net income				
Conditional purchase price liabilities	3,422	–	–	3,422
Liabilities at fair value – not affecting net income				
Derivatives with on-balance-sheet hedging relationship	7	–	7	–

1 Anpassung nach Berichtigung aufgrund Entkonsolidierung eines Unternehmens

The measurement of the fair value of the financial instruments in levels 1, 2, and 3 held as of December 31, 2018, resulted in the following total income and expenses:

(in EUR tsd.)	2018	2017[1]
Assets		
included in the income statement:	2	29
recorded in equity	–3,569	–670
at amortized cost		
included in the income statement:	–318	–26
recorded in equity	12	1

1 Adjustment after restatement due to deconsolidation of a company

Financial assets of the fair value hierarchy level 3

Development	2018	2017[1]
As of January 1	23,575	0
Additions	0	24,245
Disposals	0	0
Change in fair value	–3,569	–670
As of December 31	**20,006**	**23,575**

1 Adjustment after restatement due to deconsolidation of a company

Financial obligations of the fair value hierarchy level 3

Development	2018	2017[1]
As of January 1	3,422	3,440
Additions	0	0
Disposals	0	0
Change in fair value	–316	–18
As of December 31	**3,106**	**3,422**

1 Adjustment after restatement due to deconsolidation of a company

The calculation of the fair value of the contingent purchase price installment from the acquisition of Kleo Halbleitertechnik GmbH, classified in level 3 of the measurement hierarchy, is based on contractual agreements respectively internal plan data.

The Group holds a non-controlling 15% stake in NICE PV Research Ltd. Beijing, PR China. This company is not listed on the stock exchange. The Group holds these shares as a strategic investment and has therefore measured them at fair value in other comprehensive income.

The shareholding was tested for impairment in financial year 2018. The value in use was determined on the basis of the estimated future cash flows using the discounted cash flow method. Detailed budget and forecast calculations were used, covering a period of five years. The fair value as of the balance sheet date amounts to 20,006 thousand euros (previous year: 23,575 thousand euros).

NET EARNINGS BY MEASUREMENT CATEGORIES IN ACCORDANCE WITH IFRS 9

(in EUR tsd.)	Net profits/ losses	Total interest income/expenses	Total interest income	Total interest expenses
Financial year 2018 according to IFRS 9				
Amortized cost (AC)	2,432	–1,519	96	–1,615
thereof				
Financial assets	1,155	–1,615	0	–1,615
Financial liabilities	1,277	96	96	0
Fair Value Through Profit or Loss (FVTPL)	316	0	0	0
Assigned as hedging instrument	12	0	0	0
	2,760	**–1,519**	**96**	**–1,615**

(in EUR tsd.)	Net profits/ losses	Total interest income/expenses	Total interest income	Total interest expenses
Financial year 2017[1] according to IFRS 9				
Amortized cost (AC)	–1,504	–1,715	39	–1,754
thereof				
Financial assets	–468	–1,754	0	–1,754
Financial liabilities	–1,036	39	39	0
Fair Value Through Profit or Loss (FVTPL)	18	0	0	0
Assigned as hedging instrument	1	0	0	0
	–1,485	**–1,715**	**39**	**–1,754**

1 Adjustment after restatement due to deconsolidation of a company

(in EUR tsd.)	Net profits/ losses	Total interest income/expenses	Total interest income	Total interest expenses
Financial year 2017[1] according to IFRS 9				
Loans and receivables	–1,036	39	39	0
Assets held for trading (derivate financial instruments)	0	0	0	0
Financial liabilities available for sale	–474	0	0	0
Financial liabilities at fair value through profit or loss	18	0	0	0
Financial liabilities measured at amortized cost	–468	–1,754	0	–1,754
	–1,960	**–1,715**	**39**	**–1,754**

1 Adjustment after restatement due to deconsolidation of a company

The net gains and losses from the category "Amortized costs (AC)" primarily include gains and losses from currency translation and changes to valuation allowances on receivables and receivable losses from construction contracts.

Interest income for financial instruments in the "Amortized costs (AC)" category is the result of investing liquid funds. Interest expenses in the category "Amortized cost (AC)" relate to financial liabilities to banks.

FINANCIAL RISK MANAGEMENT AND FINANCIAL DERIVATIVES

As a company which operates internationally, the Manz Group is exposed to credit, liquidity, and market risks during the course of its ordinary business activities. Market risks particularly result from changes to exchange rates and interest rates. Financial risk management measures are designed to manage and limit these market risks within the scope of operating and financial activities. Depending on the risk assessment, derivative hedging instruments are used. To reduce the default risk, hedging transactions are entered into only with leading financial institutions which have excellent credit ratings.

The basic principles of Manz financial policy are regularly determined by the Managing Board and monitored by the Supervisory Board.

The sensitivity analyses in the following sections refer to the situation on December 31, 2018, and 2017, respectively. The sensitivity analyses were carried out based on the hedging relationships which existed on December 31, 2018, and on the premise that net debt, the relationship between the fixed and variable interest rates of liabilities and derivatives, and the share of financial instruments held in foreign currencies will remain constant.

The sensitivity analyses were prepared based on the following assumptions:

The sensitivity of the relevant items on the income statement reflects the effect of assumed changes in the corresponding market risks. This is based on financial assets and financial liabilities held on December 31, 2018, and 2017, including the effect of the hedging relationship.

CREDIT RISKS

Credit risk is the risk that business partners will not be able to meet their contractual obligations and that the Manz Group will therefore incur a financial loss. Within the scope of its operating activities, the Group is particularly exposed to default risks when it comes to trade receivables and risks within its financing activities, including cash investments with banks and derivative financial instruments.

The credit risk from receivables from customers is managed (locally) at the company level and constantly monitored. In project business, the risk of default is minimized by advance payments. If default risks are noticeable in the case of financial assets, these risks are recognized by means of valuation allowances. The default risk associated with cash investments and derivative financial instruments is reduced by spreading the investments across different banks.

The maximum credit risk of financial assets (including derivatives with a positive market value) corresponds to the carrying amount recognized in the balance sheet. As of the balance sheet date December 31, 2018, the maximum credit risk was 136,713 thousand euros, (previous year: 182,123 euros).

	Trade receivables	
(in EUR tsd.)	**Dec. 31, 2018**	**Dec. 31, 2017[1]**
Not overdue and not impaired	25,552	28,279
Overdue and value adjusted gross	7,309	7,280
Overdue and not impaired (1-30 days)	857	949
Overdue and not impaired (31-60 days)	76	877
Overdue and not impaired (61-90 days)	36	97
Overdue and not impaired (91-180 days)	32	478
Overdue and not impaired (>180 days)	253	340
Specific provisions	–3,978	–4,100
Trade receivables	**30,138**	**34,200**

1 Adjustment after restatement due to deconsolidation of a company

In certain cases, Manz may assume that a financial asset will default if there are internal or external indications that the outstanding amounts will not be paid in full. Such information is available, for example, if the debtor becomes aware of financial difficulties or if the borrower becomes insolvent or goes bankrupt. A financial asset is depreciated if there is certainty that the contractual cash flows will not be realized.

There were not any indications of a need for write-downs on trade receivables that were not impaired. As part of the implementation of the new impairment provisions in accordance with IFRS 9, valuation models were developed which are used to determine the default rates for trade receivables. Default rates are used, by considering different regions as well as individual default rates are reviewed by the responsible management. The recoverability of receivables that are neither past due nor impaired is considered to be very high. This assessment is primarily based on the long-term business relationship with most customers and the creditworthiness of the customers.

Other assets are not overdue.

LIQUIDITY RISKS

Liquidity risks, meaning the risk that Manz cannot meet its financial obligations, could be limited by the creation of financial reserves and the use of appropriate financial instruments to manage future liquidity situations.

The parent company Manz AG currently has no cash credit lines. Discussions with financial institutions regarding the procurement of new credit lines are currently on-going. The subsidiaries in Slovakia, Hungary, Italy, China and Taiwan are financed primarily through current overdraft and, to a lesser extent, long-term loans. As of the balance sheet date of December 31, 2018, the Manz Group had nearly unchanged free cash availability and guaranteed credit lines at banks in the amount of 14.6 million euros (previous year: 14.0 million euros).

The Manz companies are required, where possible, to process orders cash positive in order to reduce liquidity and financing risks. Here, the deposits should exceed the payouts over the entire term of the respective project.

If normal in project-based business, a delay on incoming orders or payments has significant effects on liquidity or the relevant company and possibly also on the Group. In order to recognize these risks from delayed payments in a timely manner, the Manz Group works with a rolling liquidity forecast, which is updated bi-weekly.

The Managing Board considers the liquidity of Manz AG to be guaranteed for the fiscal years 2019 and 2020.

The following lists show the contractually agreed, non-discounted interest and principal payments for the primary financial liabilities as set out in IFRS 7. If the maturity date is not fixed, the liability is applied to the earliest maturity date. Interest payments with variable interest yield are taken into account according to the terms applicable as of the reporting date. We mainly assume that the cash outflows will not occur earlier than shown.

(in EUR tsd.)	Total	2019	2020	>2020
Dec. 31, 2018				
Financial liabilities	49,771	43,788	2,753	3,230
Trade payables	69,683	69,683		
Derivative financial instruments	2	2		
Other liabilities	13,508	13,453	55	
	132,964	**126,926**	**2,808**	**3,230**

(in EUR tsd.)	Total	2018	2019	>2019
Dec. 31, 2017[1]				
Financial liabilities	46,478	37,884	5,086	3,508
Trade payables	88,874	88,874		
Derivative financial instruments	7	7		
Other liabilities	11,978	11,730	248	
	147,337	**138,495**	**5,334**	**3,508**

1 Adjustment after restatement due to deconsolidation of a company

Property, plant and equipment belonging to Manz Slovakia s.r.o. have been provided as collateral for the loans and lines of credit extended to the Manz Group by banks and utilized as of the balance sheet date.

Manz monitors the risk of a possible liquidity bottleneck by means of regular liquidity planning. The Group thus achieves a balance between covering its financial requirements and ensuring flexibility through the use of bank overdrafts, bank loans and leasing. Manz has sufficient sources of finance at its disposal. Liabilities to existing lenders with a term of up to twelve months are generally extended.

CURRENCY RISKS

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in exchange rates. Above all, the Manz Group is exposed to this risk due to its business activities (if sales revenues and / or expenses are denominated in a currency other than the functional currency of the respective Manz company). In order to reduce the effects of exchange rate fluctuations, Manz AG continually quantifies exchange rate risks and hedges all major risks with forward exchange contracts and foreign exchange swaps whenever this is possible and makes business sense. The hedging of value fluctuations of future cash flows from expected transactions involves planned sales in foreign currency. Differences caused by exchange rates when financial statements are translated into the Group currency are disregarded.

To present market risks, IFRS 7 demands sensitivity analyses which show possible effects that changes to relevant risk variables (e.g. exchange rates, interest rates) might have on earnings and equity. To determine the periodic effects, a possible change in the risk variables on the financial instruments held by the company on the reporting date is undertaken. It is assumed that the instruments held at the end of the year are representative for the fiscal year. Foreign currency derivatives are always assigned to hedged items so that no currency risks can arise from these instruments.

With regard to foreign currency risks, Manz was particularly exposed to the exchange rate fluctuations of the Chinese renminbi against the US dollar and the Taiwanese dollar against the US dollar and euro in the 2018 financial year, as a significant portion of goods and services were traded in these currency pairs in the year under review. In the previous year, however, the ratio of the Chinese renminbi to the euro was identified as a significant exchange rate risk.

If the US dollar had appreciated by 5 % against the Chinese yen as of December 31, 2018 (2017), consolidated net income would have been 854 thousand euros higher (previous year 52 thousand euros lower). Equity before taxes would have decreased accordingly by 854 thousand euros (previous year: 52 thousand euros). If the US dollar had depreciated by 5 % against the Chinese yen as of December 31, 2018 (2017), consolidated net income would have been 854 thousand euros lower (previous year: 52 thousand euros higher). Equity before taxes would have decreased accordingly by 854 thousand euros (previous year: 52 thousand euros higher).

If the US dollar had appreciated by 5 % against the Chinese yen as of December 31, 2018 (2017), consolidated net income would have been 2,063 thousand euros higher (previous year (previous year: 1,984 thousand euros higher). Equity before taxes would have decreased accordingly by 2,063 thousand euros (previous year: 1,984 thousand euros higher). If the US dollar had depreciated by 5 % against the Taiwanese dollar as of December 31, 2018 (2017), consolidated net income would have been 2,063 thousand euros lower (previous year 1,984 thousand euros lower). Equity before taxes would have decreased accordingly by 2,063 thousand euros (previous year: 1,984 thousand euros).

If the euro had been revalued by 5 % against the Taiwanese dollar as of December 31, 2018 (2017), consolidated net income would have been 542 thousand euros higher (previous year: 72 thousand euros higher). Equity before taxes would have been increased accordingly by 542 thousand euros (previous year: 72 thousand euros). If the euro had been devalued by

5 % against the Taiwanese dollar as of December 31, 2018 (2017), the consolidated result would have been 542 thousand euros lower (previous year: 72 thousand euros). Equity before taxes would have been reduced accordingly by 542 thousand euros (previous year: 72 thousand euros).

INTEREST RATE RISKS

Interest rate risk is the risk that the fair value or future cash flow of a financial instrument will fluctuate, due to changes in market interest rates. The risk of fluctuations in market interest rates to which the Group is exposed results primarily from loans with variable interest rates.

Manz has loans with variable interest rates that were subject to interest rate changes as of December 31, 2018. A hypothetical increase in these interest rates by 25 basis points per year would have led to an increase in interest expenses of 115 thousand euros (previous year: 104 thousand euros). A hypothetical reduction of 25 basis points per year would have led to a reduction in interest expenses of 115 thousand euros (previous year: 104 thousand euros).

Manz holds a balanced portfolio of fixed-rate and variable-rate loans to manage interest rate risk. To ensure balance, Manz enters into interest rate swaps in which variable and fixed interest amounts are exchanged with the contractual partner.

CONTINGENCIES AND OTHER FINANCIAL OBLIGATIONS

As of the balance sheet date, Manz AG had guarantees in place for liabilities to banks for third parties totaling 700 thousand euros (value on December 31, 2018: 78 thousand euros). In addition, there are liabilities for future license payments of NICE Solar Energy GmbH in the amount of 5,600 thousand euros. The maximum risk of a utilization of the financial obligations are corresponding to the amount mentioned above.

The Manz Group has entered into various rental agreements for buildings and leases for operating and office equipment. The due dates of minimum lease payments from operating leases and rental agreements are as follows:

(in EUR tsd.)	2018	2017
Minimum lease payments		
Remaining term up to 1 year	5,264	4,350
Remaining term of 1–5 years	10,356	13,495
Remaining term of more than 5 years	13,039	13,756

IIn fiscal year 2018, rental and leasing payments of 5,549 thousand euros (previous year: 5,013 thousand euros) were recognized in other operating expenses.

RELATED PARTY DISCLOSURES

IAS 24 requires disclosures of relationships, transactions and outstanding balances (including obligations) with related parties.

Natural related persons include the Supervisory Board and the Managing Board of Manz AG including their family members as related persons. In addition, the Manz family together holds 28.09% of the shares in Manz AG:

It also includes companies that are controlled by a related party or are under the joint control of a related company or are involved with a related party, to the related company. As a result, the at equity balanced company Talus Manufacturing Ltd., Chungli, Taiwan is also identified as a related company. All commercial activities started under normal market conditions. This circle also includes the 2H.IM Executive Interim Management GmbH, Langweid. Consulting services amounting to 103 thousand euros were purchased from 2H.IM Executive Interim Management GmbH, Langweid, during the financial year 2018.

MANAGING BOARD

The following persons were appointed as members of the Managing Board in the 2018 financial year.

- Martin Drasch – Chief Executive Officer (from October 1, 2018),
  former Chief Operations Officer
- Manfred Hochleitner, Chief Financial Officer (from July 1, 2018)
- Eckhard Hörner-Marass Chief Executive Officer (until September 30, 2018)
- Gunnar Voss von Dahlen, Chief Financial Officer (until March 23, 2018)

Compensation of the Managing Board

The fundamentals of the compensation system and the amount of the compensation of the Managing Board and Supervisory Board ,as well as the former members of the Managing Board, are shown in the compensation report, which is part of the management report.

The total compensation of the Managing Board in accordance with § 314 (1) No. 6a) HGB amounted to 1,577 thousand euros for the 2018 financial year (previous year: 2,121 thousand euros). The non-performance-related benefits amount to 1,386 thousand euros 1,205 thousand euros). This includes severance payments of 523 thousand euros (previous year: 0 thousand euros). In the year under review, a total of 6,048 (previous year: 4,544) subscription rights to shares were granted under the Performance Share Plan to members of the Managing Board with a total fair value of 102 thousand euros (previous year: 436 thousand euros).

The subscription rights to shares of Manz AG on the basis of the Manz Performance Share Plan 2015 (2016, 2017 and 2018 tranches) were measured at fair value using recognized mathematical finance methods.

Managing Board member Martin Drasch has a defined contribution plan, For this purpose, 12 thousand euros (previous year: 12 thousand euros) p.a. are paid into an externally funded pension fund.

Managing Board member Manfred Hochleitner has a defined contribution plan. For this purpose, 6 thousand euros (previous year: 0 thousand euros) p.a. are paid into an externally funded pension fund.

Former Managing Board member Gunnar Voss von Dahlen had a defined contribution plan. In fiscal year 2018 for this purpose, 3 thousand euros (previous year: 7 thousand euros) were paid into an externally re-insured provident fund.

Former Managing Board member Otto Angerhofer received a pension payment of 10 thousand euros during fiscal year 2018 (previous year: 10 thousand euros). There is a pension obligation to the former Managing Board member amounting to 143 thousand euros (previous year: 167 thousand euros).

The following table provides an overview of the compensation paid to the members of the Managing Board for performing their duties in the 2018 fiscal year acc .to IAS 24.17:

(in EUR tsd.)	Total 2018	Total 2017
Short-term employee benefits	**824**	1,051
Post-employment benefits	**29**	29
Benefits on termination of employment	**523**	0
Share-based compensation	**199**	436

SUPERVISORY BOARD

Prof. Dr. Heiko Aurenz, Dipl. oec., Managing Director of Ebner Stolz Management Consultants GmbH, Stuttgart, Chairman of the Supervisory Board.

Dieter Manz, Dipl.-Ing. (FH), Managing Director of Manz GmbH Management Consulting and Investment, Schlaitdorf, Deputy Chairman of the Supervisory Board (from July 4, 2018).

Prof. Dr.-Ing. Michael Powalla, Managing Director of Photovoltaics and member of the

Managing Board of the Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), as well as Professor for thin film photovoltaics at the Karlsruhe Institute for Technology (KIT), Lichttechnisches Institut, Faculty of Electrical Engineering and Information Technology, Deputy Chairman of the Supervisory Board (up to July 3, 2018)

Dr. Zhiming Xu, Chief Technical Officer of Shanghai Electric Group of Shanghai Electric Group Company Ltd, Shanghai, PRC, and Managing Director of Shanghai Electric Germany Holding GmbH, Frankfurt, Member of the Supervisory Board of Suzhou Manz New Energy Equipment Co., Ltd., Suzhou PR China.

The Chairman of the Supervisory Board Prof. Dr. Heiko Aurenz is also Chairman of the Supervisory Board of MAG IAS GmbH, Eislingen; Chairman of the Supervisory Board of FFG Werke GmbH, Eislingen; Chairman of the Supervisory Board of Know How! Company for continuing education, Leinfelden-Echterdingen, Germany, Dep. Chairman of the Supervisory Board of MQ Result AG, Tübingen; Member of the Supervisory Board of Anna-Haag-Mehrgenerationenhaus e.V., Stuttgart; Member of the Supervisory Board of Anna Haag Stiftung GmbH, Stuttgart; Member of the Supervisory Board of TanDiEM gGmbH, Stuttgart, Chairman of the Advisory Board of Monument Vermögensverwaltung GmbH, Stuttgart; Chairman of the advisory board of Andreas Lupold Hydrotechnik GmbH, Vöhringen, and member of the foundation board of the Aufbruch und Chance Foundation Stuttgart.

Supervisory Board member Prof. Dr.-Ing. Michael Powalla does not hold any mandates in other statutory supervisory boards or comparable domestic and foreign supervisory bodies of commercial enterprises.

The Deputy Chairman of the Supervisory Board Dieter Manz is a member of the Supervisory Board of TecInvest Holding AG, Puchheim.

Supervisory Board member Dr. Zhiming Xu is a member of the Board of Supervisors of NICE PV Research Ltd., Beijing, PRC China and member of the Advisory Board of Broetje-Automation GmbH, Rastede.

Compensation of the Supervisory Board

The compensation system for the Supervisory Board is also presented in the compensation report, which is part of the management report.

For the fiscal year 2018, the members of the Supervisory Board are paid a basic compensation and additional compensation for committee activities and this was a total, including attendance fees, of 142 thousand euros (previous year: 57 thousand euros):

AUDITOR'S FEE

The fee assessed for services by the company responsible for auditing the financial reports is calculated as follows:

(in EUR tsd.)	2018	2017
Auditing the annual financial statements	180	138
thereof previous year		6
Other auditing services	0	10
Tax consultation services	0	15
Other services	13	21

The audit of the 2018 financial statements was conducted by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart. The information on the audit of the financial statements for the previous year relates to the services provided by BEST AUDIT GmbH Wirtschaftsprüfungsgesellschaft.

CORPORATE GOVERNANCE CODE

Manz AG's Managing Board and Supervisory Board have issued the declaration required by Section 161 of the German Stock Corporation Act (AktG) and made it permanently available to shareholders on Manz AG's website at www.manz.com.

Reutlingen, March 21, 2019

The Managing Board of Manz AG

Martin Drasch　　　　Manfred Hochleitner

ASSURANCE OF LEGAL REPRESENTATIVES

To the best of our knowledge, and in accordance with the applicable accounting principles, the consolidated financial statements give a true and fair view of the Manz Group's financial position, financial performance and cash flows, and the Manz Group's management report includes a true and fair view of the trends and performance of the business and the position of the Group as well as a description of the principal opportunities and risks associate with the Group's expected development.

Reutlingen, March 21, 2019

The Managing Board of Manz AG

Martin Drasch

Manfred Hochleitner

INDEPENDENT AUDITOR'S REPORT

TO MANZ AG

Report on the audit of the consolidated financial statements and of the group management report

Opinions

We have audited the consolidated financial statements of Manz AG, Reutlingen, and its subsidiaries (the Group), which comprise the consolidated income statement, and the consolidated statement of comprehensive income for the fiscal year from January 1, 2018 to December 31, 2018, consolidated statement of financial position as of December 31, 2018, consolidated statement of cash flows and consolidated statement of changes in equity for the fiscal year from January 1, 2018 to December 31, 2018, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Manz AG for the fiscal year from January 1, 2018 to December 31, 2018.

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

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB ["Handelsgesetzbuch": German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at December 31, 2018 and of its financial performance for the fiscal year from January 1, 2018 to December 31, 2018, and

- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

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

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and the EU Audit Regulation (No 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der

Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Art. 10 (2) f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Art. 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Key audit matters in the audit of the consolidated financial statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the fiscal year from January 1, 2018 to December 31, 2018. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; we do not provide a separate opinion on these matters.

Below, we describe what we consider to be the key audit matters:

Revenue recognition on construction contracts

Reasons why the matter was determined to be a key audit matter

A significant part of the Group's business activities is processed via construction contracts. Since fiscal year 2018, revenue from construction contracts is recognized in accordance with IFRS 15, Revenue from Contracts with Customers, generally based on the extent of percentage of completion.

We consider the accounting for construction contracts to be an area posing a significant risk of material misstatement (including the potential risk of management override of internal controls) and thus a key audit matter, because management's assessments significantly impact the determination of the extent of percentage of completion. This particularly applies to the estimated total costs, remaining costs to completion, estimated total revenue as well as contract risks including technical risks. Revenue, estimated total contract costs and revenue recognition may deviate significantly from original estimates based on new knowledge about cost overruns and changes in project scope over the term of a construction contract.

Furthermore, the first-time application of IFRS 15 in fiscal year 2018 was of relevance for our audit, as it required the group-wide assessment of contracts in relation to the new accounting criteria and the recording of accounting effects as of January 1, 2018.

Auditor's response

As part of our audit procedures, we obtained an understanding of the Group's internally established methods and processes of project management in the bid and execution phase of construction contracts.

As part of our substantive audit procedures, we evaluated the executive directors' estimates and assumptions based on a risk-based selection of a sample of contracts. Our audit procedures included, among others, review of the sample contracts and their terms and conditions, including contractually agreed termination rights and damages. We conducted interviews with project managers on the selected projects as regards the development of the projects, the reasons for deviations between planned and actual costs, the current estimated costs to complete the projects, and the assessments of the executive directors on probabilities that contract risks will materialize. To identify anomalies in the development of margins throughout the projects' execution, we also applied data analysis procedures.

Moreover, we examined the billable revenue as of the reporting date and the matching cost of sales recognized in profit or loss according to the percentage of completion to assess whether income is calculated in the correct period and evaluated the accounting treatment of relevant items in the statement of financial position.

In assessing the contract analysis performed by management with regard to the first-time application of IFRS 15, we evaluated in particular whether the requirements to recognize revenue over a period of time have been met based on a sample of construction contracts. We also appraised the disclosures on the effects of the first-time application of IFRS 15 in the notes to the consolidated financial statements.

Our audit procedures did not lead to any reservations relating to revenue recognition on construction contracts.

Reference to related disclosures

Additional disclosures on revenue recognition of construction contracts as well as the associated recognition and measurement policies and judgments are included in the notes to the consolidated financial statements in the sections "Summary of significant accounting policies" as well as "Notes to the statement of financial position", note 19 "Contract assets".

Impairment testing of goodwill

Reasons why the matter was determined to be a key audit matter

Goodwill of 34.5 million euros is recognized in the consolidated financial statements of Manz AG, which is subject to an annual impairment test pursuant to IAS 36.

The result of the impairment test depends chiefly on the future cash inflows estimated by the executive directors as well as the discount rate used and is, therefore, subject to judgment. The impairment test is therefore associated with exceptional uncertainty and judgment, which is why it was determined to be a key audit matter.

Auditor's response

We discussed the method used to perform the impairment test with the Company's executive directors and assessed its compliance with the requirements of IAS 36. We checked on a test basis that the planning assumptions used in the detailed forecasts of each of the cash-generating units are in line with the business plan of the Company prepared by the Managing Board and ratified by the Supervisory Board. In addition, we verified the growth rates for income and expenses used to roll forward the budget using internal data, in particular related to the expected future orders. We also analyzed the forecasts with regard to adherence to the budget in the past and obtained evidence substantiating the individual assumptions of the forecasts.

We verified the individual components used to determine the discount rate with the support of our internal valuation experts by analyzing the peer group, comparing market data with external evidence and examining the calculation. We examined the clerical accuracy of the valuation model on a sample basis.

We verified the significant assumptions used in the sensitivity calculations prepared by the Company in order to estimate any potential impairment risk associated with a change in one of the significant assumptions used in the valuation.

Our audit procedures did not lead to any reservations regarding the impairment of goodwill.

Reference to related disclosures

Additional disclosures on the impairment of goodwill as well as the associated recognition and measurement policies and judgments are included in the notes to the consolidated financial statements in the sections "Summary of significant accounting policies" as well as "Notes to the statement of financial position", note 13 "Intangible assets".

Determining the scope of consolidation

Reasons why the matter was determined to be a key audit matter

Manz AG holds direct and indirect majority shareholdings in investees, which other shareholders hold minority shares in. Due to the corporate law agreements containing some comprehensive and complex provisions regarding control over these entities and the significance of the potential effects on the presentation of the Group's assets, liabilities, financial performance and financial position, the assessment of the control over these investees and thus the determination of the scope of consolidation were determined to be key audit matters.

Auditor's response

In light of the control criteria in accordance with IFRS 10, we analyzed the regulations of the articles of association and bylaws as well as additional agreements between the shareholders during our audit. First we analyzed the identification of the investees' main activities and discussed these with the executive directors in order to assess the control over the relevant investees. We took into account the evaluation of the executive directors on the ability to direct the relevant activities unilaterally, on potential significant purchase options, possible economic dependencies as well as a special relationship between the Group and investees in addition to the rights under the partnership agreement for obtaining the power of disposition.

On the basis of an evaluation of the investee Talus Manufacturing Ltd., Taoyuan/Taiwan, we also examined adjustments to prior-year figures in the consolidated financial statements and group management report.

We assessed the presentation in the notes to the consolidated financial statements in terms of the resulting requirements pursuant to IAS 8. Our audit did not lead to any reservations concerning the determination of the scope of consolidation.

Reference to related disclosures

Additional disclosures of the Company on the determination of the basis of consolidation as well as the associated recognition and measurement policies and judgments are included in the notes to the consolidated financial statements in the section "Summary of significant accounting policies".

Other information

The Supervisory Board is responsible for the report of the Supervisory Board. In all other respects, the executive directors are responsible for the other information. The other information, of which we received a version prior to issuing this auditor's report, comprises the following components designated for the annual report: the disclosures in the section "To our shareholders" of the annual report, the Group non-financial statement and the assurance of legal representatives.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or

- otherwise appears to be materially misstated.

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

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

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

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

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

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

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

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

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

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

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the

Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other legal and regulatory requirements

Further information pursuant to Art. 10 of the EU Audit Regulation

We were elected as auditor of the consolidated financial statements by the annual general meeting on July 3, 2018. We were engaged by the Supervisory Board on July 5, 2018. We were the group auditor of Manz AG for the first time in fiscal year 2018.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Art. 11 of the EU Audit Regulation (long-form audit report).

German Public Auditor responsible for the engagement

The German Public Auditor responsible for the engagement is Martin Matischiok.

Stuttgart, March 21, 2019

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Matischiok	Maurer
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

TODAY RESOURCES TOMORROW

The conscious, responsible use of resources is not an abstract idea for Manz. Neither is it limited to declarations of intent that lie in the future. Conserving and saving resources is a process for us in the here and now. The goals are clear: less waste, fewer emissions, and reduction of energy consumption.

IMPRINT

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For the sake of better readability, we consistently avoid gender-differentiating formulations (e.g. „his/her" or "he/she"). The corresponding terms apply to all genders for the purposes of equal rights. This is done solely for editorial purposes and does not imply a judgment of any kind.

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