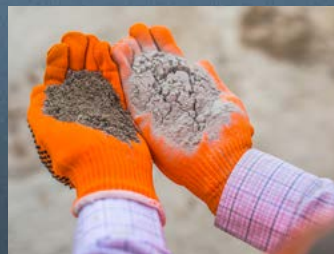


Enabling modern life



Metso's Annual Report 2019

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 build trust.

Metso's Annual Report 2019 consists of four sections: Business Overview, Financial Review, Corporate Governance and GRI Supplement. All Annual Report sections are available in English and in Finnish. They are downloadable on our Annual Report website at www.metso.com/2019. In this Annual Report we apply integrated reporting elements.

More information

The following symbol guides you to more information on our website or in this report:



Metso's channels

- › metso.com
- › twitter.com/metsogroup
- › facebook.com/metsoworld
- › youtube.com/metsoworld
- › instagram.com/metsoworld

Disclaimer

A plan to combine Metso's Minerals Business and Outotec is currently expected to be registered on June 30, 2020. The combined future Metso Outotec will be leading company in process technology, equipment and services serving the minerals, metals and aggregates industries.

As a result, Metso's Flow Control business will become the continuing business of the currently listed Metso, which will be subsequently renamed Neles, an independent listed company supplying flow control products and services.

Figures in this Annual Report are calculated based on the 2019 Metso Group structure unless otherwise stated. They

present Metso's operations before the partial demerger and planned combination with Outotec. In the Financial Statements, figures for continuing operations are also presented. They have been calculated presenting the future Neles as a single economic entity, using the same accounting principles and carrying amounts as in the Metso Group in accordance with the International Financial Reporting Standards ("IFRS") accounting and valuation principles as adopted by the EU. The future Neles figures presented here include some carve-out impacts that are not included in the reported figures of Metso's Flow Control segment.



Business Overview

Strategy, value creation and sustainability



Financial Review

Board of Directors' Report, Financial Statements and investor information



Corporate Governance

Corporate Governance Statement including remuneration



GRI Supplement

Externally assured sustainability information compliant with the GRI Standards

About this section

Metso's Annual Report 2019 consists of four report sections. This is the Business Overview, including Metso's strategy, value creation and sustainability.



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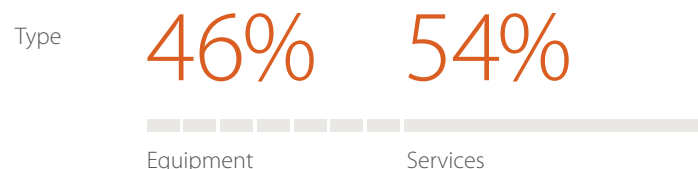
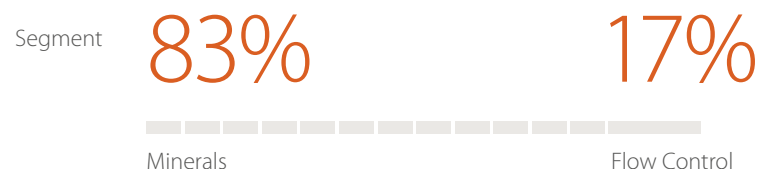
A photograph of two industrial workers in safety gear (hard hats, safety glasses, and high-visibility jackets) working on a complex piece of machinery. One worker is holding a clipboard and pen, while the other is reaching up to adjust a component. The background shows a large industrial facility with various pipes and structures.

Our year 2019

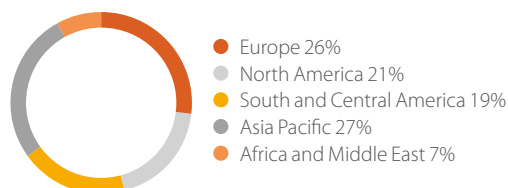
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Metso in brief

Our vision is to be the best choice for sustainable processing and flow of natural resources.



Sales by market area



Sales by customer industry



Responsible and trusted partner

A responsible and trusted partnership creates the foundation for a strong brand and profitable growth. We create trust by ensuring the sustainability of our own operations and the operations of our business partners. Our global presence ensures that we serve our customers' needs globally and locally.

Sustainable productivity

Metso enables modern life. With our knowledge and technologically advanced offering, we help our customers improve their operational efficiency, reduce risks and increase profitability. Customers use our industry-leading solutions to process various raw materials.

Our offering for sustainable productivity

In mines to process minerals	In quarries to produce aggregates
In petrochemical plants to control the flow of materials and fluids	In pulp and paper mills to control the flow of pulp and other liquid media
In the demolition and recycling of asphalt and construction materials	In scrapyards and recycling facilities to process metal scrap and waste

We offer a full scope of services

Consumables	Services	
	Spare parts	Field service and repairs
	Refurbishments and upgrades	Life Cycle Services



From the CEO

In light of our financials and achievements, 2019 was an exceptional year for Metso. While reaching outstanding record results, we also announced business transactions that will transform the company.

Metso's full year 2019 financial performance was strong. Market activity was good in both our reporting segments, Flow Control and Minerals. Our sales grew by 15% to 3.6 billion euros and we reached a record profitability in our operations.

Committed to sustainability

Metso's role is more important today than ever. Climate change and electrification are transforming the world, which requires more metals and construction materials. This is an opportunity for us, because driving sustainable solutions defines us as a company. Through our products, solutions and expertise, we can have a significant positive impact on our customer industries where the processes are typically very energy and water-intensive.

Not only our customers, but also other stakeholders are requesting more sustainable processing of natural resources in order to tackle the impacts of climate change and aim for more efficient use of natural resources. Investors expect to see companies take sustainability and responsible business conduct seriously. For employees, integrity and transparency are among the key employer selection criteria. To address these demands, we launched a climate program including science-based targets last year. The program takes into account all our relevant carbon dioxide emission categories, and we have set targets for our suppliers, production, transportation, product use and research and development. Additionally, we offset the emissions of business flights and reduce emissions originating from our own activities where possible. In 2019, we

compensated all business flight emissions by investing in wind power in India, China and Turkey.

Safety and responsible business

Being in the industries we are, safety is at the top of our priority list. Our long-term safety target is zero work-related incidents and we aim at reaching a Lost Time Incident Frequency (LTIF) level of less than 1 by the end of 2021. This year's result indicates that we are going in the right direction with our LTIF level of 1.7. However, despite positive development, safety requires constant focus.

As part of our responsible business actions in 2019 we updated our all-employee code of conduct training. The completion rate was 99.2% within the given timeframe, signaling strong commitment from our personnel.

Engagement of our key stakeholders

Metso's customer engagement program runs globally every year and covers all businesses. The program collects feedback on how we have performed from our customers and helps us define development areas. Metso's Net Promoter Score (NPS) in the 2019 survey improved throughout all our businesses compared to the previous year.

We will ensure that we strengthen the expertise that our customers value, and at the same time continuously look for new ways to be more responsive to their needs. A detailed action planning takes place after the results have been analyzed, followed by several local and global improvement initiatives.

I am very impressed by the commitment that Metso's employees showed last year even under a lot of change and

an increased workload. Amidst the transformational strategy transactions, we kept full focus on the current business, thus enabling the positive business results for the year. Our employee engagement survey from 2019 confirms a high commitment level: the response rate of the survey was 89% and the employee Net Promoter Score (eNPS) – how likely it is an employee would recommend Metso as a place to work – was as high as 49.1

Developing our offering and footprint

During the year, Metso completed two acquisitions. The Chilean mining service business grew our presence and expertise specifically in the important Pacific Rim mining markets. McCloskey, a Canada-based aggregates equipment company, strengthened our offering in the growing mobile crusher business.

We also developed our global operations footprint last year, announcing the closure of factories or warehouses in Africa, Europe and the US. These moves are part of a longer-term plan to centralize activities for increased cost-efficiency, more optimized logistics and faster inventory turnover.

Creation of Metso Outotec and Neles

In July, we announced the plans to combine Metso's Minerals business and Outotec and to create an independent valves-focused company Neles. Neles will have a leading position as a flow control solution provider specifically across the pulp and paper and oil and gas industries. Neles has a track record of continued market growth with best-in-class profitability and proven resilience in the cyclical businesses.

Metso Outotec is expected to deliver a range of benefits to Metso and Outotec's customers, employees and shareholders. The company will have a broad global presence and an end-to-end offering in minerals processing, combined with and a larger installed base, advanced services offering, leadership in sustainable technology across all businesses, and an ability to demonstrate significant revenue and cost synergies.

The strategic fit in the combination is strong. The businesses are highly complementary in terms of offering, service footprint, and capabilities. Culturally, Metso and Outotec are also a good match. Both companies are focused on innovation and customer centricity.

Metso's strong financial performance in 2019 provides a good starting point for the new year. I want to thank Metso people, our customers and all business partners for successful collaboration, and at the same time I look forward to forming two new top-tier companies in 2020.

Pekka Vauramo
President and CEO

“*Metso's strong financial performance in 2019 provides a good starting point for the new year.*”

Highlights of 2019

Year 2019 was successful for Metso, as financial performance, safety, and customer and personnel engagement clearly improved from 2018. In addition, a transformational transaction to create Metso Outotec and Neles was announced.

Financial performance

Orders received

MEUR 3,690

+5% from 2018

Sales

MEUR 3,635

+15% from 2018

Adjusted EBITA

MEUR 474

+28% from 2018

Earnings per share

EUR 1.94

Structural changes

Metso's partial demerger

Minerals business to be combined with Outotec and Flow Control to continue as an independent listed company named Neles

McCloskey acquisition

Strengthened our offering in the mobile aggregates equipment markets

Mining service acquisition in Chile

Expanded our service offering and capabilities in the Chilean and Pacific Rim markets

Divestment of grinding media

Consumables to focus on developing a world-leading global offering

Strategy implementation

+60%

Capital expenditure

+22%

R&D expenditure

Operational efficiency

Supply chain optimization

Sustainability achievements

Safety LTIF

1.7

Employee NPS

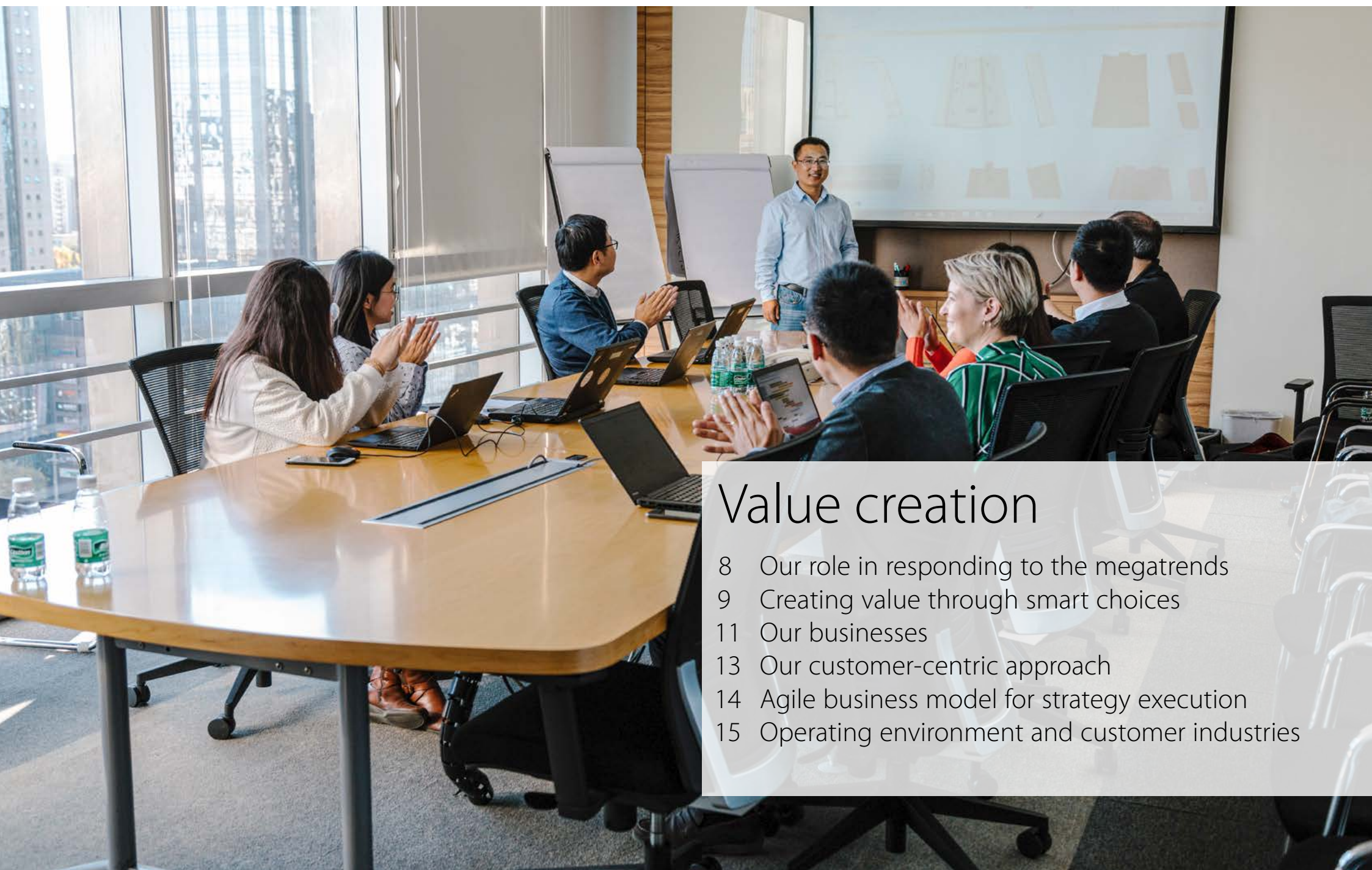
49.1

91%

of the R&D projects had set sustainability targets

123

supplier sustainability audits



Value creation

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Our role in responding to the megatrends

Our customers in the mining, aggregates, recycling and other process industries produce the end products required for modern life.

Our customer industries and whole societies are faced with challenges posed by global megatrends. The need to develop intelligent and sustainable solutions that address these megatrends provides Metso with business opportunities.

	Urbanization	Climate change and scarcity of natural resources	Circular economy	Digitalization
Implications and requirements	<ul style="list-style-type: none"> Consumption of minerals driven by growth in consumer demand Electrification Infrastructure projects and other construction Increased traffic volumes Decreasing pollution 	<ul style="list-style-type: none"> Energy efficiency Decrease in CO₂ emissions Weakening of ore bodies 	<ul style="list-style-type: none"> Utilization of waste and recycling Utilization of by-products Longer working life for equipment 	<ul style="list-style-type: none"> Improved operational efficiency and safety Customer interaction Data gathering, analysis and use
Business opportunities	<ul style="list-style-type: none"> Equipment and services for changing needs in minerals processing Decreased dust and noise from crushing in construction projects Flow control solutions for production of clean fuels (desulfurization, etc.) 	<ul style="list-style-type: none"> Efficiency in use of water and energy in minerals processing Valve solutions in production of clean energy 	<ul style="list-style-type: none"> Water efficiency and utilization of closed loops Solutions for recycling metals, waste and construction materials Service solutions to improve availability and working life of equipment. 	<ul style="list-style-type: none"> Analysis and simulation of processes Predictability Digital sales channels 3D printing

Creating value through smart choices

Minerals obtained by mining are used in virtually all man-made products – from houses to mobile phones and electric cars. Construction of infrastructure requires millions of tons of aggregates. Metso focuses on innovations and sustainable productivity: our products and services enable modern life.

Metso's customers operate in the mining, aggregates, recycling and process industries. All these industries face similar challenges. Every operator wants to increase their operational efficiency and decrease downtime. Similarly, reducing water or energy consumption of the processes is among the key challenges facing more and more miners and quarry owners. Demands for more sustainable ways of operating are also coming from regulatory bodies.

Our solutions cover rock and minerals processing, metal and waste recycling, and flow control solutions in the oil and gas, petrochemicals, pulp, paper and bioproducts and other process industries.

We are a world leader in mining comminution technology, and crushing hard rock has always been our core competence. The digitalization of comminution circuit design and process optimization is opening up exciting, new opportunities to save energy and water in minerals processing, which today accounts for 3–5 percent of the world's energy consumption. Our solutions help customers tackle these global challenges.

Metso's products are used in some of the most demanding applications, where the most reliable flow control valves are required. Since the 1970s, the Neles valves have represented the industry standard of reliability and quality. Starting in 2020, Neles will become the name of a new listed company fully focused on providing solutions for flow control.



Minerals are everywhere in today's world

An electric car battery

has 25 kg nickel, 5 kg lithium and 4.5 kg cobalt

40 different

types of minerals are used in a smartphone

80%

of the items buried in landfills could be recycled

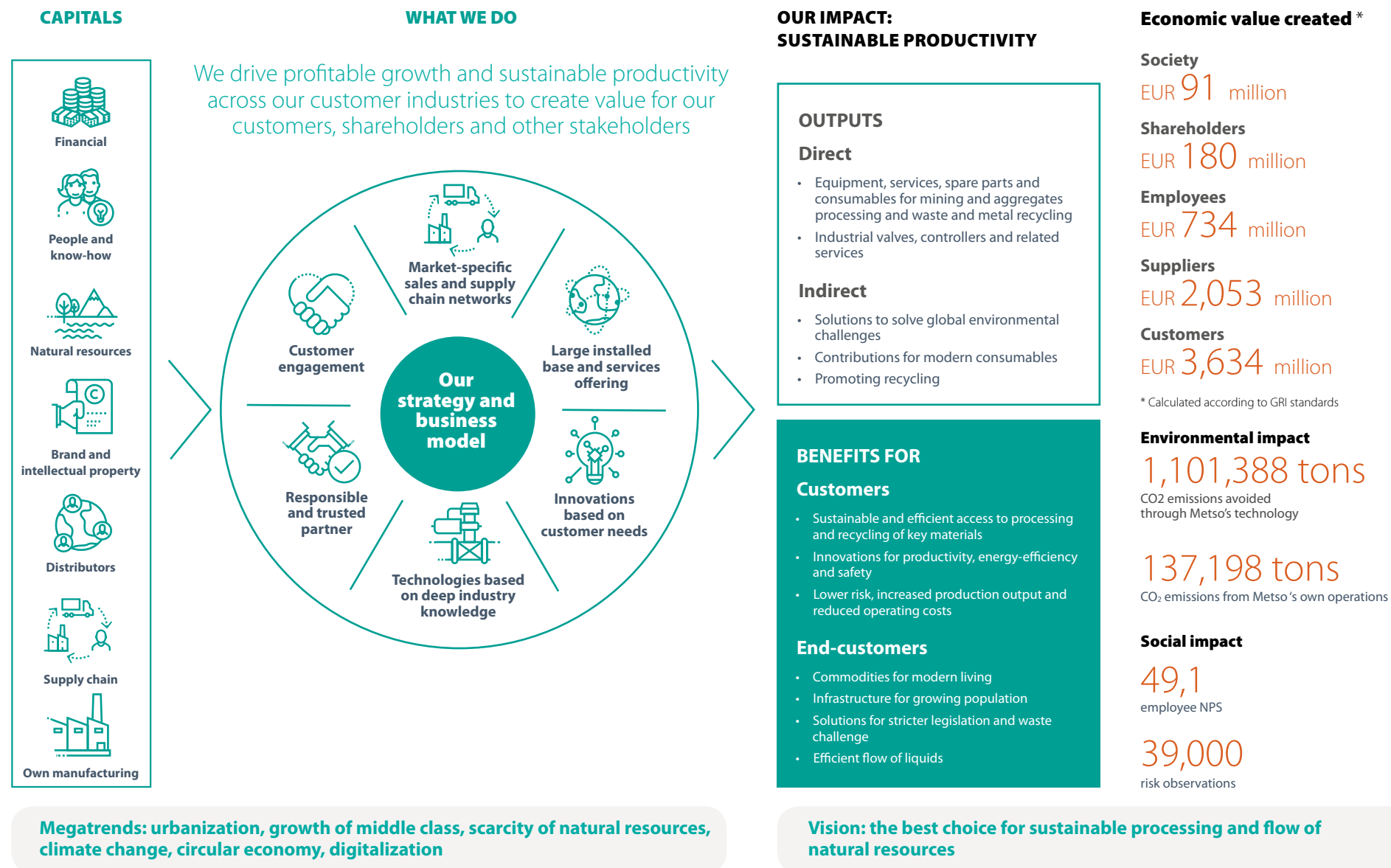
3–5%

of the world's energy consumption is used in minerals processes

300–400 tons

of rocks are needed to build a typical single-family house

How we create value



Our businesses

We provide the world's mining, aggregates, recycling and process industries with a broad portfolio of advanced, professionally designed products and services that help customers operate more successfully and sustainably.

Global businesses supported by local market areas

Metso wants to be the best choice for sustainable processing and flow of natural resources for its customers. Our businesses have been organized according to the key customer industries we serve.

Achieving the objective of profitable growth requires a lean and agile organization that actively seeks growth opportunities and responds to changes in the operating environment.

Metso has seven business areas: Mining Equipment, Aggregates Equipment, Minerals Services, Minerals Consumables, Pumps, Recycling and Valves, and they are externally reported under two segments: Minerals and Flow Control. The business areas are accountable for their own performance in terms of orders and sales, operating profit and cost of capital, and each contributes to the profitable growth strategy through their own initiatives.

To enable close collaboration with customers, Metso has a market-specific sales organization that integrates business area offerings and builds customer relations.

Understanding customer challenges

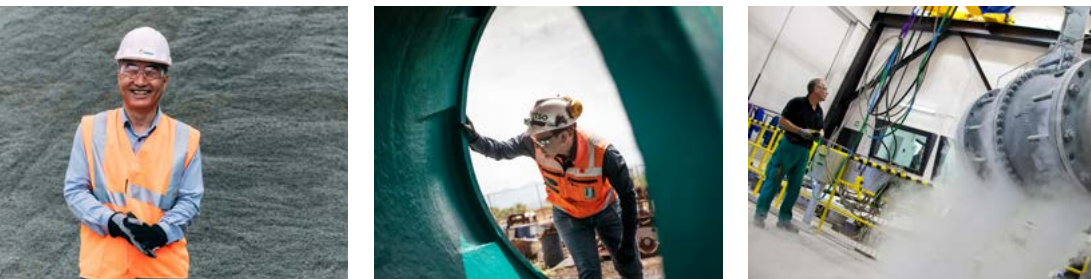
Through its comprehensive portfolio of products and services for the mining and aggregates industries, Metso is able to help its customers tackle some of their most significant challenges relating to safety or economic, operational or environmental risks. Even though Metso's valves business serves different customer industries, they share largely the same challenges typical of process industries.

Our global service network with over 80 service centers ensures the availability of Metso's experts close to the customers. During 2019, we took actions to optimize our global manufacturing footprint. The in-house manufacturing operations are further supported by our outsourced supplier and distributor networks.



Metso's offering

Customer industry	Mining	Aggregates	Recycling	Process industries
Equipment	Mining equipment	Aggregates equipment	Metal and waste recycling equipment, spare parts and services solutions	Valves, valve controls and related services
Spare parts and services solutions	Mining spare parts, refurbishments and services solutions	Aggregates spare parts and services solutions		
Wear parts	Minerals consumables			



A broad range of products and services

Mining

Our mining customers are large global miners, major and mid-size regional operators and junior miners. Metso provides the mining customers with crushers, screens, feeders, grinding mills, hydrocyclones, flotation solutions, pyro processing, material handling equipment, slurry pumps, spare and wear parts, and services. Metso also has solutions for tailings management, separation and dewatering.

Aggregates

The global aggregates market consists of some large international players and numerous smaller, more local ones. Metso's offering for the aggregates customers includes crushers, screens and feeders, fixed and mobile plants, Lokotacks, spare and wear parts, and services.

Recycling

The metal and waste recycling customer base varies from the automotive industry and scrapyards to plant builders and the cement industry. Metso's offering for the recycling markets includes crushers, metal shredders and shears, stationary and mobile units, metal balers and briquettes and services.

Flow Control

Metso's valves are used across a wide variety of process industries worldwide. The flow control markets are highly fragmented, and in addition to a few large global players, there are many smaller, local ones. Metso's valves offering includes standard and severe service control valves, emergency shutdown valves, ball and butterfly valves, automated on-off valves, intelligent valve controllers, and services.

R&D collaboration with customers

Metso has a global research and technology development network to create new technologies, products and service solutions to meet our customers' needs. The R&D network includes approximately 20 locations around the world. Digitalization accelerates innovation, and the focus of development is on concrete solutions for the customer industries we serve. Therefore, a significant share of the R&D effort is done in collaboration with customers, research institutions, universities and other partners. Our ambition is to maintain our technology leadership with a cost-efficient and environmentally sustainable offering that meets the needs of our customers.

In 2019, the R&D share of Metso's sales was 1.7%, and Metso had 2,612 patents including patent applications.



Our customer-centric approach

We have a customer-centric business model that helps us best serve our customers globally. This model requires continuous development of both internal and external supply chains, as well as the development of products and services for different customer segments.

Metso has a market- and customer-specific supply chain network, where manufacturing is optimized between in-house operations and purchases from suppliers. This model provides us with flexibility in cyclical customer industries and helps us to best serve our customers.

Our business areas together with our market areas are responsible for managing the customer relationships, and information on customer satisfaction is regularly gathered to further improve customer processes and relationships.

Metso's sales channels are tailored for specific regions, customer industries and customer types. Our direct sales teams and experts provide competence in technologies and processes. In addition, working with distributors to increase local presence as well as digital sales channels and development of an omnichannel approach is becoming increasingly important.

Market- and customer-specific sales and supply chain network

	Mining and recycling	Aggregates		Process industries	
Sales	Direct sales	Direct sales	Distributors	Direct sales	Distributors
Original equipment manufacturing	Mostly outsourced	In-house	Outsourced	In-house	Outsourced
Spare parts	Mostly outsourced	Mostly outsourced		In-house	Outsourced
Wear parts	Mostly in-house	In-house	Outsourced		
Professional services	Strong in-house field service and repair center capabilities	Majority of field service and repair center work through authorized distributors		Strong in-house field service and repair center capabilities	

Agile business model for strategy execution

STRATEGY

Profitable growth strategy

Strategy fundamentals

Organic growth and footprint development

Acquisitions and industry consolidation

Digitalization

Customer centricity

BUSINESS MODEL

Customer-centric business model

Market- and customer-specific sales and supply chain networks with a diversified and competitive offering

Supply chain

Outsourced

In-house

Offering

Equipment and services

Sales channels

Direct sales

Distribution

CUSTOMER NEEDS

CUSTOMER INDUSTRIES



MINING



AGGREGATES



RECYCLING



PROCESS INDUSTRIES

FOUNDATION



Code of Conduct and values

Driving customer success
Seeking innovations
Performing together
Respecting each other



Responsible and trusted partner

Diversity and human rights
Environmental efficiency of own operations
Safe working environment
Responsible procurement
Leadership



Customer benefit: sustainable productivity

Safe Metso products and services
Innovating for sustainability
Sustainable customer processes
Customer engagement

Operating environment and customer industries

Customer industry	Mining	Aggregates	Recycling	Other process industries
Share of sales	52%	26%	4%	18%
Characteristics	<p>Global prices and demand.</p> <p>Activity in the equipment market follows the cycles of mining capex.</p> <p>Demand for services is driven by utilization of mines.</p>	<p>Demand is driven by the overall level of construction activity, particularly related to infrastructure projects in each market.</p> <p>The majority of customers are quarries and small or medium-sized aggregates producers or contractors.</p>	<p>Demand for metal recycling is driven by scrap prices and steel demand, for example.</p> <p>The key demand driver for waste recycling is the generation rate of recyclable waste, which is influenced also by legislation.</p>	<p>The main demand drivers include end product prices, production capacity, new projects and regulation in the energy markets.</p> <p>Customers appreciate efficiency, reliability and effective maintenance to avoid downtime in production.</p>
Operating environment in 2019	<p>Mine utilization rates were high and the demand for services was strong.</p> <p>Uncertainties in the global economy slowed decision-making related to new mining projects.</p>	<p>Demand was healthy in China and in Europe, while the Indian market was weaker and North America was at the same level as in 2018.</p>	<p>Weakening of the metal scrap price affected the demand for new equipment in metal recycling, whereas the demand for waste recycling was buoyant.</p>	<p>Demand was healthy both in pulp and paper and oil and gas projects, and strong in services.</p>



Strategy

17 Strategy implementation

Strategy implementation

In 2019, Metso continued to implement its profitable growth actions, while making significant changes in its portfolio strategy. This resulted in a transformational plan to combine Metso's Minerals business with the Outotec Group and to create an independent listed company from the Flow Control business and rename it as Neles.

Implementation of the growth plans laid out in 2018 continued successfully throughout 2019. Organic growth was healthy in all businesses, and the improved operational efficiency resulted in top-line growth and higher profitability for the Group.

Organic growth and footprint development

Investments in organic growth were focused on adding capacity in the manufacturing of aggregates equipment, new foundry capacity, both of which in India, and a new valves production facility in China. Capital expenditure totaled 107 million during 2019, which is 60% higher compared to 2018.

Ramp-up of R&D and product development continued according to plan, and several new products were launched to the markets during the year. R&D expenses amounted to 1.7% of sales, which compares to 1.6% in 2018.

Development of the both in-house and external supply chain and the manufacturing footprint continued during the year. We decided to close a foundry in South Africa and a manufacturing plant in Sweden.

Acquisitions and industry consolidation

In addition to organic growth, we continued to make add-on acquisitions by buying a mining services company in Chile, which improved our capabilities in process plant maintenance services, asset management, reliability engineering, and remote monitoring and diagnostics. We made one divestiture during the year: we sold the grinding media business in the Minerals Consumables business in early 2019.

In early 2019, we made significant changes relating to our portfolio strategy and decided to drive consolidation of the aggregates and minerals processing industries and simultaneously prepare to develop the Flow Control business as an independent listed company.

The first step in implementation of this plan was the acquisition of a Canadian mobile aggregates equipment manufacturer McCloskey International. The acquisition, which was announced in early June and closed in October, made Metso the market leader in the fastest-growing mobile equipment market, especially in the general contractor customer segment in the aggregates markets.

In July, Metso announced a plan to demerge Metso and combine the Minerals business with the Outotec Group and to create an independent listed company out of the Flow Control business to be renamed Neles Corporation. Both Metso's and Outotec's shareholder approved the demerger and combination in Extraordinary General Meetings in October, and the transaction is targeted to close in the second quarter of 2020. We are creating two industry-leading companies in this transaction: Metso Outotec, providing technology and services for the aggregates, mining and metals industries; and Neles, supplying flow control solutions for the oil & gas, petrochemicals, pulp, paper and bioproducts and other process industries.



Value for customers through digitalization

Metso's customers representing various industries are following advancements in the digital domains with a keen eye to find out the ways in which these could be relevant for their day-to-day operations by improving efficiency, uptime or safety, or by bringing about other operational benefits.

Since the launch of Metso's remote monitoring solution Metso Metrics for the mining, aggregates and recycling industries in 2018, it is today connected to eight fixed customer plants and it has over 800 fixed assets and mobile crushers connected to it. Metso Metrics provides users with analytics about their machines and processes, enabling condition monitoring and predictive maintenance and process engineering.

On our way to autonomous mines

We expect mining and minerals processing to be highly autonomous and optimized by 2050. Autonomous haul trucks have existed in mines already for quite some time, and we have also seen the introduction of autonomous drill rigs, loaders, and the "biggest robot in the world" running on rails. Going forward, minerals processing assets are not only being connected to the cloud, but they are also becoming increasingly autonomous.

Introducing autonomy to the mining process provides many advantages. Increased safety is an important benefit, as people working underground and in other hazardous places can instead run the daily operations from clean and safe control rooms. Productivity is another benefit: when more trivial tasks are automated, people have more time to do other tasks, like higher level planning and optimization work.

During 2019, Metso has been developing its digital offering for the mine of the future. Already today, Metso has a wide portfolio of technologies that can be used to collect, analyze, and act on data from minerals processing plants, and now the whole offering has been combined under one digital portfolio, Metso Foresight, consisting of a cloud-based IoT solution that collects and analyzes machine data, as well as a comprehensive array of services for plant-level performance optimization. The service will be supported by Metso Foresight Performance Centers in Chile and China. These remote monitoring support service centers are hubs for Metso's digital offerings, and are staffed with multi-disciplinary teams of equipment, process and technology experts.

Better customer service through customer centricity

Fostering customer feedback

Metso has a Net Promoter Score (NPS) -based Engage program to measure customer satisfaction and loyalty, and to prioritize improvement actions. The survey is an important tool to get insight about customer preferences and input for continuous improvement. The 2019 survey was rolled out in all Metso's business and market areas, and it was available in 26 languages.

The results varied between businesses and markets, but, overall, significant progress had been made in the prioritized initiatives relating to, for example, quoting, proactive communications and a simplified delivery process.

The latest results were similarly carefully analyzed, resulting in several local and global initiatives to improve the processes and customer service.

“Metso's customer survey showed clear NPS improvements in all business areas.”





Sustainability at Metso

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- 23 Bringing sustainable productivity to our customers
- 25 Being a responsible and trusted partner

Our approach to sustainability

We want to be a responsible and trusted partner bringing sustainable productivity to our customers. This means that we do things efficiently and responsibly in terms of the environment, safety and the wellbeing of people and the economy.

In this report, we present the most material sustainability issues based on our materiality analysis. Our materiality analysis was developed on the basis of stakeholder interviews and meetings and management views.

Metso's sustainability agenda and related action plans and targets are aligned with the UN Sustainable Development Goals (SDGs). We have mapped the SDGs most relevant to each of the topics in our sustainability agenda.

UN Sustainable Development Goals

The SDGs most relevant to our sustainability agenda



One of the highlights in 2019 was our new climate targets for the most significant sources of emissions.

 [Read more on page 22](#)



Safety and sustainability targets and progress in 2019

Topic	Targets	Progress in 2019
Leadership		
Employee engagement	Our target is to have a consistently high response rate in the PeoplePulse employee engagement survey.	Response rate of 89% for the PeoplePulse employee engagement survey in 2019 (87% in 2018).
Safety		
Accident rate	Zero harm	LTIF was 1.7 (in 2018: 2.8)
	Individual HSE target of 2 risk observations per employee per half year	39,000 risk observations (62% increase from 2018)
Training and awareness	8 hours of HSE training per employee annually	190,000 training hours
	Global Safety Excellence training program for all Metso operational managers and employees	Around 2,000 participants
Environmental efficiency		
Energy	20% reduction in energy consumption by 2020	A total of 84,700 MWh (17%) of energy has been saved since 2010. These actions have reduced CO ₂ emissions by 25,300 tCO ₂ .
Water	20% reduction of water in our own operations by 2030	950 m ³ of water was saved
Waste	30% reduction of landfill per total waste generated by 2030, from 2018 level	Total waste generated was reduced by 16% and landfill by 17%. Landfill per total waste generated was reduced by 0.4%
Responsible procurement		
Supplier assessments and audits	65 supplier sustainability audits per year conducted in higher-risk areas and 70% of corrective actions closed	123 supplier sustainability audits conducted and 82% of corrective actions closed
Supplier Code of Conduct	Supplier Code of Conduct signed by 90% of suppliers in terms of spend by 2022.	This is a new target
Code of Conduct and human rights		
Code of Conduct	All employees trained every second year	99.2% of employees trained
Climate		
R&D	100% of R&D projects set energy-efficiency target by 2021	This is a new target
Procurement	30% of suppliers in terms of spend set science-based target by 2024	This is a new target
Production	15% reduction of CO ₂ emissions by 2025 and 25% reduction by 2030	This is a new target
Transportation	20% reduction of CO ₂ emissions by 2025	This is a new target
Product use	10% of emissions reduced through use of Metso products in most energy-intensive customer processes by 2025	This is a new target

Metso Climate Program

CO₂ emission reduction targets

*Base-year 2018
= Science-based targets

R&D:

100%

of R&D projects set energy efficiency target by 2021

Procurement:

30% 

of suppliers in terms of spend set emission target by 2024

Production:

25% 

of emissions reduced by 2030

Transportation:

20% 

of emissions reduced by 2025

Product use:

10% 

of emissions reduced through use of Metso products in most energy-intensive customer processes by 2025



Supportive actions:

- We will further investigate how to reduce our emissions in our offices and from other emissions sources.



Flights:

100%

of emissions offset by 2021

CO₂ emissions by source:

Transportation:
Upstream **197,794 tCO₂**
Downstream **95,234 tCO₂**

Production:
137,198 tCO₂

Business travel:
22,651 tCO₂

Purchased goods and services:
699,634 tCO₂

Emissions saved in product use: **1,003,825 tCO₂**
(HRC, Vertimill, SMD)

Bringing sustainable productivity to our customers

Our environmentally efficient and safe technology helps our customers improve their productivity and their economical use of natural resources.

Our products enhance safety, enable the reduced consumption of energy and water, decrease emissions and improve efficiency in the use of raw materials. Through process optimization, life cycle services and digital solutions, we are able to increase the sustainability of customer processes.

Sustainability is a fundamental part of our research and development work. In 2019, 91% of our R&D projects had set sustainability targets. 56% of our R&D projects had set safety innovation targets and 73% environmental efficiency targets. The environmental efficiency projects were further divided into targets related to process efficiency (53%), emissions/waste reduction (45%) and materials efficiency (53%).

Circular economy in our customers' value chain

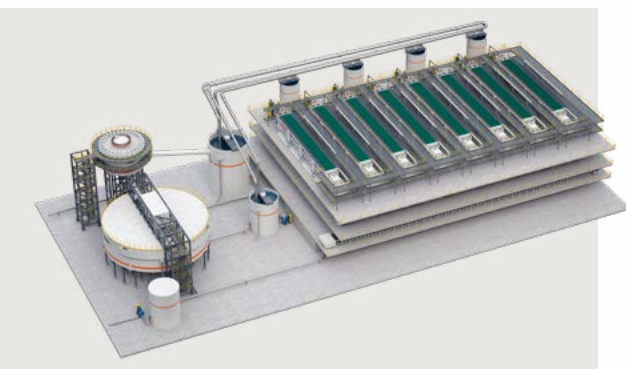
There is a growing demand for environmental efficiency in our customer industries. In our customers' value chain, Metso processes natural resources into a form that allows them to be used as components for the elements of modern life, such as computers, mobile phones, infrastructure and buildings. Once at the end of their life cycle, Metso offers solutions for the recycling of metals, waste and building materials.

For Metso, circular economy also means designing equipment and solutions that are long-lasting and easy to service. With our customized life cycle services, we can improve the operation and extend the life cycle of our customers' equipment.

 [Read more about what circular economy means for Metso.](#)



“ We continuously seek new solutions to narrow and close the material and natural resources loops both in our own and our customer's operations.



Responsibility and value creation through tailings management

Water is becoming scarcer, and its cost is rising to all-time highs in some regions. Low head grades and ore bodies continue to pose their own challenges with the growing demand. Meanwhile, environmental regulations are becoming tighter and societies are putting increased pressure on tailings dam operations due the risk of dam failures.

The goal of Metso Tailings Management solutions is to transform tailings management by changing legacy and risk-prone practices. Metso's future-ready solutions provide a long-term solution while responding to today's immediate challenges. Through reprocessing, valuable metals can be extracted from tailings and thus turn the waste into value.

Metso Tailings Management solutions help the mining industry to conserve water either through improved efficiency of pressure filtration or by providing an end-to-end solution for dry stacking. Our recently launched VPX™ filter is able to recover up to 90% of water, while the IPS thickener can operate with 50% less chemicals.



Truck Body

In April 2019 Metso announced the launch of a hybrid truck body with unmatched payload and wear life. The Metso Truck Body is a ground-breaking innovation that combines the benefits of rubber and high-strength steel, enabling mines and quarries to haul more with less. The lower weight of Metso Truck Body in combination with the increased payload equals lower fuel consumption per hauled tonne. The benefits add up during return rounds when the truck is empty – it simply takes less fuel to move a lighter body. The Metso Truck Body also improves the working environment for drivers by reducing vibrations in the cabin by an amazing 97% and lowering the noise pollution by 50%.



Lokotrack Urban

In the majority of today's construction demolition cases, demolition waste is hauled from the site to a distant crushing site with road trucks. Metso's unique Lokotrack® Urban™ Series mobile jaw crushers reduce dust and noise emissions as well as truck traffic. Noise is reduced by up to 60%, which can help in receiving crushing permits closer to cities, urban environments and other populated areas. Additionally, the Lokotrack mobile solutions are suitable for asphalt recycling, which contributes to a more circular economy.



Increased efficiency through flow control

Our valves customers in pulp & paper are under constant pressure to meet growing global demand while improving environmental performance. Our valve solutions are designed to optimize and stabilize processes, allowing plants to become more productive, and more resource and energy efficient – effectively helping them to make more with less. The growing degree of automation and digitalization involved is also delivering opportunities for improvements across a mill's entire life cycle.

Being a responsible and trusted partner

A responsible and trusted partnership creates the foundation for a strong brand and profitable growth. By demanding sustainability from ourselves and our partners alike, we build trust.

Learning and development

At Metso, we believe that curiosity and continuous learning are important. Opportunities for continuous personal and professional growth and development are a key engagement driver among Metso people. We also recognize the need to respond to the rapidly changing business environment through the professional growth of our employees.

To advance this, we launched LearningPoint, an online platform that provides Metso employees with easy access to learning opportunities. We promote a culture of learning by encouraging employees to identify, utilize and share these opportunities. These can range from peer-to-peer learning to self-directed learning via LearningPoint.

Leadership

Throughout 2019, we focused on offering leaders formal and informal ways to develop their leadership skills. Teams have several tools available to maximize collaboration and co-creation. These skills play an important role in our success and lead to higher employee engagement and increased wellbeing for our personnel.

PeoplePulse 2019

In 2019, we conducted our PeoplePulse employee engagement survey to help teams identify areas for development. With an impressive response rate of 89% (in 2018, 87%), it provided teams with the opportunity to discuss results and take practical, positive development actions.

Our employee net promoter score (eNPS) of 49.1 is also strong. The positive results highlight how sustainability starts with our people – we believe engaged employees provide good customer service.

“Employee engagement survey response rate was 89%.”

15,821

Employees

2,764

New employees

52

Countries

185

Locations

49.1

Employee NPS

97

Nationalities



“The lost time injury rate (LTI) dropped by 40%.”

Continuous improvement towards zero harm

Our aim is to reinforce the commitment to the continuous improvement of safety and the goal of zero harm. We have sharpened the focus of our safety work to better support people in different roles and with different responsibilities. To achieve this, we have launched a site support program for selected Metso sites. Furthermore, we are developing a training program for supervisors to support them in safety leadership.

We are continuing the proven processes for improving our safety performance with the following measures:

- Face-to-face safety conversations between supervisors and employees as a part of every manager's individual safety targets
- Minimum of two risk observations reported by each employee annually
- Global Safety Excellence training for all Metso operational managers and employees to engage the entire organization in safety
- Eight hours of localized and common safety training for all employees, regardless of their position
- Safety audits conducted at 16 locations with follow-up plans for corrective actions
- Site support program to further decrease the number of LTIs

To ensure that the Metso minimum standards are applied at all sites, our annual Safety pledge campaign focused on training all employees on the upgraded standards.

The increased focus on safety is reflected in the injury rate and risk observation reporting. Our lost time injury rate (LTI) dropped by 40 percent from a rate of 2.9 in 2018 to 1.7 in 2019. The number of reported risk observations increased in 2019, totalling 39,000 (23,922 in 2018).

Responsible procurement

We want to ensure that our suppliers comply with our sustainability and quality requirements. Accordingly, we have developed a Supplier Code of Conduct that sets the standards for our suppliers and forms the basis for supplier cooperation. Metso has over 7,000 suppliers in more than 70 countries. The direct procurement spend in 2019 totaled EUR 1,399 million.

We aim to improve the sustainability performance of our suppliers through supplier audits and by monitoring the corrective actions. In 2019, we conducted 123 supplier sustainability audits. 82 percent of the corrective actions from year 2019 had been implemented. We have also developed a supplier sustainability scorecard that allows close tracking of suppliers' sustainability performance.

Supplier sustainability development

We work closely with our suppliers to develop their sustainability practices and processes. In 2019, we organized a supplier sustainability day in India to improve collaboration and competences, to share good practices and to help suppliers understand Metso's expectations for sustainability.

We want to ensure that our suppliers continue to develop their sustainability practices and performance. This extends also to emissions: we have set a target that 30% of suppliers in terms of spend set science-based emissions target by 2024.

Enhancing environmental performance

By auditing our own operations and following the implementation of corrective actions, we work to prevent environmental hazards. In 2019, our environmental audits focused on, for example, chemical safety and the handling of hazardous waste.

One of our highest priorities is preventing chemical-related environmental hazards. To improve awareness and the correct use of chemicals, we acquired an online management system of chemical safety data sheets in 2019.

In waste reduction, we have reached the set targets. We have improved in, for example, sorting and reuse of packing materials and pallets. Over half of the waste generated at Metso's production sites is recycled.

We continue working towards the water, waste and energy efficiency goals we have set for our operations:

- Energy saving target: 20% reduction by 2020
- Water consumption: 15% reduction in water use by 2020
- Waste reduction: 15% reduction of landfill waste by 2020
- Zero environmental hazards

In 2019, we improved our energy efficiency at production sites by, for example, investing in new welding machines and melting furnaces. We also decreased water consumption by reusing and recycling process water.

We will continue identifying environmental impacts through assessments and by defining site-specific targets and action plans. We will also raise the environmental awareness of our employees through training.

Code of Conduct and human rights

Metso's Code of Conduct sets the standard for the conduct of all our employees as well as our suppliers, business partners and other stakeholders. Code of Conduct training is carried out every second year. In 2019, we organized Code of Conduct training to all employees and achieved a participation rate of 99.2%.

Human rights are part of Metso's Code of Conduct. We review human rights-related topics in our own and our suppliers' operations. In 2019, we assessed two of our units in China and India. Based on the results, follow-up plans will be prepared, and the assessments will be expanded to other sites in 2020.

To support intervening in human rights violations, we encourage our employees to report any suspected cases through our Whistleblower channel. All reports are handled in strict confidence.

 [Read more about the Code of Conduct and human rights on page 10 in Corporate Governance and on pages 13–15 in the Financial Review.](#)



“ *Code of Conduct training participation rate was 99.2%.* ”

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