FINANCIAL REVIEW 2018

Enabling the modern life

Metso's Annual Report 2018

Information about this report entity

Metso enables modern life. Business opportunities arise when we collaborate closely with our customers in developing sustainable solutions for their business challenges. By growing and improving profitability we create value for all our stakeholders. By demanding sustainability from ourselves and our partners alike, we contribute to the building of trust.

Metso's Annual Report 2018 consists of four report sections: Business Overview, Financial Review, Corporate Governance and GRI Supplement. In this Annual Report we apply integrated reporting elements.

Metso's channels

- metso.com
- twitter.com/metsogroup
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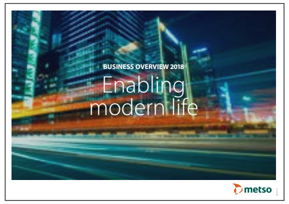
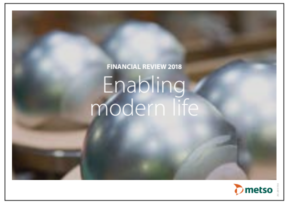
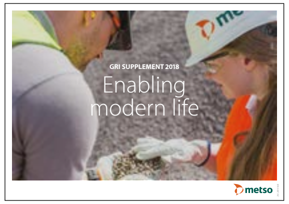


1. Business Overview
Strategy, value creation, sustainability and risk management



2. Financial Review
Board of Directors' Report, Financial Statements and investor information

3. Corporate Governance
Corporate Governance Statement including remuneration



4. GRI supplement
Externally assured sustainability information compliant with the GRI Standards

All Annual Report sections are available in English and in Finnish.
They are downloadable on our Annual Report website at www.metso.com/2018.

Financial review 2018

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About this report section / Financial Review 2018 comprises the Board of Directors' Report and Financial Statements for 2018 as well as Investor information. Corporate Governance statement has been published separately and is available on our website www.metso.com.

Board of Directors' Report

Financial year 2018

Operating environment

Market activity was healthy in all our businesses in 2018. The global mining market continued to improve throughout the year. Majority of projects were related to replacements and brownfield projects. Greenfield projects were still fairly limited. However, miners are showing increasing interest in the opportunities of new technologies but remained cautious on new investments and placed focus on cost containment and productivity improvements.

Demand for aggregates equipment continued to grow in 2018 and was backed by infrastructure-related activity especially in the US and India, the latter especially due to large infrastructure investments. In China, the market was also growing. The demand for services was healthy both from mining and aggregates customers. This was supported by high production rates at mines and the customers' appetite for productivity improvements.

Activity in the valves business was strong driven by Asia and North America. Oil and gas downstream project activity recovered while aftermarket spending, upgrade and turnaround activity remained healthy. Demand in the chemical and pulp and paper market remained favorable, driven by China and the rest of Asia. The pumps also saw good demand. In waste recycling, the market grew in 2018 along with the increasing solid waste rates. In metal recycling, the scrap availability continued to rise.

Orders and sales

Orders received in 2018 totaled EUR 3,499 million, which is 17% higher than in the corresponding period of 2017. Orders increased 19% in Minerals to EUR 2,742 million and 12% in Flow Control to EUR 758 million. In both segments, the equipment and services businesses posted strong order growth. Growth in both segments is attributable to the healthy market activity in all main markets and the competitiveness of the offering focusing on efficiency and productivity. The order backlog at the end of 2018 totaled EUR 1,686 million (EUR 1,439 million in 2017).

Sales in 2018 totaled EUR 3,173 million, which is 18% higher than in 2017. Minerals' sales increased 19% year-on-year to EUR 2,453 million and Flow Control's sales increased 13% to EUR 720 million. Equipment sales grew faster than services sales in both segments. Sales growth is attributable to healthy market activity and successful ramp-up in the supply chain to improve delivery capability from the previous year.

Metso's key figures

EUR million	2018	2017	Change %
Orders received	3,499	2,982	17
Orders received by services business	1,913	1,717	11
% of orders received	55	58	
Order backlog	1,686	1,439	17
Sales	3,173	2,699	18
Sales by services business	1,773	1,595	11
% of sales	56	59	
Adjusted EBITA	369	244	51
% of sales	11.6	9.0	
Operating profit	351	218	61
% of sales	11.1	8.1	
Earnings per share, EUR	1.53	0.68	125
Free cash flow	146	158	–8
Return on capital employed (ROCE) before taxes, %	16.9	10.3	
Equity to assets ratio, %	47.7	44.5	
Net gearing, %	11.7	1.8	
Personnel at end of year	13,150	12,037	9

Orders received – Impacts from currency and structural changes

EUR million, %	Minerals	Flow Control	Metso total
2017	**2,308**	**675**	**2,982**
Organic growth in constant currencies, %	23%	16%	22%
Impact of changes in exchange rates, %	–6%	–4%	–6%
Structural changes, %	1%	1%	1%
Total change, %	**19%**	**12%**	**17%**
2018	**2,742**	**758**	**3,499**

Sales – Impacts from currency and structural changes

EUR million, %	Minerals	Flow Control	Metso total
2017	**2,064**	**635**	**2,699**
Organic growth in constant currencies, %	24%	17%	22%
Impact of changes in exchange rates, %	–6%	–4%	–5%
Structural changes, %	1%	0%	1%
Total change, %	**19%**	**13%**	**18%**
2018	**2,453**	**720**	**3,173**

Financial performance

Adjusted EBITA in 2018 totaled EUR 369 million, or 11.6% of sales (EUR 244 million, or 9.0%). The improvement in profitability was driven by sales growth and successfully implemented performance improvement actions in all business areas. Volume growth was somewhat affected by the higher share of equipment sales. Operating profit (EBIT) improved to EUR 351 million or 11.1% of sales (EUR 218 million, or 8.1%) and profit before taxes improved to EUR 321 million (EUR 184 million).

Net financial expenses in January–December were EUR 30 million (EUR 35 million) and the effective tax rate was 28.8%. Earnings per share more than doubled to EUR 1.53 (EUR 0.68). Full-year 2017 figures were negatively impacted by EUR 33 million in charges related to the closing of mining projects in the backlog. Return on capital employed (ROCE) improved significantly and was 16.9% (10.3%) thanks to both improved earnings and lower capital employed.

Net cash generated by operating activities totaled EUR 177 million (EUR 185 million) and free cash flow was EUR 146 million (EUR 158 million). Improved profit for the period had a positive impact on free cash flow. An increase in net working capital had a EUR 129 million negative (EUR 23 million negative) impact on cash flow, arising mainly from growth in inventories in the supply chain to ensure availability in the fast-growing markets. A one-time tax payment of EUR 21 million affecting free cash flow was made in the first quarter and was related to a reassessment decision from the Finnish tax authority. Metso is appealing the decision, but the payment was made to avoid any additional interest costs during the expected long complaint process.

Financial position

Metso's balance sheet and liquidity position remain strong. Total liquid funds at the end of December 2018 were EUR 426 million (EUR 826 million), of which EUR 94 million (EUR 307 million) was invested in financial instruments with an initial maturity exceeding three months, and the remaining EUR 332 million (EUR 519 million) is accounted for as cash and cash equivalents. The decline in liquid funds resulted mainly from the EUR 286 million repayments of long-term debt, EUR 157 million of dividend payments, and EUR 77 million of cash consideration for acquisitions.

Metso has an undrawn, committed EUR 500 million syndicated revolving credit facility and an undrawn, committed EUR 40 million loan from the European Investment Bank.

Net interest-bearing liabilities were EUR 165 million at the end of December (EUR 24 million) and net gearing was 11.7% (1.8%). The equity-to-assets ratio was 47.7% (44.5%).

Metso's credit rating remains unchanged: Standard & Poor's Ratings Services confirmed Metso's long-term corporate credit rating of BBB and short-term credit rating of A–2, with a stable outlook, in March 2018.

Reporting segments: Minerals

Key figures

EUR million	2018	2017	Change %
Orders received	2,742	2,308	19
Orders received by services business	1,647	1,474	12
% of orders received	60	64	
Order backlog	1,380	1,173	17
Sales	2,453	2,064	19
Sales by services business	1,517	1,368	11
% of sales	62	66	
Adjusted EBITA*	262	168	56
% of sales	10.7	8.1	
Operating profit*	254	153	66
% of sales	10.3	7.4	
Return on operative capital employed (Segment ROCE), %	22.7	14.7	
Personnel at end of year	9,611	8,890	8

* The adjusted EBITA and operating profit (EBIT) for 2017 included EUR 33 million in charges related to the closing of mining projects in the backlog.

Orders received in 2018 increased 19% from the comparison period and totaled EUR 2,742 million. Order growth for aggregates equipment was driven by China, the US, and the Nordics, which was supported by the acquisition of AB P.J. Jonsson och Söner in Sweden. Mining equipment orders increased year-on-year, highlighting improved market activity. Order intake in 2018 mainly consisted of small and mid-sized orders for replacements and brownfield projects. In addition, orders included two large pellet plants, comminution and material handling technologies for three greenfield iron ore and copper projects in Australia and South Africa, as well as dewatering solutions for greenfield and brownfield potash projects in Belarus. Services orders increased for both spare and wear parts as well as for process improvements in the main markets.

Sales during the year also grew 19%, totaling EUR 2,453 million. Adjusted EBITA was EUR 262 million, or 10.7% of sales (EUR 168 million, or 8.1%). Operating profit EUR 254 million, or 10.3% (EUR 153 million, or 7.4%) of sales in January-December. The improvement in profitability resulted from higher sales volumes and successfully implemented performance improvement actions in all business areas. The share of equipment deliveries increased in the sales mix and affected profitability somewhat.

Reporting segments: Flow Control

Key figures

EUR million	2018	2017	Change %
Orders received	758	675	12
Orders received by services business	266	243	9
% of orders received	35	36	
Order backlog	307	267	15
Sales	720	635	13
Sales by services business	256	228	12
% of sales	36	36	
Adjusted EBITA	120	93	29
% of sales	16.6	14.6	
Operating profit	117	91	29
% of sales	16.3	14.3	
Return on operative capital employed (Segment ROCE), %	37.6	29.7	
Personnel at end of year	3,054	2,660	15

Orders received in 2018 increased 12% from the comparison period and totaled EUR 758 million (EUR 675 million). Growth came from both the equipment and services business and the strongest regions were North America and Asia. Orders for pumps remained healthy.

Sales totaling EUR 720 million in 2018 grew 13% from the comparison period, and both the equipment and services business sales grew at a double-digit rate. Strong growth in the valves business was backed by deliveries of the solid backlog built during the previous quarters. Adjusted EBITA for the same period was EUR 120 million, or 16.6% of sales, (EUR 93 million, or 14.6%) and operating profit EUR 117 million, or 16.3% of sales (EUR 91 million, or 14.3%). The improved profitability is due to operational leverage from the strong volume growth as well as better operational performance during the year.

Capital expenditure and investments

Gross capital expenditure excluding business acquisitions in 2018, was EUR 67 million (EUR 38 million), of which maintenance investments accounted for 54%, or EUR 36 million (83%, or EUR 32 million). The growth related capital expenditure in 2018 was related to increases in aggregates equipment manufacturing capacity in Alwar, India, and Tampere, Finland, and foundry capacity in South Africa and China, as well as in rubber consumables manufacturing at multiple locations globally.

During the third quarter, Metso announced an investment of approximately EUR 25 million to expand its foundry capacity in India, to respond to the global market demand for cast wear parts in the aggregates and mining industries. Approximately EUR 9 million of this investment materialized during the second half of the 2018. The first product deliveries are expected by the end of 2019, and the production will fully ramp up in 2020.

To respond to the growing global demand in the valves market, during the fourth quarter Metso decided to invest in a new green-field valve plant in Jiaxing. Metso plans to invest a total of approximately EUR 10 million by 2020. The new-build plant will strengthen Metso's valve and related products production capabilities and increase production capacity for customers across various process industries, both in China and globally. The new plant will start operations in spring 2020.

Acquisitions and divestments

In 2018, Metso announced three acquisitions that align with its profitable growth strategy and one after the reporting period, in January 2019. After the reporting period, at the beginning of January 2019, Metso completed the divestment of its grinding media business as originally announced on November 6, 2018.

On December 4, Metso closed the acquisition of the UK-based combustion solutions and technology provider Kiln Flame Systems Ltd., KFS, to extend its pyro processing portfolio and capabilities. KFS was a specialist in rotary kiln and calcining processes, combustion optimization and burner technologies with patented designs. KFS became part of Metso's Minerals Services business area, which offers a comprehensive line of pyro processing equipment. 13 employees transferred to Metso.

On November 1, Metso closed the acquisition of the valve automation division of the India-based valve technology company Rotex Manufacturers and Engineers Private Ltd. by acquiring all of the shares in RMEBS Controls Private Limited. The acquired company was a market-leader in India in the actuator business with an advanced offering of switches, process valves, and valve automation products and solutions. The acquired division's sales in the last fiscal year ending March 31, 2018, were approximately EUR 19 million.

On July 2, Metso closed the acquisition of the mobile crushing and screening plant provider AB P.J. Jonsson och Söner, based in Sweden. The acquisition strengthened the breadth and availability of Metso's product and service offering for the aggregates industry in the Nordics. The acquired company's sales in fiscal year 2017 were EUR 33 million.

After the reporting period, on January 2, 2019, Metso announced an agreement to acquire HighService Service, the service business of the Chilean mining technology and maintenance provider HighService Corp. HighService Service is a high-quality mining services provider with operations in Chile, Argentina and Brazil. Its sales in fiscal year 2017 were EUR 60 million and it has approximately 1,300 employees. The acquisition is pending regulatory approval from the Chilean authorities; the approval has not been received as of the signing of this document. The parties have agreed not to disclose the value of the transaction.

After the reporting period, on January 4, 2019, Metso completed the divestment of its grinding media business to Moly-Cop, as announced on November 6, 2018. The divested business has operations in two locations in Spain and approximately 80 employees. Its sales in 2018 were approximately EUR 60 million. The proceeds from the divestment have no material impact on Metso's financial results and the value of the transaction was not disclosed.

Research and development

Continuous renewal and innovation are fundamental for Metso's competitiveness. The objective for innovation is to secure sustaining differentiation with targeted investments that are based on business- or product-specific roadmaps. During 2018, Metso accelerated its R&D activities, increasing the spend significantly. Research and development (R&D) expenses in 2018 were EUR 39 million, or 1.2% of sales (EUR 27 million, or 1.0%). In addition, costs related to Metso's Digital Program were EUR 12 million. Metso's research and technology development (RTD) network encompasses approximately 20 units around the world.

R&D and IP-related expenses

EUR million	2018	2017
R&D expenses	39	27
as % of sales	1.2	1.0
Expenses related to intellectual property rights	2	2

Inventions and patents

	2018	2017
Invention disclosures	123	69
Priority patent applications	23	18
Inventions protected by patents, as of December 31	310	300

Digitalization is providing Metso with opportunities for growth, and the role and importance of using data to improve the efficiency of customer processes will further increase in the future. Customers are looking for business benefits from data-driven process improvements, more optimized processes with higher throughput or energy efficiency, or maximized equipment availability and uptime.

In 2018, Metso expanded its digital Metso Metrics offering with the launch of a new predictive maintenance solution for mining equipment, which helps maximize the uptime and performance of comminution circuits. Metso Metrics is designed to provide global mining customers with improved visibility and new insights into their equipment and processes with analytics, condition monitoring and predictive maintenance. In 2018, Metso also delivered its first valves with 3D printed parts to a customer for a particularly demanding application. Metso is also already using 3D printing to manufacture tools used to make consumables parts.

In addition to digital innovations, R&D activities in 2018 centered around extending existing product families and adding new features to the existing offering. Metso introduced new higher capacity models to its wheel-mounted Metso NW Rapid™ crushing plant series. The new models enable production capacity to be temporarily increased up to 500 tons per hour, which is equal to the capacity of a fixed plant. In addition to the bigger jaw crusher model, the NW Rapid™ units are now available also with a variety of most robust cone crushers, including the first model with the MX™ Multi-Action crusher, launched in 2017.

Metso's mobile cone crushing plant family was expanded with a renewed, more efficient model Metso Lokotrack® LT200HP™ in 2018. The renewed solution delivers fuel consumption savings of at least 15% compared to hydraulic-driven cone crushers. Furthermore, it complies with European Stage V emission regulations. New releases also included a new 3rd generation gyratory crusher, MKIII™, which can deliver up to 30% higher capacity and 70% lower downtime in a comminution circuit. In addition, it can be paired with the Metso Metrics solution.

In Flow Control, a new version of the Metso Expertune PlantTriage control loop monitoring software was launched. This newest version further improves process plant operational efficiency, reduces cybersecurity risks, and helps to improve profitability.

Health, safety and environment

Metso aims to provide a safe and healthy working environment for all its employees. In 2018 Metso failed to improve its safety performance, ending the year with an LTIF, lost time incident frequency, of 2.8 (2.6). Regrettably we had one fatal incident. As the production volume has increased, the safety management processes and the level of commitment have not improved sufficiently.

Metso has several processes in place to improve its safety performance. The internal HSE (Health, Safety and Environment) audit function bi-annually audits the hidden hazards at all major locations and plans the corrective actions. In 2018, HSE audits were carried out at 19 locations. In addition, a new reporting tool and web application was launched for reporting HSE data more transparently and accurately.

More information about HSE is available in the separately published Business Overview and GRI Supplement for 2018.

Compliance management

During the first half of the year, the project to prepare for the new GDPR regulation in the EU was completed, and a separate Privacy office was established for privacy training and managing issues related to GDPR compliance going forward. The Whistleblower channel was expanded in 2018 to also include non-financial misconduct. In 2018, we received 10 reports of suspected financial misconduct and 17 reports of suspected non-financial misconduct via the Whistleblower channel. All were investigated, and none had financial implications.

Metso has an audit framework in place to support risk management by ensuring compliance and continuous business development. In total approximately 180 internal and external audits were performed in 2018.

More information about compliance management is available in the separately published Corporate Governance Statement for 2018.

Personnel

Metso had 13,150 employees at the end of December 2018, which is 1,113 more than at the end of December 2017. During 2018, personnel increased by 721 to 9,611 in Minerals and by 394 to 3,054 in Flow Control. Acquisitions increased personnel by 63 in Minerals and 281 in Flow Control in 2018. Personnel in the Group Head Office and support functions totaled 485 at the end of 2018 (487).

The diverse expertise of the organization ensures a foundation for Metso's success. Metso employees represent 90 nationalities, operating in over 50 countries and in 176 locations. The combination of different backgrounds, and a wide range of service years and ages ensures diverse capabilities.

Personnel by area

	Dec 31, 2018	% of personnel	Dec 31, 2017	% of personnel	Change %
Europe	4,412	34	4,113	34	7
North America	1,674	13	1,563	13	7
South and Central America	2,906	22	2,725	23	7
Asia Pacific	3,318	25	2,795	23	19
Africa and Middle East	840	6	841	7	0
Metso total	13,150	100	12,037	100	9

Annual General Meeting (AGM)

The Annual General Meeting (AGM) was held in Helsinki on March 22, 2018. The AGM approved the Financial Statements for 2017 and discharged the members of the Board of Directors and the President and CEOs from liability for the 2017 financial year. The Authorized Public Accountant firm Ernst & Young was elected as Metso's Auditor with Mikko Järventausta as principal responsible auditor. The dividend of EUR 1.05 per share, approved by the AGM, was paid on April 4, 2018. In addition, the AGM approved the proposals of the Board of Directors to authorize the Board to decide on both the repurchase of Metso shares and the issuance of shares and special rights entitling to shares. The Nomination Board's proposals concerning Board members and their remuneration were also approved. The minutes of the meeting are available at www.metso.com/agm.

Board of Directors

Metso's Board of Directors in 2018 consisted of Mikael Lilius (Chair), Christer Gardell (Vice Chair), Peter Carlsson, Ozey K. Horton Jr., Lars Josefsson, Nina Kopola, Antti Mäkinen and Arja Talma. The

Board's Audit Committee consisted of Arja Talma (Chair), Nina Kopola and Antti Mäkinen. The HR and Remuneration Committee consisted of Mikael Lilius (Chair), Christer Gardell and Lars Josefsson.

After the reporting period on January 23, 2019, it was announced that the Shareholders' Nomination Board will propose to the next Annual General Meeting that the Board of Directors should have eight members and that Mikael Lilius, Christer Gardell, Peter Carlsson, Lars Josefsson, Nina Kopola, Antti Mäkinen and Arja Talma should be re-elected. Mr. Kari Stadigh will be proposed as a new Board member. Ozey K. Horton, Jr. will not be available for re-election after having served as a Board member since 2011. Mikael Lilius will be proposed to continue as Chair and Christer Gardell as Vice Chair of the Board.

Kari Stadigh (Master of Science, Eng., Bachelor of Business Administration, born 1955, Finnish citizen) is Group CEO and President of Sampo Group, Chair of the Board of If P&C Insurance Holding Ltd, Chair of the Board of Mandatum Life Insurance Company Limited, and Board member of Nokia Corporation and Waypoint Group Holdings SA.

Changes in the Metso Executive Team

President and CEO Pekka Vauramo assumed his duties on November 1, 2018. His appointment was published on May 21. CFO Eeva Sipilä served as interim President and CEO from February 3, 2018, after the previous President and CEO Nico Delvaux left his duties on February 2, 2018.

SVP, Human Resources, Merja Kamppari, left her position after the reporting period on January 31, 2019, as announced on August 22, 2018. Hannele Järvistö has acted as interim SVP, Human Resources, as of February 1, 2019.

Shares and share trading

Metso's share capital on December 31, 2018, was EUR 140,982,843.80 and the number of shares 150,348,256. This included 351,128 treasury shares held by the Parent Company, which represented 0.2% of all shares and votes. A total of 118,949,799 Metso shares were traded on Nasdaq Helsinki in 2018, equivalent to a turnover of EUR 3,307 million. Metso's market capitalization at the end of December 2018, excluding shares held by the Parent Company, was EUR 3,435 million (EUR 4,270 million at the end of 2017).

Metso share performance on Nasdaq Helsinki January 1–December 31, 2018

EUR	
Closing price	22.90
Highest share price	32.27
Lowest share price	22.38
Volume-weighted average trading price	27.79

In addition to Nasdaq Helsinki, Metso's ADRs (American Depositary Receipts) are traded on the International OTCQX market in the United States under the ticker symbol 'MXCYY', with four ADRs representing one Metso share. The closing price of the Metso ADR on December 31, 2018 was USD 6.35.

Flagging notifications

In 2018, Metso has received one flagging notification. BlackRock, Inc. announced that on January 8, 2018, its direct holding in Metso's shares exceeded the 5 percent threshold. BlackRock's direct holding (5.02%) and holding through financial instruments (0.76%) amounted to 8,706,776 shares, which corresponds to 5.79 percent of Metso's total number of shares and votes.

Metso is not aware of any shareholders' agreements regarding the ownership of Metso shares and voting rights.

Short-term business risks and market uncertainties

Uncertainties in economic growth and political developments globally could affect our customer industries, reduce the investment appetite and spending among our customers, and thereby weaken the demand for Metso's products and services as well as affect our business operations. There are also other market- and customer-related risks that could cause on-going projects to be postponed, delayed or discontinued. Concern about the possible effects of the ongoing trade disputes on economic growth has had an impact on metal prices. This could further impact our customers' behavior.

Continued market growth and inflation as well as the impact of tariffs or other trade barriers could pose challenges to our supply chain and price management, impacting our growth capability and margins.

Exchange rate fluctuations and changes in commodity prices could affect our orders received, sales and financial position. Metso hedges currency exposure linked to firm delivery and purchase agreements.

Uncertain market conditions could adversely affect our customers' payment behavior and increase the risk of lawsuits, claims and disputes taken against Metso in various countries related to, among other things, Metso's products, projects and other operations.

Information security and cyber threats could disturb or disrupt Metso's businesses and operations.

Market outlook

Metso has changed the structure of its market outlook statement. Going forward, market outlook will describe the expected sequential development of market activity during the following six-month period. Expected development will be described using three categories: improve, remain at the current level, or decline.

Metso's market outlook is as follows:

- Market activity in Minerals is expected to continue to grow in both equipment and services business.
- Market activity in Flow Control is expected to continue to grow in both equipment and services business.

Corporate Governance Statement

Metso will publish a separate Corporate Governance Statement for 2018 that complies with the recommendations of the Finnish Corporate Governance Code for listed companies and covers other central areas of corporate governance. The statement will be published on our website, separately from the Board of Directors' Report, during the week commencing March 4, 2019, at the latest.

Non-financial information

Metso's business model

Metso drives profitable growth and sustainable productivity across its customer industries to create value for its shareholders and other stakeholders by offering a diverse and competitive portfolio for mining, aggregates, recycling and other process industries through market-specific sales and supply chain.

Metso's value creation, business model and strategy are presented in more detail in the Business Overview on pages 14 and 19–24.

Non-financial value creation

Metso takes a systematic approach to managing non-financial matters, including appropriate policies, processes, governance and organization. The Board of Directors has evaluated the following non-financial matters: environmental, social and employee, respecting human rights as well as anti-corruption and bribery, as required by the Finnish Accounting Act and set forth in EU Directive 2014/95/EU (rules on disclosure of non-financial and diversity information by large companies). The evaluation criteria took into consideration value chain impacts, risk management measures, applicable performance indicators and future opportunities. The Board has concluded that the most material non-financial areas in terms of value creation for shareholders and other stakeholders are:

1. Customer relationships
2. Sustainable innovations
3. Code of Conduct
4. Supply chain
5. People and leadership

Environmental issues are considered throughout the value chain. Metso has environmental targets and KPIs in place for its own manufacturing facilities as well. However, the most material environmental impacts from Metso's offering arise when used in customer processes.

In 2018 the Board of Directors reviewed and approved a new sustainability agenda for Metso. It comprises two focus areas: responsible and trusted partner and sustainable productivity. These focus areas include the most material non-financial value creating areas listed above. A commitment to follow certain global initiatives forms the basis for Metso's value creation and business operations regarding non-financial value creation. Metso's operations are also managed through policies, processes, guidelines and instructions.

Key performance indicators for non-financial areas

Increased stakeholder dialogue, identifying sales opportunities, and more effective and customer-centric operational processes not only support innovation, safety and a minimized environmental footprint, but also build reputation and brand. In addition, value creation is supported by improved internal processes, procurement efficiencies and decreased risk of misconduct. Key performance indicators (KPIs) for the non-financial areas are:

1. % of personnel trained on Code of Conduct
2. Number of internal and external audits (including supplier audits)
3. % of R&D projects that have defined sustainability targets
4. Lost time incident frequency
5. Employee engagement

"Metso enables modern life. Business opportunities arise when developing sustainable solutions in collaboration with customers for their business challenges. By demanding sustainability in own operations and from partners alike, Metso contributes into building trust."

Policies, processes and KPIs for non-financial value creation

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ILO Declaration of Fundamental Principles and Rights at Work</td><td colspan="3">International Chamber of Commerce Business Charter for Sustainable Development
UN Declaration of Human Rights
UN Guiding Principles on Business and Human Rights</td></tr>
<tr><td rowspan="4">KPIs</td><td colspan="5">% of personnel trained on Code of Conduct</td></tr>
<tr><td></td><td colspan="4">Number of internal and external audits, including supplier audits</td></tr>
<tr><td colspan="2">% of R&D projects that have defined sustainability targets</td><td colspan="2"></td><td>LTIF (Lost-time incident frequency)</td></tr>
<tr><td colspan="4"></td><td>Employee engagement</td></tr>
</table>

Non-financial risks

Risks related to Metso's non-financial areas are mainly associated with compliance, brand and reputation, health, safety and environment (HSE), and climate change, as well as human and labor rights, especially in the supply chain.

Operating throughout the value chain in a sustainable way is a high priority for Metso, as environmental, social or governance misconduct can affect the company's reputation and have long-term financial and other consequences. Non-financial risks can also create business interruption risks, lost working hours and other financial implications.

Metso's Code of Conduct is the key corporate standard for all employees to be followed; in addition, we have other relevant policies, guidelines and processes in place to support risk management. As Metso's operations are largely outsourced, there are risks related to the environment, human and labor rights, and corruption in the supply chain also. To mitigate supply chain risks, supplier audits are conducted annually by an external Metso partner and by internal procurement and quality assurance.

Health issues, discrimination and harassment are the most significant human and labor rights-related risks. Sick-leave absences can have cost impacts and compromise customer deliveries. Low employee engagement may lead to losing talent and competences. Metso mitigates these risks by e.g. having compulsory Code of Conduct training every second year for all employees that includes harassment and discrimination topics. In addition, these risks are mitigated by providing managers with tools in daily management activities and by active development of leadership. For example, in Finland the Metso early support model is in place to help ensure that employees can maintain their health.

Metso's main health and safety risks occur both in its own operations as well as at customer sites. The most common risks in our own operations are related to lifting, working at heights, machinery, hot work and road travel. These risks are mitigated with the help of work instructions, training, risk observations, audits and the corrective actions that these generate. Metso uses lost-time incident frequency (LTIF) as the key indicator for safety both at its own premises and for the subcontractors working at Metso's and customers' sites. Another important safety focus is on making sure that products and services are safe to use and maintain and safety of services is, thus, considered in early phase of product and service development.

The biggest threats and opportunities related to the environment and climate change are present at customer sites. Flow Control's key focus areas are improved reliability, safety and minimizing emissions. In Minerals, Metso works to improve efficiency through reduced energy consumption, reduced water consumption, improved utilization of raw materials, reduced emissions, and reduced noise and dust. Safety is an overall priority. Metso's aim is to develop its offering for both brownfield and greenfield operations.

The Board oversees the appropriate governance of overall enterprise risk management. Internal control practices are aligned with Metso's risk management process approved by the Board. Risk management and major risks are described in detail in the Buasiness Overview on pages 41–44 and in the Corporate Governance on pages 10–11. An audit frame is in place to support risk management by ensuring compliance and continuous business development. The following audits and assessments were conducted in 2018:

- Critical Threat Scenarios 1 workshop
- Metso Risk assessment workshops:
  - Strategic risks (2 days' workshop), financial risks (1 day workshop) and operational and hazard risks (2 days' workshop)
- Internal audits in 23 countries, 3 group function and global process audits, 38 specific case investigations
- Risk engineering audits, 10 in total
- Logistics audits, 13 in total
- Health, safety and environment audits, 19 in total
- Supplier sustainability audits, 99 in total

Customer relationships

The value in customer relationships is in increasing awareness of Metso and Metso's offering as well as the customer benefits of our solutions, such as energy efficiency and safety aspects. This increases the likelihood of a customer to repurchase and to recommend Metso to others.

A few years ago, a single Customer Relationship Management system was implemented across the businesses to more effectively collate and manage customer data. Currently work is ongoing to further improve the information and its usage to make customer relationship management more effective and deliver a better service experience. Furthermore, the development of our sales capabilities by providing training and by strengthening the sales teams in driving customer success has continued.

Metso uses a customer engagement survey to measure loyalty and satisfaction in all businesses. This enables the identification of the operational areas where a better customer experience can be delivered. Survey results indicate that customers value Metso's quality products, technical expertise and support from key contacts. Areas to be improved are responsiveness, problem resolution and availability of products. Based on the 2017 results, various actions were taken during 2018 to improve customer satisfaction, and the survey was repeated in 2018.

Metso continues to invest in marketing automation, which will help keep customers better informed throughout their customer journey, from solution research to replacement. This helps to deliver improved satisfaction and it increases sales potential.

Sustainable innovations

Based on the customer dialogue on sustainability, Metso's customers value safety, resource efficiency, productivity and supply chain responsibility. A comprehensive understanding of these customer needs enables the delivery of tailored solutions to their challenges and providing them with the best performance and improved processes.

Metso is engaged in various projects that for example:

- Extend the life cycle of equipment and prolong maintenance cycles
- Maintain and improve product safety and a safe working environment
- Mitigate the environmental load through reduced emissions, waste and energy intensity

Metso's product and service design is focused on helping customers to operate safely with higher productivity and profitability while reducing their resource intensity. The biggest environmental impacts of Metso's solutions are generated when they are in use in the customer processes.
Product safety is one of the key drivers in Metso's research and development work. The product safety principles consider all aspects relevant to:

- Safe installation and operation
- Servicing and maintaining products in all conditions
- Training customers on the safe use of the equipment

Metso's services portfolio, which ranges from wear and spare parts to life cycle services, is an important part of the offering. Service and distribution centers close to the customer ensure efficient and timely service. Well-maintained equipment typically has a smaller environmental footprint.

Metso's research and development (R&D) activities focus on the ability to respond to present and future customer challenges, such as availability and cost of energy, water and raw materials. Metso's R&D projects set sustainability targets for safety and for environmental efficiency, which includes energy savings, materials efficiency and the reduction of CO_2 emissions. Metso has a target to define sustainability targets for each new R&D project; 86% of the new R&D projects in 2018 had set environmental efficiency and/or product safety innovation targets that are monitored. The R&D expenditure in 2018 was EUR 39 million (EUR 27 million in 2017). In addition, costs related to Metso's Digital Program were EUR 12 million. A higher R&D expenditure will have an impact on the longer term product renewal rate.

The future focus in sustainable innovations is on increasing the competitiveness of the offering through sustainable productivity and digitalization. Digitalization enables new means to improve the sustainability of products and services. For example, remote monitoring increases process efficiency, availability and safety.

Code of Conduct

Metso's Code of Conduct is the key corporate standard to be followed. It is Metso's commitment to integrity, including the preventing of corruption and bribery. This means respecting all applicable laws and regulations and aiming to share regulatory best practices as well as acting as a good corporate citizen. Human rights are respected and their execution supported: all employees are entitled to be treated with respect; and discrimination, harassment, or illegal threats are not tolerated. Any form of compulsory, forced or child labor is not accepted. Applicable national laws and regulations regarding working hours and employee compensation are respected. Metso's Anti-Corruption Policy supports zero-tolerance for bribery and corruption, including facilitation payments. Metso requires in its third-party agreements that suppliers, business partners and other stakeholders also follow similar standards.

All Metso people have a responsibility for compliance. A range of internal controls are in place, and people are strongly encouraged to report any suspected wrongdoing or misconduct to their supervisors, to other management or, if necessary, directly to Internal Audit, e.g. using a whistleblower channel. All reports are treated as confidential and anonymous, and Metso commits to no negative repercussions for the reporting person.

Metso's Code of Conduct was renewed in 2017. There is a company-wide training on the Code of Conduct every second year. The next training will be carried out during 2019 and will have a special focus on human rights. The Code of Conduct training is also part of the onboarding process for new employees.

Updating Metso's policy framework and efficiently implementing it throughout the organization will continue to be a focus in 2019. A priority in the implementation is the better use of e-learning. In 2018, several e-learning programs were launched, e.g. information security and data privacy for all Metso employees, with an email account, internal supplier sustainability auditing and several HSE-related training programs for specific target groups. Renewed compliance training for Metso sales and external stakeholders on anti-bribery and corruption will be released at the beginning of 2019.

Supply chain

Due to the cyclical nature of Metso's customer industries, a business model of outsourcing the manufacturing plays an important role. 80 percent of the cost of goods sold derives from our suppliers, and close relationships with them are critical. Metso expects its suppliers to follow the supplier sustainability criteria that is based on Metso's Code of Conduct and the international principles Metso follows.

Processes are in place to continuously develop a shared understanding with suppliers in the areas of innovation, cost efficiency, quality and sustainability to manage the risks related to outsourcing. Defined ways of working and regularly conducted risk assessments related to e.g. environmental load in the supply chain support the overall supply chain management.

Human and labor rights, environmental and safety practices, compliance with laws and regulations, and anti-bribery are covered by third-party supplier audits, supplier self-assessments and Metso's internal supplier sustainability audits. Key supplier requirements are also incorporated into contract obligations, and a contract breach can lead to consequences that include the termination of a supplier relationship. Supplier sustainability audits are conducted in higher risk countries, and suppliers are required to implement corrective actions within a given timeframe. Corrective actions are followed up. The focus in 2019 is on cooperating with the suppliers to close the corrective actions that were agreed after the sustainability supplier audits in 2018, and on improving the processes, such as supplier onboarding, reporting and follow-up of audit findings.

People and leadership

The performance and engagement of people is a key contributor to value creation. Engagement is supported by the safety and wellbeing of employees and responsible employment.

Valuing diversity and providing equal opportunities is important. In order to advance work-related human rights principles, Metso has had an Equal Opportunity and Diversity Policy since 2011. The policy provides concrete content to the general principles of Metso's Code of Conduct. The underlying principle of the policy is Metso's commitment to promote equal opportunities for all employees, regardless of gender, age, race, religion, caste or religious beliefs, ethnic or national origins, marital/civil partnership status, union membership, or political affiliation, sexuality or disability. Employees are selected based on merit and experience.

Continuous development and learning in everyone's daily work is emphasized in Leadership Principles across the company. This is ensured by continuous performance and development discussions, which are supported by a global process and tool. Additionally, Metso aims for fair remuneration systems, which take into consideration the individual, team, business area and the Group's performance, as well as the varying market practices globally.

In engaging and retaining employees, excelling in leadership makes the difference. Metso's approach is based on its defined values and Leadership Principles. Employee engagement is measured via a biennial survey, PeoplePulse, which was conducted in 2018 with improved results from 2016.

In 2018, an assessment was conducted on how human rights are taken into consideration with the external workforce operating at Metso's units and worksites. As part of agreeing about an external workforce with service providers, Metso seeks to ensure that the external workforce have signed work contracts with their employers, including age certificates and the tracking of working hours and overtime.

Employee safety, risk observations, safety discussions and safety training hours are continuously measured. The lost-time incident frequency (LTIF) in 2018 was 2.8 (2.6 in 2017). Annually, external partner conducts site visits as part of sustainability reporting assurance. In 2018, three sites were visited as part of the assurance process, in Finland, China and Sweden.

Further information

In addition, as required by the Finnish Accounting Act and set forth in the EU Directive 2014/95/EU (rules on disclosure of non-financial and diversity information by large companies), information related to non-financial matters is also available at:

- Business Overview 2018, pages 19–24: Metso's strategy and business model
- Business Overview 2018, page 14: Metso's value creation model
- Business Overview 2018, page 44: Metso's risk map
- Corporate Governance 2018, pages 10–11: Risk management at Metso

Shares and shareholders

Metso has one share series, and each share entitles its holder to one vote at a General Meeting and to an equal amount of dividend. Metso's shares are registered in the Finnish book-entry system maintained by Euroclear.

Basic share information

Listed on:	Nasdaq Helsinki
Trading code:	METSO
ISIN code:	FI0009007835
Industry:	Industrials
Number of shares on December 31, 2018:	150,348,256
Share capital on December 31, 2018:	EUR 140,982,843.80
Market value on December 31, 2018:	EUR 3,435 million
Listing date:	July 1, 1999

Metso shares are also traded on alternative marketplaces like BOAT, BATS Chi-X and Turquoise. In addition, Metso's ADS (American Depositary Shares) are traded in the United States on the International OTCQX market under the ticker symbol MXCYY. Four Metso ADS represent one ordinary share. The Bank of New York Mellon serves as the depository bank for Metso's ADS.

Metso's share and shareholders in 2018

On December 31, 2018, Metso's share capital was EUR 140,982,843.80 and the total number of shares was 150,348,256. There were no changes in the number of shares and share capital in 2018. More information on the past share capital changes is available at www.metso.com/shares.

At the end of 2018, Metso had approximately 45,000 shareholders in the book-entry system. The largest shareholder was Solidium with 22,374,869 shares and 14.9 percent of the share capital. A total of 118,949,799 Metso shares were traded on the Nasdaq Helsinki during 2018, equivalent to a turnover of EUR 3,307 million.

At the year-end, the members of Metso's Board of Directors and President and CEO Pekka Vauramo held a total of 71,455 (Metso shares, corresponding to 0.05 percent of the total number of shares and votes. More information about management holdings is available in note 1.5.

Share key figures 2014–2018

	2018	2017	2016	2015	2014
Share capital, at the end of year, EUR million	141	141	141	141	141
Number of shares, at the end of year					
Number of outstanding shares	149,997,128	149,997,128	149,984,538	149,984,538	149,889,268
Own shares held by the Parent Company	351,128	351,128	363,718	363,718	458,988
Total number of shares	150,348,256	150,348,256	150,348,256	150,348,256	150,348,256
Average number of outstanding shares	149,997,128	149,995,127	149,984,538	149,964,701	149,884,338
Average number of diluted shares	150,186,841	150,151,338	150,113,107	149,989,417	149,969,729
Earnings/share, basic, EUR	1.53	0.68	0.87	2.95	1.25
Earnings/share, diluted, EUR	1.53	0.68	0.87	2.95	1.25
Free cash flow/share, EUR	0.97	1.05	2.26	2.27	1.36
Dividend/share [1], EUR	1.20	1.05	1.05	1.05	1.45
Dividend [1], EUR million	180	157	157	157	217
Dividend/earnings, [1], %	78.4	154.0	121.0	36.0	116.0
Effective dividend yield [1], %	5.2	3.7	3.9	5.1	5.8
P/E ratio	15.0	41.9	31.15	7.02	19.89
Equity/share, EUR	9.37	8.96	9.54	9.58	8.15

[1] Board proposal to the AGM

Share performance and trading on Nasdaq Helsinki in 2018

	2018
Closing price, December 31, EUR	22.90
Market capitalization, December 31 [1], EUR million	3,435
Trading volume, NASDAQ OMX Helsinki Ltd, pieces	118,949,799
% of shares [2]	79%
Trading volume, NASDAQ OMX Helsinki Ltd, EUR million	3,307
Average daily trading volume, pieces	475,799
change compared to 2017, %	–6%
Relative turnover, %	79%
relative turnover in 2017, %	85%
Share performance, %	–20%
Highest share price, EUR	32.27
Lowest share price, EUR	22.38
Average share price, EUR	27.79

[1] Excluding own shares held by the Parent Company
[2] Of the total amount of shares outstanding

Metso ADR share performance in 2018

	2018
Closing price, December 31, USD	6.35
Highest share price, USD	9.20
Lowest share price, USD	6.22

Largest shareholders December 31, 2018

		Shares and votes	% of share capital and voting rights
1	Solidium Oy	22,374,869	14.9
2	Ilmarinen Mutual Pension Insurance Company	4,003,190	2.7
3	Varma Mutual Pension Insurance Company	3,698,465	2.5
4	Keva	1,600,810	1.1
5	Nordea Funds	1,599,137	1.1
	Nordea Pro Finland Fund	722,326	0.5
	Nordea Finnish Index Fund	303,150	0.2
	Nordea Fennia Fund	283,440	0.2
	Nordea Nordic Fund	255,030	0.2
	Nordea Premium Varainhoito Kasvu	35,191	0.0
6	The State Pension Fund	1,100,000	0.7
7	Svenska litteratursällskapet i Finland r.f.	1,095,176	0.7
8	Mandatum Life Insurance Company Limited	790,899	0.5
9	Danske Invest funds	702,828	0.5
	Danske Invest Finnish Institutional Equity Fund	405,000	0.3
	Investment Fund Arvo Finland Value	157,520	0.1
	Danske Invest Finnish Equity Fund	140,308	0.1
10	Sigrid Jusélius Foundation	692,465	0.5
11	Elo Pension Company	600,000	0.4
12	The Finnish Cultural Foundation	506,452	0.3
13	Sijoitusrahasto Aktia Capital	500,000	0.3
14	Schweizerische Nationalbank	476,275	0.3
15	Oy Etra Invest Ab	400,000	0.3
16	The Social Insurance Institution of Finland, KELA	396,316	0.3
17	OP Funds	383,701	0.3
	OP-Finland Value Fund	383,701	0.3
18	Samfundet folkhälsan i Svenska Finland rf	320,985	0.2
19	Odin Funds	314,338	0.2
	Odin Finland	314,338	0.2
20	SEB Finlandia Investment Fund	287,138	0.2
	20 largest owner groups in total	**41,843,044**	**27.8**
	Nominee-registered holders	81,101,885	53.9
	Other shareholders	27,044,119	18.0
	Own shares held by the Parent Company	351,128	0.2
	In the issuer account	8,080	0.0
	Total	**150,348,256**	**100.0**

Breakdown of share ownership on December 31, 2018

Number of shares	Shareholders	% of shareholders	Total number of shares and votes	% of share capital and voting rights
1–100	20,401	45.6	1,010,371	0.7
101–1,000	20,568	46.0	7,257,508	4.8
1,001–10,000	3,451	7.7	8,800,692	5.9
10,001–100,000	263	0.6	6,846,215	4.6
over 100,000	45	0.1	44,972,377	–
Total	**44,728**	**100.0**	**68,887,163**	**45.8**
Nominee-registered shares	11		81,101,885	53.9
Own shares held by the Parent Company	1		351,128	0.2
In the issuer account			8,080	0.0
Number of shares issued			**150,348,256**	**100.0**

Breakdown by shareholder category on December 31, 2018

	2018
Nominee-registered and non-Finnish holders	55%
Solidium Oy	15%
Private investors	13%
Financial and insurance corporations	12%
Non-profit institutions	4%
Others	1%
Total	**100%**

Flaggings

Under the provisions of the Finnish Securities Markets Act, shareholders of listed companies have an obligation to notify both the Finnish Financial Supervision Authority and the company of changes when their holdings reach, exceed or fall below a certain threshold. Metso is not aware of any shareholders' agreements regarding Metso shares or voting rights. All flagging notifications have been released as a stock exchange release and the list of flaggings is available at www.metso.com/flaggings.

Board authorizations

The Annual General Meeting has granted the following authorizations to the Board that are effective at the signing of the Financial Statements. The Board has not exercised these authorizations. Valid board authorizations and their details are available at www.metso.com/board.

Authorization	Maximum number	Validity	Purpose of use
Repurchase and conveyance of the company's own shares	10 million shares (6.7% of shares)	Until June 30, 2019	1. Development of the company's capital structure 2. Financing or carrying out acquisitions, investments or other business transactions 3. Management's incentive plans
Issuance of shares and issuance of special rights entitling to shares *	15 million shares (10% of shares)	Until June 30, 2020	Same as above. A directed share issue may be executed without consideration only if there is an especially weighty financial reason to do so, taking the interests of all shareholders into account.

* Repurchased shares can be held by the company, cancelled or conveyed. The Board of Directors shall decide on other matters related to the repurchase and/or acceptance as a pledge of the company's own shares.

Incentive plans

Metso's share ownership plans are part of the management remuneration program. For further information, see www.metso.com/remuneration and the Consolidated Financial Statements, note 1.5 and 1.6. Any shares to be potentially rewarded are acquired through public trading, and therefore the incentive plans have no diluting effect on the share value.

Key figures

EUR million	2018	2017	2016	2015	2014
Sales	3,173	2,699	2,586	2,977	3,658
Operating profit	351	218	227	555	351
% of sales	11.1	8.1	8.8	18.6	9.6
Profit before taxes	321	184	188	516	282
% of sales	10.1	6.8	7.3	17.3	7.7
Profit for the year	229	102	130	442	189
% of sales	7.2	3.8	5.0	14.8	5.2
Profit attributable to shareholders of the company	230	102	130	442	188
Exports from Finland and international operations	3,087	2,628	2,501	2,881	3,501
% of sales	97.3	97.4	96.7	96.8	95.7
Amortization	18	17	17	18	19
Depreciation	40	42	44	51	56
Depreciation and amortization, total	58	59	61	69	75
% of sales	1.8	2.2	2.4	2.3	2.1
EBITA	369	236	244	573	370
% of sales	11.6	8.7	9.4	19.3	10.1
EBITDA	409	277	288	624	426
% of sales	12.9	10.3	11.1	21.0	11.6
Financial expenses, net	30	35	39	39	69
% of sales	0.9	1.3	1.5	1.3	1.9
Interest expenses	25	23	29	28	38
% of sales	0.8	0.9	1.1	0.9	1.0
Interest cover (EBITDA)	13.7×	7.9×	7.4×	16.0×	6.2×
Gross capital expenditure	67	38	31	46	74
% of sales	2.1	1.4	1.2	1.5	2.0
Business acquisitions, net of cash acquired	78	30	–	–	19
Net capital expenditure	61	35	19	31	66
% of sales	1.9	1.3	0.7	1.0	1.8
Net cash flow from operating activities	177	185	346	360	256
Free cash flow	146	158	339	341	204
Cash conversion, % [1]	64	155	261	180	108
Research and development	39	27	34	41	60
% of sales	1.2	1.0	1.3	1.4	1.6

EUR million	2018	2017	2016	2015	2014
Balance sheet total	3,279	3,287	3,236	3,209	3,403
Equity attributable to shareholders	1,406	1,344	1,431	1,436	1,221
Total equity	1,416	1,351	1,439	1,444	1,229
Interest bearing liabilities	598	853	794	822	863
Net interest bearing liabilities	165	24	–26	153	561
Net working capital (NWC)	633	502	487	598	709
% of sales	20.0	18.6	18.8	20.1	19.4
Capital employed	2,015	2,204	2,233	2,267	2,092
Return on equity (ROE), %	16.5	7.3	9.0	33.1	15.7
Return on capital employed (ROCE) before taxes, %	16.9	10.3	10.4	25.7	16.4
Return on capital employed (ROCE) after taxes, %	12.5	6.6	7.8	22.4	12.1
Equity to assets ratio, %	47.7	44.5	48.0	48.3	40.5
Net gearing, %	11.7	1.8	–1.8	10.6	45.6
Debt to capital, %	29.7	38.7	35.6	36.3	41.2
Orders received	3,499	2,982	2,724	3,027	3,409
Order backlog, December 31	1,686	1,439	1,320	1,268	1,575
Average number of personnel	12,605	11,703	12,059	13,754	16,091
Personnel, December 31	13,150	12,037	11,542	12,619	15,644

[1] In 2015, cash conversion is calculated on profit excluding the gain on the sale of Process Automation (PAS) business disposal.

Formulas for the key figures

Earnings before financial expenses, net, taxes and amortization (EBITA), adjusted:
Operating profit + adjustment items + amortization

Earnings per share, basic:

$$\frac{\text{Profit attributable to shareholders}}{\text{Average number of outstanding shares during the period}}$$

Earnings per share, diluted:

$$\frac{\text{Profit attributable to shareholders}}{\text{Average number of diluted shares during the period}}$$

Equity/share:

$$\frac{\text{Equity attributable to shareholders}}{\text{Number of outstanding shares at the end of the period}}$$

Return on equity (ROE), %:

$$\frac{\text{Profit for the period}}{\text{Total equity (average for the period)}} \times 100$$

Return on capital employed (ROCE) before taxes, %:

$$\frac{\text{Profit before tax + interest and other financial expenses}}{\text{Capital employed (average for the period)}} \times 100$$

Return on capital employed (ROCE) after taxes, %:

$$\frac{\text{Profit for the period + interest and other financial expenses}}{\text{Capital employed (average for the period)}} \times 100$$

Net gearing, %:

$$\frac{\text{Net interest bearing liabilities}}{\text{Total equity}} \times 100$$

Equity to assets ratio, %:

$$\frac{\text{Total equity}}{\text{Balance sheet total – advances received}} \times 100$$

Free cash flow:
Net cash provided by operating activities – capital expenditures on maintenance investments + proceeds from sale on intangible and tangible assets

Free cash flow/share:

$$\frac{\text{Free cash flow}}{\text{Average number of outstanding shares during the period}}$$

Cash conversion, %:

$$\frac{\text{Free cash flow}}{\text{Profit for the period}} \times 100$$

Interest bearing liabilities:
Interest bearing liabilities, non-current and current

Net interest bearing liabilities:
Interest bearing liabilities – non-current financial assets – loan and other interest bearing receivables (current and non-current) – liquid funds

Net working capital (NWC):
Inventories + trade receivables + other non-interest bearing receivables + customer contract assets and liabilities, net – trade payables – advances received – other non-interest bearing liabilities

Capital employed:
Net working capital + intangible assets + tangible assets + non-current investments + interest bearing receivables + liquid funds + tax receivables, net + interest payables, net

Operative capital employed:
Intangible and tangible assets + investments in associated companies and joint ventures + inventories + non-interest bearing operative assets and receivables (external) – non-interest bearing operating liabilities (external)

Return on operative capital employed for reporting segments (segment ROCE), %:

$$\frac{\text{Operating profit}}{\text{Operative capital employed (month-end average)}} \times 100$$

Board of Directors' proposal on the use of profit

On December 31, 2018, the distributable equity of Metso Corporation was:

Invested non-restricted equity fund	EUR	367,775,887.99
Retained earnings	EUR	441,153,617.64
Net profit for the year	EUR	157,907,512.31
Distributable equity, total	**EUR**	**966,837,017.94**

The Board of Directors proposes to the Annual General Meeting that a dividend of EUR 1.20 per share be paid based on the balance sheet to be adopted for the financial year, which ended December 31, 2018, and that the remaining portion of the profit is retained and included in the Company's unrestricted equity.

Dividend payment	EUR	179,996,553.60
Distributable equity after dividend payment	**EUR**	**786,840,464.34**

These financial statements were authorized for issue by the Board of Directors on February 5, 2019 after which, in accordance with Finnish Company Law, the financial statements are either approved, amended or rejected in the Annual General Meeting.

Consolidated Financial Statements

Consolidated Statement of Income

EUR million	Note	2018	2017
Sales	1.1, 1.2	**3,173**	2,699
Cost of goods sold	1.5, 3.3	–2,257	–1,968
Gross profit		**916**	731
Selling, general and administrative expenses	1.3, 1.5, 3.3	–545	–510
Other operating income and expenses, net	1.4	–19	–2
Share in profits of associated companies	5.2	0	0
Operating profit		**351**	218
Financial income	1.7	6	12
Financial expenses	1.7	–36	–47
Profit before taxes		**321**	184
Income taxes	1.8	–92	–82
Profit for the year		**229**	102
Attributable to:			
Shareholders of the parent company		230	102
Non-controlling interests		–1	0
		229	102
Earnings per share:			
Basic, EUR	1.9	1.53	0.68
Diluted, EUR	1.9	1.53	0.68

Consolidated Statement of Comprehensive Income

EUR million	Note	2018	2017
Profit for the year		**229**	102
Other comprehensive income:			
Cash flow hedges, net of tax	1.8, 4.4, 4.8	–1	3
Measurement at fair value, net of tax	1.8, 4.2, 4.4	0	0
Currency translation on subsidiary net investments	1.8, 4.4	–13	–39
Items that may be reclassified to profit or loss in subsequent periods		–14	–36
Defined benefit plan actuarial gains and losses, net of tax	1.8, 2.8	–2	1
Items that will not be reclassified to profit or loss		–2	1
Other comprehensive income		**–16**	–35
Total comprehensive income		**213**	67
Attributable to:			
Shareholders of the parent company		214	67
Non-controlling interests		–1	0
		213	67

Consolidated Balance Sheet

Assets

EUR million	Note	2018	2017
Non-current assets			
Intangible assets	3.1, 3.3		
Goodwill		525	466
Other intangible assets		83	79
Total intangible assets		**608**	545
Tangible assets	3.2, 3.3		
Land and water areas		40	43
Buildings and structures		97	98
Machinery and equipment		135	136
Assets under construction		33	10
Total tangible assets		**305**	287
Other non-current assets			
Investments in associated companies	5.2	4	1
Non-current financial assets	4.2	6	5
Loan and other interest bearing receivables	4.2	6	3
Deferred tax asset	1.8	101	93
Other non-current receivables	2.2, 2.3, 4.2	38	29
Total other non-current assets		**157**	130
Total non-current assets		**1,070**	961
Current assets			
Inventories	2.4	950	750
Trade receivables	2.2	585	497
Customer contract assets	1.2	82	66
Interest bearing receivables		1	0
Income tax receivables	1.8	22	38
Other current receivables	2.3	144	147
Deposits and securities, maturity more than three months		94	307
Cash and cash equivalents		332	519
Liquid funds	4.3	426	826
Total current assets		**2,209**	2,326
TOTAL ASSETS		**3,279**	3,287

Equity and Liabilities

EUR million	Note	2018	2017
Equity	4.4		
Share capital		141	141
Cumulative translation adjustments		–101	–87
Fair value and other reserves		302	302
Retained earnings		1,064	988
Equity attributable to shareholders		**1,406**	1,344
Non-controlling interests		10	7
Total equity		**1,416**	1,351
Liabilities			
Non-current liabilities			
Interest bearing liabilities	4.2, 4.5	383	554
Post-employment benefit obligations	2.7	68	68
Provisions	2.6	29	37
Non-current financial liabilities		2	0
Deferred tax liability	1.8	30	18
Other non-current liabilities		2	2
Total non-current liabilities		**515**	680
Current liabilities			
Interest bearing liabilities	4.2, 4.5	215	300
Trade payables	2.5	431	342
Provisions	2.6	71	74
Advances received		208	198
Customer contract liabilities	1.2	100	58
Income tax liabilities	1.8	61	70
Other current liabilities	2.5	262	216
Total current liabilities		**1,348**	1,257
Total liabilities		**1,863**	1,937
TOTAL EQUITY AND LIABILITIES		**3,279**	3,287

Consolidated Statement of Changes in Shareholders' Equity

EUR million	Share capital	Cumulative translation adjustments	Fair value and other reserves	Retained earnings	Equity attributable to shareholders	Non-controlling interests	Total equity
Jan 1, 2017	141	–48	299	1,039	1,431	8	1,439
Profit for the year	–	–	–	102	102	0	102
Other comprehensive income							
Cash flow hedges, net of tax	–	–	3	–	3	–	3
Measurement at fair value, net of tax	–	–	0	–	0	–	0
Currency translation on subsidiary net investments	–	–39	–	–	–39	0	–39
Defined benefit plan actuarial gains and losses, net of tax	–	–	–	1	1	–	1
Total comprehensive income	–	–39	3	103	67	0	67
Dividends	–	–	–	–157	–157	0	–157
Donations to universities			–	–1	–1	–	–1
Share-based payments, net of tax	–	–	0	0	0	–	0
Other items	–	–	0	4	4	–1	3
Changes in non-controlling interests	–	–	–	0	0	0	0
Dec 31, 2017	141	–87	302	988	1,344	7	1,351
Impact of the adoption of new IFRS standards [1]	–	–	3	0	2	–	2
Jan 1, 2018	**141**	**–87**	**305**	**987**	**1,346**	**7**	**1,353**
Profit for the year	–	–	–	230	**230**	–1	**229**
Other comprehensive income							
Cash flow hedges, net of tax	–	–	–1	–	**–1**	–	**–1**
Measurement at fair value, net of tax	–	–	0	–	**0**	–	**0**
Currency translation on subsidiary net investments	–	–13	–	–	**–13**	0	**–13**
Defined benefit plan actuarial gains and losses, net of tax	–	–	–	–2	**–2**	–	**–2**
Total comprehensive income	–	–13	–1	228	**214**	–1	**213**
Dividends	–	–	–	–157	**–157**	0	**–157**
Share-based payments, net of tax	–	–	–2	1	**–2**	–	**–2**
Other items	0	–	0	1	**1**	0	**1**
Changes in non-controlling interests	–	–	–	4	**4**	5	**9**
Dec 31, 2018	**141**	**–101**	**302**	**1,064**	**1,406**	**10**	**1,416**

[1] Impact of the adoption of IFRS 9 on retained earnings was EUR 0.5 million negative, and IFRS 2 amendment's effect on fair value reserve was EUR 2,6 million positive.

Consolidated Statement of Cash Flows

EUR million	Note	2018	2017
Operating activities			
Profit for the year		229	102
Adjustments:			
Depreciation and amortization	3.3	58	59
Gain (–) / loss (+) on sale of intangible and tangible assets, net	1.4, 1.5	–2	–1
Share of profits and losses of associated companies	5.2	0	0
Financial expenses, net	1.7	30	35
Income taxes	1.8	92	82
Other items		2	16
Change in net working capital		–129	–23
Net cash flow from operating activities before financial items and taxes		**281**	270
Interest paid		–20	–24
Interest received		5	5
Other financial items, net		–2	–2
Income taxes paid	1.8	–87	–64
Net cash flow from operating activities		**177**	185
Investing activities			
Capital expenditures on intangible and tangible assets	3.1, 3.2	–67	–38
Proceeds from sale of intangible and tangible assets		5	5
Business acquisitions, net of cash acquired	5.3	–77	–30
Investments in associated companies	5.2	–4	–
Other items		–	–2
Net cash flow from investing activities		**–143**	–66
Financing activities			
Dividends paid		–157	–157
Transactions with non-controlling interests		1	–
Increase in loan receivables	4.6	0	0
Decrease in loan receivables	4.6	–	9
Proceeds from (+) / repayments of (–) short-term debt, net	4.6	14	–5
Proceeds from long-term debt	4.6	–	298
Repayments of long-term debt	4.6	–286	–234
Other items		0	–1
Net cash flow from financing activities		**–428**	–90
Net change in liquid funds		**–394**	29
Effect from changes in exchange rates		–6	–12
Liquid funds at beginning of year	4.3, 4.6	826	807
Liquid funds at end of year	4.3, 4.6	**426**	826

Notes to the Consolidated Financial Statements

Basic information

Metso Corporation (the "Parent Company") with its subsidiaries ("Metso" or the "Group") is a leading global supplier of sustainable technology and services for mining, aggregates, recycling and process industries. The Group has two reportable segments, Minerals and Flow Control. More information about the segments is presented in note 1.1.

Metso Corporation is a publicly-quoted company with its shares listed on Nasdaq Helsinki under the trading symbol METSO. Metso Corporation is domiciled in Finland and the address of the Group Head Office is Töölönlahdenkatu 2, 00100 Helsinki, Finland.

These consolidated financial statements were authorized for issue by Metso Corporation's Board of Directors on February 5, 2019, after which, in accordance with Finnish Companies Act, the financial statements are either approved, amended or rejected at the next Annual General Meeting.

Basis of preparation

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) and IFRIC Interpretations as adopted by the European Union. The consolidated financial statements have been prepared on a historical cost basis, except for financial assets and liabilities classified as at fair value through profit and loss accounts.

The financial statements are presented in euros, which is the Parent Company's functional currency and Metso's presentation currency. The figures presented have been rounded; consequently, the sum of individual figures might differ from the presented total figure.

Metso's more detailed accounting policies are disclosed in the relevant note to the consolidated financial statements.

Critical accounting estimates and judgments by Management

The preparation of financial statements, in conformity with the IFRS, requires management to make estimates and assumptions and to exercise its judgment in the process of applying the Group's accounting policies. These affect the reported amounts of balance sheet items, the presentation of contingent assets and liabilities, and the income and expenses for the financial year. Actual results may differ from the estimates made. The assets and liabilities involving a higher degree of judgment or complexity, or areas where the assumptions and estimates are significant to Metso's consolidated financial statements, are disclosed in the following notes:

Note 1.2	Sales
Note 1.6	Share-based payments
Note 1.8	Income taxes
Note 2.2	Trade receivables
Note 2.3	Other receivables
Note 2.4	Inventory
Note 2.6	Provisions
Note 2.7	Post-employment obligations
Note 3.1	Goodwill and other intangible assets
Note 3.2	Tangible assets

1 Group performance

Orders received
EUR **3,499** million

Sales
EUR **3,173** million

EBIT
EUR **351** million
11.1% of Sales

Earnings per share
EUR **1.53**

1.1 Reporting segments

Accounting policy

Metso's reportable segments are based on the type of business operations. Operating segments are reported in a manner consistent with the internal reporting provided to the Board of Directors, which is Metso's chief operating decision-maker and responsible for allocating resources and assessing the performance of the operating segments, deciding on strategy, selecting key employees, as well as deciding on major development projects, business acquisitions, investments, organizational structure and financing. The accounting principles applied to the segment reporting are the same as those used in preparing the consolidated financial statements.

Segment performance is measured with operating profit/loss (EBIT). In addition, Metso uses alternative performance measures to reflect the underlying business performance and to improve comparability between financial periods: *Earnings before interest, tax and amortization (EBITA), adjusted* and *Return on operative capital employed for reporting segments (segment ROCE)*. Adjustment items comprise capacity adjustment costs, outcome of material intellectual property rights disputes, gains and losses on business disposals, and other infrequent events. Their nature and net effect on cost of goods sold, selling, general and administrative expenses, as well as other income and expenses are presented in the segment information. Alternative performance measures, however, should not be considered as a substitute for measures of performance in accordance with the IFRS.

Corporate structure

Metso Group is a global supplier of sustainable technology and services for mining, aggregates, recycling and process industries.

Metso reports its results consistently with its reporting structure based on its strategy, which consists of two reportable segments: Minerals and Flow Control. The Minerals segment covers the mining, aggregates and recycling businesses. The Flow Control segment covers the valves and pumps businesses.

The Minerals segment supplies technology, process solutions, machinery and services for aggregates production, mining, minerals processing, and metal and waste recycling. The Minerals segment is organized into five business areas: Mining Equipment, Aggregates Equipment, Minerals Services, Minerals Consumables and Recycling.

The Flow Control segment supplies process industry flow control solutions and services. Flow Control customers operate in oil and gas, pulp and paper, and other process industries. The segment is organized into two business areas: Valves and Pumps.

Group Head Office and other is comprised of the parent company with centralized group functions, such as treasury and tax, as well as shared service centers and holding companies.

Financial income and expenses as well as income taxes are not allocated to segments but included in the income statement of Group Head Office and other. The treasury activities of Metso are centralized into the Group Treasury to benefit from cost efficiency obtained from pooling arrangements, financial risk management, bargaining power, cash management, and other measures. Metso has a centralized Group tax management function. The objective of Group tax management is to ensure tax compliance and optimized and predictable overall tax cost for Metso.

Segment assets comprise intangible and tangible assets, investments in associated companies and joint ventures, inventories and non-interest bearing operating assets and receivables. They exclude interest bearing assets, cash and cash equivalents, income tax receivables and deferred tax assets, which are included in the assets of Group Head Office and other.

Segment liabilities comprise non-interest bearing operating liabilities. They exclude income tax liabilities, deferred tax liabilities and interest bearing liabilities, which are included in the liabilities of Group Head Office and other.

Non-cash write-downs include write-offs made to the value of receivables and inventories, and impairment and other write-offs recognized to reduce the value of intangible or tangible assets and other assets.

Gross capital expenditure comprises investments in intangible and tangible assets, associated companies and joint ventures.

Intra-group transactions are made at arm's length basis.

Segment information as at and for the years ended December 31, 2018 and 2017 is presented in the following tables.

EUR million	Minerals	Flow Control	Group Head office and other	Eliminations	Metso total
2018					
External sales	2,453	720	0	–	**3,173**
Intra-group sales	0	0	–	0	**–**
Sales	**2,453**	**720**	**0**	**0**	**3,173**
Earnings before interest, tax and amortization (EBITA)	261.7	119.7	–12.1	0.0	**369.3**
% of sales	10.7	16.6	n/a	–	**11.6**
Adjusted EBITA	261.7	119.7	–12.1	–	**369.3**
% of sales	10.7	16.6	n/a	–	**11.6**
Operating profit (-loss)	253.9	117.3	–20.1	–	**351.1**
% of sales	10.3	16.3	n/a	–	**11.1**
Adjustment items	–	–	–	–	**–**
Amortization	–8	–2	–8	–	**–18**
Depreciation	–29	–11	0	–	**–40**
Non-cash write-downs [1]	5	–2	0	–	**3**
Gross capital expenditure and additions from business acquisitions	84	67	2	–	**153**
Intangible and tangible assets	728	174	11	–	**913**
Investments in associated companies and joint ventures	4	–	–	–	**4**
Non-current financial assets	0	0	3	–	**3**
Inventories and other non-interest bearing assets	1,408	356	39	–	**1,802**
Interest bearing receivables	–	–	7	–	**7**
Tax receivables and deferred tax assets	–	–	124	–	**124**
Liquid funds	–	–	426	–	**426**
Total assets	**2,140**	**530**	**609**	**–**	**3,279**
Non-interest bearing liabilities	949	156	69	–	**1,173**
Tax payables and deferred tax liability	–	–	91	–	**91**
Interest bearing debt	–	–	599	–	**599**
Total liabilities	**949**	**156**	**758**	**–**	**1,863**
Operative capital employed / capital employed	1,192	374	449	–	**2,015**
Segment ROCE % / ROCE %	22.7	37.6	n/a	–	**16.9**
Orders received	2,742	758	–	0	**3,499**
Order backlog	1,380	307	–	0	**1,686**

[1] Write-downs including reversals of intangible and tangible assets, inventories and trade receivables

Adjustment items and amortization of intangible assets

2018 EUR million	Minerals	Flow Control	Group Head office and other	Metso total
Adjusted EBITA	**261.7**	**119.7**	**–12.1**	**369.3**
% of sales	10.7	16.6	n/a	**11.6**
Amortization of intangible assets	–7.8	–2.4	–8.0	**–18.2**
Operating profit (EBIT)	**253.9**	**117.3**	**–20.1**	**351.1**

EUR million	Minerals	Flow Control	Group Head office and other	Eliminations	Metso total
2017					
External sales	2,064	635	0	–	2,699
Intra-group sales	0	0	–	0	–
Sales	2,064	635	0	0	2,699
Earnings before interest, tax and amortization (EBITA)	159.7	93.1	–17.2	0.0	235.6
% of sales	7.7	14.7	n/a	–	8.7
Adjusted EBITA	167.9	93.1	–17.2	–	243.7
% of sales	8.1	14.7	n/a	–	9.0
Operating profit (-loss)	153.4	90.8	–25.7	–	218.4
% of sales	7.4	14.3	n/a	–	8.1
Adjustment items in cost of goods sold	–6.4	0.0	–	–	–6.4
Adjustment items in selling, general and administrative expenses	–1.7	0.0	–	–	–1.7
Total adjustment items	–8.1	0.0	–	–	–8.1
Amortization	–6	–2	–9	–	–17
Depreciation	–30	–11	0	–	–42
Non-cash write-downs [1]	–11	–5	0	–	–17
Gross capital expenditure and additions from business acquisitions	59	8	1	–	68
Intangible and tangible assets	696	118	17	–	832
Investments in associated companies and joint ventures	1	–	–	–	1
Available-for-sale equity investments	0	0	3	–	3
Inventories and other non-interest bearing assets	1,153	312	25	–	1,491
Interest bearing receivables	–	–	3	–	3
Tax receivables and deferred tax assets	–	–	131	–	131
Liquid funds	–	–	826	–	826
Total assets	1,850	431	1,006	–	3,287
Non-interest bearing liabilities	800	140	55	–	995
Tax payables and deferred tax liability	–	–	88	–	88
Interest bearing debt	–	–	853	–	853
Total liabilities	800	140	996	–	1,937
Operative capital employed / capital employed	1,050	290	863	–	2,204
Segment ROCE % / ROCE %	14.7	29.7	n/a	–	10.3
Orders received	2,308	675	–	0	2,982
Order backlog	1,173	267	–	0	1,439

[1] Write-downs of intangible and tangible assets, inventories and trade receivables

Adjustment items and amortization of intangible assets

2017

EUR million	Minerals	Flow Control	Group Head office and other	Metso total
Adjusted EBITA	**167.9**	**93.1**	**–17.2**	**243.7**
% of sales	8.1	14.7	n/a	**9.0**
Capacity adjustment expenses	–8.1	0.0	–	**–8.1**
Amortization of intangible assets	–6.3	–2.4	–8.5	**–17.2**
Operating profit (EBIT)	**153.4**	**90.8**	**–25.7**	**218.4**

Geographical information

Accounting policy

Metso presents the geographical segments' sales by location of customers. Non-current assets and gross capital expenditure are presented by location of assets.

Metso's businesses are present in over 50 countries providing strong geographical diversification. The main market areas are Europe and North America accounting for approximately 46 percent of sales. Metso has production units on all inhabited continents.

Sales to unaffiliated customers by destination

EUR million	2018	2017
Finland	94	85
Other European countries	753	596
North America	610	553
South and Central America	599	536
Asia-Pacific	839	670
Africa and Middle East	279	258
Sales	**3,173**	2,699

Metso's exports from Finland by destination, including intra-group sales

EUR million	2018	2017
European countries	282	233
North America	89	79
South and Central America	33	25
Asia-Pacific	206	149
Africa and Middle East	51	45
Metso total	**661**	531

Non-current assets by location

EUR million	2018	2017
Finland	106	68
Other European countries	94	86
North America	78	85
South and Central America	55	58
Asia-Pacific	125	110
Africa and Middle East	24	8
Non-allocated	477	448
Metso total	**959**	863

Non-current assets presented in the previous table comprise intangible and tangible assets, investments in associated companies and joint ventures, equity investments and other non-interest bearing non-current assets. Non-allocated assets include mainly goodwill and other assets arising from business acquisitions that have not been pushed down to the subsidiaries' books.

Gross capital expenditure by location

EUR million	2018	2017
Finland	9	5
Other European countries	11	9
North America	4	4
South and Central America	10	8
Asia-Pacific	28	8
Africa and Middle East	4	3
Metso total	**67**	38

Gross capital expenditure comprises investments in intangible and tangible assets, associated companies and joint ventures.

1.2 Sales

Accounting policy

Metso applies IFRS 15 Revenue form Contracts with Customers standard. The principle is that sales are recognized at an amount that reflects the consideration to which Metso expects to receive in exchange for transferring goods or services to a customer. Sales are recognized, when the control of goods or services is transferred to a customer. The control is transferred either at a point in time or over time.

Metso providing standardized equipment and wear or spare parts to customers, sales are recognized at a point in time, when control for the goods is transferred, typically at the delivery of the goods or after commissioning. Sales to the distributors are recognized at the delivery, when the distributor is not acting as an agent. If the distributor is acting as an agent, sales are recognized only when delivered to ultimate client.

Metso providing customized engineered system deliveries, where the asset produced does not have alternative use and Metso has right to payment for the performance completed, sales are recognized over time. Sales recognition is based on estimated sales, costs and profit. Metso measures the progress using the cost-to-cost method, where sales and profits are recorded after considering the ratio of accumulated costs to estimated total costs to complete each contract. This method is considered to reflect best the satisfaction of the performance obligation. The estimated sales, costs and profit, together with the planned delivery schedule of the contract are subject to regular revisions as the contract progresses to the completion. Revisions in profit estimates as well as projected potential loss on contract are charged through the profit and loss account in the period in which they become known.

Sales from providing services are recognized when the performance obligation is satisfied. For long-term fixed price service contracts, sales are recognized over time, because of the customer receives the performance obligation simultaneously when the service is rendered. The measure of the progress is based on costs of actual services provided as a proportion of the costs of total services to be rendered. The estimated sales, costs and profit, together with the planned delivery schedule of the contract are subject to regular revisions as the contract progresses to the completion. Revisions in contract estimates as well as projected potential loss on contract are charged through the profit and loss account in the period in which they become known.

For short-term service contracts with hourly fee based on valid price list, sales are recognized to the extent Metso has the right to invoice the customer, and for service contracts with fixed hourly fee agreed in the contract, sales are recognized based on invoicing.

Client contracts may include promises such as volume-based rebates, late delivery penalties or right to return delivered parts. The impact of these promises on the final consideration will be estimated, when recognition is started and systematically during the contract period. Sales will be recognized to the extent that Metso is entitled to the consideration. Also, creditworthiness of the client and collectability of the consideration is assessed through the contract period. Extended warranties are treated as a separate performance obligation and appropriate transaction price is allocated to them and recognized in sales when occurred.

Metso typically requires advance payments from clients. Applying IFRS 15, advances received do not include a financing component, because the payment schedule of them follows closely the timing of performance obligations to be satisfied.

Estimates and assessments by Management

Sales recognized at a point in time may require judgement on facts and circumstances when the control is considered to have passed to the client, affecting on timing of sales to be recognized. Transfer of the control is assessed mainly based on terms of delivery in the contract and local legislation. Customer contracts including clauses on rebates, late delivery penalties, right to return promises or extended warranties requires management judgement on the probability of such clauses to have an effect on contracts sales. Judgements are based on earlier experience and market practice, when it is available.

Sales recognized over time is based on cost-to-cost method, which requires management to be able to estimate total sales, costs, margin and cash flow to complete the project. To assess the progress and margin to be recognized as well as the total costs estimated to complete the contracts requires judgments by management throughout the contract period. The most critical judgments are needed in case of a loss-making contract to estimate the performance needed to be able to satisfy the contract. Changes in general market conditions and the possible act to contracts needs to be predicted as well. The credit worthiness of the customer is verified, and collectability of the consideration assessed before entering into a contract. However, a risk of non-payment might arise afterwards, and it requires then management judgement on the impact on final sales recognition.

Hedging of foreign currency denominated firm commitments

Under Metso hedging policy, business units are required to hedge their foreign currency risk when they become engaged in a firm commitment denominated in a currency other than their functional currency. When a firm commitment qualifies for over time recognition, the business unit applies hedge accounting and recognizes the effect of the hedging instruments in other comprehensive income (OCI) until the commitment is recognized. Though Metso has defined the characteristics triggering a firm commitment, the final realization of the unrecognized commitment depends also on factors beyond management control, which cannot be foreseen when initiating the hedging relationship. Such factors can be a change in the market environment causing the other party to postpone or cancel the commitment. To the extent possible, management strives to include clauses in its contracts that reduce the impact of such adverse events on its results.

Disaggregation of sales

Sales by segments

EUR million	2018	2017
Minerals	2,453	2,064
Flow Control	720	635
Group Head Office and other	0	0
Intra Metso sales	0	0
Sales	**3,173**	2,699

External sales by category

EUR million	2018	2017
Sales of services	1,773	1,595
Minerals	1,517	1,368
Flow Control	256	228
Sales of projects, equipment and goods	1,401	1,103
Minerals	936	697
Flow Control	464	407
Sales	**3,173**	2,699

External sales by destination

EUR million	2018	2017
Finland	94	85
Other European countries	753	596
North America	610	553
South and Central America	599	536
Asia-Pacific	839	670
Africa and Middle East	279	258
Sales	**3,173**	2,699

External sales by timing of sales recognition

EUR million	2018	2017
At a point in time	2,812	2,489
Minerals	2,093	1,855
Flow Control	719	635
Over time	361	209
Minerals	360	209
Flow Control	1	–
Sales	**3,173**	2,699

Contract balances

EUR million	2018	2017
Trade receivables	585	497
Customer contract assets	82	66
Customer contract liabilities	100	58
Advances received	208	198

Most of the customer contract liabilities and advances received are recognized as sales during the following year.

When providing standardized equipment, valves and pumps and wear or spare parts, invoicing takes place in general at the delivery or after commissioning. In engineered system delivery and long-term service contracts invoicing is based on the client contracts. Short-term service contracts are invoiced, when service is rendered.

Trade receivables are based on the invoicing to customers and are generally on terms of 30–90 days. The acquisitions in 2018 resulted in increase in trade receivables of EUR 10 million (EUR 6 million in 2017), see note 5.4. Information about provision for expected credit losses on trade receivables is presented in note 2.2.

Engineered system delivery contracts and long-term service contracts are mainly fixed priced contracts, where customers are invoiced with fixed amounts based on contracts' schedule. In case, the performance obligation satisfied exceeds the invoiced payment from the customer, a contracts asset is recognized. In case, the invoiced payment from the customer exceeds the performance obligation satisfied, a contract liability is recognized.

Advances received is the amount paid in advance to Metso by the customers. Typically, Metso receives advance payments in the customized large scale engineered system and equipment delivery projects.

Increase in receivables from customers or liabilities to customers and advances received is the result of additional volume in business operations in 2018 compared to the previous year.

Unsatisfied performance obligations

Unsatisfied performance obligations relate to customized engineered system projects and long-term service contracts amounting to EUR 539 million. These performance obligations are expected to be materially satisfied in two years.

Performance obligations

Metso's sales consist of the sale of standardized equipment deliveries and services with wear or spare parts as well as customized large scale engineered system and/or equipment deliveries in Minerals segment and sale of process industry flow control solutions with delivery of pumps and valves and services to delivered equipment in Flow control segment. Metso's performance obligations are as follows:

Equipment and wear or spare parts deliveries

Metso providing standardized equipment and wear or spare parts to customers, revenue will be recognized at a point in time, when control for the goods is transferred, typically at the delivery of the goods or after commissioning. These contracts may include promises such as volume-based rebates, late delivery penalties or right to return delivered parts. The impact of these promises on the final consideration will be estimated and sales will be recognized to the extent that Metso is entitled to. Extended warranties are treated as a separate performance obligation and appropriate transaction price is allocated to them and recognized in sales when occurred.

Metso cooperates with distributors specially in aggregates, valves and recycling businesses. Based on the current distributor contracts, Metso recognizes sales at the delivery to a distributor. Promises on volume-based rebates and right to return of the goods are assessed and sales will be recognized to the extent Metso is entitled to.

Engineered system and equipment deliveries

With customized large scale engineered system and equipment deliveries, where assets produced do not have alternative use for another client and Metso has the right to payment for the performance completed, revenue will be recognized over time. Each large scale engineered system and equipment delivery contract is assessed separately. These contracts usually have a customer specific, one total performance obligation agreed with the client.

These contracts may include promises such as late delivery penalties, performance guarantees and extended warranties. The impact of these promises on the final consideration will be estimated and sales will be recognized to the extent that Metso is entitled to. Metso typically requires advance payments from clients, which in general, does not include a financing component, because the payment schedule of advances follows closely the timing of performance obligations to be satisfied.

Service contracts

Sales from providing services are recognized when the services are rendered. For long-term fixed price contracts, sales are recognized over time. The measure of the progress is based on costs of actual services provided as a proportion of the costs of total services to be rendered. For short-term service contracts with hourly fee based on valid price list, revenue is recognized to the extend Metso has right to invoice the customer, and for service contracts with fixed hourly fee agreed in the contract, revenue is recognized based on invoicing. Typical promises in service contacts are late delivery penalties, performance guarantees or right to return promises, the impact of these promises are assessed, and sales recognized to the extent Metso is entitled to.

Major customers

In 2018 and 2017, Metso did not have a single customer to which sales would have exceeded 10 percent of the consolidated sales.

1.3 Selling, general and administrative expenses

EUR million	2018	2017
Marketing and selling expenses	–292	–287
Research and development expenses, net	–39	–27
Administrative expenses	–215	–196
Selling, general and administrative expenses	**–545**	–510

Accounting policy

Research and development expenses comprise salaries, administration costs, depreciation and amortization of tangible and intangible assets, and are mainly expensed as incurred. When material development costs meet certain capitalization criteria under IAS 38, they are capitalized and amortized over the expected useful life of the underlying technology.

Research and development expenses

EUR million	2018	2017
Research and development expenses, total	–39	–27
Capital expenditure	0	0
Grants received	0	0
Depreciation and amortization	–1	–1
Research and development expenses, net	**–39**	–27

1.4 Other operating income and expenses

Accounting policy

Other operating income and expenses, net, comprise income and expenses that do not directly relate to the operating activity of businesses within Metso or which arise from unrealized and realized changes in fair value of foreign currency denominated financial instruments related to operations, including forward exchange contracts. Such items include costs related to significant restructuring programs, gains and losses on disposal of assets, and foreign exchange gains and losses, excluding those qualifying for hedge accounting and those, which are reported under financial income and expenses, net. Additionally, non-recoverable foreign taxes, which are not based on taxable profits, are reported in other operating income and expenses, net. In particular, these include foreign taxes and such like payments not based on double taxation treaties in force.

EUR million	2018	2017
Gain on sale of intangible and tangible assets	2	1
Rental income	0	1
Foreign exchange gains [1]	66	48
Other income	5	7
Other operating income, total	**73**	57
Loss on sale of intangible and tangible assets	0	0
Impairment of intangible and tangible assets	–1	–3
Foreign exchange losses [1]	–84	–48
Other expenses	–7	–8
Other operating expenses, total	**–92**	–59
Other operating income and expenses, net	**–19**	–2

[1] Includes foreign exchange gains and losses resulting from trade receivables and payables and related derivatives.

1.5 Personnel expenses and the number of personnel

Personnel expenses

EUR million	2018	2017
Salaries and wages	–534	–515
Pension costs, defined contribution plans	–34	–37
Pension costs, defined benefit plans [1]	–6	–5
Other post-employment benefits [1]	–2	0
Share-based payments [2]	–3	–2
Other indirect employee costs	–103	–91
Metso total	**–683**	–650

[1] For more information on pension costs, see note 2.7.
[2] For more information on share-based payments, see note 1.6.

Number of personnel at end of year

	2018	2017
Minerals	9,611	8,890
Flow Control	3,054	2,660
Group Head Office and others total	485	487
Metso total	**13,150**	12,037

Average number of personnel during the year

	2018	2017
Minerals	9,365	8,557
Flow Control	2,757	2,645
Group Head Office and others total	483	501
Metso total	**12,605**	11,703

Board remuneration

EUR thousand	2018	2017
Serving Board members December 31, 2018:		
Mikael Lilius	–139	–126
Christer Gardell	–80	–73
Peter Carlsson	–59	–75
Ozey K. Horton, Jr.	–89	–95
Lars Josefsson	–67	–61
Nina Kopola	–74	–61
Antti Mäkinen	–69	–
Arja Talma	–84	–76
Raimo Brand [1]	–7	–5
Former Board members:		
Wilson Nelio Brumer	–	–8
Markku Aapakari [1]	–	–2
Total	**–668**	–582

[1] Has attended meetings as a personnel representative, without voting right.

According to the decision of the 2018 Annual General Meeting, the annual fees paid to the Board members were: Chairman of the Board EUR 120,000, Vice Chairman of the Board EUR 66,000 and other Board members EUR 53,000. An additional annual remuneration is paid to the member of the Board elected in the position of Chairman of the Audit Committee EUR 20,000, members of the Audit Committee EUR 10,000, Chairman of Remuneration and HR Committee EUR 10,000 and members of the Remuneration and HR Committee EUR 5,000.

In addition, an attendance fee of EUR 800 per meeting attended, excluding committee meetings, is paid to members whose residence is in the Nordic countries, EUR 1,600 to members whose residence is elsewhere in Europe and EUR 3,200 for those residing outside Europe. Compensation for travel expenses and daily allowances are paid in accordance with Metso's travel policy.

Based on the decision of the 2018 Annual General Meeting, 40 percent of the Board's annual fees were used to buy Metso shares from the market. The shares were acquired within the two weeks following the publication of the first-quarter 2018 Interim Review.

Remuneration paid to Chief Executive Officer and other Executive Team members

EUR	Salary	Performance bonus paid	Fringe benefits	Share based payment	Total
2018					
President and CEO Pekka Vauramo [1]	120,073	–	4,927	–	125,000
Interim President and CEO Eeva Sipilä [2]	382,817	84,240	180	–	467,237
President and CEO Nico Delvaux [3]	66,428	157,500	3,073	–	227,001
Other Executive Team members	2,122,015	422,398	26,838	–	2,571,251
Total	**2,691,333**	**664,138**	**35,018**	**–**	**3,390,489**
2017					
President and CEO Nico Delvaux [3]	299,408	–	9,128	–	308,536
President and CEO Matti Kähkönen [4]	406,765	135,000	12,544	66,824	621,133
Other Executive Team members	2,307,889	161,517	19,205	138,207	2,626,818
Total	3,014,062	296,517	40,877	205,031	3,556,487

[1] President and CEO from November 1, 2018.
[2] Interim President and CEO between February 3–October 31, 2018.
[3] President and CEO between August 1, 2017–February 2, 2018.
[4] President and CEO between January 1–July 31, 2017.

Remuneration paid to President and CEO Pekka Vauramo in 2018 is presented in the table above. Mr. Vauramo participates in the remuneration programs according to the respective terms and conditions decided by the Board. For more information on share-based payments, see note 1.6.

According to his executive contract, Pekka Vauramo is eligible to retire at the age of 65, unless otherwise to be agreed by the Company and the President and CEO, and he belongs to a supplementary defined contribution pension plan with 25% contribution of annual salary. The notice period for both parties is six months. Severance pay is full monthly salary multiplied by twelve (12) if the agreement is terminated by the company. For year ending December 31, 2018, there were no contributions toward supplementary pension plan for Mr. Vauramo. As former President and CEO Nico Delvaux left the company prior to second anniversary of his tenure, no contributions were made toward supplementary pension plan. For the years ended December 31, 2017, contributions made to the executive defined benefit plan, which former President and CEO Matti Kähkönen belonged to, amounted to EUR 974 thousand.

Metso has subscribed supplementary pension plans for other Metso Executive Team members for retirement. For the year ended December 31, 2018, these pension premium payments totaled approximately EUR 273 thousand (EUR 245 thousand in 2017).

Board share ownership in Metso

	2018
Mikael Lilius	34,238
Christer Gardell	7,176
Peter Carlsson	2,310
Ozey K. Horton, Jr.	5,520
Lars Josefsson	3,833
Nina Kopola	3,949
Antti Mäkinen	869
Arja Talma	3,060
Total	**60,955**

Executive Team share ownership in Metso

	2018
Pekka Vauramo	10,500
Eeva Sipilä	7,661
Uffe Hansen	515
Merja Kamppari	8,207
Mikko Keto	–
Jani Puroranta	–
John Quinlivan	3,103
Markku Simula	3,941
Sami Takaluoma	91
Victor Tapia	–
Total	**34,018**

1.6 Share-based payments

Accounting policy

Metso has share-based incentive plans for its key personnel.

The equity-settled share awards are valued based on the market price of Metso share as at the grant date and recognized as an employee benefit expense over the vesting period with corresponding entry in other reserves of the equity. The historical development of the Metso share and expected dividends have been taken into account when calculating the fair value. From 2018 the entire share incentive, including the cash-for-taxes portion is recognized in equity. Also the value of the cash portion is based on the grant date value. As a market condition, total shareholder return of the Performance Share Plans will be taken into account when determining the fair value at grant and it will not be changed during the plan. The fair value of the cost estimate of the Performance Share Plans will only be changed when service condition and non-market conditions are concerned.

At each balance sheet date, Metso revises its estimates on the amount of share-based payments that are expected to vest. The impact of the revision to previous estimate is accrued as an employee benefit expense with corresponding entry to equity.

Estimates and assessments by Management

At each balance sheet date, management revises its estimates for the number of shares that are expected to vest. As part of this evaluation, Metso takes into account the changes in the forecasted performance of the Group and its reporting segments, the expected turnover of the personnel benefiting from the incentive plan and other pertinent information impacting the number of shares to be vested.

Performance and Restricted Share Plans

In December 2014, Metso's Board decided on new long-term share-based incentive plans: Performance Share Plan (PSP) and Restricted Share Plan (RSP). The commencement of each new PSP and RSP and the earnings criteria for each new PSP plan will be subject to a separate decision by the Board. The PSP consists of an annually commencing plan, each with a three-year earning period, and the complementary RSP consists of an annually commencing plan, each with a three-year vesting period. The possible rewards are paid partly in Metso's shares and partly in cash.

If the participant's employment or service ends for reasons relating to the participant before the reward payment, no reward will be paid from the long-term incentive plans.

Performance Share Plan 2015–2017
The earning criteria for the PSP 2015–2017 and the potential reward is based on the total shareholder return (TSR) of Metso's share during 2015–2017. The earning criteria was not met and there was no payout from PSP 2015–2017 plan.

Performance Share Plan 2016–2018
The earning criteria for the PSP 2016–2018 and the potential reward is based on the total shareholder return (TSR) of Metso's share during 2016–2018. At the end of 2018, there were 83 participants in the plan and the potential reward corresponds to a maximum of 367,188 Metso shares, out of which the Metso Executive Team can receive a maximum reward of 59,600 shares. The potential reward will be paid in 2019.

Performance Share Plan 2017–2019
The earning criteria for the PSP 2017–2019 is based on the total shareholder return of Metso's share during 2017–2019. At the end of 2018, there were 91 participants in the plan and the potential reward corresponds to a maximum of 335,586 Metso shares, out of which the Metso Executive Team can receive a maximum reward of 76,800 shares. The potential reward will be paid in 2020.

Restricted Share Plan 2017–2019
At the end of 2018, there were 5 participants in the RSP plan and the potential reward corresponds to a 15,900 Metso shares, out of which the Metso Executive Team can receive a reward of 12,500 shares. The potential reward will be paid in 2020.

Performance Share Plan 2018–2020
The earning criteria for the PSP 2018–2020 is based on the total shareholder return of Metso's share during 2018–2020. At the end of 2018, there were 11 participants in the plan and the potential reward corresponds to a maximum of 139,416 Metso shares, out of which the Metso Executive Team can receive a maximum reward of 135,416 shares. The potential reward will be paid in 2021.

Restricted Share Plan 2018–2020
At the end of 2018, there were 1 participant in the RSP plan and the potential reward corresponds to a 15,000 Metso shares, out of which the Metso Executive Team can receive a reward of 15,000 shares. The potential reward will be paid in 2021.

Deferred Share Unit Plan
In December 2017, Metso Board of Directors decided to establish a new long-term incentive plan for senior managers and key employees. DSUP is a long-term share value-based incentive plan that aligns and rewards the employee's performance and Metso share value development during a performance period. At the end of 2018, there were 115 participants and plan is payable after three years of the program commencing if the terms of payment are met. Metso Executive Team members aren't eligible to participate in DSUP.

Matching Share Plan 2018–2022
Metso has one active Matching Share Plan for President and CEO Pekka Vauramo. The plan requires personal investment in Metso shares. The potential reward corresponds to maximum 18,750 shares and will be delivered in three installments and are subject to fulfill the performance criterion adjusted EBITA for each installment.

Beneficiaries of and granted shares under the share ownership plan as at December 31, 2018

	Metso Executive Team	Shares	Other beneficiaries	Shares	Beneficiaries total	Shares total
Plan 2014–2016						
Granted 2017	7	3,875	42	8,715	49	**12,590**

Costs recognized for the share ownership plans

EUR thousand	Plan 2014–2016	Plan PSP 2015–2017	Plan PSP 2016–2018	Plan PSP 2017–2019	Plan PSP and DSUP 2018–2020	Total
2018						
Metso Executive Team	–	–	–50	–188	–484	**–722**
Other beneficiaries	–	–20	–114	–578	–1,369	**–2,081**
Total	**–**	**–20**	**–164**	**–766**	**–1,853**	**–2,803**
2017						
Metso Executive Team	–32	–26	–189	–240	–	–487
Other beneficiaries	–86	–151	–779	–575	–	–1,591
Total	–118	–177	–968	–815	–	–2,078

1.7 Financial income and expenses

EUR million	2018	2017
Financial income		
Dividends received	0	0
Interest income on cash and cash equivalents	4	4
Income on financial investments	0	0
Other financial income [1]	1	8
Gain from foreign exchange	1	0
Financial income total	**6**	12
Financial expenses		
Interest expenses from financial liabilities at amortized cost	–25	–23
Interest expenses on financial leases	0	0
Other financial expenses	–10	–23
Loss from foreign exchange	0	–1
Financial expenses total	**–36**	–47
Financial income and expenses, net	**–30**	–35

[1] In 2017 other financial income includes a gain of EUR 7 million on loan modification.

1.8 Income taxes

Accounting policy

Income taxes in the consolidated income statement includes taxes of subsidiaries based on taxable income for the current period, tax adjustments for previous periods and the changes in deferred taxes. The other comprehensive income statement (OCI) includes taxes on items presented in OCI. Deferred taxes are determined for temporary differences arising between the tax base of assets and liabilities and their financial statement carrying amounts, measured using substantially enacted tax rates.

Estimates and assessments by Management

Metso is subject to income tax in its operating countries. Metso's management is required to make certain assumptions and estimates in preparing the annual tax calculations for which the ultimate tax consequence is uncertain. Annually, Metso has tax audits ongoing in several subsidiaries and recognizes tax liabilities on for anticipated tax audit issues based on estimate of whether additional taxes will be due. Where the final outcome of these issues is different from the estimated amounts, the difference will impact the income tax in the period in which such determination is made.

The components of income taxes

EUR million	2018	2017
Income taxes for current year	–98	–62
Income taxes for prior years	2	–13
Change in deferred tax asset and liability	4	–7
Income taxes	**–92**	–82

The differences between income tax expense computed at the Finnish statutory rate and income tax expense provided on earnings were as follows:

EUR million	2018	2017
Profit before taxes	**321**	184
Income tax at Finnish statutory tax rate of 20.0%	–64	–37
Effect of different tax rates in foreign subsidiaries	–30	–16
Non-deductible expenses	–5	–7
Tax exempt income or tax incentives	15	2
Foreign non-creditable withholding taxes	–1	–2
Deferred tax liability on undistributed earnings	–8	–
Effect of enacted change in tax rates	3	–8
Reassessment of deferred taxes for prior years	–	–1
Income tax for prior years [1]	2	–13
Other	–5	1
Income taxes	**–92**	–82

[1] Comparison period includes EUR 15 million tax charge due to reassessment decision by Finnish tax authorities for years 2011–2016

Tax effects of components in other comprehensive income

	2018			2017		
EUR million	Before taxes	Tax	After taxes	Before taxes	Tax	After taxes
Cash flow hedges	–1	0	–1	4	–1	3
Defined benefit plan actuarial gains (+) / losses (–)	–2	0	–2	8	–7	1
Currency translation on subsidiary net investments	–13	–	–13	–39	–	–39
Total comprehensive income (+) / expense (–)	**–16**	**0**	**–16**	–27	–8	–35
Current tax		0			–1	
Deferred tax		0			–7	
Total		**0**			–8	

Deferred taxes

Accounting policy of deferred taxes

The deferred tax asset or liability is determined for temporary differences arising between the tax bases of assets and liabilities and their financial statement carrying amounts using the substantially enacted tax rates expected to apply in future years. Typical temporary differences arise from provisions, depreciation and amortization expense, inter-company inventory margins, defined benefit plans and tax loss carry forwards. Deferred tax liabilities are recognized in the balance sheet in full, and the deferred tax assets are only recognized if it is probable there will be taxable income in the future against which deferred tax can be used. Deferred tax assets are set off against deferred tax liabilities if they relate to taxes levied by the same taxat ion authority.

Estimates and assessments by Management

In determining the deferred tax assets and liabilities, Metso is required to make certain assumptions and estimates on in particular future operating performance and the taxable income of subsidiaries, recoverability of tax loss carry-forwards and potential changes of tax laws in jurisdictions where Metso operates. A deferred tax liability based on foreign subsidiaries undistributed earnings has been provided only where Metso management has elected to distribute such earnings in the coming years and the distribution is subject to taxation. Because the tax consequences are difficult to predict, the deferred tax asset and liabilities may need to be adjusted in coming financial years, which will have an impact in the period in which such determination is made.

Deferred tax liability on undistributed retained earnings in subsidiaries will be recognized when the dividend distribution is probable in the near future and it will cause a tax impact. Undistributed retained earnings, of which deferred tax liability is not recognized amounted to EUR 61 million in 2018 (EUR 121 million in 2017).

Reconciliation of deferred tax balances

EUR million	January 1	Charged to income statement	Charged to shareholders' equity	Acquisitions and disposals	Translation differences	December 31
2018						
Deferred tax assets						
Tax losses carried forward	11	–4	–1	–	–	6
Intangible and tangible assets	10	5	2	–	–	17
Inventory	24	–3	0	–	–	21
Provisions	21	–2	0	–	–1	18
Accruals	5	1	–	–	–	6
Pension related items	7	11	–4	–	–	14
Other	22	1	1	0	–1	24
Total deferred tax assets	101	8	–2	0	–2	105
Offset against deferred tax liabilities	–10	6	–	–	–	–4
Net deferred tax assets	91	14	–2	0	–2	**101**
Deferred tax liabilities						
Purchase price allocations	10	–2	0	4	–	12
Intangible and tangible assets	5	–2	–	–	0	4
Other	10	7	0	1	0	19
Total deferred tax liabilities	25	4	0	5	0	34
Offset against deferred tax assets	–10	6	–		–	–4
Net deferred tax liabilities	15	10	0	5	0	**30**
Deferred tax assets, net	**76**	**4**	**–2**	**–5**	**–2**	**71**
2017						
Deferred tax assets						
Tax losses carried forward	10	1	0	–	0	11
Intangible and tangible assets	11	–1	–	–	0	10
Inventory	35	–9	–	–	–3	24
Provisions	22	1	–	–	–2	21
Accruals	15	–6	–	–	–1	7
Pension related items	14	0	–7	–	–	7
Other	24	2	–1	0	–2	22
Total deferred tax assets [1]	131	–12	–8	0	–8	103
Offset against deferred tax liabilities	–19	0	–	–	–	–10
Net deferred tax assets	**112**	**–12**	**–8**	**0**	**–8**	**93**
Deferred tax liabilities						
Purchase price allocations	8	–1	–	3	–	10
Intangible and tangible assets	8	–2	–	–	–1	5
Other	15	–2	–	–	–	13
Total deferred tax liabilities [1]	30	–5	–	3	–1	28
Offset against deferred tax assets	–19	0	–	–	–	–10
Net deferred tax liabilities	**11**	**–5**	**–**	**3**	**–1**	**18**
Deferred tax assets, net	**101**	**–7**	**–8**	**3**	**–7**	**77**

[1] Metso has reclassified the presentation of deferred tax assets and liabilities on a gross basis and the opening balance line items have been adjusted accordingly.

1.9 Earnings per share

Basic

Basic earnings per share is calculated by dividing the profit attributable to shareholders of the company by the weighted average number of shares issued and outstanding for the year, excluding own shares held by the Parent company.

	2018	2017
Profit attributable to shareholders of the company, EUR million	230	102
Weighted average number of shares issued and outstanding (in thousands)	149,997	149,995
Earnings per share, basic, EUR	**1.53**	0.68

Diluted

The shares to be potentially issued in the future are treated as outstanding shares when calculating the Diluted earnings per share if they have a dilutive effect. The own shares held by Metso are reissued within the terms of the share ownership plan to the key personnel if the targets defined in the plan are met. Diluted earnings per share are calculated by increasing the weighted average number of outstanding shares with the number of those shares, which would be distributed to the beneficiaries based on the results achieved, if the conditional earnings period ended at the end of the financial period in question. As at December 31, 2018, Metso held 351,128 own shares to be used as consideration under the share ownership plans.

	2018	2017
Profit attributable to shareholders of the company, EUR million	230	102
Weighted average number of shares issued and outstanding (in thousands)	149,997	149,995
Adjustment for potential shares distributed (in thousands)	190	156
Weighted average number of diluted shares issued and outstanding (in thousands)	150,187	150,151
Earnings per share, diluted, EUR	**1.53**	0.68

2 Operational assets and liabilities

Net working capital

EUR **633** million

Return on capital employed (ROCE) before tax

16.9%

2.1 Net working capital and capital employed

Net working capital

	Balance sheet value		Cash flow effect	
EUR million	**2018**	**2017**	**2018**	**2017**
Inventories	950	750	–197	–93
Trade receivables	585	497	–85	–62
Other non-interest bearing receivables	185	177	–6	–11
Customer contract assets and liabilities, net	–18	8	24	3
Trade payables	–431	–342	82	79
Advances received	–208	–198	16	22
Other non-interest bearing liabilities	–430	–392	37	39
Net working capital	**633**	502	**–129**	–23

Capital employed

EUR million	2018	2017
Net working capital	633	502
Intangible assets	608	545
Tangible assets	305	287
Non-current investments	7	4
Interest bearing receivables	7	3
Liquid funds	426	826
Tax receivables, net	32	43
Interest payables, net	–4	–6
Capital employed	**2,015**	2,204
Total capital employed, average	2,109	2,218
Profit before taxes + interest and other financial expenses	357	229
Profit after taxes + interest and other financial expenses	264	147
Return on capital employed (ROCE) before taxes, %	16.9	10.3
Return on capital employed (ROCE) after taxes, %	12.5	6.6

Longer time series is presented in Key figures section.

2.2 Trade receivables

Accounting policy

Trade receivables are invoiced receivables from customers related to Metso's ordinary business transactions. General payment terms are typically from 30 days to 90 days and they are non-interest bearing receivables. Trade receivables are initially recognized at recoverable value and subsequently valued at amortized cost. If exceptionally over 360 days payment term has offered to a client, the invoiced amount is discounted to its fair value.

Metso may enter an agreement to sell trade receivables. Trade receivable will be derecognized as payment has been received and there is certainty that credit risk and other risks and rewards have been transferred to a third party.

Receivables from customer contracts are recognized receivables related to sales recognition over time, at the time when performance obligation satisfied by Metso exceeds the amount invoiced from the client. These receivables will be invoiced according to invoicing schedules in the client contract, see note 1.2.

Metso applies the IFRS 9 simplified approach to measuring expected credit losses, which uses a lifetime expected loss allowance to be assessed and recognized regularly. Credit loss risk related to customer contract assets is for material part covered with the advance payments received from the clients.

Based on the analysis of previous year's credit losses by aging category and nature, as well as macroeconomic outlook in the near future, Metso recognizes a credit loss allowance from 0.2% to 5% on undue or less than 180 days overdue trade receivables. For more than 180 days overdue trade receivables, the impairment is assessed individually, but without any credit guarantee, collateral or similar assurance on the recoverability, a minimum credit loss provision of 25% (over 180 days overdue) and 100% (over 360 days overdue) will be recognized. Trade receivables are written off when there is no reasonable expectation of recovery. Probability of bankruptcy, other financial reorganization or similar situation indicating insolvency of the client trigger final write off.

Estimates and assessments by Management

Estimate on expected credit losses and credit loss provision to be recognized are based on management's best judgement. The judgement is based on earlier experience on past years credit losses and current economic outlooks and client segment and location information. Trade receivables are collected actively, and possible impairment analyzed regularly by businesses and Metso legal units, and necessary actions to secure the receivables are made by the management. When credit loss provision of a trade receivable is assessed individually, collateral, credit guarantees, financial position of client and earlier payment behavior.

EUR million	2018	2017
Trade receivables	576	490
Trade receivables for sale	9	7
Customer contract assets	82	66
Total	**667**	563

Provision on trade receivables by ageing category

	2018		2017	
EUR million	Trade receivables, gross	of which provided	Trade receivables, gross	of which provided
Undue	418	1	339	1
overdue 1–30 days	92	0	81	0
overdue 31–180 days	66	2	70	1
overdue 181–360 days	14	3	9	2
overdue 360– days	25	25	31	28
Total	**616**	**31**	530	33

Realized write-offs amounted to EUR 3 million in 2018 (EUR 12 million in 2017).

Provision for impairment of trade receivables

EUR million	2018	2017
Accumulated provision January 1	33	28
Impact in income statement	–3	9
Currency rate differences	–1	–2
Other change	2	–1
Accumulated provision December 31	**31**	33

2.3 Other receivables

Accounting policy

Other non-interest bearing receivables are recognized in the balance sheet at fair value which can be subsequently written down due to impairment. The impairment is expensed under selling, general and administrative expenses.

Estimates and assessments by Management

Metso's policy is to calculate an impairment loss based on the best estimate of the amounts that are potentially uncollectable at the balance sheet date. Metso's management actively monitors the amount of receivables past due globally and initiates action as necessary.

	2018			2017		
EUR million	Non-current	Current	Total	Non-current	Current	Total
Loan receivables	–	–	–	0	–	0
Prepaid expenses and accrued income	–	54	54	–	53	53
VAT, payroll tax and social charge receivables	–	69	69	–	66	66
Derivative instruments	–	10	10	–	13	13
Pension assets	15	–	15	16	–	16
Other receivables	24	11	35	13	15	28
Non-interest bearing receivables total	**38**	**144**	**182**	29	147	176

Other non-interest bearing receivables included EUR 15 million in 2018 (EUR 17 million in 2017) Brazilian tax credits arising from delivery of goods and transfer of services (ICMS) recognized by local subsidiary. Of that amount EUR one million was classified as long-term in 2018 (EUR 2 million in 2017).

More information on derivatives, see note 4.8.

2.4 Inventory

Accounting policy

Inventories are valued at the lower of historical cost calculated or net realizable value. Costs are measured on a weighted average cost basis and include purchase costs as well as transportation and processing costs. The costs of finished goods include direct materials, wages and salaries plus employer social contributions, subcontracting and other direct costs, as well as a portion of production and project administration overheads. Net realizable value is the estimated amount that can be realized from the sale of the asset in the normal course of business less costs to sell.

Inventories are shown net of a provision for obsolete and slow-moving inventories. Metso's policy is to maintain a provision for slow-moving and obsolete inventory based on the best estimate of such amounts at the balance sheet date. An obsolescence provision is charged to income statement in the period in which the obsolescence is determined. Estimates are based on a systematic, on-going review and evaluation of inventory balance.

Trade-in equipment received is recorded as inventory at the lower of cost or net realizable value.

Estimates and assessments by Management

Inventory valuation requires management to make estimates and judgements particularly relating to obsolescence and expected selling prices in different market conditions. It also entails management's assessment of general market trends in global markets.

EUR million	2018	2017
Materials and supplies	160	121
Work in process	209	164
Finished products	581	465
Inventories	**950**	750

The cost of inventories recognized as expense amounted to EUR 2,222 million in 2018 and EUR 1,933 million in 2017.

Changes in provision for inventory obsolescence

EUR million	2018	2017
Balance at beginning of year	66	71
Impact of exchange rates	0	–5
Additions charged to expense	8	12
Used reserve	–2	–1
Deductions / other additions	–9	–10
Balance at end of year	**64**	66

2.5 Trade and other payables

Accounting policy

The fair values and carrying amounts of trade and other payables are considered to be the same due to the short-term maturities. The maturities of the current non-interest bearing liabilities rarely exceed six months. The maturities of trade payables are largely determined by trade practices and individual agreements between Metso and its supplier.

Accrued personnel costs, including holiday pay, are settled in accordance with local laws and regulations.

	2018			2017		
EUR million	Non-current	Current	Total	Non-current	Current	Total
Trade payables	**–**	**431**	**431**	–	342	342
Other payables						
Accrued interests	–	5	**5**	–	7	7
Accrued personnel costs	–	105	**105**	–	85	85
Accrued project costs	–	54	**54**	–	30	30
VAT, payroll tax and social charge payables	–	39	**39**	–	34	34
Derivative instruments	–	14	**14**	–	10	10
Other payables	2	45	**48**	2	51	53
Other payables	**2**	**262**	**264**	2	216	218

2.6 Provisions

Accounting policy

Provisions are recognized when the Group has a legal or constructive obligation as a result of a past event, and it is probable that financial benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

Provisions, for which settlement is expected to occur more than one year after the initial recognition, are discounted to their present value and adjusted in subsequent closings for the time effect.

Warranty and guarantee provisions

Metso issues various types of contractual product warranties under which it generally guarantees the performance levels agreed in the sales contract, the performance of products delivered during an agreed warranty period and services rendered for a certain period or term. The provision for estimated warranty costs is based on historical realized warranty costs for deliveries of standard products and services in the past. The typical warranty period is 12 months from accepted delivery. The adequacy of provisions is assessed periodically on a case by case basis.

Restructuring and capacity adjustment costs

A provision for restructuring and capacity adjustment costs is recognized only after management has approved, committed to and started to implement a formal plan. Employee termination benefits are recognized after the representatives of employees or individual employees have been informed of the intended measures in detail and the related compensation packages can be reliably measured. The costs included in a provision for capacity adjustment are those costs that are either incremental or incurred as a direct result of the plan or are as the result of a continuing contractual obligation with no continuing economic benefit to Metso or a penalty incurred to cancel the contractual obligation. Restructuring and capacity adjustment expenses are recognized in either cost of goods sold or selling, general and administrative expenses depending on the nature of the restructuring expenses. Restructuring costs can also include other costs incurred as a result of the plan, which are recorded under other operating income and expenses, net, such as asset write-downs.

Environmental remediation costs

Metso recognizes provisions associated with environmental remediation obligations when there is a present obligation as a result of past events, an outflow of resources is considered probable and the obligation can be estimated reliably. Such provisions are adjusted as further information develops or circumstances change. Recoveries of environmental remediation costs from other parties are recorded as assets when their receipt is deemed virtually certain.

Provision for loss making projects

A provision for loss making projects is booked when the costs needed to settle the performance obligations of the contract exceed the consideration to be received. Such a provision for the unrecognized portion of the loss is recognized immediately when these conditions have been met and is revised according to the progress of the project.

Estimates and assessments by Management

Provisions booked require management to estimate the future costs needed to settle the obligations and to estimate the possible outcomes of claims or lawsuits. The outcome depends on future development and events, so the final costs needed and timing to settle the obligation may differ from the initial provision estimated.

For larger and long-term delivery projects and sales involving new technology, additional warranty provisions can be established on a case by case basis to take into account the potentially increased risk.

	2018			2017		
EUR million	Non-current	Current	Total	Non-current	Current	Total
Warranty and guarantee provision	0	50	**51**	–	48	48
Restructuring provision	0	5	**5**	1	11	12
Environmental remedial provision	0	1	**1**	–	1	1
Other provisions [1]	28	15	**43**	36	14	50
Total	**29**	**71**	**100**	37	74	111

[1] Includes provisions related to lawsuit, personnel liabilities and provisions for loss making projects.

Changes in provisions

	2018			
EUR million	Warranty and guarantee provision	Restructuring provision	Environmental remediation provision	Total
Carrying value at January 1	48	12	1	**61**
Impact of exchange rates	0	0	0	**0**
Acquisitions	0	–	–	**0**
Addition charged to expense	31	2	0	**34**
Used reserve	−15	−7	0	**−22**
Reversal of reserve / other changes	−13	−2	0	**−16**
Carrying value at December 31	**51**	**5**	**1**	**57**

2.7 Post-employment obligations

Accounting policy

Metso has several different pension schemes in accordance with local regulations and practices in countries where it operates. In certain countries, the pension schemes are defined benefit plans with retirement, disability, death, and other post-retirement benefits, such as health services, and termination income benefits. The retirement benefits are usually based on the number of service years and the salary levels of the final service years. Metso has both defined contribution and defined benefit schemes. The schemes are generally funded through payments to insurance companies or to trustee-administered funds. Other arrangements are unfunded with benefits being paid directly by Metso as they fall due. All arrangements are subject to local tax and legal restrictions in their respective jurisdictions.

In the case of defined benefit plans, the liability recognized from the plan is the present value of the defined benefit obligation as of the balance sheet date less the fair value of the plan assets. Independent actuaries calculate the defined benefit obligation by applying the projected unit credit method under. The present value of the defined benefit obligation is determined by discounting the estimated future cash flows using the interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and having maturity approximating to the terms of the related pension obligation. The cost of providing retirement and other post-retirement benefits to personnel is recognized in the income statement concurrently with the service rendered by personnel. Net interest is recorded through financial income and expenses in the income statement. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized through other comprehensive income (OCI) in shareholders' equity in the period in which they arise. Past service costs, gains and losses on curtailments or settlements are recognized immediately in the income statement.

The contributions to defined contribution plans and multi-employer and insured plans are recognized in the income statement concurrently with the payment obligations.

Estimates and assessments by Management

The present value of the pension obligations is based on annual actuarial calculations, which use several assumptions such as the discount rate and expected return on assets, salary and pension increases and other actuarial factors. As a result, the liability recorded on Metso's balance sheet and cash contributions to funded arrangements are sensitive to changes. Where the actuarial experience differs from those assumptions gains and losses result and are recognized in OCI. Sensitivity analyses on the present value of the defined benefit obligation have been presented in the tables. Assets of Metso's funded arrangements are managed by external fund managers. The allocation of assets is reviewed regularly by those responsible for managing Metso's arrangements based on local legislation, professional advice and consultation with Metso, based on acceptable risk tolerances.

Metso's pension and other post-employment plans

Pension arrangements in the US, Canada and the UK together represent 75 percent of Metso's defined benefit obligation and 84 percent of its pension assets. These arrangements provide income in retirement which is substantially based on salary and service at or near retirement. In the US and Canada annual valuations are carried out to determine whether cash funding contributions are required in accordance with local legislation. In the UK, Metso's defined benefit pension arrangement is closed to future accrual. Plan assets are held by a separate pension fund and are administered by a board of trustees. Cash contributions are determined on a triennial basis in accordance with local funding legislation, with the level of cash payments being agreed between the trustees and Metso. Defined benefit pension arrangements in Sweden are offered in accordance with collective labor agreements and are unfunded.

Assets of Metso's funded arrangements are managed by external fund managers. The allocation of assets is reviewed regularly by those responsible for managing Metso's arrangements based on local legislation, professional advice and consultation with Metso, based on acceptable risk tolerances.

The expected contributions to plans in 2019 are EUR 5 million. Metso paid contributions of EUR 8 million to defined benefit plans in 2018.

The amounts recognized as of December 31 in the balance sheet

	Pension benefits		Other post-employment benefits		Total	
EUR million	2018	2017	2018	2017	2018	2017
Present value of funded obligations	237	260	–	–	**237**	260
Fair value of plan assets	–254	–280	–	–	**–254**	–280
	–17	–20	**–**	–	**–17**	–20
Present value of unfunded obligations	42	45	26	27	**69**	71
Unrecognized asset	1	1	–	–	**1**	1
Net liability recognized	**27**	25	**26**	27	**53**	52
Amounts in the balance sheet:						
Liabilities	42	41	26	27	**68**	68
Assets	15	16	–	–	**15**	16
Net liability recognized	**27**	25	**26**	27	**53**	52

Movements in the net liability recognized in the balance sheet

	Pension and other post-employment benefits	
EUR million	2018	2017
Net liability at beginning of year	52	70
Net expense recognized in the income statement	6	5
Employer contributions	–8	–10
Gain (+) / loss (–) recognized through OCI	3	–9
Translation differences	1	–4
Net liability at end of year	**53**	52

The amounts recognized in the income statement

	Pension benefits		Other post-employment benefits		Total	
EUR million	2018	2017	2018	2017	2018	2017
Employer's current service cost	3	5	0	0	**3**	5
Net interest on net surplus (+) / deficit (–)	0	0	1	1	**1**	1
Settlements	–	0	–	–	**–**	–
Recognition of past service cost (+) / credit (–)	1	0	–	–1	**1**	–1
Administration costs paid by the scheme	0	0	–	–	**0**	0
Expense (+) / income (–) recognized in income statement	**4**	5	**1**	0	**6**	5

The amounts recognized through OCI

	Pension benefits		Other post-employment benefits		Total	
EUR million	2018	2017	2018	2017	2018	2017
Return on plan assets, excluding amounts included in interest expense (+) / income (–)	18	–10	–	–	**18**	–10
Actuarial gain (–) / loss (+) on liabilities due to change in financial assumptions	–11	7	–1	1	**–13**	8
Actuarial gain (–) / loss (+) on liabilities due to change in demographic assumptions	0	–2	–	0	**0**	–2
Actuarial gain (–) / loss (+) on liabilities due to experience	–3	–3	–	–2	**–3**	–5
Gain (–) / loss (+) as result of asset ceiling	0	–	–	–	**0**	–
Total gain (–) / loss (+) recognized through OCI	**4**	–8	**–1**	–1	**2**	–9

The changes in the value of the defined benefit obligation

EUR million	Pension benefits 2018	Pension benefits 2017	Other post-employment benefits 2018	Other post-employment benefits 2017	Total 2018	Total 2017
Defined benefit obligation at beginning of year	305	338	27	32	**332**	370
Other adjustment to present value	–	–	0	–	**0**	0
Employer's current service cost	3	4	0	0	**3**	4
Interest cost	8	9	1	1	**9**	10
Plan participant contributions	0	–	–	–	**0**	–
Past service cost (+) / credit (–)	1	–	–	–	**1**	–
Actuarial gain (–) / loss (+) due to change in financial assumptions	–11	7	–1	1	**–13**	8
Actuarial gain (–) / loss (+) on liabilities due to change in demographic assumptions	0	–2	–	–	**0**	–2
Actuarial gain (–) / loss (+) due to experience	–3	–3	0	–2	**–3**	–5
Settlements	0	–6	–	–	**0**	–6
Benefits paid from the arrangement	–22	–17	–	–	**–22**	–17
Benefits paid direct by employer	–3	–4	–2	–2	**–5**	–6
Translation differences	3	–21	1	–3	**4**	–24
Defined benefit obligation at end of year	**281**	305	**25**	27	**306**	332

The changes in the fair value of the plan assets during the year

EUR million	Pension and other post-employment benefits total 2018	Pension and other post-employment benefits total 2017
Fair value of assets at beginning of year	280	300
Interest income on assets	8	9
Return on plan assets excluding interest income	–18	9
Assets distributed on settlements	–	–6
Employer contributions	8	10
Plan participant contributions	0	0
Benefits paid from the arrangements	–22	–17
Benefits paid direct by employer	–5	–6
Administration expenses paid from the scheme	0	0
Translation differences	3	–19
Fair value of assets at end of year	**254**	280

The major categories of plan assets as a percentage of total plan assets as at December 31

	Quoted 2018	Quoted 2017	Unquoted 2018	Unquoted 2017	Total 2018	Total 2017
Equity securities	17%	23%	0%	0%	17%	23%
Bonds	36%	28%	2%	2%	38%	30%
Property	1%	1%	0%	0%	1%	1%
Cash	1%	1%	0%	0%	1%	1%
Insurance contracts	2%	1%	11%	13%	12%	14%
Other	18%	3%	12%	28%	31%	31%
Total	**75%**	57%	**25%**	43%	**100%**	100%

As at 31, December 2018 there were no plan assets invested in affiliated or property occupied by affiliated companies.

The principal actuarial assumptions at December 31 expressed as weighted averages

	2018	2017
Benefit obligation:		
Discount rate	3.26%	2.87%
Rate of salary increase	3.07%	3.05%
Rate of pension increase	2.68%	2.66%
Expense in income statement:		
Discount rate	2.87%	3.32%
Rate of salary increase	3.05%	3.09%
Rate of pension increase	2.66%	2.86%

The weighted average life expectancy used for the major defined benefit plans

In years	Life expectancy at age of 65 for a male member currently aged 65 2018	Life expectancy at age of 65 for a male member currently aged 65 2017	Life expectancy at age of 65 for a male member currently aged 45 2018	Life expectancy at age of 65 for a male member currently aged 45 2017
United Kingdom	21.9	22.1	23.3	23.5
United States	21.8	20.7	22.8	22.8
Canada	20.7	21.7	22.3	22.6

Life expectancy is allowed for in the assessment of the Defined Benefit Obligation using mortality tables which are generally based on experience within the country in which the arrangement is located with (in many cases) an allowance made for anticipated future improvements in longevity.

Sensitivity analyses on present value of Defined Benefit Obligation in below table presents the present value of the Defined Benefit Obligation when major assumptions are changed while others held constant.

Sensitivity analyses

	2018			2017		
EUR million	Pension	Other	Total	Pension	Other	Total
Discount rate						
Increase of 0.25%	–7.4	–0.6	–8.0	–8.6	–0.6	–9.2
Decrease of 0.25%	7.8	0.6	8.4	9.0	0.7	9.7
Salary increase rate						
Increase of 0.25%	0.1	0.1	0.2	0.2	0.1	0.3
Decrease of 0.25%	–0.1	–0.1	–0.2	–0.1	–0.1	–0.2
Pension increase rate						
Increase of 0.25%	2.8	–	2.8	3.2	–	3.2
Decrease of 0.25%	–2.5	–	–2.5	–3.1	–	–3.1
Medical cost trend						
Increase of 0.25%	–	1.1	1.1	–	1.0	1.0
Decrease of 0.25%	–	–1.0	–1.0	–	–1.0	–1.0
Life expectancy						
Increase of one year	13.1	0.8	13.9	13.9	0.7	14.6
Decrease of one year	–12.9	–0.8	–13.7	–13.7	–0.7	–14.4

Weighted average duration of Defined Benefit Obligation expressed in years:

	2018			2017		
In years	Pension	Other	Total	Pension	Other	Total
At December 31	11.4	9.5	11.2	12.0	10.1	11.8

3 Intangible and tangible assets

Gross capital expenditure

EUR **67** million

3.1 Goodwill and other intangible assets

Accounting policy

Goodwill and other intangible assets with an indefinite useful life

Goodwill represents the excess of acquisition costs over the fair value of net identified assets acquired and liabilities assumed and the fair values of previously owned interests and non-controlling interests. Goodwill is allocated to cash-generating units (CGUs), which are the reportable segments such as Minerals or Flow Control. If Metso reorganizes its reporting structure, goodwill is reallocated to the cash generating units affected based on their relative fair values at the time of the reorganization. The carrying value of goodwill is tested with the CGU's value in use or CGU's fair value less costs of disposal, when appropriate. Previously recognized impairment losses on goodwill are not reversed.

Other intangible assets with an indefinite useful life, such as brand values, are not amortized. Currently such assets are tested for impairment annually as part of the appropriate CGU tested for impairment. Previous losses on impairment are only reversed to the extent that the new carrying amount of the assets does not exceed the carrying amount the asset would have had, if the asset had not been impaired.

Other intangible assets

Other intangible assets with a definite useful life, mainly trademarks, patents, licenses, IT software or acquired order backlog are measured at costs less accumulated amortizations and impairment losses.

Amortization of intangible assets

Amortization of intangible assets with a definite useful life is calculated on a straight-line basis over the useful life of the assets as follows:

Patents and licenses	5–10 years
Computer software	3–5 years
Technology	3–15 years
Customer relationships	3–12 years
Other intangible assets	< 1–15 years

The probable useful lives of assets are reviewed annually. If material deviations from previous estimates arise, the useful lives are reassessed. The carrying value of intangible assets subject to amortization is reviewed for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be recoverable. A previously recognized impairment loss may be reversed if there is a significant improvement of the circumstances having initially caused the impairment, but not to a higher value than the carrying amount, which would have been recorded had there been no impairment in prior years.

Research and development expenses comprise salaries, administration costs, depreciation and amortization of tangible and intangible assets and they are mainly recognized as incurred. When material development costs meet certain capitalization criteria under IAS 38, they are capitalized and amortized during the expected useful life of the underlying technology.

Goodwill and other intangible assets

EUR million	Goodwill	Patents and licences	Capitalized software	Other intangible assets	Intangible assets total
2018					
Acquisition cost at beginning of year	466	28	93	119	**706**
Translation differences	2	–	–	1	**3**
Business acquisitions	57	–	–	16	**73**
Capital expenditure	–	2	1	3	**6**
Reclassifications	–	–	1	–1	**–**
Other changes	–	–3	–2	–	**–5**
Acquisition cost at end of year	**525**	**27**	**92**	**139**	**783**
Accumulated amortization at beginning of year	–	–19	–76	–66	**–161**
Translation differences	–	0	0	0	**0**
Other changes	–	2	2	–	**5**
Impairment losses	–	0	0	–	**0**
Amortization charges for the year	–	–3	–8	–8	**–18**
Accumulated amortization at end of year	**–**	**–19**	**–81**	**–74**	**–175**
Net book value at end of year	**525**	**7**	**11**	**65**	**608**
2017					
Acquisition cost at beginning of year	452	24	93	119	688
Translation differences	–5	–1	–2	–5	–13
Business acquisitions	19	4	–	7	30
Capital expenditure	–	1	0	2	3
Reclassifications	–	1	2	–3	0
Other changes	–0	–1	0	–1	–2
Acquisition cost at end of year	466	28	93	119	706
Accumulated amortization at beginning of year	–	–19	–70	–61	–150
Translation differences	–	1	2	2	5
Other changes	–	1	–	–	1
Impairment losses	–	0	0	–	0
Amortization charges for the year	–	–2	–8	–7	–17
Accumulated amortization at end of year	–	–19	–76	–66	–161
Net book value at end of year	466	9	17	53	545

Impairment testing

Accounting policy

Goodwill and other intangible assets with an indefinite useful life are tested for impairment annually. The testing of goodwill and other intangible assets with an indefinite useful life is performed at the cash generating unit level. If the carrying value of goodwill exceeds the recoverable value, an impairment is recognized in the income statement under depreciations and amortizations. Impairment losses on goodwill are not reversed. Currently Metso's management has defined two separate CGUs, Minerals and Flow Control, to which goodwill has been allocated.

The recoverable amounts of CGU's are based on value in use calculations, where the estimated future cash flows of CGUs are discounted to their present value. The cash flows are derived from the current year's last quarter estimate, the following year's budget and the approved strategy for the next four years, beyond which cash flows are calculated using the terminal value method. The terminal growth rate used is based on management's judgment regarding the average long-term growth. Cash flows include only normal maintenance investments and exclude any potential investments that enhance the CGUs performance and acquisitions.

Estimates and assessments by Management

Value in use calculations are inherently judgmental and highly susceptible to change from period to period because they require management to make assumptions about future supply and demand related to its individual business units, future sales prices, profit margins and achievable efficiency savings over time. The value of benefits and savings expected from the efficiency improvement programs are inherently subjective. Metso management estimates sales growth rate and EBITDA development for the testing period as well as the discount factor used. The present value of the cash generating units is discounted using the CGU's weighted average cost of capital (WACC) calculated by Metso. WACC calculations include judgments on regarding, among other things, relevant beta factors, peer companies and capital structure to use.

Metso performs impairment testing annually, or whenever there is an indication of impairment. Typical triggering events are material and permanent deterioration in the global economy or political environment, observed significant under-performance relative to projected future performance and significant changes in Metso's strategic orientations.

Expected useful lives and remaining amortization periods for other intangible assets are reviewed annually by management. Acquisitions, disposals and restructuring actions typically generate a need for the reassessment of the recoverable amounts and remaining useful lives of the assets. When other intangible assets are measured at fair value less costs of disposal, the selling price, incremental costs and selling costs need to be estimated by management.

Upon initial acquisition Metso uses readily available market values to determine the fair values of acquired net assets to be allocated. However, when this is not possible, the valuation is based on past performance of such an asset and expected future cash generating capacity, which requires management to make estimates and assumptions of the future performance and use of these assets. Any change in Metso's future business priorities may affect the recoverable amounts.

Goodwill allocation to cash generating units

EUR million	Minerals	Flow Control	Total
2018			
Balance at beginning of year	422	44	**466**
Translation differences and other changes	0	2	**2**
Acquisitions / disposals	17	40	**57**
Balance at end of year	**439**	**86**	**525**
As percent of total goodwill	84%	16%	**100%**
2017			
Balance at beginning of year	407	45	452
Translation differences and other changes	–4	–1	–5
Acquisitions / disposals	19	–	19
Balance at end of year	422	44	466
As percent of total goodwill	91%	9%	100%

The EUR 57 million increase in goodwill during 2018 relates to the acquisitions of AB P.J. Jonsson och Söner, RMEBS Controls Private Limited, and Kiln Flame Systems Ltd., see note 5.4. In 2017, the increase of EUR 19 million in goodwill was caused by the acquisition of WearX Holding Pty Ltd. The value of other intangible assets with indefinite useful life amounted to EUR 16 million in 2018 (EUR 16 million in 2017), which comprises of the brand values in Minerals segment.

Annual impairment test in 2018

As at December 31, 2018, goodwill amounted to EUR 525 million equaling 37% of the equity. In 2018, Metso's reporting structure and the allocation of goodwill remained unchanged from the previous year. The cash generating units tested were the reportable segments Minerals and Flow Control, and the cost of centralized group services were allocated to CGUs based on their proportional share on the sales volume.

Given that the recoverable amounts of each CGU significantly exceeded the carrying value of goodwill and other tested assets, no indication of impairment was found in 2018. The value in use calculations were derived from estimates, budgets and strategy figures reviewed by Metso's management and approved by the Board of Directors.

The key assumptions used in assessing the recoverable amount are the profitability and growth rate for the estimate period, long-term average growth in the terminal period and discount rate. The key values used were as follows:

%	Minerals	Flow Control
Sales growth in four years estimate period	10.2%	9.8%
EBITDA % range in four years estimate period	12.3%–15.6%	16.8%–20.7%
Growth rate in the terminal period	1.7%	1.7%
WACC after tax	7.5%	7.9%
WACC before tax	9.7%	10.2%

Values assigned to key assumptions reflect past experience and the management's expectations on the future sales and production volumes, which are based on the current structure and production capacity of each cash generating unit. The seasonality and current market situation of each cash generating unit have been considered separately. In addition, data on growth, demand and price development provided by various research institutions have been utilized. The growth rate of 1.7% for the terminal period, is based on the long-term expectations on the growth in the Metso's market environments, considering the current low interest rate environment and overall financial market situation.

WACC before tax is used as a discount factor in the calculations. It takes into account the expected return on both debt and equity and has been derived from the WACC on comparable peer industry betas, capital structure and tax rates. CGU WACCs are evaluated annually for testing and CGU specific risk is incorporated through individual beta factors from the market data of the segment's peer companies.

Sensitivity analysis

The sensitivity to impairment of the calculations of both cash generating unit was tested with the following scenarios:

- Scenario 1: increasing WACC by 2.0 percentage points
- Scenario 2: reducing the terminal growth rate from 1.7% to 1.2% and increasing WACC by 2.0 percentage points

The impact to the value in use of the CGUs in the sensitivity analysis was as follows:

%	WACC increase by 2 p.p.	Terminal growth from 1.7% to 1.2% and WACC increase by 2 p.p.
Minerals	–26%	–30%
Flow Control	–25%	–28%
Metso total	**–26%**	**–30%**

The sensitivity analysis also includes several cash projections on break-even levels of EBITA %, WACC and sales growth based on reasonable change in the future performance of the CGU. However, the impact on the present value obtained is limited as long as there is no permanent weakening expected for the business, which would affect the terminal value. Based on these sensitivity analyses, the management believes that no reasonably possible change of the key assumptions used would cause the carrying value of any cash generating unit to exceed its recoverable amount. In 2018, the sensitivity analysis did not indicate risks of impairment.

3.2 Tangible assets

Accounting policy

Tangible assets are stated at historical cost, less accumulated depreciation and impairment loss, if any. The tangible assets of acquired subsidiaries are measured at their fair value at the acquisition date.

Depreciation is calculated on a straight-line basis over the expected useful lives of the assets as follows:

Buildings and structures	15–40 years
Machinery and equipment	3–20 years

Land and water areas are not depreciated.

Expected useful lives are reviewed at each balance sheet date and if they differ significantly from previous estimates, the remaining depreciation periods are adjusted accordingly.

Subsequent improvement costs related to an asset are included in the carrying value of such asset or recognized as a separate asset, as appropriate, only when the future economic benefits associated with the costs are probable and the related costs can be separated from normal maintenance costs.

Metso reviews tangible assets to be held and used by the company for impairment whenever events and changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Gains and losses on the disposal of tangible asset and possible impairments are recognized in other operating income and expenses. Previously recognized impairment loss may be reversed if there is a significant improvement to the circumstances having initially caused the impairment, however not to a higher value than the carrying amount, which would have been recorded had there been no impairment in prior years.

Finance leases are capitalized at the inception of the lease at the lower of the fair value of the leased property or the present value of the minimum lease payments. Each lease payment is allocated between the liability and finance charges. The corresponding rental obligations, net of finance charges, are included in long-term debt and the interest element is charged to income statement over the lease period. Tangible assets acquired under finance leases are depreciated over the useful life of the asset or over the lease period, if shorter.

Capitalized interests

The interest expenses of self-constructed investments are capitalized in Metso's financial statements. The capitalized interest expense is amortized over the estimated useful life of the underlying asset.

Government grants

Government grants relating to additions to tangible assets are deducted from the acquisition cost of the asset and they reduce the depreciation charge of the related asset. Other government grants are deferred and recognized as profit concurrently with the costs they compensate.

Estimates and assessments by Management

Acquisitions, disposals and restructuring actions typically generate a need for the reassessment of the recoverable values and remaining useful lives of the assets. When tangible assets are valued at fair value less costs of disposal, selling price, incremental costs and selling costs need to be estimated by management.

Tangible assets

EUR million	Land and water areas	Buildings and structures	Machinery and equipment	Assets under construction	Tangible assets total
2018					
Acquisition cost at beginning of year	43	229	558	10	**840**
Translation differences	0	–2	–14	–1	**–17**
Acquisitions	1	9	5	0	**14**
Capital expenditure	–	4	24	33	**62**
Reclassifications	–	0	10	–10	**–**
Other changes	–3	–12	–20	0	**–35**
Acquisition cost at end of year	**40**	**228**	**562**	**33**	**863**
Accumulated depreciation at beginning of year	–	–131	–422	–	**–553**
Translation differences	–	1	11	–	**12**
Acquisitions	–	–1	–2	–	**–3**
Other changes	–	9	17	–	**27**
Impairment losses	–	–1	–1	–	**–2**
Amortization charges for the year	–	–8	–32	–	**–40**
Accumulated depreciation at end of year	**–**	**–131**	**–428**	**–**	**–558**
Net book value at end of year	**40**	**97**	**135**	**33**	**305**
2017					
Acquisition cost at beginning of year	45	245	572	8	870
Translation differences	–2	–14	–34	–1	–51
Acquisitions	–	–	2	–	2
Capital expenditure	0	2	22	11	35
Reclassifications	0	0	8	–8	0
Other changes	0	–4	–12	–	–16
Acquisition cost at end of year	43	229	558	10	840
Accumulated depreciation at beginning of year	–	–132	–423	–	–555
Translation differences	–	7	25	–	32
Acquisitions	–	–	0	–	0
Other changes	–	4	10	–	14
Impairment losses	–	–1	–1	–	–2
Amortization charges for the year	–	–9	–33	–	–42
Accumulated depreciation at end of year	–	–131	–422	–	–553
Net book value at end of year	43	98	136	10	287

Financial leases recognized are included in tangible assets and the carrying values at the year-end 2018 and 2017 is less than EUR 1 million.

3.3 Depreciation and amortization

EUR million	2018	2017
Intangible assets from acquisitions	–5	–5
Other intangible assets	–13	–12
Tangible assets		
Buildings and structures	–8	–9
Machinery and equipment	–32	–33
Total	**–58**	–59

Depreciation and amortization by function

EUR million	2018	2017
Cost of goods sold	–35	–35
Selling, general and administrative expenses		
Marketing and selling	–4	–3
Research and development	–1	–1
Administrative	–19	–20
Total	**–58**	–59

3.4 Lease commitments

Accounting policy

Leases of tangible assets, under which Metso does not have a significant portion of the risks and rewards of ownership, are classified as operating leases. Payments under operating leases are recognized in the income statement as incurred over the lease term and the commitment of noncancelable future payments is shown as an off-balance sheet liability. Leases classified as finance leases are reported in the tangible assets, see note 3.2.

Metso has operating leases mainly for offices, manufacturing and warehouse space, company cars and IT equipment and software. Certain contracts contain renewal options for various periods of time.

Future minimum payments under operating leases

EUR million	2018	2017
Within one year	39	36
After one year but within two years	27	29
After two years but within three years	17	19
After three years but within four years	12	14
After four years but within five years	10	10
After five years	17	17
Total minimum lease payments	**122**	126

Total rental expenses amounted to EUR 39 million and EUR 43 million in years 2018 and 2017, respectively.

4 Capital structure and financial instruments

Interest bearing net debt
EUR **165** million

Net gearing
11.7%

4.1 Financial risk management

As a global company, Metso is exposed to a variety of business and financial risks. Financial risks are managed centrally by the Group Treasury under annually reviewed written policies approved by the Board of Directors. Treasury operations are monitored by the Treasury Management Team chaired by the CFO. Group Treasury identifies, evaluates and hedges financial risks in close co-operation with the operating units. Group Treasury functions as counterparty to the operating units, manages centrally external funding and is responsible for the management of financial assets and appropriate hedging measures. The objective of financial risk management is to minimize potential adverse effects on Metso's financial performance.

Sensitivity analysis

Sensitivity analysis figures presented in connection with different financial risks are based on the risk exposures at the balance sheet date. The sensitivity is calculated by assuming a change in one of the risk factors of a financial instrument, such as interest or currency. It is not likely that the future volatility of a risk factor will develop in accordance with the test assumptions and that only one factor would be impacted.

When calculating the sensitivity, Metso has chosen to use market conventions in assuming a one percentage point (100 basis points) variation in interest rates, 10 percent change in foreign exchange rates and in commodity prices because this provides better comparability from one period to another and information on the volatility to users of financial statements. Metso is aware that such assumptions may not be realistic when compared to past volatility and they are not intended to reflect the future. Metso has chosen not to use past volatility as this could mislead the users of financial statements to assume the analysis reflect management's view on future volatility of the financial instruments.

Liquidity and refinancing risk and capital structure management

Liquidity or refinancing risk arises when a company is not able to arrange funding at terms and conditions corresponding to its creditworthiness. Sufficient cash, short-term investments and committed and uncommitted credit facilities are maintained to protect short-term liquidity. Diversification of funding among different markets and adequate number of financial institutions is used to safeguard the availability of liquidity at all times. Group Treasury monitors bank account structures, cash balances and forecasts of the operating units and manages the utilization of the consolidated cash resources.

The liquidity position of the Group remained strong supported by the solid cash flow from operations, maturity structure of the funding and the available back up credit facilities. During the year a bank loan with a nominal value EUR 211 million and private placements with total nominal value EUR 69 million matured and were repaid. At the end of 2018 liquid funds amounted to EUR 426 million (EUR 826 million in 2017). Liquid funds consist of cash and cash equivalents amounted to EUR 332 million (EUR 519 million in 2017) and deposits and securities with maturity over three months EUR 94 million (EUR 307 million in 2017). Additionally, committed undrawn credit facilities amounted to EUR 500 million (EUR 500 million in 2017) and committed undrawn European Investment Bank loan facility to EUR 40 million (EUR 40 million in 2017). The syndicated revolving credit facility matures in June 2021. Additionally, the uncommitted Finnish Commercial Paper program totaling EUR 500 million can be utilized for funding.

Metso's refinancing risk is managed by balancing the proportion of short-term and long-term debt as well as the average remaining maturity of long-term debt. The tables below analyze the repayments and interests on Metso's liabilities by the remaining maturities from the balance sheet date to the contractual maturity date. The net interest payments of interest rate swaps hedging long-term loans are included in the long-term debt repayment figures.

Maturities of debts

	2018			2017		
EUR million	**<1 year**	**1–5 years**	**>5 years**	**<1 year**	**1–5 years**	**>5 years**
Long-term debt						
Repayments	174	100	300	283	274	300
Interests	9	24	4	14	30	7
Short-term debt						
Repayments	41	–	–	21	–	–
Interests	1	–	–	0	–	–
Trade payables	431	–	–	342	–	–
Other liabilities	8	2	–	10	–	–
Metso total	**664**	**126**	**304**	670	304	307

Detailed information on balance sheet items is presented in other notes to consolidated financial statements.

Capital structure is assessed regularly by the Board of Directors and managed operationally by the Group Treasury.

Capital structure management in Metso comprises both equity and interest-bearing debt. As of December 31, 2018, the equity attributable to shareholders was EUR 1,406 million (EUR 1,344 million in 2017) and the amount of interest bearing debt was EUR 598 million (EUR 853 million in 2017). The objectives are to safeguard the ongoing business operations and to optimize the cost of capital. Metso has a target to maintain a solid investment grade credit rating.

Metso's credit rating was as at December 31, 2018: Standard & Poor's, BBB / A–2.

There are no prepayment covenants in Metso's financial contracts which would be triggered by changes in credit rating. Financial covenants included in some loan agreements refer to Metso's capital structure. Metso is in compliance with all covenants and other terms of its debt instruments.

Capital structure ratios are included in chapter Financial Indicators 2014–2018 and the formulas in chapter Formulas for calculation of financial indicators in these Financial Statements.

Interest rate risk

Interest rate risk arises when changes in market interest rates and interest margins influence finance costs, returns on financial investments and valuation of interest bearing balance sheet items. Interest rate risks are managed by balancing the ratio between fixed and floating interest rates and administrating duration of debt and investment portfolios. Additionally, Metso may use derivative instruments such as forward rate agreements, swaps, options and futures contracts to mitigate the risks arising from interest bearing assets and liabilities. The interest rate risk is managed and controlled by the Group Treasury and measured using sensitivity analysis and duration of long term debt. The duration [1] of long term debt was 2.9 years on December 31, 2018 (2.3 years in 2017).

At the end of 2018 the balance sheet items exposed to interest rate risk were interest bearing assets of EUR 423 million (EUR 829 million in 2017) and interest-bearing debt of EUR 598 million (EUR 853 million in 2017). Of the total interest-bearing debt 93 percent (70 percent in 2017) was denominated in EUR.

The basis for the interest rate sensitivity analysis is an aggregate group level interest exposure, composed of interest bearing assets, interest bearing debt and financial derivatives, such as interest rate swaps, which are used to hedge the underlying exposures. For all interest bearing current debt and assets to be fixed during next 12 months a one percentage point move upwards or downwards in interest rates with all other variables held constant would have an effect on Metso's net interest expenses, net of taxes, of EUR +/– 0.7 million (EUR +/– 1.4 million in 2017).

For financial assets valued at fair value, a one percentage point change upwards or downwards in all interest rates with all other variables held constant would have following effects, net of taxes, in income statement and equity:

EUR million	2018	2017
Effects in		
Income statement	+/– 1.5	+/– 1.1
Equity	+/– 0.0	+/– 0.1

The effect in the income statement comprises of the changes in the fair value on the financial instruments, which are measured at fair value through profit and loss. The effect in the equity is comprised of the changes in the fair value on the financial instruments, which are measured at fair value through other comprehensive income, such as derivatives under hedge accounting.

[1] Macaulay duration

Foreign exchange risk

Metso operates globally and is exposed to foreign exchange risk in several currencies, although the geographical diversity of operations decreases the significance of any individual currency. About 80 percent of Metso's sales originate from outside the euro zone; the main currencies being Euro, US dollar, Australian dollar, Chilean peso, Chinese yuan and Indian rupee.

Transaction exposure

Foreign exchange transaction exposure arises when an operating unit has commercial or financial transactions and payments in other than its own functional currency, and when related cash inflow and outflow amounts are not equal or concurrent.

In accordance with the Metso Treasury Policy, operating units are required to hedge in full the foreign currency exposures on balance sheet and other firm commitments. Future cash flows denominated in a currency other than the functional currency of the unit are hedged with internal foreign exchange contracts with the Group Treasury for periods, which do not usually exceed two years. Operating units also do some hedging directly with banks in countries, where regulation does not allow corporate internal cross-border contracts.

Group Treasury monitors the net position of each currency and decides to what extent a currency position is to be closed. Group Treasury is however responsible for entering into external forward transaction whenever an operating unit applies hedge accounting. Metso Treasury Policy defines upper limits on the open currency exposures managed by the Group Treasury; limits have been calculated on the basis of their potential profit impact. To manage the foreign currency exposure Group Treasury may use forward exchange contracts and foreign exchange options.

Total amount of foreign currency exposures on December 31

EUR million	2018	2017
Operational items	224	254
Financial items	471	535
Hedges	–660	–745
Total exposure	**34**	44

This aggregate group level currency exposure is the basis for the sensitivity analysis of foreign exchange risk. This exposure, net of respective hedges, is composed of all assets and liabilities denominated in foreign currencies, projected cash flows for unrecognized firm commitments, both short- and long-term sales and purchase contracts and anticipated operational cash flows to the extent their realization has been deemed highly probable and therefore hedged. This analysis excludes net foreign currency investments in subsidiaries together with instruments hedging these investments.

Assuming euro to appreciate or depreciate ten percent against all other currencies, the impact on cash flows, net of taxes, derived from the year-end net exposure as defined above, would be EUR +/– 0.7 million (EUR -/+ 2.8 million in 2017). Transaction exposure is spread in about 35 currencies and as of December 31, 2018, the biggest open exposures were in US dollar, 22 percent, and Swedish krona, 18 percent.

A sensitivity analysis of financial instruments as required by IFRS 7, excludes following items: projected cash flows for unrecognized firm commitments, advance payments, both short- and long-term purchase contracts and anticipated operational cash flows. The next table presents the effects, net of taxes, of a +/– 10 percent change in EUR foreign exchange rates:

	2018				2017
EUR million	**USD**	**SEK**	**Others**	**Total**	**Total**
Effects in					
Income statement	+/– 2.1	+/– 0.5	–/+ 0.8	**+/– 1.8**	+/– 1.5
Equity	–/+ 0.5	–/+ 2.5	+/– 0.6	**–/+ 2.4**	+/– 4.2

Effect in equity is the fair value change in derivatives contracts qualifying as cash flow hedges for unrecognized firm commitments. Effect in income statement is the fair value change for all other financial instruments exposed to foreign exchange risk including derivatives, which qualify as cash flow hedges, to the extent the underlying sales transaction, recognized over time, has been recognized as revenue.

Translation or equity exposure

Foreign exchange translation exposure arises when the equity of a subsidiary is denominated in currency other than the functional currency of the Parent Company. The major translation exposures are in Chinese yuan, US dollar, Brazilian real, Chilean peso and Swedish krona, which altogether comprise approximately 70 percent of the total equity exposure. Metso is currently not hedging any equity exposure.

Commodity risk

Metso is exposed to variations in prices of raw materials and of supplies. Metso units identify their commodity price hedging needs and hedges are executed through the Group Treasury using approved counterparties and instruments. Hedging is done on a rolling basis with a declining hedging level over time.

All electricity forwards have matured during the year, thus as of December 31, 2018, Metso does not have any outstanding electricity forwards.

To reduce its exposure to the volatility caused by the surcharge for certain metal alloys (Alloy Adjustment Factor) comprised in the price of stainless steel charged by its suppliers, Metso has entered into average-price swap agreements for nickel. The Alloy Adjustment Factor is based on monthly average prices of its components of which nickel is the most significant. As of December 31, 2018, Metso had outstanding nickel swaps amounting to 288 tons (270 tons in 2017).

The sensitivity analysis of the commodity prices based on financial instruments under IFRS 7 comprises the net aggregate amount of commodities bought through forward contracts and swaps but excludes the anticipated future consumption of raw materials.

A 10 percent change upwards or downwards in commodity prices would have effects, net of taxes, of EUR +/– 0.2 million to income statement in year 2018 and in the range of EUR +/–0.0–0.2 million to income statement and equity in year 2017.

As cash flow hedge accounting has been applied, the effective portion of electricity forwards is recognized in equity. The ineffective portion is recognized through profit and loss. Hedge accounting is not applied to nickel agreements, and the change in the fair value is recorded through profit and loss.

Other commodity risks are not managed using financial derivative instruments.

Credit and counterparty risk

Credit or counterparty risk is defined as the possibility of a customer or a financial counterparty not fulfilling its commitments towards Metso. The operating units of Metso are primarily responsible for credit risks pertaining to sales and procurement activities. The units assess the credit quality of their customers, by taking into account their financial position, past experience and other relevant factors. When appropriate, advance payments, letters of credit and third party guarantees or credit insurance are used to mitigate credit risks. Group Treasury provides centralized services related to customer financing and seeks to ensure that the principles of the Treasury Policy are adhered to with respect to terms of payment and required collateral. Metso has no significant concentrations of credit risks.

The maximum credit risk equals the carrying value of trade and loan receivables. The credit quality is evaluated both on the basis of aging of the trade receivables and also on the basis of customer specific analysis. The aging structure of trade receivables is presented in note 2.2.

Counterparty risk arises also from financial transactions agreed upon with banks, financial institutions and corporates. The risk is managed by careful selection of banks and other counterparties, by counterparty specific limits determined in the Treasury Policy, and netting agreements such as ISDA (Master agreement of International Swaps and Derivatives Association). The compliance with counterparty limits is regularly monitored.

Credit risk exposure relates to carrying value of financial assets valued at amortized cost, such as trade receivables, interest bearing receivables, other receivables, deposits and security investments and cash and cash equivalents, and customer contract assets.

Impairment on cash on hand, bank accounts, deposits and interest- bearing investments is assessed regularly, but seen minor, because of their high investment grade and short duration. Group Treasury makes a financial analysis of corporate counterparties regularly. In addition, the investments are constantly monitored by Group Treasury and Metso does not expect any future credit losses from these investments.

For trade receivables and customer contract assets Metso applies the IFRS 9 simplified approach to measuring expected credit losses, which uses a lifetime expected loss allowance to be assessed and recognized regularly, see note 2.2.

Fair value estimation

For those financial assets and liabilities which have been recognized at fair value in the balance sheet, the following measurement hierarchy and valuation methods have been applied:

Level 1 — Quoted unadjusted prices at the balance sheet date in active markets. The market prices are readily and regularly available from an exchange, dealer, broker, market information service system, pricing service or regulatory agency. The quoted market price used for financial assets is the current bid price. Level 1 financial instruments include fund investments classified as fair value through profit and loss.

Level 2 — The fair value of financial instruments in Level 2 is determined using valuation techniques. These techniques utilize observable market data readily and regularly available from an exchange, dealer, broker, market information service system, pricing service or regulatory agency. Level 2 financial instruments include:

- Over-the-counter derivatives classified as financial assets/liabilities at fair value through profit and loss or qualified for hedge accounting
- Debt securities classified as financial instruments at fair value through profit and loss
- Fixed rate debt under fair value hedge accounting

Level 3 — A financial instrument is categorized into Level 3 if the calculation of the fair value cannot be based on observable market data. Metso had no such instruments in 2018 or in 2017.

The tables below present Metso's financial assets and liabilities that are measured at fair value. The table for comparison period 2017 has been updated to cover IFRS 9 requirements, see note 5.5.

	2018		
EUR million	**Level 1**	**Level 2**	**Level 3**
Assets			
Financial assets at fair value through profit and loss			
Derivatives not under hedge accounting	–	5	–
Interest bearing investments	–	–	–
Fund investments	10	–	–
Financial assets at fair value through other comprehensive income			
Derivatives under hedge accounting	–	8	–
Interest bearing investments	–	–	–
Total assets	**10**	**13**	**–**
Liabilities			
Financial liabilities at fair value through profit and loss			
Derivatives not under hedge accounting	–	10	–
Long term debt at fair value	–	188	–
Derivatives qualified for hedge accounting			
Derivatives under hedge accounting	–	7	–
Total liabilities [1]	–	**205**	–

	2017		
EUR million	**Level 1**	**Level 2**	**Level 3**
Assets			
Financial assets at fair value through profit and loss			
Derivatives not under hedge accounting	–	8	–
Interest bearing investments	2	–	–
Fund investments	58	–	–
Financial assets at fair value through other comprehensive income			
Derivatives under hedge accounting	–	7	–
Interest bearing investments	–	–	–
Total assets	60	15	–
Liabilities			
Financial liabilities at fair value through profit and loss			
Derivatives not under hedge accounting	–	4	–
Long term debt at fair value	–	399	–
Derivatives qualified for hedge accounting			
Derivatives under hedge accounting	–	6	–
Total liabilities [1]	–	409	–

[1] In addition, Metso had EUR 276 million of financial liabilities measured at amortized cost (EUR 273 million in 2017). Their fair value EUR 289 million (EUR 293 million in 2017) has been calculated based on level 2.

4.2 Financial assets and liabilities by category

Accounting policy

Under IFRS 9 Metso classifies financial assets and liabilities in to measurement categories according to contractual terms of the cash flows and Metso's business model to manage the investment at the inception. Reclassification of the categories will be made only, if the business model for managing those assets changes. Financial assets and liabilities are classified as non-current items, when the remaining maturity exceeds 12 months and as current items, when the remaining maturity is 12 months or less. Financial assets and liabilities are classified as follows:

At amortized cost

Financial assets

Financial assets valued at amortized cost are investments in debt instruments or receivables, which are held until end of maturity and for collection of contractual cash flows, where those cash flows are solely payments of principal and/or interest. These are recognized at fair value less transaction costs, and subsequently measured at amortized cost using the effective interest method. Interest income is recognized in financial income in income statement. Financial assets at amortized cost include deposit, commercial papers, interest bearing loans and receivables, trade receivables and non-interest bearing receivables. Impairment is assessed regularly and when the carrying value exceeds the recoverable value of discounted cash flows, appropriate impairment is recognized in income statement.

For trade receivables, Metso applies the simplified method in IFRS 9, which requires expected lifetime losses to be recognized from initial recognition of the receivables, see note 2.2.

Financial liabilities

Issued bonds and withdrawn loan facilities from financial institutions as well as trade and other liabilities are valued at fair value, net transaction costs, and subsequently measured at amortized cost using the effective interest method. Trade and other receivables are non-interest bearing short-term unpaid debts.

The difference, between the debt amount net transaction cost recognized of bonds and loans from financial institutions and the redemption amount, is recognized in income statement as interest cost over the period of the borrowings using the effective interest method. Fees paid on the establishment of loan facilities are recognized in the income statement as other finance expense over the period of the facility, or, if the withdrawal of the loan is probable, as part of transaction cost.

At fair value through other comprehensive income (FVOCI)

Financial assets valued at fair value through other comprehensive income are debt instruments or receivables, which are held for collection of contractual cash flows or held for selling the assets, and where contractual cash flows are solely payments of principal and/or interest. Interest income is recognized in income statement using the effective interest method. Change in fair value is recognized in other comprehensive income (OCI). At the derecognition, the cumulative previously booked gains and losses in OCI are released from equity to income statement. Metso includes in this measurement category derivatives under hedge accounting, trade receivables for sale and security investments with maturity less than three months. Impairment is assessed regularly and when the carrying value exceed the recoverable value of discounted cash flows, appropriate impairment is recognized in income statement.

At fair value through profit and loss (FVPL)

Financial assets

Financial assets valued at fair value through profit and loss are equity investments, investments in funds and derivatives not under hedge accounting. Change in fair value and gain or loss at the derecognition will be recognized in income statement. The change in the fair value includes the valuation of the impairment risk as well. Fair value of listed equity shares or investments in funds is the quoted market price on the balance sheet date. Unlisted shares are valued at cost less impairment, if any.

Financial liabilities

Fixed rate debts covered by fair value hedges accounting and derivatives not under hedge accounting are included in this measurement category. Change in fair value and gains or losses at derecognition will be recognized in income statement.

Financial assets and liabilities by categories as of December 31

The table for comparison period 2017 has been updated to reflect IFRS 9 requirements, see note 5.5.

EUR million	At fair value through profit and loss	At fair value through other comprehensive income	At amortized cost	Carrying value	Fair value
2018					
Non-current financial assets					
Equity investments	3	–	–	3	3
Loan receivables	–	–	6	6	6
Derivatives	1	2	–	3	3
Other receivables	–	–	10	10	10
Metso total	**4**	**2**	**16**	**22**	**22**
Current financial assets					
Trade receivables	–	–	575	575	575
Trade receivables, for sale	–	9	–	9	9
Loan receivables	–	–	1	1	1
Derivatives	4	6	–	10	10
Other receivables	–	–	134	134	134
Deposits and securities, maturity more than three months	–	–	94	94	94
Fund investments	10	–	–	10	10
Deposits and securities, maturity three months or less	–	–	32	32	32
Cash at hand and on bank accounts	–	–	289	289	289
Metso total	**14**	**15**	**1,125**	**1,154**	**1,154**

EUR million	At fair value through profit and loss	At fair value through other comprehensive income	At amortized cost	Carrying value	Fair value
2018					
Non-current liabilities					
Bonds	95	–	288	383	402
Finance lease obligations	–	–	0	0	0
Other non-current debt	–	–	–	–	–
Derivatives	2	–	–	2	2
Other liabilities	–	–	2	2	2
Metso total	**97**	**–**	**290**	**387**	**406**
Current liabilities					
Current portion of non-current debt	87	–	87	174	174
Finance lease obligations	–	–	0	0	0
Loans from financial institutions	–	–	41	41	41
Trade payables	–	–	431	431	431
Derivatives	7	7	–	14	14
Other liabilities	–	–	248	248	248
Metso total	**94**	**7**	**807**	**908**	**908**

EUR million	At fair value through profit and loss	At fair value through other comprehensive income	At amortized cost	Carrying value	Fair value
2017					
Non-current financial assets					
Equity investments	3	–	–	3	3
Loan receivables	–	–	3	3	3
Derivatives	1	1	–	2	2
Other receivables	–	–	12	12	12
Metso total	4	1	15	20	20
Current financial assets					
Trade receivables	–	–	490	490	490
Trade receivables, for sale	–	7	–	7	7
Loan receivables	–	–	–	–	–
Derivatives	7	6	–	13	13
Other receivables	–	–	134	134	134
Deposits and securities, maturity more than three months	–	–	305	307	307
Fund investments	58	–	–	58	58
Deposits and securities, maturity three months or less	–	2	100	100	100
Cash at hand and on bank accounts	–	–	361	361	361
Metso total	65	15	1,390	1,471	1,471

EUR million	At fair value through profit and loss	At fair value through other comprehensive income	At amortized cost	Carrying value	Fair value
2017					
Non-current liabilities					
Bonds	181	–	373	554	574
Loans from financial institutions	–	–	–	–	–
Finance lease obligations	–	–	0	0	0
Other non-current debt	–	–	0	0	0
Derivatives	0	0	–	0	0
Other liabilities	–	–	2	2	2
Metso total	181	–	375	556	576
Current liabilities					
Current portion of non-current debt	209	–	69	279	284
Finance lease obligations	–	–	0	0	0
Loans from financial institutions	–	–	21	21	21
Trade payables	–	–	342	342	342
Derivatives	4	6	–	10	10
Other liabilities	–	–	206	206	206
Metso total	213	6	638	857	863

For more information on derivative financial instruments, see note 4.8.

4.3 Liquid funds

Accounting policy

Deposits and securities with maturities over three months, consist of highly liquid investments, which are part of Metso's cash management. These commercial papers deposit and debt investments have maturity less than twelve months, and they are measured at amortized cost.

Cash and cash equivalents consist of cash on hand and bank accounts, deposits and interest bearing investments, which are easily convertible to known amount of cash within the period of three months or less as well as bond fund investments, with the same risk profile.

Cash on hand, bank accounts, deposits and interest bearing investments are measured at amortized cost. The bond fund investments are measured at fair value through profit and loss accounts.

Impairment on cash on hand, bank accounts, deposits and interest bearing investments is assessed regularly, but seen minor, because of their high investment grade and short duration. Impairment risk of bond fund investment is included in the change in fair value of them.

EUR million	2018	2017
Deposits and securities, maturity more than three months	94	307
Cash and cash equivalents		
Fund investments	10	58
Deposits and securities, maturity three months or less	32	100
Cash on hand and bank accounts	289	361
Cash and cash equivalents	332	519
Liquid funds total	**426**	826

Average returns for deposits and securities were as follows:

- with maturity more than three months 0.01% (0.05% 2017)
- with maturity three months or less 2.80% (2.53% 2017)

4.4 Equity

Accounting policy

Issue of new shares and own shares

Transaction costs directly attributable to the issue of new shares or options are shown net of their tax effect in equity as a deduction from the proceeds.

Own shares held by the Parent Company valued at the historical acquisition price are deducted from equity. Should such shares be subsequently sold or reissued, the consideration received, net of any directly attributable transaction costs and related income tax, is recorded in equity.

Translation differences

The translation differences arising from subsidiary net investments and non-current subsidiary loans without agreed settlement dates are recognized through the Other Comprehensive Income (OCI) to cumulative translation adjustments under equity. When Metso hedges the net investment of its foreign subsidiaries with foreign currency loans and with financial derivatives, the translation difference is adjusted by the currency effect of the hedging instruments which has been recorded, net of taxes, through OCI in equity. When a foreign entity is disposed of, the respective accumulated translation difference, including the effect from qualifying hedging instruments, is reversed through OCI and recognized in the consolidated statements of income as part of the gain or loss on the sale. If the equity of a subsidiary denominated in a foreign currency is reduced by a return of capital, the translation difference relating to the reduction is reversed through OCI and recognized in the consolidated statements of income.

Dividends

Dividends proposed by the Board of Directors are not recognized in the financial statements until they have been approved by the shareholders in the Annual General Meeting.

Share capital and number of shares

Metso Corporation's registered share capital, which is fully paid, was EUR 140,982,843.80 as at December 31, 2018 and 2017.

Shares	2018	2017
Number of outstanding shares at January 1	149,997,128	149,984,538
Redemption of own shares by the Parent Company	–	–
Shares granted from share ownership plans	–	12,590
Number of outstanding shares at end of year	149,997,128	149,997,128
Own shares held by the Parent Company	351,128	351,128
Total number of shares at December 31	**150,348,256**	150,348,256

As at December 31, 2018, the acquisition price of 351,128 own shares held by the Parent Company was EUR 8,086,132.65 and was recognized in treasury stock.

Dividend proposal

The Board of Directors proposes that a dividend of EUR 1.20 per share be paid based on the balance sheet to be adopted for the financial year which ended December 31, 2018, and the remaining portion of the profit be retained and carried forward in the Company's unrestricted equity. These financial statements do not reflect the dividend payable of EUR 180 million arising from the proposal.

Fair value and other reserves

The hedge reserve includes the fair value movements of derivative financial instruments which qualify as cash flow hedges.

The fair value reserve includes the change in fair values of assets classified as trade receivables for sale. Share-based payments are presented within the fair value reserve.

The legal reserve consists of restricted equity, which has been transferred from distributable funds under the Articles of Association, local company act or by a decision of the shareholders.

The other reserves consist of the distributable fund and the invested non-restricted equity fund held by the Parent Company.

Changes in fair value and other reserves

EUR million	Treasury stock	Hedge reserve	Fair value reserve	Legal reserve	Other reserves	Total
Jan 1, 2017	–9	–4	5	14	293	299
Cash flow hedges						
Fair value gains and losses, net of tax	–	6	–	–	–	6
Transferred to profit and loss, net of tax						
Sales	–	–1	–	–	–	–1
Cost of goods sold / Administrative expenses	–	0	–	–	–	0
Interest income / expenses	–	–3	–	–	–	–3
Instruments at fair value and share-based rewards						
Fair value gains and losses, net of tax	–	–	0	–	–	0
Transferred to profit and loss, net of tax	–	–	0	–	–	0
Share-based payments, net of tax	–	–	1	–	–	1
Other	–	–	–	0	–	0
Dec 31, 2017	–9	–2	6	14	293	302
Impact of the adoption of new IFRS standards	–	–	3	–	–	3
Jan 1, 2018	**–9**	**–2**	**8**	**14**	**293**	**305**
Cash flow hedges						
Fair value gains and losses, net of tax	–	2	–	–	–	**2**
Transferred to profit and loss, net of tax						
Sales	–	0	–	–	–	**0**
Cost of goods sold / Administrative expenses	–	0	–	–	–	**0**
Interest income / expenses	–	–3	–	–	–	**–3**
Measurement at fair value and share-based rewards						
Fair value gains and losses, net of tax	–	–	0	–	–	**0**
Transferred to profit and loss, net of tax	–	–	0	–	–	**0**
Share-based payments, net of tax	–	–	–2	–	–	**–2**
Other	–	–	–	0	–	**0**
Dec 31, 2018	**–9**	**–3**	**6**	**14**	**293**	**302**

Cumulative translation adjustments included in the shareholders' equity

EUR million	2018	2017
Cumulative translation adjustment at January 1	–87	–48
Currency translation on subsidiary net investments	–13	–39
Cumulative translation adjustment at December 31	**–101**	**–87**

4.5 Borrowings

Accounting policy

Long-term debt is initially recognized at fair value, net of transaction costs incurred and subsequently measured at amortized cost using the effective interest method. The difference, between the debt amount recognized and the redemption amount, is recognized in income statement as interest expense over the period of the borrowings. Borrowings covered by a fair value hedge are recognized at fair value through income statement. Change in fair value is recognized in financial income and expenses. A portion of long-term debt is classified as short-term debt, when the settlement of the liability is due within 12 months from the balance sheet date. Borrowings are derecognized only, if the contractual obligation is discharged, cancelled or expired.

Fees paid on the establishment of loan facilities are recognized in income statement as other finance expense over the period of the facility, or, if the withdrawal of the loan is probable, as part of transaction cost. Transaction costs arising from modification to debt instruments are included in the carrying value of the debt and amortized using the effective interest method over the remaining period of the modified liability provided that the new conditions obtained through the modification do not substantially differ from those of the original debt. Modification gain or loss will be recognized in income statement at the time of non-substantial modification.

EUR million	Carrying values 2018	Carrying values 2017	Fair values [1] 2018	Fair values [1] 2017
Bonds	383	554	402	574
Loans from financial institutions	–	–	–	–
Finance lease obligations	0	0	0	0
Other long-term debt	–	–	–	–
Total long-term interest bearing debt	**383**	554	**402**	574
Current portion of bonds	174	69	174	73
Current portion of loans from financial institutions	–	209	–	211
Loans from financial institutions	41	21	41	21
Total short-term interest bearing debt	**215**	299	**215**	305

[1] The fair values of long-term debt are equal to the present value of their future cash flows.

Bonds

EUR million	Nominal interest rate 2018	Effective interest rate 2018	Outstanding original loan amount 2018	Outstanding carrying value 2018	Outstanding carrying value 2017
Public bond 2012–2019	2.75%	2.91%	174	174	175
Public bond 2017–2024	1.125%	2.33%	300	283	279
Private placements 2022		3.80%	100	100	169
Bonds total			**574**	**557**	623

Metso has a Euro Medium Term Note Program (EMTN) of EUR 1.5 billion, under which EUR 557 million at carrying value were outstanding at the end of 2018 (EUR 623 million in 2017). EUR 457 million (EUR 454 million) of the outstanding amount were public bonds and EUR 100 million (EUR 169 million) private placements.

In 2018, USD denominated bank loan, with cross currency interest rate swap hedged nominal value of EUR 211 million, matured in April. In addition, private placements with a nominal value of EUR 37 million matured in May and with a nominal value of EUR 32 million in July.

The average interest rate of total loans and derivatives was 1.96% (1.77%) on December 31, 2018. The duration of medium and long term interest-bearing debt was 2.9 years (2.3 years) and the average maturity 3.7 years (3.3 years) on December 31, 2018.

Short-term loans from financial institutions consists of bank loans withdrawn by Metso subsidiaries to fund local operations. The loans are mainly Indian rupee denominated. The weighted average interest rate applicable to the short-term borrowing at December 31, 2018, was 6.8% (3.9% in 2017). In 2019, interest amounting to EUR 0.6 million is expected to be paid concurrently with respective principals on the short-term debt presented above.

Metso has a syndicated revolving credit facility of EUR 500 million with 10 banks, maturing in 2021. In addition, Metso has a EUR 40 million committed loan facility for research, development and innovation costs with a disbursement period until June 2019, and a tenor up to ten years from European Investment Bank. Metso also has a Finnish commercial paper program amounting to EUR 500 million. All three additional funding facilities were undrawn at the end of 2018 and 2017.

Contractual maturities of interest bearing debt

EUR million	Bonds	Repayments	Interests
2019	183	174	9
2020	7	–	7
2021	7	–	7
2022	107	100	7
2023	3	–	3
Later	304	300	4
Metso total	**611**	**574**	**37**

The maturities of derivative financial instruments are presented in note 4.8.

4.6 Interest bearing net debt reconciliation

Net interest bearing liabilities

EUR million	2018	2017
Non-current interest bearing liabilities [1]	557	833
Current interest bearing liabilities	41	21
Loan and other interest bearing receivables	–7	–3
Liquid funds	–426	–826
Net interest bearing liabilities	**165**	24

[1] Including current portion of non-current liabilities EUR 174 million in 2018 (EUR 279 million in 2017).

Changes in net interest bearing liabilities

2018 EUR million	Balance at beginning of year	Cash flows	Acquisi-tions	Trans-lation differ-ences	Other non-cash move-ments	Balance at end of year
Non-current interest bearing liabilities	833	–286	3	0	8	**557**
Finance lease liabilities	0	0	–	0	–	**0**
Current interest bearing liabilities	21	14	8	–1	–	**41**
Loan and other interest bearing receivables	–3	0	–	1	–5	**–7**
Liquid funds	–826	398	–4	6	–	**–426**
Net interest bearing liabilities	**24**	**127**	**7**	**7**	**2**	**165**

2017 EUR million	Balance at beginning of year	Cash flows	Acquisi-tions	Trans-lation differ-ences	Other non-cash move-ments	Balance at end of year
Non-current interest bearing liabilities	767	64	–	0	1	833
Finance lease liabilities	0	0	–	0	–	0
Current interest bearing liabilities	27	–5	–	–2	–	21
Loan and other interest bearing receivables	–13	9	–	0	–	–3
Liquid funds	–807	–29	–1	12	–	–826
Net interest bearing liabilities	–26	39	–1	10	1	24

4.7 Contingent liabilities and other commitments

Accounting policy

The repurchase commitments represent engagements whereby Metso agrees to purchase back equipment sold to customer. The conditions triggering the buy back obligation are specific to each sales contract.

EUR million	2018	2017
Guarantees		
External guarantees given by parent and group companies	380	274
Other commitments		
Repurchase commitments	2	3
Other contingencies	6	3
Total	**388**	280

Metso companies have guaranteed obligations arising in the ordinary course of business. These guarantees have typically been given to secure customer's advance payments or to secure commercial contractual obligations, or given counter guarantees to banks, which have given commercial guarantees to a group company.

4.8 Derivative instruments

Accounting policy

Derivatives are initially recognized in the balance sheet at fair value and subsequently measured at their fair value at each balance sheet date. Derivatives are designated at inception either as hedges of firm commitments or forecasted transactions (cash flow hedge) or as hedges of fixed rate debt (fair value hedge), or as hedges of net investment in a foreign operation (net investment hedge), or as derivatives at fair value through profit and loss that do not meet the hedge accounting criteria.

In case of hedge accounting, Metso documents at inception the relationship between the hedging instruments and the hedged items in accordance with its risk management strategy and objectives. Metso also tests the effectiveness of the hedge relationships at hedge inception, and quarterly both prospectively and retrospectively.

Derivatives are classified as non-current assets or liabilities when the remaining maturities exceed 12 months and as current assets or liabilities when the remaining maturities are less than 12 months.

Cash flow hedge

Metso applies cash flow hedge accounting to certain interest rate swaps, foreign currency forward contracts and to electricity forwards.

Metso designates only the currency component of the foreign currency forward contracts as the hedging instrument to hedge foreign currency denominated firm commitments. The interest component is recognized under other operating income and expenses, net. The gain or loss relating to the effective portion of the currency forward contracts is recognized in the income statement concurrently with the underlying in the same line item. The effective portion of foreign currency forwards hedging sales and purchases is recognized in the sales and the cost of goods sold, respectively. The gain or loss relating to the effective portion of interest rate swaps hedging variable rate borrowings is reversed from the hedge reserve through the other comprehensive income (OCI) to the income statement within financial items concurrently with the recognition of the underlying liability. Both at hedge inception and at each balance sheet date an assessment is performed to ensure the continued effectiveness of the designated component of the derivatives in offsetting changes in the fair values of the cash flows of hedged items.

Metso assesses regularly the effectiveness of the fair value changes of the electricity forwards in offsetting the changes in the fair value changes of the underlying forecasted electricity purchases in different countries. The gain or loss relating to the effective portion of the electricity forward contracts is recognized in the cost of goods sold.

The effective portion of the derivatives is recognized through OCI in the hedge reserve under equity and reversed through OCI to be recorded through profit and loss concurrently with the underlying transaction being hedged.

The gain or loss relating to the ineffective portion of the derivatives is reported under other operating income or expenses, net or under financial items when contracted to hedge variable rate borrowings. Should a hedged transaction no longer be expected to occur, any cumulative gain or loss previously recognized under equity is reversed through OCI to profit and loss.

Fair value hedge

Metso applies fair value hedge accounting to certain fixed rate loans. The change in fair value of the interest rate swap hedging the loan is recognized through profit and loss concurrently with the change in value of the underlying. Both at inception and quarterly the effectiveness of the derivatives is tested by comparing their change in fair value against those of the underlying instruments.

Derivatives at fair value through profit and loss

Certain derivative instruments do not qualify for hedge accounting. These instruments, which have been contracted to mitigate risks arising from operating and financing activities, comprise foreign exchange forward contracts, currency and interest rate options, interest rate swaps and swap agreements for nickel.

Changes in the fair value of interest rate swaps are recognized in interest expenses. Changes in the fair value of foreign exchange forward contracts are mainly recognized in other operating income and expenses. However, when the foreign exchange forwards have been contracted to mitigate the exchange rate risks arising from foreign currency denominated cash and from financial instruments used for cash management, the changes in fair value of the derivatives are recognized in financial income and expenses. Changes in the fair value of other derivative instruments such as commodity instruments are recognized in other operating income and expenses.

Fair value estimation of derivative instruments

The fair value of the foreign currency forward contracts is determined using forward exchange market rates at the balance sheet date. The fair value of the interest rate swaps is calculated as the present value of the estimated future cash flows based on observable yield curves. The fair value of the commodity forwards and swaps are based on quoted market prices at the balance sheet date. The fair value of options is determined using Black-Scholes valuation model.

Notional amounts and fair values of derivative financial instruments at end of year

EUR million	Notional amount	Fair value, assets	Fair value, liabilities	Fair value, net
2018				
Forward exchange contracts [1]	1,369	10	14	–4
Interest rate swaps	345	3	2	1
Cross currency swaps	–	–	–	–
Option agreements	–	–	–	–
Electricity forward contracts [2]	–	–	–	–
Nickel swap contracts [3]	288	0	0	0
Metso total		**13**	**16**	**–3**
2017				
Forward exchange contracts [1]	1,347	13	10	3
Interest rate swaps	432	2	–	2
Cross currency swaps	244	–	1	–1
Option agreements	–	–	–	–
Electricity forward contracts [2]	14	–	–	–
Nickel swap contracts [3]	270	0	–	0
Metso total		15	10	5

[1] Ca. 35 percent and 41 percent of the notional amount at the end of 2018 and 2017, respectively, qualified for cash flow hedge accounting.

[2] Notional amount in GWh

[3] Notional amount in tons

The notional amounts indicate the volumes in the use of derivatives, but do not indicate the exposure to risk.

Derivative financial instruments recognized in balance sheet at end of year

	2018		2017	
EUR million	**Assets**	**Liabilities**	**Assets**	**Liabilities**
Interest rate swaps – cash flow hedges	–	–	–	–
Interest rate swaps – fair value hedges	2	–	1	–
Interest rate swaps – non-qualifying hedges	1	2	1	0
	3	2	2	0
Cross currency swaps – cash flow hedges	–	–	–	0
Cross currency swaps – fair value hedges	–	–	0	1
	–	–	0	1
Forward exchange contracts – cash flow hedges	6	7	6	6
Forward exchange contracts – non-qualifying hedges	4	7	7	4
	10	14	13	10
Electricity forward contracts – cash flow hedges	–	–	–	0
Nickel swaps – non-qualifying hedges	0	0	0	–
Options – non-qualifying hedges	–	–	–	–
Derivatives total	**13**	**16**	15	10

In the year ended December 31, 2018, there was no ineffectiveness related to the cash flow hedges (In the year ended December 31, 2017 there was ineffectiveness related to the cash flow hedges, which resulted in recognition of EUR 0.1 million loss in the income statement). As at December 31, 2018, the fixed interest rates of swaps varied from 0.4 percent to 2.6 percent.

Maturities of financial derivatives as at December 31, 2018 (expressed as notional amounts)

EUR million	2019	2020	2021	2022	2023
Forward exchange contracts	1,365	4	–	–	–
Interest rate swaps	200	–	20	–	125
Cross currency swaps	–	–	–	–	–
Option agreements	–	–	–	–	–
Electricity forward contracts [1]	–	–	–	–	–
Nickel swap contracts [2]	252	36	–	–	–

[1] Notional amount in GWh.
[2] Notional amount in tons.

Notional and carrying amounts of financial derivatives applying hedge accounting at end of year

EUR million	Notional amount	Fair value, assets	Fair value, liabilities	Fair value, net
2018				
Forward exchange contracts	484	6	7	–1
Interest rate swaps	187	2	–	2
Metso total		**8**	**7**	**1**
2017				
Forward exchange contracts	557	6	6	0
Interest rate swaps	187	2	1	2
Cross currency swaps	244	–	1	–1
Electricity forward contracts [1]	14	–	0	0
Metso total		8	8	1

[1] Notional amount in GWh.

Forward exchange contracts hedge commercial cash flows of projects applying hedge accounting. The hedge ratio is 1:1. 98% of hedged cash flows mature during the year 2019, 2% in year 2020.

The impact of cash flow hedge in the statement of financial position in 2018

EUR million

Notional amount	Hedging gain/loss recognized in OCI	Amount reclassified from OCI to P/L	Cost of hedging recognized in OCI
484	–2	0	–1

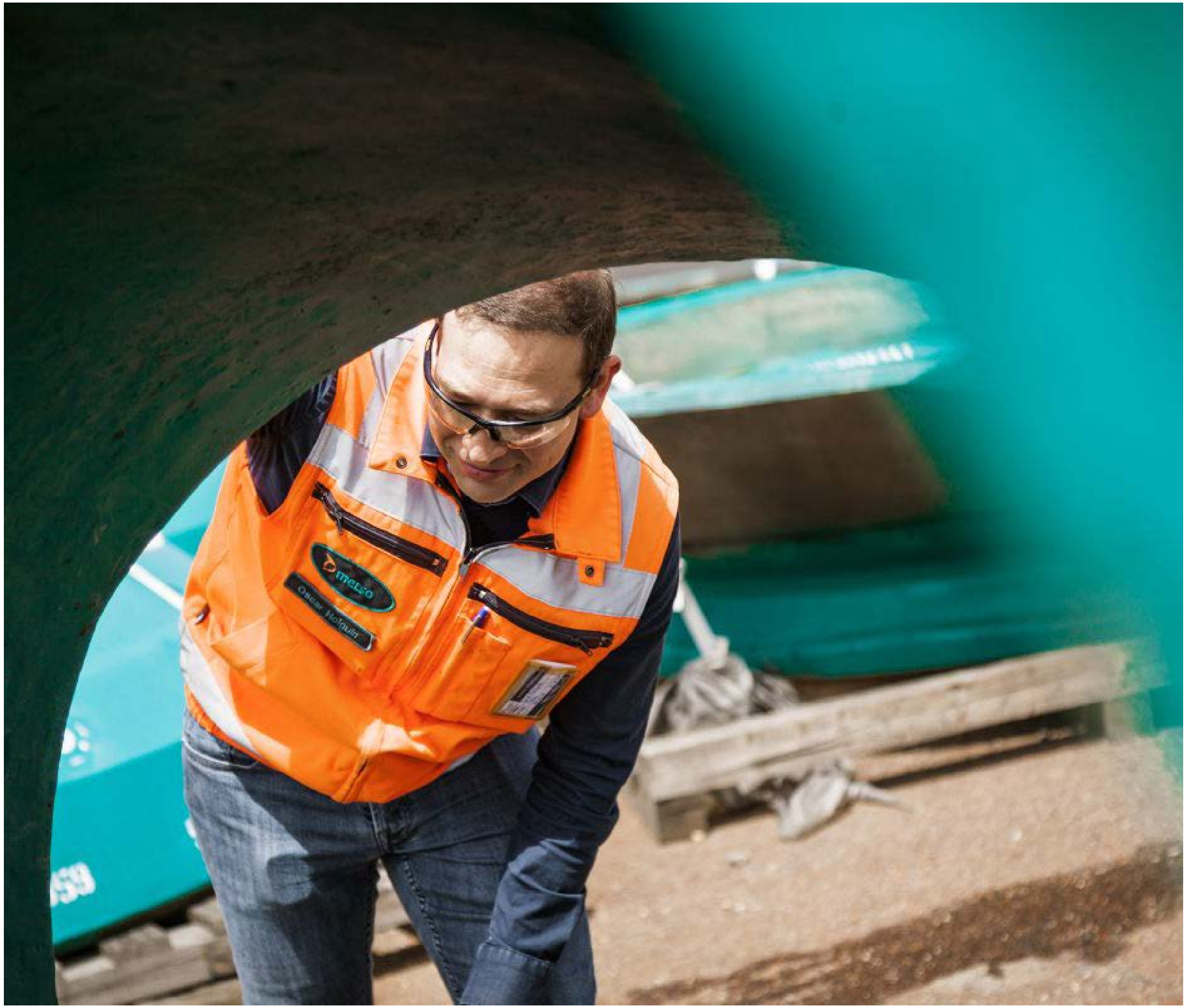
Metso applies fair value hedge accounting to two bonds. The hedge accounted total nominal value is EUR 187 million (EUR 398 million in 2017). The terms of the interest rate swaps match the terms of the fixed rate bonds (maturity dates, interest fixing and payments dates). Fair values of cash flows of interest rate swap and bond are compared when measuring hedge accounting effectiveness. Credit margin is added to the discount curve of the bond.

In year 2017 Metso applied cash flow hedge accounting when hedging private placement with interest rate swap. The nominal value of the loan was EUR 33 million.

Bonds applying fair value hedge accounting as at December 31, 2018

Nominal amount of loan, EUR million	Hedge ratio	Maturity date of loan	Nominal amount of interest rate swap, EUR million	Maturity date of interest rate swap
174	50%	4.10.2019	87	4.10.2019
300	33%	13.6.2024	100	13.6.2024

5 Consolidation



Three acquisitions completed

Total purchase consideration EUR **82** million

5.1 Principles of consolidation

Subsidiaries

The consolidated financial statements include the financial statements of the Parent Company and each of those companies over which Metso exercises control. Control is achieved when Metso is exposed, or has rights, to variable returns from the investee and has the ability to affect those returns through its power over the investee. The companies acquired during the financial period have been consolidated from the date Metso acquired control. Subsidiaries sold or distributed to the owners have been included up to their date of disposal.

All intercompany transactions, balances and gains or losses on transactions between subsidiaries are eliminated as part of the consolidation process. Non-controlling interests are presented in the consolidated balance sheet within equity, separate from equity attributable to shareholders. Non-controlling interests are separately disclosed in the consolidated statement of income.

Acquisitions of businesses are accounted for using the acquisition method. The purchase consideration of an acquisition is measured at fair value over the assets given up, shares issued or liabilities incurred or assumed at the date of acquisition. For each acquisition, the non-controlling interest in the acquiree, if any, can be recognized either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets. The excess acquisition price over the fair value of net assets acquired is recognized as goodwill (see also intangible assets). If the purchase consideration is less than the fair value of the Group's share of the net assets acquired, the difference is recognized directly through profit and loss accounts.

When Metso ceases to have control, any retained interest in equity is re-measured to its fair value at the date when control is lost, with the change in carrying amount recognized in profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognized in other comprehensive income in respect of that entity is accounted for as if the group had directly disposed of the related assets or liabilities.

Non-controlling interest

Transactions with non-controlling interests are regarded as transactions with equity owners. In the case of purchases from non-controlling interests, the difference between any consideration paid and the relevant share of the carrying value of net assets acquired in the subsidiary is recorded in shareholders' equity. Gains or losses on disposal to non-controlling interests are also recorded directly in shareholders' equity.

Non-current assets or disposal group held-for-sale

Metso classifies a non-current asset or disposal group as held for sale if it's carrying amount will be recovered principally through a sale transaction rather than through continuing use. These assets are valued at the lower of its carrying value and fair value less costs to sell, and assets subject to depreciation or amortization are no longer amortized. Assets related to non-current assets or a disposal group classified a held-for-sale are disclosed separately from other assets, but financial statements for prior periods are not reclassified.

Foreign currency translation

The financial statements are presented in euros, which is the parent company's functional currency and Metso's presentation currency.

Transactions in foreign currencies are recorded at the rates of exchange prevailing at the date of the transaction. At the end of the reporting period, unsettled foreign currency transaction balances are valued at the rates of exchange prevailing at the balance sheet date. Trade related foreign currency exchange gains and losses are recorded in other operating income and expenses, unless the foreign currency denominated transactions are subject to hedge accounting, in which case the related exchange gains and losses are recorded in the same line item as the hedged transaction. Foreign exchange gains and losses associated with financing are entered as a net amount under financial income and expenses.

The statement of income of a subsidiary with a functional currency different from the presentation currency is translated into euros at the average month end exchange rates for the financial year, and the balance sheet is translated at the exchange rate in effect on the balance sheet date. This exchange rate difference is recorded through other comprehensive income (OCI) within cumulative translation adjustments under equity.

The translation differences arising from subsidiary net investments and long-term subsidiary loans without agreed settlement dates are recognized through OCI with in cumulative translation adjustments under equity. When Metso hedges the net investment of its foreign subsidiaries with foreign currency loans and financial derivatives, the translation difference is adjusted by the currency effect of hedging instruments which has been recorded, net of taxes, through OCI under equity. When a foreign entity is disposed of, the respective accumulated translation difference, including the effect from qualifying hedging instruments, is reversed through OCI and recognized in the consolidated statements of income as part of the gain or loss on the sale. If the equity of a foreign currency denominated subsidiary is reduced by reimbursement of invested funds, the translation difference relating to the reduction is reversed through OCI and recognized in the consolidated statements of income.

Net investment hedge

Metso may hedge its net foreign investments in certain currencies to reduce the effect of exchange rate fluctuations. The hedging instruments are mainly foreign currency loans and foreign currency forward contracts. Both realized and unrealized exchange gains and losses measured on these instruments are recorded, net of taxes, through OCI in a separate component of equity against the translation differences arising from consolidation to the extent these hedges are effective. The interest portion of derivatives qualifying as hedges of net investment is recognized under financial income and expenses.

5.2 Subsidiaries

Company name	Ownership Dec 31, 2018
Algeria	
Metso Algeria EURL	100.00%
Argentina	
Metso Argentina SA	100.00%
Australia	
Metso Australia Ltd	100.00%
WearX Holdings Pty Ltd	100.00%
WearX Pty Ltd	100.00%
WearX Employee Services Pty Ltd	100.00%
Wear Application & Management Services Pty Ltd	100.00%
Wamcast Pty Ltd	100.00%
Precision Rubber NSW Pty Ltd	100.00%
Austria	
Metso Austria GmbH	100.00%
Brazil	
Metso Brazil Indústria e Comércio Ltda	100.00%
Canada	
Metso Flow Control Canada Ltd	100.00%
Metso Minerals Canada Inc.	100.00%
Metso Shared Services Ltd	100.00%
Chile	
Metso Chile SpA	100.00%
China	
Metso (China) Investment Co. Ltd	100.00%
Metso Flow Control (Shanghai) Co. Ltd	100.00%
Metso Flow Control (China) Co. Ltd	
Metso Minerals (Quzhou) Co. Ltd	100.00%
Metso Minerals (Tianjin) Co. Ltd	100.00%
Metso Minerals (Tianjin) International Trade Co. Ltd	100.00%
Shaoguan City Shaorui Heavy Industries Co. Ltd	75.00%
Czech Republic	
Metso Czech Republic s.r.o.	100.00%
Denmark	
Metso Denmark A/S	100.00%
Metso Denmark Properties Aps	100.00%
Finland	
Metso Flow Control Oy	100.00%
Metso Minerals Oy	100.00%
Rauma Oy	100.00%
France	
Metso France SAS	100.00%

Company name	Ownership Dec 31, 2018
Germany	
Metso Germany GmbH	100.00%
Metso Mapag GmbH	100.00%
Ghana	
Metso Ghana Ltd	100.00%
India	
Metso India Private Ltd	100.00%
RMEBS Controls Pvt Ltd	100.00%
Indonesia	
PT Metso Minerals Indonesia	99.90%
Italy	
Metso Italy S.p.A	100.00%
Japan	
Metso Japan Co. Ltd	100.00%
Kazakhstan	
Metso (Kazakhstan) LLP	100.00%
Macedonia	
Metso Minerals Dooel Skopje	100.00%
Malaysia	
Metso Malaysia Sdn. Bhd.	100.00%
Mexico	
Metso (Mexico) SA de CV	100.00%
Metso SA de CV	100.00%
Netherlands	
Metso Benelux B.V.	100.00%
Norway	
Metso Norway AS	100.00%
Panama	
Metso Central America SA	100.00%
Peru	
Metso Perú SA	100.00%
Poland	
Metso Poland Sp.z.o.o	100.00%
Portugal	
Metso Portugal Lda	100.00%
Qatar	
Metso Automation Qatar LLC [1]	49.00%
Serbia	
Metso d.o.o. Beograd	100.00%
Russia	
OOO Metso	100.00%

Company name	Ownership Dec 31, 2018
Saudi Arabia	
Metso Plant Saudi Arabia LLC	70.00%
Singapore	
Metso Asia Pacific Pte Ltd	100.00%
South Africa	
Metso South Africa Sales Pty Ltd	86.70%
Metso South Africa Pty Ltd	86.70%
South Korea	
Metso Korea Co. Ltd	100.00%
Spain	
Forjas del Guadalquivir, S.L.U	100.00%
Metso Espana SA	100.00%
Metso Spain Holding, S.L.U	100.00%
Santa Ana de Bolueta Grinding Media, S.A.U	100.00%
Sweden	
Metso Sweden AB	100.00%
AB P.J. Jonsson och Söner	100.00%
Thailand	
Metso (Thailand) Co. Ltd [1]	48.40%
Turkey	
Metso Minerals Anonim Sirketi	100.00%
United Arab Emirates	
Metso Flow Control LLC [1]	49.00%
Metso FZE (Dubai)	100.00%
United Kingdom	
Metso Captive Insurance Limited	100.00%
Metso UK Ltd	100.00%
Kiln Flame System Enterprises Limited	100.00%
Kiln Flame Systems Ltd	100.00%
United States	
Metso Flow Control USA Inc.	100.00%
Metso Minerals Industries Inc.	100.00%
Metso USA Inc.	100.00%
Neles-Jamesbury Inc.	100.00%
Vietnam	
Metso Vietnam Co. Ltd	100.00%
Zambia	
Metso Zambia Ltd	100.00%
WearX Zambia Ltd	100.00%

[1] Has been 100% consolidated

5.3 Associated companies, joint ventures and related party transactions

Accounting policy

The equity method of accounting is used for investments in associated companies in which the investment provides Metso the ability to exercise significant influence over the operating and financial policies of the investee company. Such influence is presumed to exist for investments in companies in which Metso's direct or indirect shareholding is between 20 and 50 percent of the voting rights or if Metso is able to exercise significant influence. Investments in associated companies are initially recognized at cost after which Metso's share of their post-acquisition retained profits and losses is included as part of investments in associated companies in the consolidated balance sheets.

Under the equity method, the share of profits and losses of associated companies and joint ventures is presented separately in the consolidated statements of income.

A joint arrangement is an arrangement of which two or more parties have joint control. Within Metso Group, all the joint arrangements are joint ventures. Investments in joint ventures in which Metso has the power to jointly govern the financial and operating activities of the investee company are accounted for using the equity method. Investments in joint ventures in which Metso has the control over the financial and operating activities of the investee company are fully consolidated and a non-controlling interest is recognized.

Associated companies and joint ventures

	2018		2017	
EUR million	Ownership	Carrying value	Ownership	Carrying value
Liugong Metso Construction Equipment (Shanghai) Co. Ltd	50.0%	3	50.0%	1
Sefate Capital (Pty) Limited	49.0%	1	–	–
Others		0	–	0
Total	n/a	**4**		1

Metso acquired 49% of the shares of South African company Sefate Capital (Pty) Limited. This restructuring transaction also had an impact to the share of non-controlling interest in Metso South Africa, which is 13.26% at the end of year.

The movements in the carrying value of investments in associated companies and joint ventures

EUR million	2018	2017
Investments in associated companies and joint ventures		
Acquisition cost as of January 1	2	2
Investments	4	–
Acquisition cost as of December 31	**6**	2
Equity adjustments in investments in associated companies and joint ventures		
Equity adjustments as of January 1	–1	–1
Share of results	0	0
Translation differences	0	0
Equity adjustments as of December 31	**–2**	–1
Carrying value as of December 31	**4**	1

Metso's share of the assets and liabilities, sales and results of the associated companies and joint ventures, which have been accounted for using the equity method

EUR million	2018	2017
Assets	15	2
Liabilities	11	2
Sales	7	2
Profit	0	0

Related party transactions

Transactions carried out and related balances with associated companies and joint ventures

EUR million	2018	2017
Sales	0	1
Purchases	0	0
Receivables	0	3
Payables	–	–

5.4 Acquisitions and business disposals

Acquisitions 2018

On July 2, 2018, Metso acquired 100% of the share capital of Swedish mobile crushing and screening solution provider AB P.J. Jonsson och Söner. The acquired business was consolidated into the Aggregate Equipment business area of the Minerals segment. The acquired business contributed sales of EUR 20 million to Metso Group for the period from July 2, 2018 to December 31, 2018. The company's sales in 12 months fiscal year that ended on August 31, 2017, was EUR 33 million and the number of personnel was 40.

On November 1, 2018, Metso acquired 100% of the share capital of Indish valve automation provider RMEBS Controls Private Limited. The company has an advanced offering of switches, process valves, and valve automation products and solutions. The acquired business was consolidated into Valves business area of the Flow Control segment. The acquired business contributed sales of EUR 3 million to the Metso Group for the period from November 1, 2018, to December 31, 2018. The company's sales in 12 months fiscal year that ended on March 31, 2018, amounted to EUR 19 million and the number of personnel was 275.

On December 4, 2018, Metso acquired 100% of the share capital of UK-based combustion solutions and technology provider Kiln Flame Systems Ltd. The company is specialized in rotary kiln and calcining processes, combustion optimization and burner technologies. The acquired business was consolidated into Minerals Services business area of the Minerals segment. The company's sales in 12 months fiscal year that ended on August 31, 2018, amounted to EUR 4 million and the number of personnel was 13.

The preliminary assets and liabilities recognized as a result of the acquisitions

EUR million	2018
Intangible assets	16
Tangible assets	11
Inventory	13
Trade receivables	10
Other receivables	1
Cash	4
Interest bearing liabilities	–10
Trade payables	–12
Other liabilities	–4
Deferred tax liability	–5
Net identifiable assets acquired at fair value	**24**
Goodwill	58
Purchase consideration	**82**

The goodwill is attributable to synergies related to sales and personnel know-how. Goodwill is not tax deductible.

Initial calculations on goodwill generated are based on the results of acquired companies, adjusted by changes in accounting principles and effects from the fair value adjustments of acquired assets and related tax adjustments.

The net cash flow impact of the acquisitions

EUR million	2018
Cash consideration paid	–81
Cash and cash equivalents acquired	4
Net cash flow for the year	–77
Contingent consideration	–1
Cash considerations, total	**–78**

Acquisition costs of EUR 2 million are expensed and included in administrative expenses in the income statement and in operating cash flow in the statement of cash flows.

Acquisitions 2017

On November 1, 2017, Metso acquired 100% of the share capital of Australian WearX Holding Pty Ltd, which is producing wear lining solutions. The acquisition strengthens Metso's position in the wear lining business and extends its offering in the Australian markets. The business was consolidated into the Minerals segment.

The acquired business contributed sales of EUR 5 million to the Metso Group for the period from November 1, 2017 to December 31, 2017. The company's sales in the twelve months fiscal year that ended June 30, 2017, amounted to EUR 23 million and the number of personnel was 142.

The assets and liabilities recognized as a result of the acquisition

EUR million	2017
Intangible assets	11
Tangible assets	2
Inventory	1
Trade receivables	6
Cash	1
Trade payables	–2
Other liabilities	–3
Deferred tax liability	–2
Net identifiable assets acquired at fair value	**13**
Goodwill	18
Purchase consideration	**31**

The goodwill is attributable to synergies related mainly to the extended offering in the wear lining business in the whole group, sourcing and personnel know-how. Goodwill is not deductible for tax purposes.

The calculation on goodwill generated is based on the acquired company's result adjusted by changes in accounting principles and effects from the fair value adjustments of acquired assets and related tax adjustments.

The net cash flow impact of the acquisition

EUR million	2017
Cash consideration	–31
Cash and cash equivalents acquired	1
Net cash outflow – investing activities	**–30**

Acquisition costs of EUR 0.4 million are expensed and included in other expenses in income statement and in operating cash flow in the statement of cash flows.

Disposals

Metso made no business disposals in 2018 or in 2017.

5.5 New accounting standards

New and amended standards adopted in 2018

IFRS 15 Revenue from Contracts with Customers

Metso adopted the new IFRS 15 Revenue from Contracts with Customers standard from January 1, 2018. The adoption was done fully retrospectively using permitted practical expedients. IFRS 15 introduces a five-step model for assessing revenue recognition. The principle is that revenue is recognized at an amount that reflects the consideration to which an entity expects to receive in exchange for transferring goods or services to a customer. Revenue is recognized when the control of goods or service is transferred to a customer. Revenue is recognized either at a point in time or over time. The accounting policy for sales recognition described in note 1.2.

Adoption of the new standard has had no impact on the timing of sales recognition or on the balance sheet presentation. Reported sales is reduced by the amounts of late delivery penalties, which have up until now been expensed. Accordingly, cost of goods sold (COGS) is affected positively by the same amount. Gross profit and other income statement items as well as the balance sheet are unchanged.

The used practical expedients:

- client contracts signed and satisfied in 2017 were not adjusted
- client contracts fully satisfied by January 1, 2017 were not adjusted
- disclosure on transaction price allocated to unsatisfied performance obligations as at December 31, 2017 and the expected recognition period will not be reported

If Metso would have chosen to not apply the practical expedients, this would not have had a material impact on the financial statements.

The IFRS 15 impact on Metso's Consolidated Statement of Income for 2017 is as follows:

	2017		
EUR million	Restated	Adjustment	Reported
Sales	2,699	–8	2,706
Cost of goods sold	–1,968	8	–1,976
Gross profit	731	–	731

Restated financial information for 2017 reflecting the impact of the IFRS 15 transition on quarterly figures and segment information was published on April 16, 2018. Metso's sales recognition principles are presented in note 4.1.

IFRS 9 Financial Instruments

Metso has adopted the IFRS 9 Financial instruments standard from January 1, 2018. The IFRS 9 adoption at Metso is related to three areas: the classification and measurement of financial assets, the impairment model for financial assets based on expected loss method, and to a new guidance on hedge accounting that will align more closely with common risk management practices. Applying IFRS 9 did not have any significant impact on the valuation of financial assets, impairment bookings on trade receivables and other financial assets or hedge accounting. However, the adoption of IFRS 9 caused an adjustment to the carrying value of a debt instrument, for which the earlier modification loss has not been recognized. The adjustment in the opening retained earnings as at January 1, 2018, amounted to EUR 0.5 million.

Classification of financial instruments

In IFRS 9 financial assets are classified according to their cash flow and the business model they are managed in. Applying IFRS 9 did not have any significant impact on the classification or valuation of financial assets in Metso. Commercial papers and deposits and interest bearing investments are valued at amortized cost only when the business model is to hold the financial assets until the due date and collect the contractual cash flows through principal and interest payments. Other interest bearing investments and shares in mutual funds are value at fair value through profit and loss accounts.

The following table sets out the classification and carrying amounts of Metso's financial assets and liabilities as well as changes thereto as at the date of initial application IFRS 9, 1 January 2018:

			Carrying amount as at January 1, 2018		
EUR million	**IAS 39 classification**	**IFRS 9 classification**	**IAS 39**	**IFRS 9**	**Change**
FINANCIAL ASSETS					
Current financial assets					
Trade receivables					
Trade receivables	Loans and receivables	At amortized cost	497	490	–7
Trade receivables for sale	Loans and receivables	At fair value through other comprehensive income	–	7	7
Interest bearing receivables	Loans and receivables	At amortized cost	0	0	–
Other receivables					
Derivatives, under hedge accounting	At fair value through other comprehensive income statement OCI	At fair value through other comprehensive income	6	6	–
Derivatives, not under hedge accounting	At fair value through profit and loss accounts	At fair value through profit and loss	7	7	–
Other receivables	Loans and receivables	At amortized cost	134	134	–
Liquid funds					
Deposits and securities, maturity more than three months	Assets at fair value through profit and loss accounts	At amortized cost	154	305	151
Deposits and securities, maturity more than three months	Assets at fair value through profit and loss accounts	At fair value through other comprehensive income	–	2	2
Cash and cash equivalents					
Fund investments	Loans and receivables	At fair value through profit and loss	–	58	58
Deposits and securities, maturity under three months	Loans and receivables	At amortized cost	311	100	–211
Cash and cash equivalents	Loans and receivables	At amortized cost	361	361	–
FINANCIAL LIABILITIES					
Current financial liabilities					
Interest bearing liabilities					
Current portion of long-term debt	At fair value through profit and loss accounts	At fair value through profit and loss	209	210	1
Current portion of long-term debt	Measured at amortized cost	At amortized cost	69	69	–
Short-term debt	Measured at amortized cost	At amortized cost	21	21	–
Trade payables	Measured at amortized cost	At amortized cost	342	342	–
Other liabilities					
Derivatives, under hedge accounting	At fair value through other comprehensive income statement OCI	At fair value through other comprehensive income	6	6	–
Derivatives, not under hedge accounting	At fair value through profit and loss accounts	At fair value through profit and loss	4	4	–
Other liabilities	Liabilities measured at amortized cost	At amortized cost	206	206	–

Measurement of financial instruments

Long-term debts are valued at amortized cost using the effective interest method, except the debts, which fair value hedge accounting is applied, are being valued at fair value through profit and loss accounts. IFRS 9 did not have impact on classification of financial liabilities, but the transition to IFRS 9 causes an adjustment to the carrying value of a debt, for which the earlier modification loss has not been recognized in 2013. Impact to the retained earnings as at January 1, 2018, amounted to EUR 0.5 million.

IFRS 9 gives guidance to measure the impairment of financial assets. Metso assesses systematically the credit risk related to its financial assets valued at amortized cost, thus valuation of financial assets at fair value included already the credit risk impact. For trade receivables Metso uses the simplified approach of measuring the expected losses based on the lifetime expected loss amounts. Under IFRS 9 credit loss allowance is recognized earlier than currently, however the impact is expected to be minor. Credit risk of client receivables from sales recognition using POC method are targeted to be covered through the advance payments from the clients.

Hedge accounting

The new guidance for hedge accounting aligned hedge accounting more closely with risk management. Also, IFRS 9 relaxed the requirements for hedge effectiveness, only prospective effectiveness testing is needed.

Before January 1, 2018, Metso applied hedge accounting for forecasted cashflow transactions based on firm client long-term contracts. The hedge relationships qualified also for IFRS 9, so no major impacts for financial statements occurred.

IFRS 2 Amendment – Classification and Measurement of Share-based Payment Transactions
Metso has adopted the amendment to IFRS 2 Classification and measurement of Share-based Payment Transactions from January 1, 2018. The amendment clarifies the measurement and accounting treatment for cash-settled share-based payments. When an employer is committed to the net settlement feature and thereby withholds and pays to the tax authority an amount for the employee's tax obligation associated with a share-based payment, the whole award should be treated as if it were equity-settled. The adoption of the IFRS 2 amendment caused an EUR 2.6 million adjustment increasing the fair value and other reserves in equity and releasing current liabilities as at January 1, 2018.

IFRIC 22 Foreign Currency Transactions and Advance Consideration
This new interpretation gives guidance on the practice regarding the exchange change rate used when the transactions are denominated in foreign currency in circumstances in which consideration, both monetary and non-monetary, are received or paid in advance. Both monetary and non-monetary transactions are recorded using the exchange rate of the transaction date. Metso does not expect that adoption of this interpretation will have a major effect on its financial statements. Metso has applied the interpretation from the beginning of the financial year 2018.

Other new and amended standards effective
The impact from other new and amended standards effective is not considered to be material to Metso.

New and amended standards to be applied

IFRS 16 Leases
IFRS 16, effective for periods beginning on or after January 1, 2019, replaces IAS 17 Leases and the interpretations thereto. IFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to recognize nearly all leases on the balance sheet. The standard includes two recognition exemptions for lessees – leases of low-value assets (e.g. laptops and printers) and short-term leases (lease term of 12 months or less). At the commencement date of a lease, a lessee will recognize a liability to make lease payments (the lease liability) and an asset representing the right to use the underlying asset during the lease term (the right-of-use asset).

Lessees will be required to separately recognize the interest expense on the lease liability and the depreciation expense on the right-of-use asset. Lessees will be also required to remeasure the lease liability upon the occurrence of certain events (e.g., a change in the lease term or a change in future lease payments resulting from a change in an index or rate used to determine those payments). The lessee will generally recognize the amount of the remeasurement of the lease liability as an adjustment to the right-of-use asset. Lessor accounting under IFRS 16 is substantially unchanged from today's accounting under IAS 17.

Metso will adopt IFRS 16 as of January 1, 2019 using the modified retrospective approach whereby the comparative financial information is not restated. Metso plans to apply the standard to contracts that were previously identified as leases. Metso plans to use the recognition exemptions proposed by the standard on low-value leased assets and short-term leases.

Based on Metso's assessment, the adoption of IFRS 16 will have some impact on reported EBITDA, operating profit, non-current assets, interest bearing liabilities and total balance sheet amounts as well as on related key figures. The change will affect also the presentation of cash flows from operating activities and from financing activities. As at December 31, 2018 Metso's off-balance sheet operating lease commitments amounted to EUR 122 million of which the most part will be recognized on the balance sheet in connection with the adoption of IFRS 16. Part of the operating lease commitments relates to low-value leased assets and short-term leases for which no right-of-use asset or lease liability will be recognized. The finance lease liabilities of Metso were not material as of December 31, 2018. The value of the right-of-use asset and the respective lease liability to be recognized on the opening balance sheet as of January 1, 2019 is expected to be in the range of EUR 110–130 million. In the income statement, the lease expense relating to the leases to be recognized on the balance sheet under IFRS 16 will be replaced by the interest expense of the lease liability and depreciation of the leased asset. This change will have an increasing impact on the reported operating profit, EBITDA and net financial expenses.

IFRIC 23 Uncertainty over Income Tax Treatment
The interpretation addresses the accounting for income taxes when tax treatments involve uncertainty in the application of IAS 12. An entity must determine whether to consider each uncertain tax treatment separately of together with one or more other uncertain tax treatments. The approach that better predicts the resolution of the uncertainty should be followed. Metso will apply the interpretation from January 1, 2019. Based on an initial assessment, the interpretation will not have a material impact on Metso.

Other new and amended standards issued but not yet effective
The impact from other new and amended standards issued but not yet effective is not considered to be material to Metso.

5.6 Exchange rates used

		Average rates		Year-end rates	
		2018	2017	2018	2017
USD	(US dollar)	1.1809	1.1307	1.1450	1.1993
SEK	(Swedish krona)	10.2591	9.6392	10.2548	9.8438
GBP	(Pound sterling)	0.8861	0.8742	0.8945	0.8872
CAD	(Canadian dollar)	1.5307	1.4684	1.5605	1.5039
BRL	(Brazilian real)	4.3020	3.6271	4.4440	3.9729
CNY	(Chinese yuan)	7.8148	7.6299	7.8751	7.8044
AUD	(Australian dollar)	1.5795	1.4780	1.6220	1.5346

6 Other notes

6.1 Audit fees

EUR million	2018	2017
Audit services	1.9	1.9
Tax services	0.0	0.3
Other services	0.1	0.1
Total	2.0	2.3

6.2 Lawsuits and claims

Several lawsuits, legal claims and disputes based on various grounds are pending against Metso in various countries related, among other things, to Metso's products, projects, other operations and customer receivables. Metso's management assesses, however, to the best of its present understanding that the outcome of these lawsuits, claims and legal disputes would not have a material adverse effect on Metso in view of the grounds presented for them, provisions made, insurance coverage in force and the extent of Metso's total business activities. It should be noted, however, that outcomes of pending lawsuits, legal claims and disputes are beyond the direct influence of Metso's management and may, therefore, materially deviate from management's current assessment.

Pending asbestos litigation

On December 31, 2018 there were 203 pending litigation cases filed in the United States in relation to asbestos injuries in which a Metso entity is one of the named defendants. Metso management's present belief is that the risk caused by the pending asbestos litigation cases in the United States is not material in the context of Metso's total business activities.

6.3 Events after the reporting period

Acquisition of HighService Corp

Metso announced on January 2, 2019 that it had agreed to acquire HighService Service, the service business of the Chilean mining technology and maintenance provider HighService Corp. HighService Service is a high-quality service provider for the mining industry, with operations in Chile, Argentina and Brazil. Its sales in the fiscal year 2017 were approximately EUR 60 million and it has approximately 1,300 employees. The acquisition is pending regulatory approval from the Chilean authorities and is expected to close during the first half of 2019. The parties have agreed not to disclose the value of the transaction.

Divestment of grinding media business

Metso announced on January 4, 2019 that it had successfully completed the divestment of its grinding media business to Moly-Cop, a portfolio company of American Industrial Partners. The transaction includes the sale of Metso Spain Holding, S.L.U, including operations in Bilbao and Seville, Spain. As part of the transaction, approximately 80 employees have transferred from Metso to Moly-Cop. The turnover of the divested business in 2018 was approximately EUR 60 million. Based on an initial assessment, Metso does not expect to recognize a material impact on the income statement from the divestment.

Financial Statements of the Parent Company, FAS

Statement of Income of the Parent Company

EUR	Note	2018	2017
Sales		16,167,979.53	14,396,347.07
Other operating income	2	441,332.83	638,914.03
Personnel expenses	3	−15,450,359.09	−15,297,032.38
Depreciation and amortization	4	−494,172.83	−420,209.67
Other operating expenses		−17,489,042.51	−21,568,598.59
Operating profit (loss)		**−16,824,262.07**	−22,250,579.54
Financial income and expenses, net	6	122,871,549.35	192,543,770.82
Profit before appropriations and taxes		**106,047,287.28**	170,293,191.28
Appropriations	7	60,660,000.00	29,885,000.00
Profit before taxes		**166,707,287.28**	200,178,191.28
Income taxes	8		
Current tax expense		−8,796,769.73	−2,247,107.38
Change in deferred taxes		−3,005.24	−11,828.50
Profit for the year		**157,907,512.31**	197,919,255.40

Balance Sheet of the Parent Company

Assets

EUR	Note	2018	2017
Non-current assets			
Intangible assets	9	933,137.92	1,011,557.79
Tangible assets	9	634,536.89	760,489.23
Investments			
Shares in Group companies	10	749,680,242.87	629,680,377.77
Other investments	10	318,812,453.42	408,970,207.88
Total non-current assets		**1,070,060,371.10**	1,040,422,632.67
Current assets			
Long-term receivables	12	3,146,298.36	1,981,529.29
Short-term receivables	12	546,244,891.43	575,922,404.93
Securities		11,999,655.61	258,000,000.00
Bank and cash		219,915,254.40	309,138,270.72
Total current assets		**781,306,099.80**	1,145,042,204.94
Total assets		**1,851,366,470.90**	2,185,464,837.61

Shareholders' equity and liabilities

EUR	Note	2018	2017
Shareholders' equity	13		
Share capital		140,982,843.80	140,982,843.80
Hedge reserve		0.00	−219,308.00
Invested non-restricted equity fund		367,775,887.99	367,775,887.99
Retained earnings		441,153,617.64	401,222,527.55
Profit for the year		157,907,512.31	197,919,255.40
Total shareholders' equity		**1,107,819,861.74**	1,107,681,206.74
Liabilities			
Long-term liabilities	14	401,887,550.00	573,380,053.69
Current liabilities	15	341,659,059.16	504,403,577.18
Total liabilities		**743,546,609.16**	1,077,783,630.87
Total shareholders' equity and liabilities		**1,851,366,470.90**	2,185,464,837.61

Cash Flow Statement of the Parent Company

EUR thousand	2018	2017
Cash flows from operating activities:		
Profit for the year	157,908	197,919
Adjustments to operating profit (loss)		
Depreciation and amortization	494	420
Financial income and expenses, net	–122,872	–192,544
Gains (+) / losses (–) on sale, net	81	–637
Group contributions	–60,660	–29,885
Taxes	8,800	2,259
Other non-cash items	1,450	99
Total adjustments to operating profit (loss)	**–172,707**	–220,288
Increase (–) / decrease (+) in short-term non-interest bearing trade receivables	–11,121	–791
Increase (+) / decrease (–) in short-term non-interest bearing debt	–30,779	5,514
Change in working capital	**–41,900**	4,723
Interest and other financial expenses paid	–12,624	–40,361
Dividends received	125,370	191,503
Interest received	1,831	1,606
Income taxes paid	–3,289	–5,230
Net cash provided by operating activities	**54,589**	129,872
Cash flows from investing activities:		
Investments in tangible and intangible assets	–290	–41
Proceeds from sale of tangible and intangible assets	0	864
Investments in subsidiary shares	–120,000	–20,000
Long-term loans granted	–341,064	–202,208
Repayments of long-term loans	498,252	190,360
Short-term loans granted	0	–26,281
Repayments of short-term loans	3,675	0
Purchase of other investments	305,106	–68,918
Proceeds from sale of investments	–243	–
Interest received from investments	26,094	29,045
Dividends received from investments	0	0
Net cash used in investing activities	**371,531**	–97,179

EUR thousand	2018	2017
Cash flows from financing activities:		
Change in treasury shares	0	351
Withdrawals (+) and instalments (–) of short-term loans, net	0	–
Withdrawal of long-term loans	0	298,008
Repayments of long-term loans	–285,546	–234,077
Dividends paid	–157,988	–157,497
Change in Group pool accounts	–101,694	11,747
Group contributions	29,885	41,798
Net cash provided by (+) / used in (–) financing activities	**–515,343**	–39,670
Net increase (+) / decrease (–) in bank and cash	–89,223	–6,977
Bank and cash at beginning of year	309,138	316,114
Bank and cash at end of year	**219,915**	309,138

Notes to the Financial Statements of the Parent Company

1 Accounting principles

The parent company financial statements have been prepared in accordance with the Finnish Generally Accepted Accounting Principles for the period 1.1.–31.12.2018. The financial statements are presented in euros.

Foreign currency translations

Transactions in foreign currencies are recorded at the rates of exchange prevailing at the date of the transaction. At the end of accounting period, monetary items are valued at the rate of exchange prevailing at the end of period.

Tangible and intangible assets

Tangible and intangible assets are valued at historical cost, less accumulated depreciation according to plan. Land and water areas are not depreciated.

Depreciation and amortization is calculated on a straight-line basis over the expected useful lives of the assets as follows:

Computer software	3–5 years
Other intangibles	10 years
Buildings and structures	20–25 years
Machinery and equipment	3–5 years
Other tangible assets	20 years

Financial Instruments

Metso's financial risk management is carried out by a central treasury department (Group Treasury) under the policies approved by the Board of Directors. Group Treasury functions in co-operation with the operating units to minimize financial risks in both the Parent Company and the Group.

Long-term debt is initially recognized at fair value, net of transaction costs incurred. In subsequent periods, they are valued at amortized cost using the effective interest rate method. Debts, which are hedged with a fair value hedge are recognized at fair value through the profit and loss, unrealized adjustment is presented in hedge reserve. Transaction costs arising from issuance of bonds are recognized over the life of the bond using the effective yield method. The unrecognized portion as of the balance sheet date is presented as a decrease in liabilities. Derivatives outside hedge accounting are valued at fair value through profit and loss.

Forward exchange contracts are measured at fair value. The change in fair value is recognized as income or expense in the income statement. The fair value of forward exchange contracts is determined using forward exchange market rates at the balance sheet date.

Bank and cash as well as securities consist of cash in the bank accounts and investments of liquid funds in interest bearing instruments. Financial assets are measured at historical cost, less possible impairment loss.

Provisions

Provisions are unrealized costs, for which the company is committed and which will not provide any income in the future and which are likely to occur. Change in the provision are included in the profit and loss.

Income taxes

Income tax expense includes taxes calculated for the financial year, adjustments to prior year taxes and change in the deferred taxes. A deferred tax liability or asset has been determined for all temporary differences between the tax bases of assets and liabilities and their amounts in financial reporting, using the enacted tax rates effective for the future years. The deferred tax liabilities are recognized in the balance sheet in full, and the deferred tax assets are recognized when it is probable that there will be sufficient taxable profit against which the asset can be utilized

2 Other operating income

EUR thousand	2018	2017
Gain on disposal of shares	0	–227
Gain on sale of fixed assets	17	864
Other	424	2
Total	**441**	639

3 Personnel expenses

EUR thousand	2018	2017
Salaries and wages	–11,572	–12,247
Pension costs	–2,126	–2,586
Other indirect employee costs	–1,752	–464
Total	**–15,450**	–15,297

EUR thousand	2018	2017
Fringe benefits	490	518

Remuneration paid to Executive Team:

EUR thousand	2018	2017
Chief Executive Officer	–808	–930
Board members [1]	–661	–575
Total	**–1,469**	–1,505

[1] Board remuneration is presented in note 1.5 for Consolidated Financial Statements

Number of personnel:

	2018	2017
Personnel at end of year	119	110
Average number of personnel during the year	114	110

4 Depreciation and amortization

Depreciation and amortization expenses consist of the following:

EUR thousand	2018	2017
Buildings and structures	–30	–30
Machinery and equipment	–122	–108
Other tangible assets	0	0
Intangible assets	–342	–282
Total	**–494**	–420

5 Audit fees

EUR thousand	2018	2017
Audit	–523	–501
Tax consulting	–10	–106
Other services	–1	–217
Total	**–534**	–823

6 Financial income and expenses

EUR thousand	2018	2017
Dividends received from		
Group companies	125,370	191,502
Others	0	1
Total	**125,370**	191,503
Interest income from investments from		
Group companies	27,109	29,169
Others	232	342
Total	**27,341**	29,511
Other interest and financial income from		
Others	373	6,843
Exchange rate differences	437	192
Interest and financial income, total	**153,521**	228,049
Interest expenses to		
Group companies	–347	–371
Others	–29,016	–37,370
Other financial expenses		
Fair value change in derivatives	–1,287	2,236
Interest and other financial expenses, total	**–30,650**	–35,505
Financial income and expenses, net	**122,872**	192,544

7 Appropriations

EUR thousand	2018	2017
Group contributions received	60,660	29,885

8 Income taxes

EUR thousand	2018	2017
Income taxes on operating activities	–8,829	–2,238
Income taxes fo prior years	33	–9
Change in deferred taxes	–3	–12
Total	**–8,800**	–2,259

9 Fixed assets

EUR thousand	Intangible assets	Land areas	Buildings and structures	Machinery and equipment	Other tangible assets	Tangible assets total	Total
2018							
Acquisition cost Jan 1	4,174	156	747	841	105	1,849	**6,023**
Additions	263	–	–	26	–	26	**289**
Decreases	–39	–	–	– 91	– 2	–93	**–132**
Acquisition cost Dec 31	4,398	156	747	776	103	1,782	**6,180**
Accumulated depreciation Jan 1	–3,162	–	–687	–402	0	–1,089	**–4,251**
Accumulated depreciation of decreases	39	–	–	91	–	91	**130**
Depreciation for the period	–342	–	–30	–119	0	–149	**–491**
Accumulated depreciation Dec 31	–3,465	–	–717	–430	0	–1,147	**–4,612**
Net carrying value Dec 31	**933**	**156**	**30**	**346**	**103**	**635**	**1,568**

EUR thousand	Intangible assets	Land areas	Buildings and structures	Machinery and equipment	Other tangible assets	Tangible assets total	Total
2017							
Acquisition cost Jan 1	4,174	156	747	786	119	1,808	5,982
Additions	0	–	–	60	–	60	60
Decreases	–	–	–	–5	– 14	–19	–19
Acquisition cost Dec 31	4,174	156	747	841	105	1,849	6,023
Accumulated depreciation Jan 1	–2,880	–	–657	–294	0	–951	–3,831
Accumulated depreciation of decreases	–	–	–	0	–	0	0
Depreciation for the period	–282	–	–30	–108	0	–138	–420
Accumulated depreciation Dec 31	–3,162	–	–687	–402	0	–1,089	–4,251
Net carrying value Dec 31	1,012	156	60	439	105	760	1,772

10 Investments

EUR thousand	Shares in Group companies	Other shares	Receivables from Group companies	Receivables from other companies	Other investments total
2018					
Acquisition cost at Jan 1	629,680	2,915	405,055	1,000	408,970
Additions	120,000	0	341,064	0	341,064
Decreases	0	–242	–430,979	0	–431,221
Acquisition cost at Dec 31	749,680	2,673	315,140	1,000	318,812
Net carrying value at Dec 31	**749,680**	**2,673**	**315,140**	**1,000**	**318,812**
2017					
Acquisition cost at Jan 1	609,680	977	440,341	1,040	442,358
Additions	20,000	1,938	202,208	0	204,146
Decreases	0	0	–237,494	–40	–237,534
Acquisition cost at Dec 31	629,680	2,915	405,055	1,000	408,970
Net carrying value at Dec 31	629,680	2,915	405,055	1,000	408,970

11 Shareholdings

Subsidiaries December 31, 2018

Subsidiary	Domicile	Ownership %
Metso Shared Services Oy	Finland, Helsinki	100.0
Metso Flow Control Canada Ltd	Canada, St. Laurent	100.0
Metso Shared Services Ltd	Canada, Lachine	100.0
Metso Captive Insurance Limited	Great Britain, Guernsey	100.0
Metso (China) Investment Co. Ltd	China, Shanghai	100.0
Metso Flow Control Oy	Finland, Helsinki	100.0
Metso Minerals Oy	Finland, Helsinki	100.0
Metso Minerals Canada Inc.	Canada, Belleville	100.0
Metso France SAS	France, Macon	100.0
Metso USA Inc.	USA, Waukesha	100.0
Rauma Oy	Finland, Helsinki	100.0

12 Specification of receivables

Long-term receivables

EUR thousand	2018	2017
Deferred tax asset	68	126
Derivatives	3,078	1,680
Long-term receivables from others	–	176
Long-term receivables total	**3,146**	1,982

Short-term receivables

EUR thousand	2018	2017
Trade receivables from		
Group companies	23,981	31,033
Others	–	830
Total	**23,981**	31,863
Loan receivables from		
Group companies	314,551	312,510
Others	–	40
Total	**314,551**	312,550
Prepaid expenses and accrued income from		
Group companies	85,642	37,589
Others	26,059	38,774
Total	**111,701**	76,363
Other receivables		
Investments	94,457	153,563
VAT receivable	1,058	1,487
Other receivables	496	96
Total	**96,012**	155,146
Short-term receivables total	**546,245**	575,922

Specification of prepaid expenses and accrued income

EUR thousand	2018	2017
Prepaid expenses and accrued income from Group companies		
Group contribution receivables	60,660	29,885
Accrued interest income	3,150	3,331
Other accrued items	21,832	4,373
Total	**85,642**	37,589
Prepaid expenses and accrued income from others		
Accrued interest income	**89**	119
Accrued derivatives	8,924	12,831
Other accrued items	17,045	25,824
Total	**26,059**	38,774

13 Statement of changes in shareholders' equity

EUR thousand	2018	2017
Share capital at Jan 1	140,983	140,983
Share capital at Dec 31	140,983	140,983
Hedge reserve Jan 1	–219	–1,275
Change	219	1,056
Hedge reserve	**0**	–219
Invested non-restricted equity fund at Jan 1	367,776	367,651
Change	0	125
Invested non-restricted equity fund at Dec 31	**367,776**	367,776
Retained earnings at Jan 1	599,142	558,494
Dividend distribution	–157,497	–157,497
Other change	–491	226
Retained earnings at Dec 31	**441,154**	401,223
Profit for the year	157,908	197,919
Total shareholders' equity at Dec 31	**1,107,820**	1,107,681

Statement of distributable funds at December 31

EUR	2018	2017
Hedge reserve	0.00	–219,308.00
Invested non-restricted equity fund	367,775,887.99	367,775,887.99
Retained earnings	441,153,617.64	401,222,527.55
Profit	157,907,512.31	197,919,255.40
Total distributable funds	**966,837,017.94**	966,698,362.94

At the end of the year, Metso Oyj held 351,128 treasury shares, the acquisition price of which, EUR 8,086,132.65 has been deducted from retained earnings.

14 Long-term liabilities

EUR thousand	2018	2017
Bonds from [1]		
Others	399,724	573,106
Loans from financial institutions	–	–
Interest derivatives	2,164	274
Total	**401,888**	573,380

[1] Specification of bonds and fair values in note 4.5 for Consolidated Financial Statements.

Debt maturing later than in five years

EUR thousand	2018	2017
Bonds	300,000	300,000

15 Short-term liabilities

EUR thousand	2018	2017
Short-term interest bearing debt		
Bonds	173,843	69,453
Loans from financial institutions	0	213,289
Group companies	29,025	49,756
Group pool accounts	89,398	117,197
Total	**292,266**	449,695
Trade payables to		
Group companies	20,660	28,830
Others	1,937	3,325
Total	**22,598**	32,155
Accrued expenses and deferred income to		
Group companies	416	1,964
Others	26,023	20,232
Total	**26,439**	22,196
Other short-term non-interest bearing debt to		
Others	356	357
Total	**356**	357
Short-term liabilities total	**341,659**	504,403
Short-term liabilities to Group companies total	**139,499**	197,747

Specification of accrued expenses and deferred income

EUR thousand	2018	2017
Accrued expenses and deferred income to Group companies		
Accrued interest expenses	123	91
Other accrued items	293	1,873
Total	**416**	1,964
Accrued expenses and deferred income to others		
Accrued interest expenses	4,071	5,950
Accrued derivatives	13,061	10,070
Accrued salaries, wages and social costs	5,077	3,557
Other accrued items	3,814	656
Total	**26,023**	20,232

16 Other contingencies

Guarantees and mortagages

EUR thousand	2018	2017
Guarantees on behalf of subsidiaries	302,720	235,126

Lease commitments

EUR thousand	2018	2017
Payments in the following year	1,115	1,153
Payments later	3,956	4,861
Total	**5,071**	6,014

Signatures of the Board of Directors' Report and Financial Statements 2018

Helsinki, February 5, 2019

Mikael Lilius Chairman of the Board	Christer Gardell Vice-Chairman of the Board	
Peter Carlsson Member of the Board	Ozey K. Horton, Jr. Member of the Board	Lars Josefsson Member of the Board
Nina Kopola Member of the Board	Antti Mäkinen Member of the Board	Arja Talma Member of the Board
Pekka Vauramo President and CEO		

The auditor's note

Our auditor's report has been issued today.

Helsinki, February 5, 2019

Ernst & Young Oy
Authorized Public Accountant Firm

Mikko Järventausta
APA

Auditor's Report

(Translation of the Finnish original)

To the Annual General Meeting of Metso Oyj

Report on the Audit of Financial Statements

Opinion

We have audited the financial statements of Metso Corporation (business identity code 1538032-5) for the year ended 31 December, 2018. The financial statements comprise the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including summaries of significant accounting policies, as well as the parent company's balance sheet, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position as well as its financial performance and its cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Audit Committee.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent company and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5(1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 6.1 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have fulfilled the responsibilities described in the Auditor's responsibilities for the audit of the financial statements section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial statements.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

Key Audit Matter	How our audit addressed the Key Audit Matter
Revenue recognition of long-term contracts *The accounting principles and disclosures about revenue recognition of customized engineered system contracts are included in Note 1.2.* Metso's Minerals segment delivers customized engineered systems to its customers, where the moment of signing a delivery contract and the final acceptance of a delivery by the customer may take place in different financial periods. In accordance with Metso's accounting principles, revenue from such contracts is recognized over time. In year 2018 in total 360 million euros of Metso Minerals segment's sales from customized engineered system contracts and long-term fixed price service contracts were recognized over time. The recognition of revenue and the estimation of the outcome of delivery contract require significant management's judgment, in particular with respect to estimating the stage of completion, cost to complete and the expected time to completion. Significant judgment is required to assess the expected loss when it is expected that the total costs will exceed the revenues from the delivery contract. In addition, the areas with significant judgment are considered to be more prone to the risk that the assumptions may be deliberately misappropriated. Based on above revenue recognition of customized engineered system contracts was a key audit matter. This matter was also a significant risk of material misstatement referred to in EU Regulation No 537/2014, point (c) of Article 10(2).	Our audit procedures to address the risk of material misstatement in respect of the revenue recognition of customized engineered system contracts included: • Assessing of the Group's accounting policies over revenue recognition of customized engineered system contracts. • Examination of the delivery documentation such as contracts, legal opinions and other written communication. • Analytical procedures throughout the audit period. • Review of financial KPI's, development and current status of delivery contracts by – comparing the contract to our prior experience with similar contracts, – reviewing the changes in estimated revenues, costs and reserves, and – discussions with the different levels of organization including project responsible, business management and group management. • Analyzing key elements in management's estimates such as the estimated future costs to complete and the estimated time necessary to complete the delivery. • Evaluating the appropriateness of the Group's disclosures in respect of revenue recognition.
Valuation of goodwill *The accounting principles and disclosures about goodwill are included in Note 3.1.* The annual impairment test was a key audit matter because the assessment process is judgmental, it is based on assumptions relating to market or economic conditions extending to the future, and because of the significance of the goodwill to the financial statements. As of balance sheet date December 31, 2018, the value of goodwill amounted to 525 million euros representing 16% of the total assets and 37% of the total equity. The valuation of goodwill is based on the management's estimate about the value-in-use calculations of the cash generating units. Based on management judgment the cash generating units of Metso are Minerals segment and Flow Control segment. There are a number of assumptions used to determine the value-in-use, including the revenue growth, the EBITDA and the discount rate applied on net cash-flows. Estimated values-in-use may vary significantly when the underlying assumptions are changed and the changes in above-mentioned individual assumptions may result in an impairment of goodwill.	Our audit procedures included involving our valuation specialists to assist us in evaluating the assumptions and methodologies by comparing the management's assumptions to externally derived data and to our independently calculated industry averages. In particular those relating to • the forecasted revenue growth, • the EBITDA and • the weighted average cost of capital used to discount the net cash-flows. We tested the accuracy of the impairment calculations prepared by the management and compared the sum of discounted cash flows to Metso's market capitalization. In addition, we assessed the sufficiency of the disclosures as well as whether the disclosures about the sensitivity of the impairment assessment are appropriate.

Key Audit Matter	How our audit addressed the Key Audit Matter
Valuation of trade receivables *The accounting principles and disclosures about trade receivables are included in Note 2.2.* Valuation of trade receivables was a key audit matter because of the significance of overdue trade receivables to the financial statements as a whole. As of balance sheet date December 31, 2018, the carrying value of trade receivables amounted to 585 million euros, of which 75 million euros were trade receivables overdue for more than 30 days. Carrying value of trade receivables is a result of gross receivables, which is netted by a provision for credit losses. Estimate on the expected credit losses and credit loss provision to be recognized are based on management's best judgment. The judgment is based on earlier experience on past years credit losses and current economic outlooks and client segment and location information.	On group level we evaluated the valuation methods applied on valuation of trade receivables as well as performed analyses of overdue and undue gross receivable balance development and corresponding movement in provision for credit losses during the year. We analyzed management's assessment of the expected credit losses of the most significant aged and overdue receivables considering historical payment patterns, legal opinions as well as recent communications with the counterparties and dunning procedures. In addition, our audit procedures in connection with the valuation of trade receivables included, among others, analysis of the aging of receivables, requesting receivable balance confirmations and testing of subsequent cash receipts.
Income taxes *The accounting principles and disclosures about income taxes are included in Note 1.8.* Income taxes was a key audit matter because of the judgments and estimates involved and the amount of income taxes is material to the financial statements as a whole. Metso's business is international and in the normal course of business the management makes judgments and estimates in connection with tax issues and tax exposures resulting in the recognition of deferred tax assets and liabilities as well as tax provisions.	We performed audit procedures on the calculation and valuation of current taxes and deferred taxes. Procedures included assessment of correspondence with tax authorities and evaluation of tax exposures. In addition, we evaluated the appropriateness of the recognition principles and the sufficiency of the given disclosures. Our audit procedures on income taxes included involving our tax specialists, who assisted us both on group level and in significant components in evaluating the assumptions and methodologies applied by the management.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, 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 opinion. 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 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 the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's 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 parent company's or 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 our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. 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 parent company or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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 relevant ethical requirements regarding independence, 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 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 or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Information on our audit engagement

We were first appointed as auditors by the Annual General Meeting on 29 March 2012, and our appointment represents a total period of uninterrupted engagement of seven years.

Other information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon. We have obtained the report of the Board of Directors prior to the date of this auditor's report, and the Annual Report is expected to be made available to us after that date.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Opinions based on assignment of the Audit Committee

We support that the financial statements and the consolidated financial statements should be adopted. The proposal by the Board of Directors regarding the use of the profit shown in the balance sheet is in compliance with the Limited Liability Companies Act. We support that the Members of the Board of Directors and the President and CEOs of the parent company should be discharged from liability for the financial period audited by us.

Helsinki, February 5, 2019

Ernst & Young Oy
Authorized Public Accountant Firm

Mikko Järventausta
Authorized Public Accountant

Investor information

Investor Relations function and policies

The main task of Investor Relations is to support the correct valuation of Metso's share by providing up-to-date information on matters concerning our operations, operating environment, strategy, objectives, financial performance and market outlook. Our goal is to provide correct, adequate and current information regularly and impartially to all market participants. In our work, we aim for promptness, transparency, agility and excellent service.

Investor Relations is responsible for all investor communications, including contacts with representatives of the capital markets. All investor meeting requests are processed by Investor Relations. In addition to financial reports, actively updated web-pages and a quarterly newsletter, our investor communications include investor meetings and seminars in which corporate executives actively participate. We also arrange Capital Markets Day events. In addition, we regularly gather and analyze market information and investor feedback for use by top management and the Board of Directors.

During the 21-day period prior to publication of the annual, half-year or interim financial results, we are not in contact with capital market representatives. At other times, we are happy to answer inquiries of analysts and investors by phone, email or at arranged investor meetings. Contact details are available on the following page.

Market estimates and analyst reports

We actively monitor market expectations and will review, if requested so by an analyst, their model against publicly available information. However, we do not comment on or take any responsibility for estimates or forecasts published by capital market representatives and we do not comment on the company's valuation or share price development, give preference to one particular analyst, or distribute analyst reports to the investment community.

We maintain a list of the analysts following Metso on a regular basis on our website at www.metso.com/analysts.

Market outlook

Metso's market outlook decsribes the expected sequential development in market activity during the following six-month period. Expected development is described using three categories: grow, remain at the current level, or decline.

Current market outlook

Market activity in Minerals is expected to continue to grow in both equipment and services business. Market activity in Flow Control is expected to continue to grow in both equipment and services business

Guidance on our financial communications

The principle of equality in our investor communications means giving all market participants simultaneous and timely access to the information they need to be able to determine the value of the Metso share in an informed manner. We follow the rules and recommendations of:

- Finnish Corporate Governance Code 2015
- Finnish Companies Act
- Accounting Act
- Finnish Securities Markets Act
- Market Abuse Regulation ((EU) N:o 596/2014 ("MAR"))
- Rules, regulations and guidelines of Nasdaq Helsinki and the Finnish Financial Supervisory Authority

Our disclosure policy has been approved by the Board of Directors and it describes the main principles and practices of our stock exchange communications as well as other important disclosure practices we follow. The purpose of the policy is to promote reliable and consistent disclosure of information and to describe the decision-making procedures relevant to disclosing market-relevant information. More information and our Disclosure Policy are available at www.metso.com/disclosure-policy.

Our releases are divided into three categories: stock exchange releases, corporate press releases and trade press releases. The category of a release is based on what the MAR demands, on the materiality and relevance of the information as well as on internal guidelines.

Stock exchange releases are used for releasing inside information according to the MAR. Corporate press releases are used for communicating about business events that do not include inside information but are estimated to be newsworthy or of general interest to stakeholders. Trade press releases are used for discussing our products and technology and other topics that are of interest to our customer industries and the trade media.

Our financial reviews and our releases, as well as their email subscription, are available in Finnish and English on our website at www.metso.com/news. We disclose information about our financial performance according to a schedule announced in advance. Financial information and key figures are disclosed on the Metso Group and segment level.

Publication dates of financial reports in 2019

Financial statements review for 2018	February 6, 2019
Annual Report 2018	Week commencing March 4, 2019, at the latest
Interim review for January–March 2019	April 25, 2019
Half year financial review 2019	July 25, 2019
Interim review for January–September 2019	October 25, 2019

Shareholder's change of address

Shareholders are kindly asked to notify of changes in their address to the bank, brokerage firm or other account operator with which they have a book-entry account.

Metso in the capital markets during 2018

In 2018, the Investor Relations team hosted close to 200 investor meetings and held over 25 pre-scheduled conference calls. We participated some 20 roadshows in New York, Boston, Chicago, Montreal, London, Paris, Frankfurt, Edinburgh, Dublin, Munich and Stockholm. We also hosted four site visits during the year, three in Finland and one in Shrewsbury, US.

During the year the Investor Relations team and senior management met or talked with over 300 institutions and close to 400 individual investors. Majority of the meetings were one-on-one meetings with senior management. We also had close cooperation on a regular basis with analysts following Metso.

Metso's new President and CEO Pekka Vauramo assumed his duties in the beginning of November 2018. During the last two months of the year, we hosted several introductory meetings with approximately 30 investors and analysts in Finland. We also arranged an introductory call with international investor and analyst base in December 2018.

In 2018, we continued to develop our investor website and launched a quarterly investor newsletter that collects together both regulated and non-regulated information in an easily readable email format. Subscription of the letter is available at www.metso.com/investors.

Annual General Meeting 2019

Metso's Annual General Meeting 2019 will be held at 3:00 p.m. on Thursday, April 25, 2019, at Finlandia Hall in Helsinki, Finland.

Notice of the meeting including all meeting proposals has been published as a stock exchange release on February 6, 2019, and is also available at www.metso.com/agm.

Important dates related to AGM 2019

Record date of AGM	April 11, 2019
Registration period ends	April 18, 2019 at 10:00 a.m.
Annual General Meeting	April 25, 2019
Ex-dividend date	April 26, 2019
Record date of dividend payment	April 29, 2019
Date of dividend payment	May 7, 2019 *
Minutes of the meeting available	May 9, 2019

* Metso will transition to semi-annual dividend payments. The Board will propose a dividend of EUR 1.20 per share for 2018 (EUR 1.05), of which EUR 0.60 will be paid in May and EUR 0.60 in November 2019.

Registration and proxies

Registration is available at www.metso.com/agm or by telephone on +358 10 808 300. Shareholders are required to provide their name, personal or company identification number, address and telephone number with their registration.

Originals of the possible proxy documents must be delivered before registration period ends to the address
Metso Corporation/ AGM, P.O. Box 1220, FI–00101 Helsinki, Finland.

Nominee registered shares

Holders of nominee registered shares have the right to participate in the AGM by virtue of the shares, which would entitle them to be registered in Metso's shareholder register on the record date of the AGM. In addition, participation requires that these shareholders are temporarily registered in Metso's shareholder register before the registration period ends. More detailed instructions are available in the meeting notice.

Resolutions of the AGM

Resolutions of the AGM will be published as a stock exchange release without delay after the meeting has finished. More information about the Annual General Meeting and the meeting proposals are available on our website at www.metso.com/agm.

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