



Annual Review 2019
Progress in operations and sustainability



Valmet reports 2019



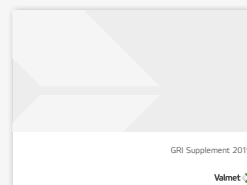
ANNUAL REVIEW 2019

The report covers Valmet's market environment and the progress of its strategy, operations and sustainability in 2019.



FINANCIAL STATEMENTS 2019 AND INFORMATION FOR INVESTORS

The report includes Valmet's Financial Statements for 2019 and information about its share, shareholders and management.



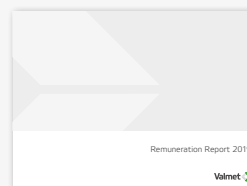
GRI SUPPLEMENT 2019

The report includes Valmet's sustainability reporting indicators and principles, and its alignment with the Global Reporting Initiative (GRI) Standards framework in 2019.



CORPORATE GOVERNANCE STATEMENT 2019

The report covers Valmet's governance principles and activities, Board of Directors and management in 2019.



REMUNERATION REPORT 2019

The report covers Valmet's remuneration in 2019.

Contents

CEO's review	2	Strategy	24
This is Valmet	4	Megatrends	27
Valmet in brief	6	Strategy highlights 2019.....	28
Key figures.....	7	Financial targets.....	29
Global presence.....	8	Progress of Must-Win actions.....	30
Market data by area	9	Sustainability supports strategy execution and growth	32
Value creation.....	10	Progress on Sustainability360° agenda.....	34
Business reviews	12	Sustainability	36
Valmet business lines	14	Sustainable supply chain	38
Market data by business	15	Health, safety and environment	42
Services	16	People and performance	46
Automation.....	18	Our solutions	50
Pulp and Energy	20	Digitalization.....	54
Paper	22	Corporate citizenship	56
		Contacts	60



Closing 2019 with record high orders received and profitability

Valmet is starting the year 2020 as a strong, continuously developing company. Our orders received, net sales and comparable EBITA were at a record high level at the end of 2019, Valmet's brand is strong, and a professional and highly engaged team of more than 13,000 Valmeteers serves our customers around the world.

In 2019, Valmet's orders received increased by 7 percent to EUR 3,986 million, and our order backlog at the end of the year was EUR 3,333 million. Net sales increased by 7 percent and amounted to EUR 3,547 million. The comparable EBITA margin was 8.9 percent, well within our target range of 8-10 percent. With this record-high order backlog and our improved profitability level, we can move into 2020 with confidence.

All business lines developed well

All our four business lines – Pulp and Energy, Paper, Automation, and Services – developed well in 2019. Valmet received an order for a large pulp and paper technology delivery to Brazil consisting of a kraftliner production line, a new fiberline, a new continuous

cooking and a pulp dryer rebuild. The kraftliner machine order was an important breakthrough into the Brazilian paper industry market for Valmet. Furthermore, the continuous cooking order creates the first reference for our new cooking technology. We also received a second significant key pulp technology delivery to Brazil consisting of an evaporation plant and a white liquor plant.

In Germany, we were chosen to deliver an outstanding combination of high-end boardmaking technology, a comprehensive selection of services, automation and Industrial Internet to what will be the world's largest containerboard machine. We were also chosen as a partner for an extensive paper machine conversion rebuild in Finland.

In Services, we continued the expansion of our global footprint to be close to our customers by opening a new service center in Chile. We also took a major step forward with the continuous renewal of our Valmet DNA automation system by introducing a new web-based user interface that extends the use of the automation system beyond the traditional control room.

Acquisitions strengthened our services and technology offering

To further strengthen our services business and technology offering for the pulp and paper industry customers, we acquired two North American-based companies – GL&V and J&L Fiber Services – in 2019. The integration of the two acquired businesses has been effective, and the onboarding of the over 700 new professionals to our global organization has been completed successfully. Thanks to the acquisitions our local presence and capabilities further strengthened especially in North America.

Consistent progress in enhancing sustainable business practices

Today, companies face an increasing demand from various stakeholders for transparency, responsibility and integrity. Climate change, biodiversity and respect for human rights are factors that are affecting businesses all over the world. Sustainability is at the core of our strategy at Valmet, and we have put a lot of effort over the years into strengthening sustainable business practices, enhancing the circular economy and the transparency of our operations through our reporting.

All business lines developed well

Thanks to the company's continuous progress in sustainability, in 2019, Valmet was included in two of the high prestige sustainability indices, the Dow Jones Sustainability World and Europe Indices, for the sixth consecutive year. The company also achieved the best A rating in the CDP Climate Rating and was again selected as a constituent for the Ethibel Sustainability Index. We will continue our consistent work to ensure sustainable business wherever Valmet operates and build the capabilities of our entire organization in this field.

Must-Wins and Growth Accelerators in continued focus

We are implementing our strategy through four Must-Wins, focusing on customer excellence, technology and innovations, process excellence and our people. On top of these, we are concentrating on two Growth Accelerators – building leadership in field services, and taking the lead in the Industrial Internet and digitalization.

In 2020, the same focuses in our strategy implementation will continue to guide Valmet forward. We will bring new and innovative products and services to the market, enhancing raw material and energy efficiency, develop our people through versatile training programs and implement many development actions to further improve the customer experience.

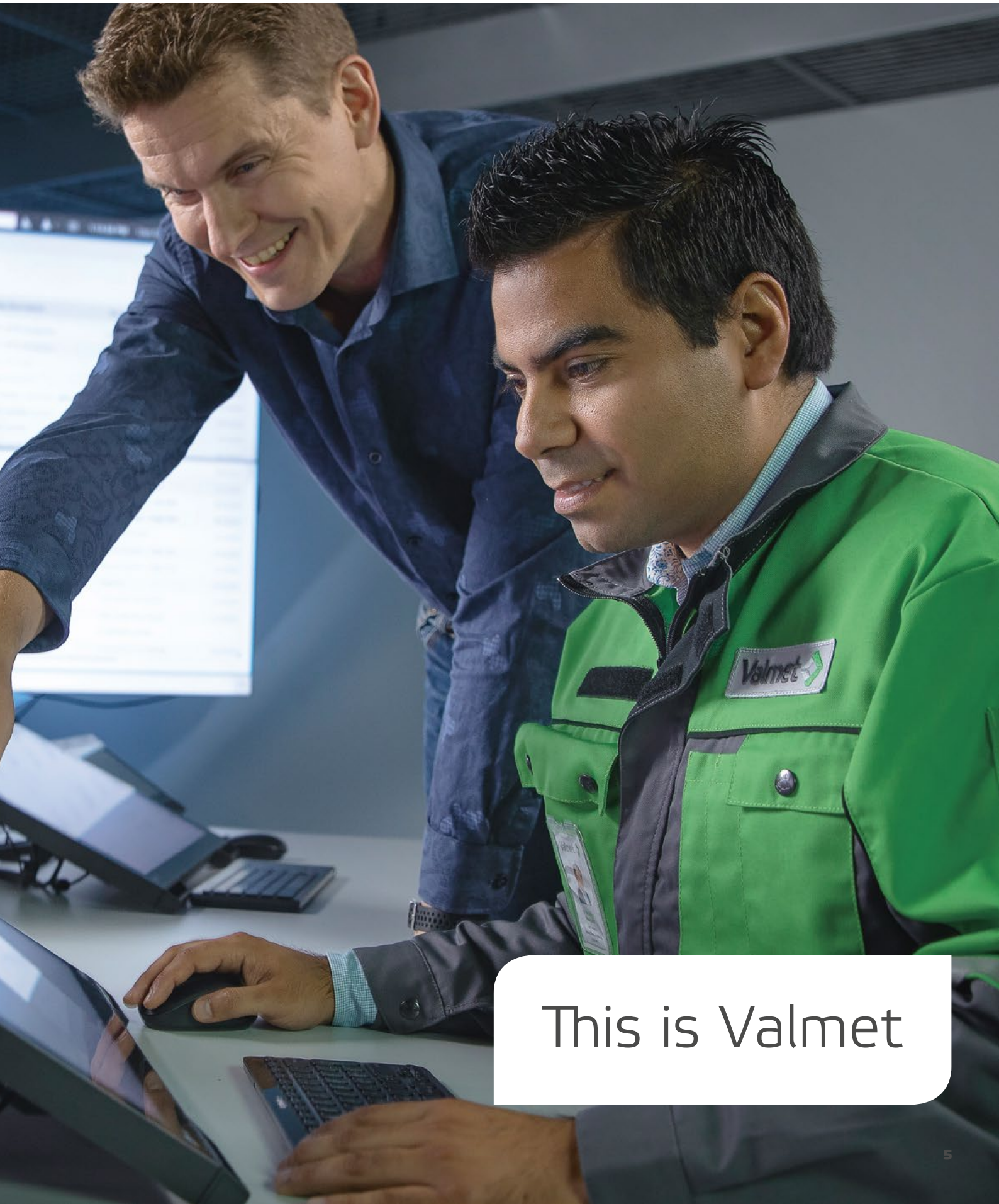
We have progressed well in creating internal efficiency through a large number of digitalization and IT-related programs, and that work will continue in 2020. Our target is for Valmet to fully realize the benefits of digitalization, both internally and in serving our customers, by 2025.

I want to thank Valmet's people, our valued customers and our partners for their trust and cooperation during the last excellent year. It is a pleasure to move forward together into the 2020s.

Pasi Laine

President and CEO





This is Valmet

Valmet in brief

Valmet is the leading global developer and supplier of process technologies, automation, and services for the pulp, paper, and energy industries.

Valmet's net sales in 2019 were approximately EUR 3.5 billion. Our more than 13,000 professionals around the world work close to our customers and are committed to moving our customers' performance forward – every day. Valmet's head office is in Espoo, Finland, and its shares are listed on the Nasdaq Helsinki.



Net sales
EUR million
3,547



Personnel
13,598



Orders received
EUR million
3,986



Comparable
EBITA margin
8.9%



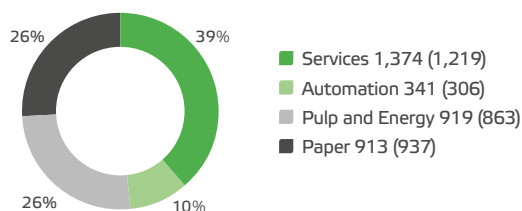
46
supplier
sustainability
audits



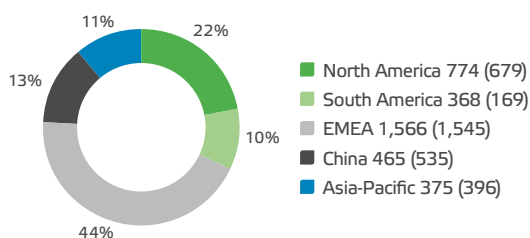
Comparable
EBITA
EUR million
316

Key figures

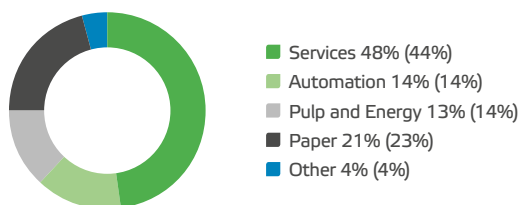
Net sales by business line, EUR million



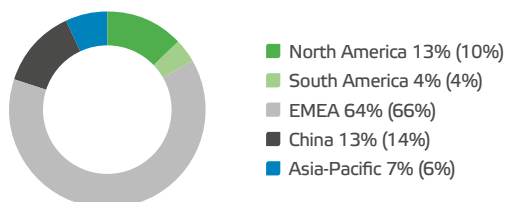
Net sales by area, EUR million



Personnel by business line, %



Personnel by area, %



Financial¹

	2019	2018	CHANGE
Orders received, EUR million	3,986	3,722	7%
Services	1,459	1,315	11%
Automation	359	330	9%
Pulp and Energy	1,125	1,000	13%
Paper	1,043	1,077	-3%
Order backlog ² , EUR million	3,333	2,829	18%
Net sales, EUR million	3,547	3,325	7%
Comparable EBITA ³ , EUR million	316	257	23%
% of net sales	8.9%	7.7%	
Operating profit (EBIT), EUR million	281	211	33%
% of net sales	7.9%	6.4%	
Dividend per share, EUR	0.80⁴	0.65	23%
Return on capital employed (ROCE) before taxes, EUR million	23%	19%	
Research and development expenses, net, EUR million	71	66	7%

Social

	2019	2018	CHANGE
Personnel ²	13,598	12,528	9%
Total recordable incident frequency (TRIF) ^{2,5}			
Own employees	4.3	4.4	-2%
Contractors	9.1	9.2	-1%
Safety committee coverage, % personnel	96	93	3%
Support for non-profit organizations, EUR million	0.14	0.18	-21%
Number of supplier sustainability audits	46	52	-12%

Environmental

	2019	2018	CHANGE
CO ₂ emissions ⁶ , 1,000 t	87	89	-2%
Energy consumption, TJ	1,339	1,374	-3%
Water consumption, 1,000 m ³	2,485	3,060	-19%
Waste, 1,000 t	40	47	-15%

¹ Group figures: the formulas for calculation of the key financial figures are presented in the Financial Statements 2019.

² At the end of period.

³ Comparable earnings before interest, taxes and amortization.

⁴ Board of Directors' proposal.

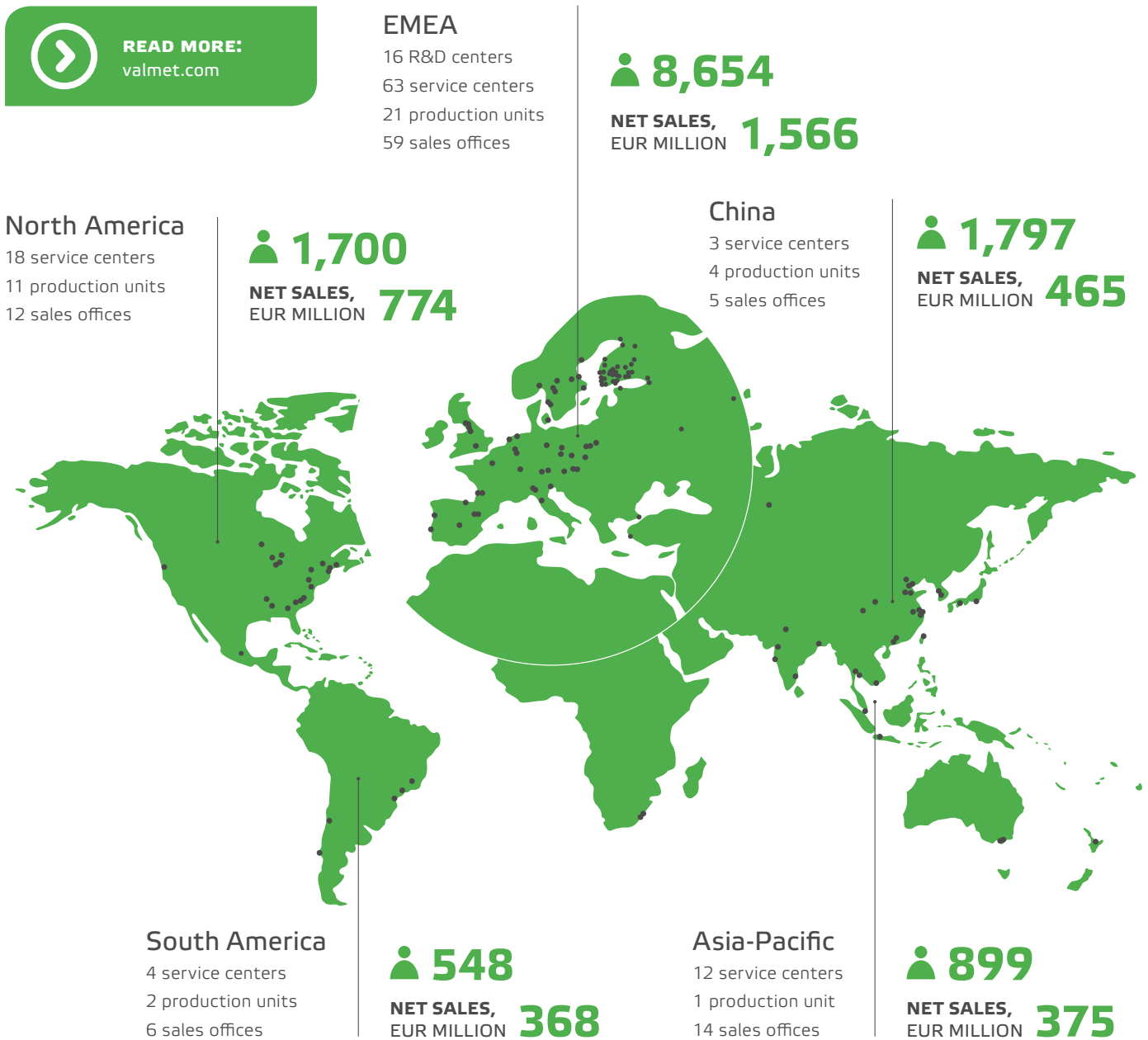
⁵ TRIF reflects the number of injuries resulting in medical treatment, restricted work or an absence of at least one workday per million hours worked.

⁶ Scope 1 and 2 (location-based) emissions.

Global presence

Valmet has a strong global presence, which enables us to meet our customers' needs in the best possible way and to leverage the growth potential in different markets. We employ more than 13,000 professionals around the world and have customers in 100 countries.

We have approximately 100 service centers, 96 sales offices, 39 production units, and 16 R&D centers around the world.



Market data by area

AREA	MARKET SIZE ¹ & GROWTH	MARKET CHARACTERISTICS	VALMET'S POSITION
North America	<p>Target market size¹: EUR 2.5–2.8bn</p> <p>Pulp and paper² annual production³: 150m tonnes, growth +1.3%</p>	<ul style="list-style-type: none"> • Mature market with large aging installed base creating service demand • Rebuild and new capacity opportunities in board and tissue grades. Capacity closures in printing papers. • Continued customer focus on availability, reliability, operating cost and environmental savings in mills • Service, rebuild and upgrade opportunities in pulp 	<ul style="list-style-type: none"> • Net sales: EUR 0.8bn (22% of total net sales of the company) • Employees: 1,700 • Leading position in pulp and paper process technology, a well-established position in the services and automation business
South America	<p>Target market size¹: EUR 1.1–1.7bn</p> <p>Pulp and paper² annual production³: 45m tonnes, growth +3.7%</p>	<ul style="list-style-type: none"> • Service growth driven by demand for more efficient operations, environmental considerations and growing trend of mill maintenance outsourcing • Cyclical process technology project business driven by large pulp mill investments. Continuous opportunities in pulp mill rebuilds and upgrades. • Opportunities in tissue, and occasionally in board, with new lines and rebuilds • Consolidation in Pulp and Tissue customers 	<ul style="list-style-type: none"> • Net sales: EUR 0.4bn (10% of total net sales of the company) • Employees: 548 • Valmet has a strong position and installed base in pulp mills and services • Continued strong competition from regional players expected in Pulp & Energy as well as from Andritz in large new pulp mills • Local presence important, especially in Brazil due to customs duties
EMEA (Europe, Middle-East and Africa)	<p>Target market size¹: EUR 5.5–5.6bn</p> <p>Pulp and paper² annual production³: 165m tonnes, growth +1.8%</p>	<ul style="list-style-type: none"> • Valmet's largest area with significant services and technology markets in all Valmet's businesses and large installed base • Services growth potential through broader service offering, agreements-based business and new value-added solutions to increase customers' productivity and efficiency • Process technology project opportunities in board, tissue, pulp and energy driven by increasing focus on sustainability and growth in packaging and tissue consumption 	<ul style="list-style-type: none"> • Net sales: EUR 1.6bn (44% of total net sales of the company) • Employees: 8,654 • Leading position in pulp and paper process technology as well as in biomass boilers in energy • Leading position in the more fragmented services market and in pulp and paper automation
China	<p>Target market size¹: EUR 2.5–2.9bn</p> <p>Pulp and paper² annual production³: 125m tonnes, growth -1.5%</p>	<ul style="list-style-type: none"> • Growing services market driven by new board and tissue lines, and demand for energy savings, efficiency improvements and reliability • Process technology project opportunities in board, tissue, energy and marine driven by growing consumption, stricter environmental regulation and demand for clean energy 	<ul style="list-style-type: none"> • Net sales: EUR 0.5bn (13% of total net sales of the company) • Employees: 1,797 • Valmet is the leader in pulp and paper process technology and has a strong position in services and pulp and paper automation market • Strong competition from local and global competitors
Asia-Pacific	<p>Target market size¹: EUR 2.0–2.5bn</p> <p>Pulp and paper² annual production³: 105m tonnes, growth +2.7%</p>	<ul style="list-style-type: none"> • Large geographical area covering multiple countries with differing market situation and dynamics • Service growth potential in both emerging and mature markets in growing installed base and market share • Process technology project opportunities in rebuilds, grade changes and new capacity in pulp, board and tissue, in marine and in renewable energy projects in selected countries • China's restrictions on imported waste paper and trade war with US moving investment activity into Asia-Pacific 	<ul style="list-style-type: none"> • Net sales: EUR 0.4bn (11% of total net sales of the company) • Employees: 899 • Leading position pulp and paper process technology and increasing local presence • Increasing competition from Chinese players moving into Asia Pacific region

¹ Market size is defined as Valmet's target market, meaning those geographical markets, product segments and customer industries where Valmet is currently competing or aiming to compete.

² Refers to board, paper and tissue, as well as other paper grades.

³ Pulp and paper.

Value creation

INPUTS

Financial

- Total equity EUR 1,046 million
- Net interest-bearing debt EUR -90 million
- Cash and cash equivalents EUR 316 million

Natural

- Purchased components (mainly metals-based)
- Purchased raw materials (mainly metals, minerals, polymers and gas)
- Energy consumption 1,339 TJ
- Water consumption 2,485,000 m³

Human

- Number of employees 13,598
- FTE¹ of subcontractors and supervised workers
- Investment in development and know-how
- Investment in occupational health and safety
- Investment into capabilities and competences

Infrastructure

- 170 locations in 35 operating countries²
- 39 production units and approximately 100 service centers
- 96 sales offices
- Suppliers in over 50 countries

Intellectual

- Proven customer references
- Technology know-how
- Product portfolio
- 16 technology centers and pilot facilities
- R&D expenses EUR 71 million
- 1,300 protected inventions

Social and relationship

- Open dialogue with stakeholders (e.g. customer events, investor meetings, supplier days, stakeholder surveys)
- Cooperation with approximately 40 universities and research institutes
- Over 35 memberships in associations
- Relationships and partnerships
- Collaboration with local communities

BUSINESS MODEL



Customers

Pulp and paper industry
Energy industry
Other process industries

Key processes

R&D
Marketing
Sales
Engineering
Procurement
Production
Delivery
Service



**Our employees,
expertise and experience**

Valmet's Way Forward:

Mission, Strategy, Must-Wins,
Vision and Values

¹ Full-time equivalent.

² Includes technology centers.

All figures are from December 31, 2019, unless otherwise stated.



OUTPUTS

OUTCOMES

CUSTOMERS' END PRODUCTS

Process technologies

- Pulping process equipment, process islands and complete pulp mills
- Individual board, tissue and paper machine sections, complete production lines and machine rebuilds
- Boiler islands, power plants, heating plants
- Environmental solutions
- Technologies for converting biomass into fuels, chemicals and materials

Automation

- Distributed Control Systems (DCS)
- Quality Control Systems
- Analyzers and measurements
- Performance and service solutions
- Industrial Internet and remote solutions

Services

- Spare parts and components
- Maintenance and shutdown management
- Outsourcing services
- Production consumables
- Process support and optimization
- Process upgrades
- Remote solutions and services

Other outputs

CO₂ emissions:

- Scope 1³: 17,600 tCO₂
- Scope 2⁴: 69,000 tCO₂
- Scope 3⁵: 2,745,000 tCO₂

Waste:

- Non-hazardous waste 36,960 t
- Hazardous waste 2,960 t

Economic

- Wages and benefits EUR 897 million
- Payments to suppliers EUR 2,402 million
- Taxes EUR 64 million
- Support for non-profit organizations EUR 0.14 million
- Retained equity EUR 107 million
- Payments to shareholders and creditors EUR 113 million
- More efficient and profitable customers' processes

Social

- Direct and indirect employment
- Improved employee competences
- Direct and indirect occupational health and safety
- Customer loyalty
- Trust and reputation
- License to operate
- Influence on operating environment and regulations

Environmental

- More efficient processes enable the use of fewer natural resources and lower CO₂ emissions in customers' operations
- Valmet's technology and services enable the production of customers' products with less energy and water, fewer raw materials and improved flexibility in fuel source selection to replace fossil fuels with renewable ones

Board



Paper



Tissue



Pulp



Process steam



Biofuels



Electricity



District heating



Bio-materials



³ Scope 1 emissions are direct GHG emissions from sources that are owned or controlled by Valmet, such as fossil fuels burned on site.

⁴ Scope 2 (location based) emissions are indirect GHG emissions resulting from the generation of electricity, heating and cooling, or steam generated off site but purchased by Valmet.

⁵ Scope 3 data covers only four selected relevant categories; category 1: purchased goods and services; category 4: upstream transportation and distribution; category 6: business travel; and category 9: downstream transportation and distribution.





Business reviews

Valmet's business lines

Valmet operates through four business lines.

We have a strong position in all our businesses.

Services

Valmet's Services business line provides flexible and fit-for-purpose services to promote improved performance and reliability. Our Services offering increases the environmental efficiency and cost-effectiveness of Valmet's customers' production processes, while ensuring safe and reliable operations.

NET SALES,
EUR MILLION **1,374**

ORDERS
RECEIVED,
EUR MILLION **1,459**

#1-2 IN SERVICES

Automation

Valmet's automation solutions range from single measurements to mill- or plant-wide process automation systems. They are designed to maximize the profitability and sustainability of customers' businesses by improving production performance and cost-effectiveness, and material and energy efficiency.

NET SALES,
EUR MILLION **341¹**

ORDERS
RECEIVED,
EUR MILLION **359²**

#1-3 IN AUTOMATION

1) Excluding internal net sales

2) Excluding internal orders received

Pulp and Energy

The Pulp and Energy business line provides technologies and solutions for pulp and energy production, as well as for biomass conversion and emission control. The technologies maximize the value of renewable raw materials, while increasing production efficiency and minimizing environmental impact.

NET SALES,
EUR MILLION **919**

ORDERS
RECEIVED,
EUR MILLION **1,125**

**#1-2 IN PULP
#1-3 IN ENERGY**

Paper

The Paper business line delivers complete lines, machine rebuilds and process components for board, tissue and paper production. The technologies are designed for high operational and environmental efficiency, flexibility and reliability. The machines have a modular structure with as much standardization as possible to enable easy-to-use, cost-effective solutions for Valmet's customers.

NET SALES,
EUR MILLION **913**

ORDERS
RECEIVED,
EUR MILLION **1,043**

**#1 IN PAPER
#1 IN TISSUE
#1 IN BOARD**



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Market data by business

BUSINESS	MARKET SIZE ¹ & GROWTH	MARKET DRIVERS	PRODUCT GROUP	VALMET'S POSITION AND COMPETITION
Services	EUR 8.0bn ~1-2%	<ul style="list-style-type: none"> Increasing pulp, paper² and energy production Demand for more efficient processes, maintenance and outsourcing of non-core operations Customers' decreasing amount of own resources Size and gradually aging installed base, capacity increases in China, South America and Asia-Pacific Closures of non-competitive production lines Demand for Industrial Internet based solutions 	Mill Improvements	<ul style="list-style-type: none"> #1-2 Andritz, Bellmer, Voith
			Performance Parts	<ul style="list-style-type: none"> #1-2 Andritz, Kadant, Voith
			Fabrics	<ul style="list-style-type: none"> #6 Albany, Andritz, AstenJohnsen, Voith
			Rolls and Workshop	<ul style="list-style-type: none"> #1-2 Andritz, Voith
			Energy and Environmental	<ul style="list-style-type: none"> #3-4 Andritz, Babcock & Wilcox, Sumitomo SHI FW
Automation	EUR 2.0bn ~1%	<ul style="list-style-type: none"> Aging machines and installed automation systems Investments in new pulp and paper mills and power plants Demand for raw material savings, process efficiencies and sustainability Demand for Industrial Internet based solutions 	Distributed Control System (DCS)	<ul style="list-style-type: none"> #2 in pulp and paper, niche player in energy and process industries, marine ABB, Emerson, Honeywell, Siemens, Yokogawa
			Quality Management System (QMS)	<ul style="list-style-type: none"> #1-2 in pulp and paper ABB, Honeywell, Voith
			Analyzers and measurements	<ul style="list-style-type: none"> #1 in pulp and paper ABB, BTG
Pulp	EUR 1.4bn ~1%	<ul style="list-style-type: none"> Growth in board and tissue consumption Need for virgin wood pulp. Decreasing availability of recycled paper and limitations to recycling rates. Increased size of pulp lines and mills New applications for bio-based products Increasing environmental awareness and stricter regulations 		<ul style="list-style-type: none"> #1-2 Andritz
Energy	EUR 2.0bn ~1%	<ul style="list-style-type: none"> Growth in energy consumption Demand for sustainable energy and shutdowns of coal capacity Modernization of aging plants Incentives and regulation driven demand Environmental solutions driven by marine SO_x regulation and target market expected temporarily to exceed EUR 1 billion 		<ul style="list-style-type: none"> #1-3 One of few global players in bioenergy niche Energy: Andritz, Babcock & Wilcox, Sumitomo SHI FW, Marine: Alfa Laval, Wärtsilä, Yara
Board	EUR 1.0bn ~2-3%	<ul style="list-style-type: none"> World trade, e-commerce and emerging markets growth drive packaging Demand for light-weight board Shift from plastic packaging to renewable materials Conversions from paper to board 		<ul style="list-style-type: none"> #1 Voith
Paper	EUR 0.3bn ~1%	<ul style="list-style-type: none"> Increasing role of digital media decreases demand for printing and writing papers Demand for technology driven efficiency improvements 		<ul style="list-style-type: none"> #1 Voith
Tissue	EUR 0.7bn ~3%	<ul style="list-style-type: none"> Rise in purchasing power and living standards Fast growth in emerging markets Demand for higher quality 		<ul style="list-style-type: none"> #1 Andritz, Toscotec, Voith

¹ Market size is defined as Valmet's target market, meaning those geographical markets, product segments and customer industries where Valmet is currently competing or aiming to compete.

² Refers to board, paper and tissue, as well as other paper grades.

BUSINESS REVIEW

Services

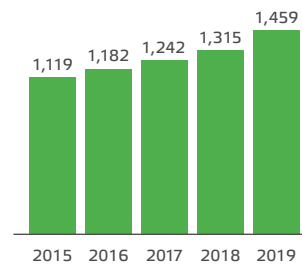
Valmet's Services business line provides flexible and fit-for-purpose services to promote improved performance and reliability. Our Services offering increases the environmental efficiency and cost-effectiveness of Valmet's customers' production processes, while ensuring safe and reliable operations.

Services business line provides services and solutions mainly for the pulp, paper and energy industries, including spare parts and components, maintenance and shutdown services, outsourcing services, production consumables, process support and optimization, and mill and plant improvements. Valmet also provides customers with learning options that give customers access to more than 150 courses and a variety of training services.

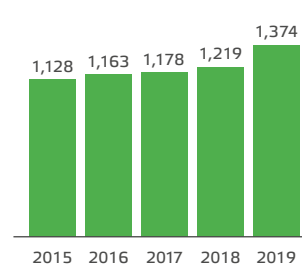
Approximately 100 service centers and more than 6,000 service professionals

Valmet's services play an important role in promoting the reliability, cost-effectiveness, capacity and quality of its customers' oper-

Orders received, EUR million



Net sales, EUR million



ORDERS RECEIVED
EUR MILLION

1,459

NET SALES
EUR MILLION

1,374



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valmet.com/servicesbusiness

ations. Our services include offerings aimed at increasing energy, water and raw material efficiency, and reducing emissions.

Services are offered globally through Valmet's approximately 100 service centers and more than 6,000 service professionals. Of the world's approximately 3,800 operating pulp and paper mills, more than half purchase services from Valmet annually. The top 20 customer corporations represent approximately 50 percent of the Services business line's net sales volume. Valmet has continued to strengthen its well-established position in the services business in North America, EMEA, South America and China, and is expanding its services in the growing Asia-Pacific market. The services business is handled primarily on a transactional basis, but also increasingly through long-term corporate or mill agreements.

Acquisitions strengthen the Services business line

Over the past two decades, Valmet has strengthened its services business. In recent years, company's customers have increasingly focused on their core businesses and have outsourced service and maintenance activities. Demand for services in the industries served by Valmet has grown in North America and Europe, and even more in South America, China and Asia-Pacific.

In 2019, Valmet acquired two companies, GL&V and J&L Fiber Services, which especially strengthened company's North American services capabilities. Valmet opened a new service center in Concepción, Chile and expanded its services operations in Laem Chabang Service Center, Thailand with roll composite covering facilities representing the latest technology. In the last quarter of 2019, Valmet was the first company in the world to introduce roll covers made of recycled and renewable raw materials for board, paper, tissue and pulp making.

Services market drivers

- Increasing production of pulp, board, paper, tissue and energy
- Demand for more efficient processes
- Outsourcing of non-core operations
- Customers' aging installed base
- Capacity increases in China, South America and Asia-Pacific
- Machine and mill closures in EMEA (Europe, Middle East and Africa) and North America



Valmet's biggest seamed press felt customer

Stora Enso's Veitsiluoto Mill in Kemi, Finland, is the world's northernmost paper mill, and among the largest paper and paperboard mills in Europe. Located in the Bothnian Bay, the mill ships around 850,000 tonnes of paper annually. Veitsiluoto Mill is Valmet's biggest seamed press felt customer.

Veitsiluoto Mill and Valmet share a long history. In 2013, Valmet and Stora Enso signed the first TCO (Total Cost of Ownership) Agreement for paper machine clothing. The agreement included the fixed-fee delivery required of paper machine clothing like press felts and forming fabrics. The agreement, effective until 2022, was renewed in early 2019 and includes PM 2 and PM 3.

"The TCO agreement is care-free and allows us to reallocate some of our resources – Valmet is responsible for the warehouse and the entire order/delivery process. The agreement is also economical. Our inventory value for paper machine clothing is zero: We know the monthly fee and can budget accurately. We also benefit pricewise from the high total volume of our purchase," explains Production Director **Janne Sihvo** from Stora Enso.

The seamed press felts were first tested at Veitsiluoto Mill at the start of the millennium. PM 2 and PM 3 gradually started to use the seamed press felts after 2010, and the traditional endless press felts are no longer in use today. PM 5 has followed, and seamed press felts have now been in use for several years. The benefit of the seamed press felt compared to endless press felts is its safer, easier and quicker installation. Replacing a seamed press felt with a new one takes one or two hours by two or three people; changing the traditional press felt takes three to five hours, and more people are needed.



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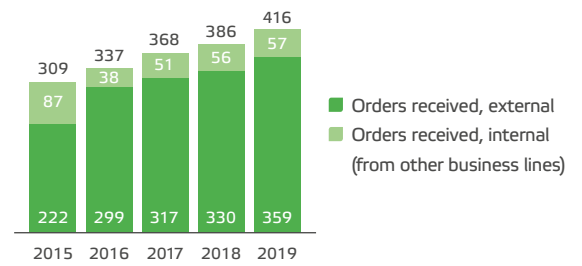
BUSINESS REVIEW

Automation

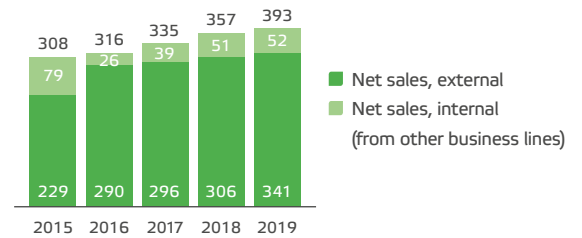
Valmet’s automation solutions range from single measurements to mill- or plant-wide process automation systems. They are designed to maximize the profitability and sustainability of customers’ businesses by improving production performance and cost-effectiveness, and material and energy efficiency.

Automation business line supplies and develops automation and information management systems, applications and services to companies in the pulp, energy, paper and process industries, as well as the marine and gas industries. The main products are Distributed Control Systems (DCS), Quality Control Systems (QCS), and analyzers and measurements.

Orders received, EUR million



Net sales, EUR million



ORDERS RECEIVED
EUR MILLION

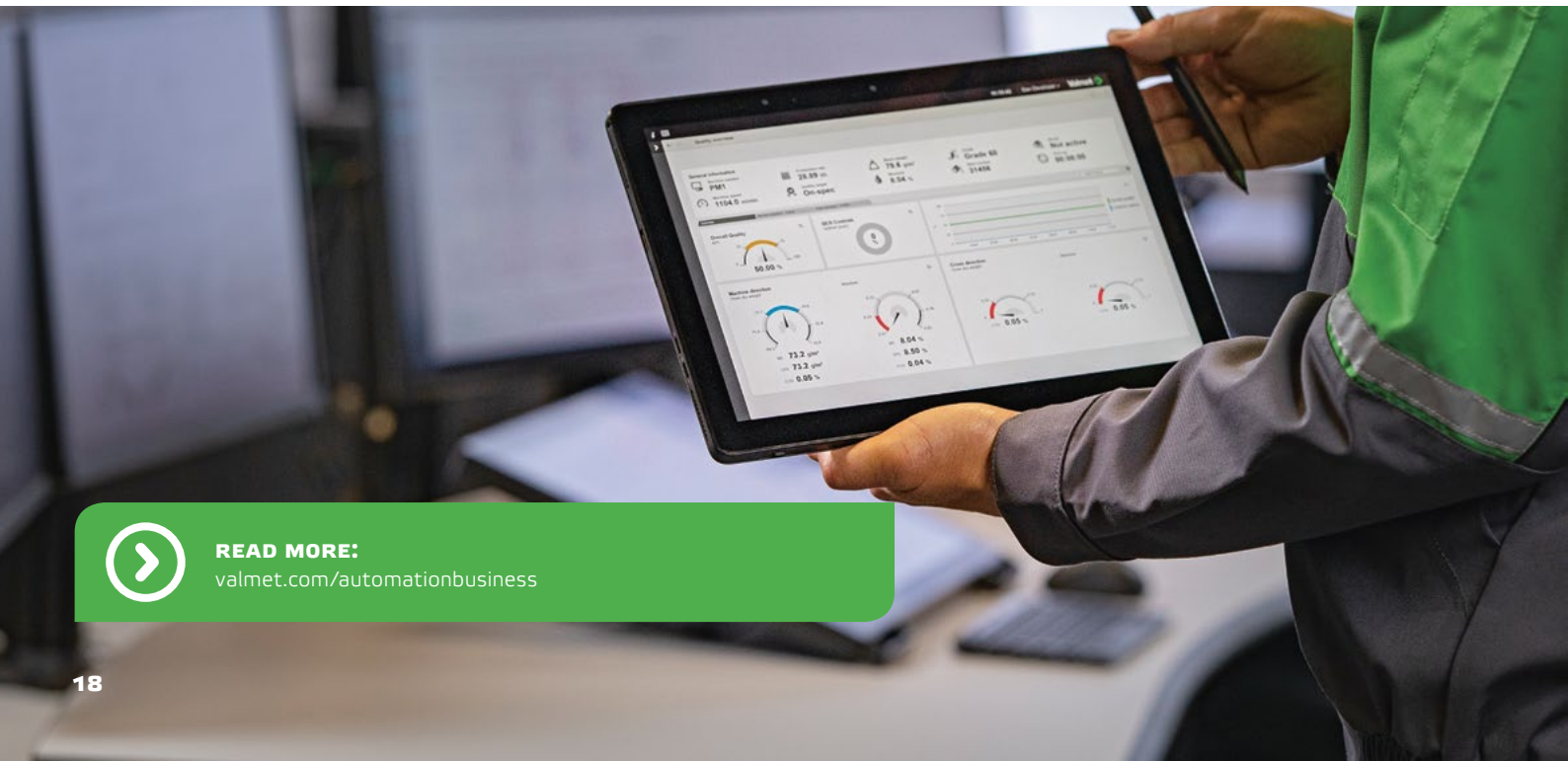
359¹

1) Excluding internal orders received

NET SALES
EUR MILLION

341²

2) Excluding internal net sales



READ MORE:

valmet.com/automationbusiness

More than 1,000 power plants worldwide feature Valmet's process automation

Valmet's automation solutions are designed to maximize the profitability and sustainability of customers' businesses by improving production performance and cost-effectiveness, and energy and material efficiency. Valmet has delivered more than 4,500 automation systems and close to 100,000 analyzers and measurements. More than 1,000 power plants worldwide feature Valmet's process automation.

The Automation business line employs nearly 2,000 professionals working in more than 30 countries. The most important geographical market for Automation business line is EMEA, and the second-largest area in terms of net sales is North America. Almost half the automation business consists of services.

Approximately 10 percent of the Automation business line's net sales are generated when automation is sold as part of Valmet's project delivery. The remaining 90 percent of the business line's net sales are generated from solutions and services sold directly to customers.

"The Most Progressive Innovation Advocate"

In 2019, Valmet's Automation business line launched multiple new products and received deliveries worldwide. For example, it introduced a new web-based user interface for its Valmet DNA distributed control system, which is used in pulp, paper, energy and other process industries around the world.

Valmet was also awarded the title of "The Most Progressive Innovation Advocate" for the liquefied natural gas (LNG) industry. We provide the LNG industry with automation technology and software, covering process control, operations and business management in the LNG infrastructure.

Market drivers

- Investments in new pulp and paper machines and power plants
- Aging machines and installed automation systems
- Demand for intelligent technology



Extending the use of the automation system beyond the traditional control room

In November 2019, Valmet introduced a new web-based user interface for its Valmet DNA automation system. Leveraging modern web technologies, the innovative Valmet DNA User Interface (DNA UI) extends the use of the automation system beyond the traditional control room.

The introduction of the DNA UI is part of the continuous renewal of Valmet DNA automation system, which is used in pulp, paper, energy and other process industries around the world. An intuitive user experience and serving the needs of various user groups have been the main focus in the development of the new user interface.

"It's essential for us to understand how our customers consume information, so we can help different user groups process information more quickly. We've structured and visualized data in new ways in the new DNA User Interface to make the workflow more intuitive – which in turn helps to make faster conclusions based on the data," explains **Jukka Ylijoki**, Valmet's Vice President, R&D, Automation business line.

Traditionally, system information and the people using it have been tied to the control room. Built with the latest web technologies, the Valmet DNA User Interface features secure web-based access that enables the mill or plant teams to access relevant information whenever they need it, regardless of their location.

"From logistics and the laboratory to the boardroom, the entire site community needs specific information about the process. With the Valmet DNA User Interface, users no longer need to stay in the control room to be on top of the situation," Ylijoki continues.



READ MORE:

valmet.com/automation-articles

BUSINESS REVIEW

Pulp and Energy

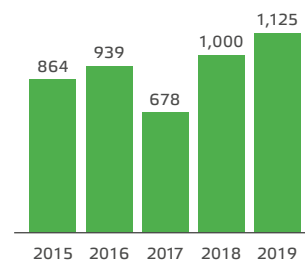
The Pulp and Energy business line provides technologies and solutions for pulp and energy production, as well as for biomass conversion and emission control. The technologies maximize the value of renewable raw materials, while increasing production efficiency and minimizing environmental impact.

Pulp and Energy business line supplies complete pulp mills and process equipment for chemical and mechanical pulp production, as well as biomass and waste fueled power plants, boiler islands and related environmental systems. The business line's customers are mainly pulp producers and power and heat producers. The most important geographical markets are Europe, South America and Asia.

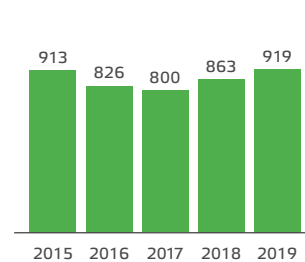
Meeting the challenge of replacing fossil fuels and materials

Valmet's solutions for pulp production are designed for high raw material efficiency and low chemical and water consumption. Pulp is mainly used as a raw material in manufacturing various paper grades, including board, tissue and printing paper. It is also used for other applications such as viscose and hygiene products.

Orders received, EUR million



Net sales, EUR million



ORDERS RECEIVED
EUR MILLION

1,125

NET SALES
EUR MILLION

919



READ MORE:
valmet.com/pulpandenergy

Valmet's energy products include boilers, environmental protection systems and technology rebuilds. It is a leading global supplier of biomass-based heat and power generation solutions. Company also supplies complete medium-scale heat and power plants that focus on using biomass and sorted waste.

Valmet's emission control solutions are designed to secure safe operation with low emissions. In addition to pulp and energy applications, it has developed the technology to clean marine exhaust gas emissions. Company has made a global breakthrough in marine scrubber sales in the last two years.

Valmet has taken important steps in commercializing new biomass conversion technologies, such as lignin extraction technology for replacing fossil chemicals and pyrolysis technology to produce bio oil. Additionally, Valmet's biomass expertise is utilized in biomass prehydrolysis, which is the first step in producing bioethanol, for example.

Record year of orders

In 2019, Pulp and Energy business line received multiple deliveries worldwide, and orders reached record levels. The orders included two major pulp technology deliveries for Brazil – one to Klabin, consisting of a new continuous cooking and fiberline and a pulp dryer rebuild, and another to Bracell, consisting of evaporation and white liquor plants. The orders also included several different boilers for Europe and Asia.

Pulp and Energy market drivers:

Pulp

- Growth in board and tissue consumption in Asia
- Need for virgin wood pulp. Decreasing availability of recycled paper.
- Replacements, grade changes and environmental investments in aging mills

Energy

- Growth in energy consumption in developing countries
- Demand for sustainable energy
- Tightening air emissions legislation, e.g. SO_x and NO_x levels



The world's largest softwood pulp line at SCA Östrand mill in Sweden

In February 2019, the new SCA Östrand pulp mill, the biggest industrial investment in northern Sweden, was officially inaugurated. Valmet's delivery for the project included a new cooking and fiberline and an evaporation plant. The cooking plant has the world's largest softwood digester, while the new evaporation plant is Sweden's largest, with an evaporation capacity of 1,150 tonnes of water per hour.

SCA and Valmet share a long and successful history of working together on many unique projects. But this one was special because of its size.

"It's been both very stimulating and a big responsibility to play such a key role in one of the largest industrial projects in Swedish history," says **Thomas Olofsson**, Valmet's project director. "And SCA is a customer which always challenges us to find the best solutions. This means we get an extra stimulus in our development work, making us an even better supplier."

With this project, SCA Östrand doubled its production capacity from 430,000 tonnes to 900,000 tonnes per year and became the world's largest production line for bleached softwood kraft pulp.

"SCA and our customers can now rely on a world-class pulp mill in terms of product quality, environmental compatibility and future competitiveness," explains **Ulf Larsson**, President and CEO, SCA. "Östrand will also contribute strongly to growth, employment and economic development in the region, giving many people both direct and indirect long-term positive returns from this forward-thinking investment."



READ MORE:

valmet.com/pulping-and-fiber-articles

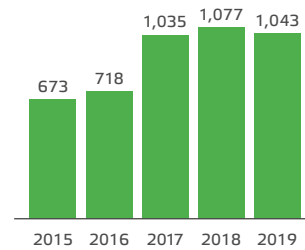
BUSINESS REVIEW

Paper

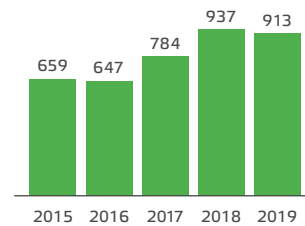
The Paper business line delivers complete lines, machine rebuilds and process components for board, tissue and paper production. The technologies are designed for high operational and environmental efficiency, flexibility and reliability. The machines have a modular structure with as much standardization as possible to enable easy-to-use, cost-effective solutions for Valmet's customers.

Paper business line supplies board, tissue and paper machinery and equipment and machine rebuilds for the board, tissue and paper industries. The machines are designed to be fit-for-purpose with high efficiency, focusing especially on flexibility. This allows customers to alter production quickly and concentrate on producing the products with the highest demand and increased competitiveness. Demand for new board and paper machines has been lively in China and Asia-Pacific, and to some extent in Europe and North America. Valmet's tissue making lines are delivered to tissue producers worldwide.

Orders received, EUR million



Net sales, EUR million



ORDERS RECEIVED
EUR MILLION

1,043

NET SALES
EUR MILLION

913



READ MORE:
valmet.com/paper

Solutions for several stages of papermaking

Board, tissue and paper are used for a wide variety of purposes, including packaging applications, hygiene products such as facial and bathroom tissue and paper towels, and writing and printing papers. Board, tissue and paper are produced from virgin or recycled pulp. The papermaking process includes several stages in which the pulp slurry is converted into board, tissue or paper through forming, pressing and drying. In addition, a paper mill includes technology and equipment for stock preparation and paper finishing such as reeling and winding.

The lifetime of a paper machine can be several decades. In addition to new machines, there is also a market for machine rebuilds and improvements to increase production and improve end-product quality, converting an existing paper machine to produce a different paper grade or relocating a paper machine. Modern paper machines are often built to be flexible and allow for the production of various paper grades.

Board and tissue machines represent the largest share of orders

As orders for traditional paper machines have decreased in recent years due to reduced demand especially for printing and writing paper grades, board and tissue machines have represented a larger percentage of Valmet's order book. However, demand for paper machine rebuilds continues to be strong.

In 2019, Paper business line received multiple orders worldwide. Valmet has strengthened its market position in South America for both tissue and board technologies, where one major order was a pulp and paper technology delivery to Klabin S.A. in Brazil. The order consisted of a kraftliner machine and a Letter of Intent for another machine. Several new tissue lines have come on stream mainly in North America, South America, Europe and the Middle East during 2019.

Paper market drivers:

Tissue

- Growth in emerging markets
- Urbanization, rise in purchasing power and living standards
- Demand for sustainably produced high-quality tissue

Board

- World trade, e-commerce and emerging markets growth drive packaging
- Shift from plastic packaging to renewable materials
- Demand for lightweight board

Paper

- Increasing role of digital media decreases demand for printing and writing papers
- Some growth in emerging markets



High-capacity containerboard machine for future changes

In April 2019, Valmet agreed with Papierfabrik Palm to supply a containerboard making line with extensive packages of mill-wide automation, services and Industrial Internet solutions. The production line (PM 5) will be located in Aalen-Neukochen, Germany. The new machine will start up in 2021.

"We wanted to make a competitive investment for the next 50 years and aimed for a very wide and high-capacity containerboard machine to be ready for future changes. Valmet was selected because of their high-level and differentiating technology for lightweight grades. The concept was verified during the pilot trials," says **Dr. Wolfgang Palm**, Chief Executive Officer of Palm.

"Palm PM 5 will be the largest containerboard machine in the world. We offered Palm an outstanding combination of high-end technology and a comprehensive selection of services, automation and Industrial Internet solutions. I'm pleased to say that Palm and Valmet have been cooperating for decades, and hopefully this good relationship will continue over the coming decades," says **Jari Vähäpesola**, Valmet's Paper Business Line President.

Valmet's delivery for PM 5 will include a high-speed containerboard making line from broke collection and headbox to reel and winder. The machine will be equipped with unique technologies and a mill-wide automation package to improve machine runnability, board strength properties and meet high capacity targets.

The steep start-up curve and optimal production conditions of PM 5 will be ensured with a long-term Valmet Performance Agreement and Industrial Internet solutions. A long-term Valmet Performance Agreement was also signed for another Palm machine.



READ MORE:

valmet.com/board-and-paper-articles





Strategy

Strategy

Valmet's Way Forward is our strategic roadmap. It summarizes the identified megatrends, our mission and strategy, and the related strategic actions that describe how we aim to achieve our vision of becoming the global champion in serving our customers

Valmet's mission is to convert renewable resources into sustainable results, and this defines our core purpose. With our solutions, our customers can refine renewable raw materials into sustainable and environmentally responsible products.

Valmet's business environment is impacted by megatrends that create both opportunities and risks. We have defined three key megatrends that influence our strategic choices in the areas of resource efficiency, digitalization and consumer behavior. Our values and sustainability agenda are closely linked to our strategy and Must-Wins.

Valmet focuses on customers in the pulp, paper and energy industries. We are committed to improving our customers' performance through our unique offering, which combines process technologies, automation and services. Our Services and Automation

businesses operate in relatively stable markets driven by the size of the installed technology base and customer mill operating rates.

Our process technologies comprise board, paper and tissue machines, as well as pulp mills and heat and power boilers, which are all driven by our customers' new investments. All our businesses serve the same customer base, which enables us to deliver customer benefits through our fully combined offering. In addition to the core customer industries, our Automation business serves other process industries and the marine industry.

Strategy implementation

We implement our strategy through our Must-Wins, which structure our strategy work and tell us where we need to focus to achieve our goals. After a successful launch in 2018, we contin-

Valmet's Way Forward



Megatrends



A RESOURCE-EFFICIENT AND CLEAN WORLD

Climate change, environmental awareness and resource scarcity are driving the need to improve resource efficiency and reduce emissions.



DIGITALIZATION AND NEW TECHNOLOGIES

Digitalization, automatization and new, high-impact technologies are driving efficiency and new business models.



URBAN, RESPONSIBLE AND GLOBAL CONSUMERS

Urbanization, increasing living standards, changing demographics, and globalization are driving changes in consumer behavior and our customers' demand.

ued the implementation of our growth programs called “Growth Accelerators,” which focus on opportunities in field services and the Industrial Internet and digitalization. During 2019, Valmet continued to implement its Sustainability360° agenda as part of its strategy.

Further developing customer excellence

As part of our “Customer excellence” Must-Win, we focus on providing the best customer service by having strong, capable and committed teams close to customers, and by providing customer benefits through our integrated offering, which combines process technology, automation and services.

We continued to develop our services approach, “Shared Journey Forward,” with the aim of improving the performance and reliability of our customers’ processes, while enabling a better customer experience and growth for Valmet’s Services business. In our capital businesses, we continue to strengthen our position as the preferred supplier.

We systematically develop our sales capabilities and common processes to drive growth and profits. We continue to develop our local sales and service presence, as well as to strengthen key account management. We are also making targeted efforts to grow in segments that show higher growth, as well as in segments where Valmet currently lacks a strong presence.

Customer-driven solutions

Our “Leader in technology and innovation” Must-Win focuses on developing and providing products and services that reduce our customers’ operating and investment costs, while developing solutions that better meet their needs.

Improving our product cost is important for improving our competitiveness – and Valmet’s profitability. We achieve this through increasing modularization, standardization and optimization of our product design, and by enhancing our delivery chain.

We are continuously renewing our existing product portfolio, while developing innovative solutions that improve our customers’ performance and create new revenue streams for both our customers and Valmet. Our close collaboration with customers plays an important role in developing our offering.

Efficient global processes

Our “Excellence in processes” Must-Win focuses on continuously increasing our efficiency and cost competitiveness by improving our processes and operations.

Our global project management initiative aims at the continuous improvement of gross profit by strengthening project management and execution through developing project and site management competences and utilizing common tools and processes. To improve our quality, we are focusing on strengthening our quality culture and developing the way we operate and manage quality in our own operations and supply chain. In health, safety and environment (HSE), we continue systematically to strengthen safety awareness to drive zero harm for people and the environment by implementing best-in-class HSE management practices, tools and systems.

In procurement, we are targeting cost savings and better quality by further developing our global category management and supplier base, enhancing our sustainable supply chain, and focusing on the quality of supply and delivery performance. To keep our cost structure competitive, we continuously aim to increase our flexibility and optimize our own operations and supply chain to respond to changes in demand.

The implementation of a new and centralized ERP (enterprise resource planning) system continued in 2019 across Finland, Sweden and France, including preparations for rollouts in Valmet’s other locations. With this new ERP system, we are targeting benefits through the unification of key processes and ways of working across Valmet.

Performance-driven teams close to our customers

Our “Winning team” Must-Win initiative seeks to ensure that Valmet’s capabilities are globally balanced and close to our customers, and that we have engaged and performance-driven teams. We are systematically developing employee engagement and implementing targeted actions based on the OurVoice employee engagement survey. Our global training portfolio is designed to support the execution of our strategy, as well as to drive change within the organization. In 2019, we continued to fully utilize our global training portfolio and introduced a new project management program. We also renewed and expanded our talent review process to strengthen our successor pool and develop talent.

Accelerating growth with improved profitability

Since 2018, we have run growth programs in field services, the Industrial Internet and digitalization called Valmet “Growth Accelerators”. These programs are built on the solid basis created by our Must-Wins and aim to further accelerate our strategy of growth with improved profitability.

Field services are an integral part of delivering our distinctive service experience and moving our customers’ process reliability and performance forward. By enhancing our maintenance and shutdown services, strengthening our global network of field service experts, and developing our processes and tools both at the customer interface and internally, we aim to make our field services the differentiator for our service business.

We are striving to realize the full benefits of digitalization in serving our customers as well as internally. In our Industrial Internet offering, we combine our strong know-how in process technology, automation and services with data-driven solutions to make tangible improvements to the performance of our customers’ mills or plants. We are developing our digital channels and services to offer a great customer experience and better service throughout the customer journey. Additionally, we are building and launching new digital platforms and tools to drive efficiency, quality and productivity.

Strategy highlights 2019

- Net sales and comparable EBITA increased in 2019. Profitability also improved to 8.9%
- As a recognized leader in sustainability, Valmet was included in the Dow Jones World and Europe sustainability indices for the sixth consecutive year. Valmet also received the best A rating in the CDP Climate rating.
- The acquisitions of GL&V and J&L Fiber Services strengthened Valmet’s stable business and technology offering for the pulp and paper industries.
- Growth Accelerators took further steps in digitalization. Valmet invested in a new digital platform to support, streamline and develop its field services. The company also continued developing its Performance Centers, which are an easy-access channel for customers to Industrial Internet applications and remote services.
- Valmet signed contracts for a large pulp and paper technology delivery to Klabin S.A. in Brazil. The agreed order for the delivery of a kraftliner production line was Valmet’s first large board making technology delivery to Brazil and an important breakthrough into the Brazilian paper industry.
- Valmet introduced a new web-based user interface for the Valmet DNA automation system. Leveraging modern web technologies, the innovative Valmet DNA User Interface (DNA UI) extends the use of the automation system beyond the traditional control room.
- Valmet supplied exhaust gas cleaning systems (scrubber system) to Daewoo Shipbuilding & Marine Engineering in South Korea and COSCO SHIPPING Lines Co., Ltd. in China.
- The third generation CompactCooking™ was launched for pulp mill customers in 2019. Enhancements include improved steaming, impregnation, washing and bleachability, as well as greater flexibility, improved accessibility and easier operation.

Financial targets

GROWTH

2X

Net sales growth to exceed market growth:

- Net sales in stable business to grow twice as much as the market growth
- Net sales in capital business to exceed market growth

NET SALES 2019

EUR 3.5

BILLION

PROFITABILITY

8-10%

Comparable EBITA target 8-10%

PROFITABILITY 2019

8.9%

ROCE

15-20%

Comparable return on capital employed (pre-tax), ROCE target 15-20%

ROCE 2019

23%

DIVIDEND PAYOUT

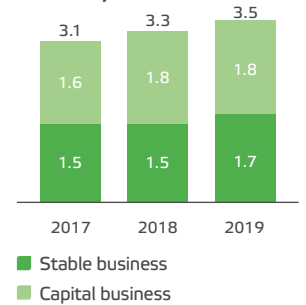
50%

At least 50% of net profit
¹ Proposal by the Board of Directors

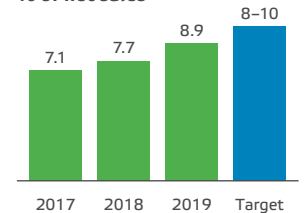
DIVIDEND PAYOUT 2019

59%¹

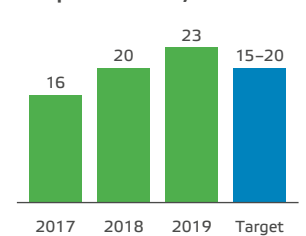
Net sales, EUR billion



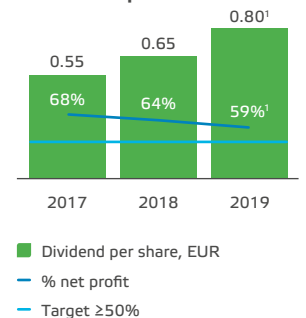
Comparable EBITA, % of net sales



Comparable ROCE, %



Dividend per share, EUR/% net profit



¹ Proposal by the Board of Directors.

Progress of Must-Win actions

MUST-WIN



Customer excellence

WHERE ARE WE TODAY

We are implementing Shared Journey Forward, our way of serving and providing customers with the best service experience, based on our core commitments and unique offering. We are managing our sales based on a global process, common tools and a strong customer interface built on key account management and customer-specific mill teams.



The leader in technology and innovation

We are actively developing new products and services based on technology roadmaps and close collaboration with our customers. We have product competitiveness programs in all our businesses to improve our offering's cost competitiveness and performance.



Excellence in processes

We are using a harmonized global process and tool to systematically develop our project management capabilities. We focus strongly on improving quality, based on continuous improvement and Lean practices. We use clearly defined HSE management practices for all our operations to improve HSE performance. We are systematically promoting sustainability in our supply chain and supporting our product competitiveness targets through procurement savings. We are developing and unifying our processes and ways of working as part of our ERP renewal.



Winning team

We are strengthening our high-performance culture through performance management and developing engagement and managerial skills. We focus strongly on capability development based on a combination of global training programs, internal job rotation and local competence development.



Growth accelerators

We have launched a Field Service growth program to develop and grow our on-site services in line with our Shared Journey Forward services approach.

We have launched our Industrial Internet services to improve the reliability and performance of our customers' operations, based on a meaningful dialogue with data.

We are building a digital foundation to further drive efficiency, quality and productivity in our operations.

FOCUS GOING FORWARD

We will continue to implement and develop our way of serving customers based on our Shared Journey Forward approach, and develop our sales interface as well as our sales management practices.



We will continue to strengthen our R&D cooperation with key customers, systematically develop and renew our offering, and continue to implement product competitiveness initiatives.



We will continue to develop our processes and operations focusing on:

- Project management practices and key projects
- Building a strong quality culture and way of operating to drive our quality performance
- Strengthening existing HSE practices and collaboration with customers and suppliers to improve safety
- Supplier quality and delivery performance, and sustainability in our supplier network
- The rollout of new ERP and realizing its benefits
- Certification of our global management system for quality and HSE management standards



We will continue to boost performance and engagement through effective performance management and an increased focus on innovation, renewal and collaboration. We will continue to develop our strategic capabilities and our functional and technology competence to support our strategic targets and business growth.



We will focus on developing our field service capabilities, offering and way of operating to grow and deliver distinctive on-site services. We will continue to develop our Industrial Internet services and digital capabilities to:

- Provide new advanced analytics and remote services that improve the performance and reliability of our customers' operations
- Digitally enhance our customer experience
- Build and leverage digitalization in more efficient and productive operations

STRATEGIC GOALS

Valmet deploys strong, capable, and committed teams close to our customers. We serve our customers with our full offering by combining process technology, automation and services.



Valmet provides leading technology and cost-competitive products and services that reduce customer operating and investment costs.



Valmet operates with efficient and harmonized processes with increasing cost competitiveness. In the process technology business, we are increasing our flexibility to respond to cyclical demand. Quality and health and safety are constantly improving.



Valmet has engaged and performance-driven teams living Valmet's shared values. Competences are globally balanced and close to customers.



Valmet strives to accelerate growth through focused business initiatives in field services and digitalization.

Sustainability supports strategy execution and growth

46

SUPPLIER SUSTAINABILITY AUDITS

66%

OF VALMET WHITE COLLAR EMPLOYEES PARTICIPATED IN THE SUSTAINABILITY E-LEARNING



Sustainability is at the core of Valmet's business strategy and operations. Our values, Code of Conduct and related policies, and selected globally acknowledged initiatives and principles create the foundation for sustainable performance at Valmet.

The main task of our sustainability work is to support our strategy execution and Valmet's growth plans. Sustainability is integrated into our processes through the comprehensive Sustainability360° agenda. The agenda helps us mitigate risks and become more cost-effective and supports us in growing our business – for example, by developing new products based on sustainable innovation.

Valmet's Sustainability360° agenda covers the five most material sustainability focus areas: a sustainable supply chain; health, safety and environment; people and performance; sustainable solutions; and corporate citizenship. The agenda is aligned with the United Nations Sustainable Development Goals and is execut-

ed through three-year action plans. During the year, we continued to implement the actions defined in the current action plan, which is ongoing for 2019–2021.

Our owners', customers' and other stakeholders' expectations of our sustainability work and the results of our businesses are continuously increasing and evolving. We follow the developments closely, estimate their relevance for Valmet's business, and update our sustainability targets and actions if required.

Our approach of continuously improving our performance has positioned us as the industry leader in sustainability. In 2019, Valmet was included in the Dow Jones Sustainability Indices (DJSI) and Ethibel Sustainability Index (ESI) Excellence Europe and received the best A rating in CDP's climate program ranking. Valmet was also rated in the top 1 percent among all assessed companies in the latest Ecovadis sustainability assessment.



Most relevant UN Sustainable Development Goals for Valmet



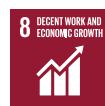
Goal 6: Clean water and sanitation

Technologies developed by Valmet help to reduce water pollution and freshwater use in industrial operations. Technologies such as our board-making operations can also help to increase the recycling of process water.



Goal 7: Affordable and clean energy

Valmet has environmental targets for 2030 for its own operations, aimed at e.g. improving the use of renewable energy. Technologies developed by Valmet also impact this goal, e.g. multifuel boilers for energy production, enabling use of different energy mixes.



Goal 8: Decent work and economic growth

Valmet contributes to global economic productivity and innovation through its R&D development. Valmet ensures that it has a positive impact on safe and fair working conditions and has a human rights monitoring framework in place.



Goal 12: Responsible consumption and production

Light-weighting technologies that reduce the amount of fiber used in board production, and power boilers that can use agricultural residues impact this goal by increasing the efficient use of resources. Valmet's own programs and actions, such as waste management, Valmet's work towards environmental targets, and supply chain management contribute to this goal.

Progress on Sustainability360° agenda

Sustainable supply chain progress

TARGETS	KEY ACHIEVEMENTS 2019	KEY TOPICS 2020–2021
We develop our existing processes that create the foundation for a sustainable supply chain	<ul style="list-style-type: none"> 99% of new direct suppliers went through the supplier approval process and were automatically screened for sustainability 46 supplier sustainability audits conducted by Valmet and a third-party auditor Continued to implement sustainability engagement program for key suppliers in China and Asia Pacific <ul style="list-style-type: none"> Engaged 100% of key suppliers in China and Asia Pacific 	<ul style="list-style-type: none"> Continue supplier sustainability audits while ensuring a high-quality audit follow-up process Continue to increase traceability in the supply chain Continue to implement the sustainability engagement program for key suppliers globally <ul style="list-style-type: none"> As part of the program launch a sustainability e-learning for key suppliers to increase awareness and give practical guidance on more sustainable business practices in 2020 Implement guidance and gates for all site works purchasing globally Continue to reduce emissions from transportation and logistics Continue to develop lightweight packaging and standardization for more sustainable packaging solutions to reduce CO₂ emissions, increase the use of renewable materials and decrease the use of raw materials Develop carbon footprint calculation of our supply chain Increase collaboration with highest emitting suppliers to reduce CO₂ emissions
We create new approaches to reduce the environmental impacts of our supply chain	<ul style="list-style-type: none"> Created new procurement guidance to prefer more sustainable transportation and logistics service providers in purchasing decisions Actively worked with suppliers to develop environmental reporting and to find ways to further reduce CO₂ emissions together Air shipments reduction by 15% Piloted non-plastic packaging solutions 	



People and performance progress

TARGETS	KEY ACHIEVEMENTS 2019	KEY TOPICS 2020–2021
We boost employee engagement and develop the best talent	<ul style="list-style-type: none"> Achieved 88% response rate for OurVoice engagement survey Continued improvement in employee engagement, up 1 percentage point Fully utilized global training programs to support strategic goals; 316 participants in 2019 Launched new Excellence in Project Management global training program Completed first competence transfer cases using new competence transfer toolkit 	<ul style="list-style-type: none"> Use sustainability to drive engagement and attract talent Increase internal mobility between businesses and geographies Continue to support and partner with organizations that promote diversity in the workplace Create and launch an umbrella for Valmet's view on how to integrate work with the rest of life, taking into account different life situations, generations and local preferences Enhance global training portfolio to strengthen strategic skillsets
We are a responsible employer and promote diversity	<ul style="list-style-type: none"> Continued to prioritize diversity talent in global program nominations Achieved good level of internal mobility overall (35%) Created a work-life integration approach and three-year roadmap Prepared social committee guideline to encourage sufficient wellbeing related activities across the organization Good participation in Forward for Managers 2 training, with 60% of managers participating Ran renewed 360° feedback process for 114 managers 	



 **READ MORE:**
valmet.com/sustainability

Corporate citizenship progress

TARGETS	KEY ACHIEVEMENTS 2019	KEY TOPICS 2020–2021
We ensure our global human rights compliance through a due diligence framework	<ul style="list-style-type: none"> Continued to work on our human rights due diligence framework <ul style="list-style-type: none"> Conducted two human rights impact assessments in high risk countries Started face-to-face human rights training sessions 	<ul style="list-style-type: none"> Continue to implement the human rights due diligence management system and related action plan based on UN Guiding Principles for Business and Human Rights Continue internal training on human rights with both face-to-face training and e-learning Annual sustainability reporting according to the GRI Standards Report to leading sustainability ratings Increase stakeholder feedback through a specific stakeholder survey Implement new social responsibility programs Highlight sustainability in investor relations activities Update the anti-corruption and bribery policy
We are a trusted local partner and promote transparent reporting	<ul style="list-style-type: none"> Sustainability e-learning completed by 66% of Valmet white-collar employees Sustainability acknowledgements <ul style="list-style-type: none"> Included in Dow Jones Sustainability World and Europe Indices (DJSI) for the sixth consecutive year Included in Ethibel Sustainability Index (ESI) Excellence Europe Received the best A rating in CDP's climate program ranking for the second consecutive year Rated in the top 1 percent among all assessed companies in the latest Ecovadis sustainability assessment Updated Code of Conduct 	



Health, safety and environment (HSE) progress

TARGETS	KEY ACHIEVEMENTS 2019	KEY TOPICS 2020–2021
We invest in safety culture and effective HSE processes and practices	<ul style="list-style-type: none"> Roadmaps created for the transition to ISO 45001 and expansion of the HSE certificate coverage Safety Dialogue training created and implementation started Created local action plans towards 2025 HSE targets for own operations Started the integration of acquired operations with Valmet HSE systems and culture 	<ul style="list-style-type: none"> Continue to increase the HSE certification of workshops 100% of employees completed the Safety Dialogue training Implement activities to increase understanding of the environmental impacts of our work Implement preventive safety initiatives Launch a new HSE IT platform for key global HSE processes Develop systems and tools to support external workforce safety management processes and collaboration activities Integrate HSE with key customer and supplier meetings
We collaborate with customers and partners to improve HSE results	<ul style="list-style-type: none"> HSE audits of 11 customer sites and 15 locations Continued proactive planning with customers and partners to improve safety on common sites Continued to define and implement safety management processes for the main external workforce categories 	



Sustainable solutions progress

TARGETS	KEY ACHIEVEMENTS 2019	KEY TOPICS 2020–2021
We create technologies and services that enhance renewable raw materials, and water and energy efficiency	<ul style="list-style-type: none"> Identification of several new product opportunities utilizing renewable or recyclable materials The launch of renewable roll covers, new sleeve roll technology, sulfuric acid technology and real time measurement for wastewater biosolids 	<ul style="list-style-type: none"> Carry on development of renewable or recyclable spare parts to replace fossil-based raw materials Continue to utilize various opportunities to save raw materials and increase the use of renewable materials in Valmet's products Develop the sales organization's competence as well as sales tools and systems regarding sustainability Collaborate with key customers concerning the sustainability benefits of our offering
We actively promote the sustainability benefits of Valmet's offering to meet customers' needs	<ul style="list-style-type: none"> Continued to conduct interviews with selected key customers and integrate improvement actions with the key account management process Continued to provide sustainability training for sales teams 	







Sustainability

Sustainable supply chain

In 2019, we continued to execute and further develop our existing key processes for the enhanced sustainability of our supply chain. Supplier sustainability audits and the continued implementation of our key supplier sustainability program were some of the year's highlights.

Ensuring a sustainable supply chain is one of our five sustainability focus areas. We have integrated sustainability into our procurement and supply chain processes, and our target is to continuously enhance our supply chain management and our value chain's transparency.

Valmet has some 10,000 active direct suppliers from more than 50 countries with different sustainability risk levels. There are several potential sustainability risks that may occur in the complex supply chain, and we thus systematically work to ensure responsible business practices throughout our global supply chain. Our ambition is to improve and develop the sustainability of our suppliers' operations and to further strengthen our cooperation with them.

In 2019, we continued the execution and development of our existing key processes by conducting sustainability audits for our suppliers globally and proceeding with the implementation of our key supplier sustainability program. In addition, some new actions targeting the reduction of CO₂ emissions were initiated in our direct and indirect purchasing.

Focusing on the quality of the sustainability audit process

To ensure that our suppliers operate in compliance with the requirements of our Sustainable Supply Chain Policy and with local and international law, we have carried out sustainability audits globally every year since 2015. Valmet has a well-functioning global sustainability audit protocol to ensure that the audit process is consistent globally. In 2019, we conducted 46 supplier sustainability audits in 16 countries with a certified third-party auditor.

Of all corrective actions agreed with suppliers, 48 percent had been completed and verified by the end of 2019.

During the year, our process development focus was on ensuring the right timing and good quality of the audit follow-up process and the verification of corrective actions agreed with the audited suppliers. We also developed our reporting practices and created a new way of analyzing potentially hazardous manufacturing phases among our suppliers globally. A list of suppliers with such phases in their production processes has been created, and these suppliers will be among the companies we will audit in the coming years to ensure compliance and support them in further developing more sustainable manufacturing processes.

Key supplier sustainability program aims for visible improvements

In 2019, we continued the implementation of our global key supplier sustainability program, targeted exclusively at selected key suppliers. We have around 100 key suppliers, of which ca. 30 percent are identified as possible sources of potential sustainability risks for Valmet, based on the country of origin and purchasing category. Our program supports these suppliers, which are very important to us, in enhancing the sustainability of their operations by promoting the positive impacts that a sustainable way of working has on business, the environment and people.

The program is based on the principles of Valmet's Sustainable Supply Chain Policy: ethical business practices and compliance; human and labor rights; occupational health and safety; and environmental management. It is an integral part of our supplier relationship management (SRM) program. The main idea of the SRM program is to enable two-way interaction between Valmet and its suppliers, thus promoting innovativeness and competitiveness.

As part of the program, individual targets and KPIs are set and followed up for each participating supplier. The concrete benefits for suppliers include visible improvements in their operations, professional training on sustainability topics to enhance efficiency, and exclusive access to concrete development tools, templates and best practices via Valmet's Supplier Portal.

In 2019, the program was rolled out in Asia Pacific, following the piloting of the program in China in 2018. We will continue to implement the program globally in 2020–2021.

Strengthening innovative supplier collaboration

As part of Valmet's SRM program, our third global supplier day was arranged in Tampere, Finland, in November 2019. More than 90 people representing more than 50 suppliers from all over the world participated in the event, along with Valmetters from different businesses and functions. The aim was to strengthen and intensify supplier collaboration bringing profitable growth to the whole value chain. Growth comes from maximized end-customer value, which is achieved when all value-chain contributors combine their different key competences, capabilities and innovativeness early in the process for increased service or product differentiation, lower costs, and improved sustainability and quality.

99% of new direct suppliers were automatically screened for sustainability

46 supplier sustainability audits conducted in **16** countries



Purchases
(10 largest countries)

EUR MILLION	2019
Finland	706
China	251
Sweden	206
USA	156
Germany	84
Poland	55
Brazil	54
Canada	51
Italy	39
Denmark	39

Valmet also regularly arranges supplier events in different geographical areas to strengthen mutual relationships with suppliers around the globe. In 2019, Valmet organized its second India Supplier Collaboration Day in Delhi for around 60 of the most collaboration-oriented and potential Indian suppliers, represented by more than 120 people.

We are continuously developing our personnel's supply chain management competences through training in skills like negotiation, communication and facilitation. In addition, a Supplier Relationship Management e-learning course will be launched in 2020.

Reducing the environmental impact of purchased products and services

It is estimated that Valmet's purchasing from its supply chain accounts for approximately 4 percent of the environmental impact of its entire value chain. To support our suppliers in reducing their environmental impacts, we have identified our most energy-intensive direct purchasing categories, and within them, the most energy-intensive suppliers with significant purchasing volumes. Our next step will be to include these suppliers in our key supplier sustainability program and set targets for their energy efficiency to reduce the environmental impacts, including CO₂ emissions, of their operations.

Concerning emissions caused by indirect purchasing, we have focused on transportation and logistics services. To reduce the

emissions connected with these services, we have created new procurement guidelines that prioritize the more sustainable service providers in purchasing decisions. We have also defined how we measure a service provider's progress in reducing emissions. All our transportations and logistics service providers report on their sustainability work to Valmet on a quarterly basis, and we work closely with them to find ways of reducing CO₂ emissions.

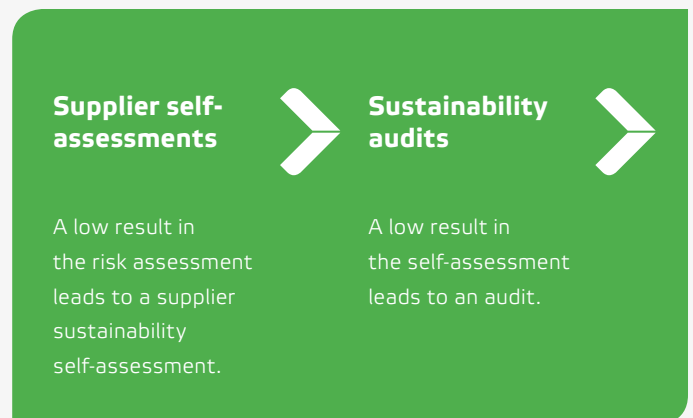
We are continuously developing our personnel's supply chain management competences through training

A global supplier sustainability management process

Required from all suppliers



Required based on a supplier risk assessment



Developing more sustainable transportation



Valmet transports large amounts of products in its operations and is therefore constantly seeking more sustainable transportation methods.

“We’ve created a roadmap for developing more sustainable transportation solutions and reducing their CO₂ impact. For example, we’ve developed more lightweight and standardized packaging solutions, collaborated with key transportation suppliers on sustainability development and increased the use of alternative shipping modes,” says **Janne Loikkanen**, Valmet’s Head of Indirect Procurement and Logistics.

Sustainability also has an increasing role in Valmet’s transportation supplier selection, being one evaluation criterion. Valmet’s transportation suppliers must have a sustainability agenda, and they are obliged to report on their sustainability work and achievements to Valmet.

“At Valmet, we’re always discussing with our partners how to improve sustainability together. Our suppliers’ reports form the basis for dialogue and collaboration to find more sustainable transportation solutions. Our goal is to provide complete transparency in carbon emissions. Other solutions we’re currently discussing are rail transportation from China to Europe and short sea shipments in Europe,” explains **Mats Friis-Liby**, Valmet’s Global Category Manager.

Valmet’s key achievements in sustainable transportation and logistics in 2019:

- Procurement guidelines to prefer more sustainable service providers in purchasing decisions
- Sustainability questionnaire to support transportation supplier selection
- Guidelines for measuring service providers’ progress in reducing emissions
- Guidelines for selecting the most economical transportation mode
- Air shipment reduction by 15%
- Piloting rail transportation as an alternative to air and ocean transportation on the Nordics-China-Nordics route
- Piloting non-plastic packaging solutions

At Valmet,
we’re always
discussing with
our partners
how to improve
sustainability
together



READ MORE:
valmet.com/supplychain

Health, safety and environment

We continue to invest in safety culture, effective processes, and collaboration with customers and partners as we progress toward our common goal of zero harm.

We believe that safety is created every day in our interactions with each other. In 2019, about of 26,000 safety observations and near-miss reports were made, and more than 2,000 manager safety walks and conversations took place. We continued our local safety booster programs with coaching, training, communication and injury prevention activities to drive sustainable safety development. We sustained our progress toward our goal of zero harm, achieving 4.3 (4.4) in total recordable incident frequency (TRIF) for employees. This figure includes the newly acquired operations. Our operations were again fatality-free during the year, and we reduced the number of life-changing incidents to 1 (2).

Promoting leadership, dialogue and collaboration

Our safety culture is based on our Values, Code of Conduct, Manager and Employee Roles, and our core customer service commitment that safety comes first. We continue to create and deliver our own training programs with the aim of further developing safety attitudes, skills and behaviors at all levels of the organization. Our Safety for Leaders training was delivered to more than 150 business managers, who explored how to be safety role models. The Safety Dialogue training was also developed and launched during the year with the aim of promoting open discussions of safety on an ongoing basis as part of everyone's daily work. The target is for 100 percent of all our people to undertake the training before the end of 2020. In future, the Safety Dialogue will also be used as a tool in our contractor safety program.

To support our safety culture, each year we conduct several global awareness events. We participated in the WWF Earth Hour for the tenth consecutive year in more than 90 locations. We also organized our annual health, safety and environment (HSE) week for the fifth time. In 2019, we added the celebration of World Environment Day and the World Day for Health and Safety at Work. An additional focus has been on promoting a positive safety culture and integrating HSE systems in acquired operations. Safety Cafés were held in the new locations to introduce our HSE Policy and safety observation reporting routines to everyone. The new locations also participated in a video competition on the theme of using local culture and customs to demonstrate "how and why we work safely".

We continue to actively collaborate with our customers and contractors on safety. Several workshops were held to share best practices, align safety mindsets and secure good safety coordination in common projects.

We continue to actively collaborate with our customers and contractors on safety

A certified and evolving global management system

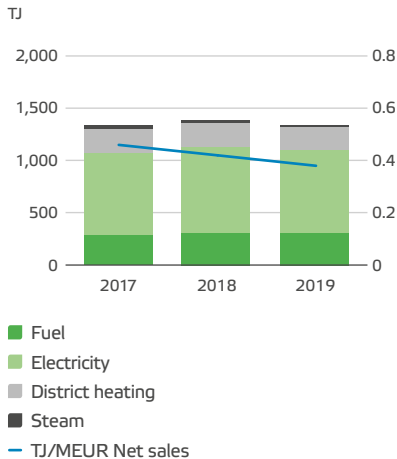
A significant focus area in 2019 was the continued implementation and evolution of our certified global management system. This system guides all our work and ensures that everyone contributes actively to achieving our HSE and quality objectives. In 2020, we plan to support the implementation of common processes by launching a new global information platform for incident, continuous improvement, risk and audit management.

Multisite certification of our operations assures stakeholders that we embed common and effective HSE management processes and practices into all aspects of our business, such as our minimum safety standards for critical activities. The Darmstadt office in Germany was certified for occupational health and safety in 2019, and 72 Valmet locations are currently included in the certificate. We have defined an ISO certification expansion roadmap to ensure that by 2025 at least 90 percent of Valmet's people will be working in operations externally certified to the standards for occupational health and safety (ISO 45001:2018), environment (ISO 14001:2015), and quality (ISO 9001:2015) (see the table on page 43 for the current coverage). We started the transition to the new ISO 45001: 2018 standard this year and plan to complete it in 2020.

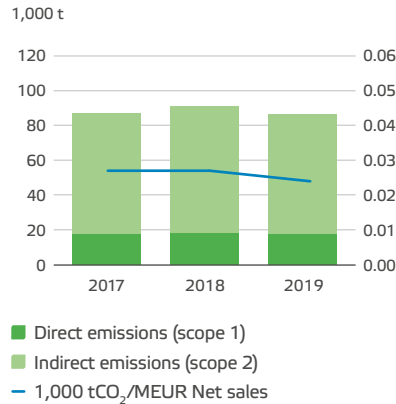
Consultation and participation are crucial to the success of our global management system, and 96 percent of our employees are covered by local HSE committees. Another fundamental feature of our management system is that all locations, including those not certified, are internally audited regularly as part of Valmet's internal control procedures. In 2019, 11 customer projects and 15 workshops were audited by the HSE team to ensure compliance with our standards.

Health, safety and environmental data

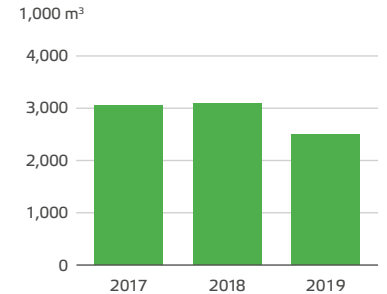
Energy¹



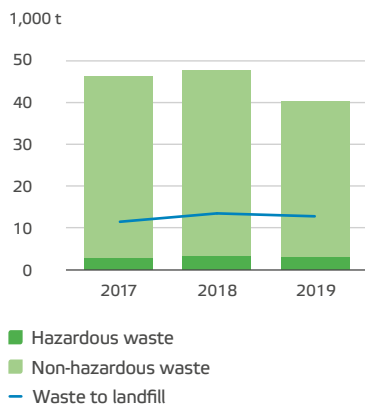
CO₂ emissions¹



Water consumption¹



Waste



Management systems (% of headcount)

SHARE OF CERTIFIED OPERATIONS², 2019

87%

ISO 9001
Quality Management
System

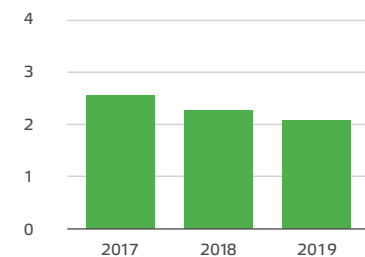
71%

ISO 14001
Environmental
Management Systems

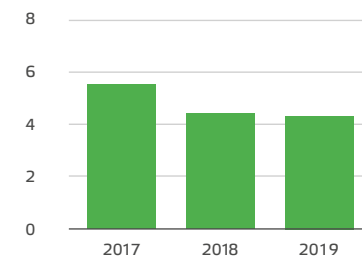
62%

OHSAS 18001
Occupational
Health and Safety
Management System

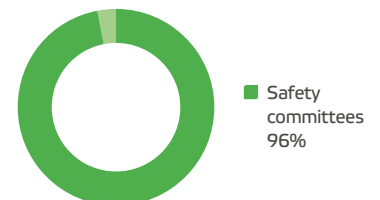
Lost time incident frequency (LTIF)³, own employees



Total recordable incident frequency (TRIF)⁴, own employees



Coverage of safety committees⁵, % of workforce



¹ The data excludes 2019 acquisitions, which will be reported from 2020 onwards.

² Including offices.

³ LTIF reflects the number of injuries resulting in an absence of at least one workday per million hours worked.

⁴ LTIF+medical treatment and restricted work cases.

⁵ Percentage of workforce represented in formal joint management-worker health and safety committees.

Access to health and wellbeing activities

Valmet is continuing with its global framework promoting five evidence-based action areas that enable our people to build wellbeing into their working lives. We encourage everyone to give, take notice, connect, keep learning and be active. Yammer and other internal communication networks are used to share good practices on these themes. Additionally, support material based on the five wellbeing action areas has been created to support engagement survey-related action planning at the team level.

We have also defined our approach to work-life integration and created a three-year roadmap. The first roadmap action, a social committee guideline, was created and will be implemented during the first part of 2020. The social committee guideline sets minimum requirements for facilitating social events and coordinated health promotion activities. For example, in Gothenburg, Sweden, a full day workshop was organized on “wellbeing – with the brain in mind”. Access to local occupational health services is also a key element in Valmet’s approach to mitigating health risks and health promotion. Absenteeism due to sickness and injuries remained low, at 2.6 percent (2.6%) of scheduled workdays.

Reducing the footprint of our own operations

Valmet designs and operates its facilities to promote the sustainable use of resources, and all production locations act to reduce energy consumption, CO₂ emissions, water usage and landfill waste. For example, in Finland, at our Jyväskylä location, all our purchased district heating is now carbon neutral. Jyväskylä has also become the second location to install solar panels. In Brazil, at our Araucaria site, food waste was reduced by 25 percent, and iron and wood waste were reduced by 15 percent during the year. Plastic cups were also eliminated from the Araucaria location, with 35,000 fewer plastic cups being thrown away every month. Our operational footprint increased significantly during 2019 with the acquisition of two foundries and four service workshops. A new service workshop was also inaugurated in Concepción, Chile. These operations will be included in our environmental reporting in 2020, and we will set new reduction targets based on the updated baseline.

Environmental Efficiency Program

Target	2020	2025	2030
100% compliance with environmental regulations	100%	100%	100%
ISO 14001 system certification (% employees)	80%	90%	90%
Reduction in waste to landfill (Baseline reference yearly average 2010–2012)	20%	50%	80%
Reduction in water consumption (Baseline reference yearly average 2010–2012)	15%	18%	20%
Reduction in location CO ₂ emissions (Baseline reference yearly average 2005–2009)	20%	40%	60%
Reduction in location energy consumption (Baseline reference yearly average 2005–2009)	20%	25%	30%
Increase use of renewable energy (% total annual electricity consumption)	20%	30%	35%

Health and Safety Program

Target	2020	2025
Reduction in TRIF – employees (per million workhours, rolling 12 months)	3.5	2.5
Reduction in LTIF – employees (per million workhours, rolling 12 months)	1.5	1
Reduction in TRIF – external workers whose work and/or workplace is controlled by Valmet (per million workhours, rolling 12 months)	6.5	2.5
Reduction in LTIF – external workers whose work and/or workplace is controlled by Valmet (per million workhours, rolling 12 months)	4	1
Access to local health promotion and wellbeing activities (% employees)	70%	100%
Increase in safety observation reporting (per employee/year)	3	4
Increase in management safety walks (per manager/year)	3	4
OHSAS 18001/ ISO 45001 system certification (% employees)	70%	90%
Elimination of life changing injuries (nr injuries/year for employees and external workers whose work and/or workplace is controlled by Valmet)	<5	0

Starting a dialogue on safety in every team



Why do you work safely? How important are your hands? What kind of workplace do you want? What are the five biggest risks in your work? What can you do to make it safer? How do you celebrate success? These are some of the questions being explored by every team in Valmet through the Safety Dialogue training, making it the largest training program we've launched to date.

We create a positive safety culture together when we communicate openly and continuously about health and safety issues. The purpose of the safety dialogue is to facilitate these conversations as an ongoing practice in all teams. By the end of the training, each team member should be committed to safety and be able to show it.

Managers are responsible for running the safety dialogue by working through a self-facilitating activity map with their teams. All instructions are on the map, and everyone takes turns leading the discussions as the team conducts the safety dialogue. The activities in the map are grouped into three sections. **Know it** explores the importance of health and safety, and the kind of workplace the team wants. **Believe it** explores the impact of our own behavior on health and safety. **Show it** practices putting safety into action as a team.

Each manager first participates as an employee in the dialogue with their manager. They then lead the dialogue in their own team, cascading it down the organization. The Executive Team kicked off the safety dialogue at their August meeting. When asked for his safety message to the teams about to start the dialogue, **Pasi Laine**, Valmet's President and CEO, said "I hope everybody at Valmet takes care of safety personally, ensuring safe work practices and not taking risks, but we should also develop a culture where we have the courage to tell others and intervene if we see unsafe behavior around us. I think this is important."

The dialogue itself is a method based on peer learning to deepen knowledge and explore beliefs. The materials are designed for maximum interaction between team members. By being actively engaged in meaningful dialogue with colleagues, participants gain confidence and understand better how to put safety into action to make Valmet and the industry safer.

We create
a positive safety
culture together



READ MORE:
valmet.com/hse

13,598

Employees globally

88%

of Valmet employees responded to the OurVoice engagement survey

4,838

Spot and Special Rewards granted



People and performance

Valmet's more than 13,000 people around the world are committed to moving our customer's performance forward. In the six years since we became Valmet, we have created a strong foundation for people development and top performance. In 2019, we focused on fine-tuning and leveraging our people processes to strengthen our talent pool, boost engagement and support growth accelerator development.

We use the OurVoice employee survey to systematically develop engagement and performance levels across the company. In 2019, we conducted our fourth survey, and the results showed we're making good progress in all areas of the survey. Engagement improved slightly, performance excellence remained at a good level, and feedback, individual development and working together stood out. Particularly important was the continued improvement in our chosen focus areas, of which 24 out of 27 improved. In total, 88 percent of employees participated in the survey, providing valuable input for taking Valmet forward.

We place great importance on action planning based on the survey results and make it an important part of the survey cycle. Each business line, area and Valmet as a whole define focus areas, create action plans and report on action completion quarterly. The global focus areas for the 2019 survey are supporting change, continued managerial skill development and increasing engagement in long tenure employees. Support for low-scoring teams increased in this survey round.

Work continues to further strengthen our high-performance culture. Our on-the-spot performance rewards generated approximately 5,000 Spot and Special rewards in 2019, and continued to be an important tool for recognizing individual and team achievements. Actions were taken to further strengthen the program through best practice sharing, reward library utilization and targeted messaging. As part of our people management platform, a new tool for annual salary planning was introduced in 2019. It provides detailed compensation information to help ensure salary increases are allocated to high performers worldwide.

Good progress with managerial skills

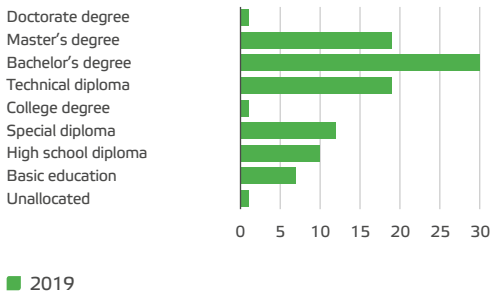
We've made great progress with managerial skill development in recent years. Managers at Valmet play a key role in boosting engagement, driving high performance and supporting the development of our people. A new analysis of the OurVoice results shows that the scores for the ten questions related to managerial work have increased by an average of about 6 percentage points since we first started to focus on the topic in 2015.

The Forward for Managers 2 training program builds on the good work we have done so far by strengthening skills related to performance management, accountability and coaching. The interactive training is designed to deepen managerial skills through role play, peer learning and practical examples. So far, 60 percent of Valmet managers have participated in the program.

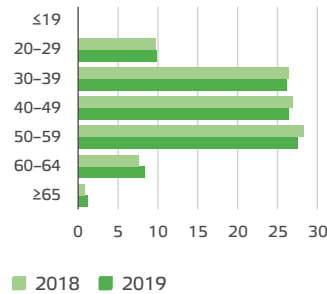
We've made great progress with managerial skill development in recent years

Personnel data

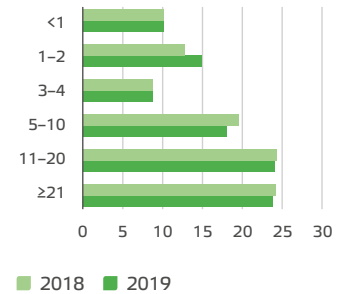
Education structure, %



Age structure, %



Service years, %



Growing our strategic capabilities

Our global training programs are designed to strengthen our strategic capabilities and accelerate Must-Win execution. More than 300 individuals participated in one of the five global training programs offered in 2019, namely Sales Journey, Innovation Pathways, Champions in Services, Leading through Lean and Excellence in Project Management. The main focus of Sales Journey, the largest training program in Valmet's history so far, was on finalizing the group coaching phase, which is designed to secure local implementation by sharing best practices, expanding local networks and creating new sales opportunities. Feedback for all the programs continued to be very good, with Excellence in Project Management, the newest program in the portfolio, recording the highest ever pilot feedback score (4.6/5). In 2020, we will be kicking off a renewed strategy program for senior leaders and identified talents.

The introduction of the growth accelerators brings new opportunities for utilizing our people processes and tools to support strategic growth programs that complement our Must-Wins. For field services, the focus has been on training and developing our field services resources, skills mapping, and recruiting new professionals globally. In August, our field services certificate program saw its first graduates. This program will continue in 2020. The focus in Industrial Internet and digitalization has been on expanding our capabilities by developing competence and acquiring the right skillsets.

Attracting and developing talent

Valmet follows a 70–20–10 learning philosophy, in which 70 percent of learning takes place on the job (new projects, internal mobility), 20 percent in learning relationships (mentoring, coaching) and 10 percent in formal training. We run an annual talent review process to identify, evaluate and develop managerial, successor and high-potential resources. In 2019, we renewed and expanded the process, which led to a significant increase in the number of individuals evaluated. In total, 5,000 people were included, up from around 1,500 in previous years.

Ensuring we have the right competence close to customers continues to be a top priority. In 2019, we began utilizing our new competence transfer toolbox, which contains practical tools for supporting the transfer of tacit knowledge into organizational know-how. We also introduced a new digital learning environment for all employees, which greatly improves the overall learning experience in terms of flexibility, visuality and transparency, as well as several aspects of learning management. Moving forward, we will expand the learning offering to add variety, encourage learning together and reinforce key topics.

Internal mobility, especially across businesses and geographies, continues to play an important role in how we develop and grow talent. A total of 35 percent of positions were filled internally in 2019, 6 percent of which were cross-organizational transfers. In recent years, we've focused heavily on improving our recruitment process, both to ensure we are bringing in the right competence and to improve the overall candidate experience.

New strategic program on project execution launched



The experience was memorable for the 60 participants taking part in the new Excellence in Project Management training program in 2019. The new training program already exceeded expectations during the program pilot because of its innovative, interactive and practical learning approach.

Excellence in Project Management is a highly motivating global training program designed to strengthen our project execution capabilities, support Must-Win execution and inspire and engage our project management professionals. Executing demanding technology projects is one of Valmet's strategic capabilities – a capability we want to safeguard and develop further. The Excellence in Project Management global training program strengthens the project management capability of successfully executing projects, enhancing customer perception and satisfaction, and improving predictability and transparency.

The program kicks off with a strong theory focus to establish a common language and way of operating, followed by a week-long project simulation focusing on role playing and pressure situations. The program concludes with practical application through on-the-job learning, manager coaching, buddying and feedback. Participants keep a learning diary throughout the program to deepen their learning and help put it into practice.

Feedback on the program has been excellent. A feedback score of 4.75 out of 5 was received. Particularly high marks were given for the learning methods, which included a mix of online, classroom, simulation and instant feedback from coaches. Participants also mentioned the impact at the customer interface, real-life continuous simulations, and practice and coaching as key elements of the training.

Seppo Kaukiainen, Senior Project Manager and participant in the second program, especially appreciated the simulation part of the training, saying that: "I've been to many project management trainings during my 25 years at Valmet, but this program is different. The creators did a really nice job of integrating the theoretical and practical into an interesting and fun simulation. I was surprised how fast the five days went, and the program still continues with buddy work."

Excellence in Project Management is a highly motivating global training program



READ MORE:

[valmet.com/
people-and-performance](https://valmet.com/people-and-performance)

Our solutions

Valmet is the leading global developer and supplier of process technologies, automation and services for the pulp, paper and energy industries. Customer needs and global megatrends, such as pursuing a more resource-efficient and cleaner world, are driving our ambitious research and development work.

Valmet’s unique product and services offering is based on leading technology and the continuous development of new solutions to improve our customers’ performance.

Our process technology offering includes pulp mills, tissue, board and paper production lines, as well as power plants for bioenergy production – from greenfields to rebuilds. Services cover everything from maintenance outsourcing to mill and plant improvements and spare parts. Our advanced automation solutions range from single measurements to mill-wide turnkey automation projects.

In 2019, we focused on the further development of our Industrial Internet offering, which combines our know-how in process technology, automation and services with data-driven solutions.

This offering seeks to enable customers to make tangible improvements to the performance of their mills or plants. Our eight Performance Centers offer customers an easy-access channel for Industrial Internet applications and remote services.

Sustainability highlighted in research and development

Valmet’s mission is to convert renewable resources into sustainable results. The aim of our research and development work is to create new technologies, products and services that address customer needs and help respond to some of the most important global

Valmet’s unique customer offering – combining process technologies, automation and services





megatrends: enhancing the efficiency of raw materials, water and energy, promoting the use of renewable raw materials and reducing emissions.

Valmet launches around 100 new products onto the market every year. These products are often created in close cooperation with our customers or our network of leading universities and research institutes around the world.

Valmet's 16 pilot facilities carry out both internal R&D and customer projects. Our pilot facilities enable us to decrease the time to market and reduce risks in commercializing new technologies. We offer our customers the opportunity to utilize Valmet's pilot facilities to test new furnish or fuel, or to optimize their processes from the energy, raw material and water consumption point of view.

Integrating sustainability into the innovation process

The integration of sustainability topics into our R&D operations is ensured through the sustainability criteria that are an integral part of our innovation process. The criteria safeguard that an innovation will increase resource efficiency, reduce emissions and improve safety. They also help ensure the innovation's compliance with product and process safety legislation. Finally, they guarantee that sustainability benefits are integrated into the final product or solution to be launched.

To further support the sustainability approach in our R&D operations, we have a mandatory e-learning course module for our R&D and supply chain professionals to strengthen their sustainability awareness.

Valmet's mission is to convert renewable resources into sustainable results

Replacing fossil-based materials with renewables

We are continuously investigating opportunities to replace fossil-based materials with renewable or recyclable materials.

A major study to identify and evaluate the potential of using recyclable or renewable materials in the consumables, spare parts and products Valmet produces was completed in 2019. This study covered all our businesses, and six potential options for further development were identified as a result. One led to the launch of roll covers made of recycled and renewable raw materials in October 2019. Development work with the other five promising opportunities will continue in 2020. In addition, we will carry out active research into recycling and the more sustainable use of ceramic and metallic roll covers.

Boosting innovation and cooperation

Valmet’s Innovation Pathways training program, launched in 2017, is designed to build a culture of innovation and ensure profitable growth. The training, arranged twice a year, is built around customers’ real-life challenges and problems. The targets we have set for the program include a tangible business impact through an improved innovation culture, the cases worked with and innovations created, a deeper understanding of customer needs and business logic, even stronger R&D cooperation with our main customers and suppliers, and active internal networking and cooperation.

In 2019, one of the program’s training modules focused on sustainability-related challenges and opportunities raised by one of Valmet’s key customers. The three main topics we worked on – and successfully, in this case – concerned improved resource efficiency, replacing fossil raw materials with renewables and reducing emissions.

R&D spend

71

EUR million in 2019

Orders received of new products and services

987

EUR million in 2019

1,300

protected inventions



Customer needs drive Valmet’s R&D work

- > Increase production efficiency
- > High availability
- > Provide high-value end products and new revenue streams
- > Maximize value of raw materials

- > Improve safety
- > Reduce emissions, energy and water consumption
- > Reduce investment and operational costs
- > Improve usability

Roll covers made of recycled and renewable raw materials



In October 2019, Valmet was the first company in the world to launch roll covers based on biomaterials and recycled materials for board, paper, tissue and pulp making. These new composite covers are used in press, guide and calender rolls.

In the new composite roll covers, Valmet uses bio-based resin and hardener in the polymer matrix. The reinforcing fiber and filler originate from recycled consumer plastic and glass. Depending on cover type, the content of recycled or bio-based raw materials is 75–96 percent. New materials are being tested continuously, and the aim is to reach 100 percent.

Valmet has set strict criteria for the bio-based raw material in the covers. Only renewable materials derived from non-food chain plants or plant parts are used to prevent an effect on global food production. Nor should cultivation and harvesting of plants endanger the growth of natural forests.

“In the best cases, bio-based materials can be produced from plant parts that would otherwise be waste. For example, lignin, carbon black made of lignin and nanocellulose can be utilized as reinforcing fillers in roll covers,” explains **Jani Turunen**, Valmet’s R&D Manager for Polymeric Roll Covers. “Our customers do not have to compromise on product performance either, as the results have shown that in some applications the performance even exceeds that of the traditional offering.”

Roll covers used in paper, board, tissue and pulp making need periodic renewal and thus consume tonnes of materials. A major part of the raw materials of traditional roll covers has been manufactured from fossil-based materials refined and processed from crude oil.

Valmet’s R&D work focuses strongly on enhancing raw material and energy efficiency and promoting the use of renewable raw materials. Valmet is continuously investigating the opportunities to replace fossil-based materials with renewable or recyclable materials. For example, recycling and the more sustainable use of ceramic and metallic roll covers are being actively researched.

Valmet has set strict criteria for the bio-based raw material in the covers



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valmet.com/oursolutions

Digitalization

We are striving to realize the full benefits of digitalization in two ways: in serving our customers and in improving our internal efficiency.

In 2019, we continued the development of the Valmet Customer Portal, a digital collaboration space, with our customers. The portal aims to offer a great customer experience and better service throughout the customer journey. The introduction of the first new services through the portal has significantly increased the number of portal users. In 2020, our main focus area will be to provide even more content for customers through the portal.

Our Industrial Internet offering to customers in the pulp, paper and energy industries continued to develop strongly during the year, and the focus moved increasingly toward customer deliveries during the second half of the year. Valmet's Industrial Internet solutions combine our strong know-how in process technology, automation and services with data-driven solutions to make tangible improvements to the performance of our customers' mills or plants. Such improvements may include maximized availability and optimized quality, reduced variation and improved productivity, and enhanced environmental efficiency. As part of our Industrial Internet services, we continued to establish new Valmet Performance Centers, which provide our customers with remote monitoring and optimization and on-demand expert support services. As a result, around 700

customer problems were solved by the Valmet Performance Center network during the year. Today, Valmet has five customer industry-specific and three area Performance Centers in North America, South America and China that are actively serving our customers.

In our automation business, we launched a new Valmet DNA automation system user interface. Leveraging modern web technologies, the web-based user interface extends the use of the automation system beyond the traditional control room. The system adapts the displayed information based on the needs of various users and user groups. Relevant information is delivered in visual, well-structured, easy-to-understand dashboards, process and sub-process views, which allows the users of the automation system to control the process better than ever before.

To drive our internal efficiency and support our employees' high performance, Valmet has a systematic internal digital roadmap, along which we progressed well in 2019. The renewal of our ERP system, started in 2016, is one of our major internal programs. During 2019, we continued to develop our internal digital workplace through collaborative and fit-for-purpose digital tools and digital training environments. Our internal digitalization focus will continue to be on enhancing our product portfolio management through globally harmonized systems, employee platforms and solutions, and efficient data management.



Valmet's Performance Center and Industrial Internet applications support customers' processes



Shandong Bohui Paper's (Bohui) new board machine BM 6, delivered by Valmet, was started up in March 2019 in Huantai, Shandong Province. It is currently the widest and largest single-machine output containerboard production line in China.

From the initial start-up all the way to the conversion to printing paper production, the onsite processes and machine optimization have been supported by global experts from Valmet's Performance Center. Valmet's Performance Center ensured a smooth start-up of the board machine and secured a successful transition to paper production.

"The strength of remote support is that it ensures everything goes smoothly. Data-based working makes the support more proactive and allows us to keep one step ahead. It's also a fast way to connect the customer with the best experts to solve problems and guide them forward," says **Heikki Tattari**, Valmet's Paper Technology Manager.

The network of Valmet's remote experts provides in-depth analysis to support onsite actions during the start-up and optimization phases.

"The starting point for our work with Bohui has been the Valmet DNA system and its connectivity with the Performance Center. The advanced diagnostics tools have proved valuable in supporting the conversion to paper production," says **Jukka Savolainen**, one of the Performance Center's experts.

Both Savolainen and Tattari also give credit to the Bohui team. "The customer is always the best expert for their own process – we're the secret weapon to help with tricky cases without delay and can provide data to back up their decisions," Savolainen says.

Bohui gets monthly reports with information about what has been optimized and how, including further recommendations and immediate fixes for acute challenges. Data security is also a top priority: All connections are based on secure remote connection, and only selected persons within Valmet have access to data.

Bohui also utilizes Valmet's Industrial Internet applications, such as in-depth machine condition and reliability applications, to predict and avoid production losses.

All connections
are based on
a secure remote
connection



READ MORE:
valmet.com/industrialinternet

Corporate citizenship

As a recognized sustainability leader in our industry, we aim to ensure that all our operations comply with laws and regulations in a socially responsible and globally aligned manner. We recognize our responsibility to respect and promote human rights and require the same of our business partners.

Valmet is a truly global company, with own operations in more than 30 countries. We actively develop our processes and operations to meet the sustainability expectations of our stakeholders globally. Our growing presence in emerging markets emphasizes our responsibility toward local communities around the world.

Valmet's most relevant stakeholders are its existing and potential customers and employees, suppliers and subcontractors, shareholders and investors, media, non-governmental organizations, authorities and local communities, research institutes, universities and vocational schools. We arrange several stakeholder meetings and events annually to encourage and maintain dialogue with different stakeholders. The dialogue topics also include sustainability themes such as health and safety, and environmental management in our own operations, sustainable supply chain practices and human rights management at Valmet.

Information on our commitment to international declarations and guidelines related to sustainability, including our statement on Human Rights and the Modern Slavery Act, can be found on our corporate website.

Guided by international human rights standards

Valmet is committed to the United Nations (UN) Guiding Principles on Business and Human Rights. We express our engagement in our Human Rights Statement and enforce the Statement by actively assessing how we fulfill respect for human rights in our own operations and in our supply chain.

We have created a Modern Slavery Act Statement concerning year 2019, which includes information about our practices and the actions we have taken to ensure that there is no modern slavery or human trafficking in our own operations or in our supply chain. It is obligatory for companies operating in the United Kingdom to publish such a statement annually.

Assessing human rights impacts in our own operations

To ensure compliance with our human rights-related commitments, we have created a management process for human rights due diligence in our own operations. Valmet's management process is based on the UN Guiding Principles on Business and Human Rights which, in addition to being a policy commitment, include responsibilities such as the active identification and assessment of

potential negative human rights impacts in our own operations through local site-level assessments conducted by a third party. Following a local assessment, an action plan, including a follow-up schedule, roles and responsibilities, is created and agreed, as well as actively monitored. Valmet reports on its human rights management process in its Annual Review and on its web pages openly and transparently. Valmet also has a process in place to access remedies if required.

In late 2019, we conducted two local human rights impact assessments in our own operations in Indonesia and in China. The assessments were carried out by an independent third party. The findings of these assessments were mainly related to employee engagement, health, safety and environmental management and sustainable supply chain management.

Enhancing sustainability know-how internally

To emphasize the importance of respecting human rights in all our operations, we started face-to-face human rights training sessions in late 2019. This training will continue in 2020, and an e-learning course will also be launched.

In 2018, we launched a sustainability e-learning course in five languages. The training consists of three different modules: Sustainability at Valmet; Sustainable supply chain; and Developing and selling sustainable solutions. The first module is mandatory for all our white-collar employees. By the end of 2019, 66 percent of white-collar employees had completed the first module.

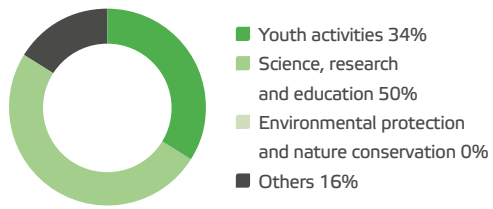
In addition, we have an obligatory Code of Conduct e-learning course for all our employees, available in 19 languages.

New social responsibility programs initiated

Our new social responsibility programs were initiated in late 2019, with execution to commence in 2020. The program consists of two different sub-programs that promote Valmet's long-term social responsibility themes of Towards the future with science, Protecting the planet for next generations and Equal opportunities for wellbeing, which steer our contributions.

First of the programs is a three-year commitment to Save the Children's Child-Sensitive Social Protection project in Rajasthan, India. The objectives of this project are to increase school attendance and retention, reduce child poverty, improve care for

Support for non-profit organizations, %
 EUR 142,000 in total



Income taxes
 (10 largest countries)

EUR MILLION	2019
Finland	39.7
China	6.8
USA	6.6
Brazil	3.0
Canada	2.2
Italy	1.5
Russia	1.1
Germany	1.1
Portugal	1.0
Chile	1.0



A recognized sustainability leader



orphans and other vulnerable children, and to reduce child labor and malnutrition. The project, which already has a good track record of accomplished improvements, will reach altogether 24,000 children and adults.

The other sub-program is a partnership project, which aims to promote science and research to solve marine plastics problem.

During the year, Valmet continued its traditional support for non-governmental humanitarian organizations working locally in youth activities, environmental protection, and research and education. Our seasonal donation was directed to Médecins Sans Frontières – Doctors Without Borders, an international, independent medical humanitarian organization. The donation supports the organization in providing lifesaving medical care to millions of people caught in crises around the world.

Valmet's position as one of the world's sustainability leaders

Valmet has been recognized for its actions and strategy in mitigating climate change, and for its management and reporting of sustainability actions. In 2019, Valmet was included in the Dow Jones Sustainability Index (DJSI) for the sixth consecutive year, positioning us among the world's sustainability leaders. Valmet was included in both the DJSI World and Europe Indices.

Maintaining our position in the Dow Jones Sustainability Index provides further proof that we have improved our sustainability performance year by year, because continuous improvement is the key criterion for inclusion in the index. Our success is strongly based on the excellent work and commitment of all our employees around the world.

Valmet also reports to CDP, an international non-profit organization, and we have been highlighted as a global leader in corporate climate action, achieving a place in the CDP Climate Change A list.

In 2019, Valmet received the best AAA rating in the MSCI ESG Ratings. MSCI ESG Research provides environmental, social and governance (ESG) ratings of global companies on a scale of AAA to CCC, according to exposure to industry-specific ESG risks and the ability to manage these risks relative to peers.

In addition, Valmet was reconfirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe and rated in the top 1 percent among all assessed companies in the latest EcoVadis sustainability assessment.

It is our experience that investors are starting to show growing interest in sustainability issues and responsible (ESG) investing. To address this interest, we are including information concerning Valmet's sustainability work, and our role in responding to sustainability-related global challenges, such as climate change mitigation and replacing fossil-based with renewable raw materials, in our investor relations materials.

Distribution of economic value added to our stakeholder groups

Direct economic value generated

EUR 3,584 million



Economic value distributed



Operating costs: **EUR 2,402 million**
Employee wages and benefits: **EUR 897 million**
Payments to providers of capital: **EUR 113 million**
Payments to government: **EUR 64 million**
Support for non-profit organizations: **EUR 0.14 million**

Retained in business



EUR 107 million

Valmet's human rights impact assessment



Human rights are the rights of every individual – they are universal, equal for all and fundamental. The idea of human rights for every person in the world was initially established in 1948, when the United Nations General Assembly proclaimed the Universal Declaration of Human Rights.

The three pillars of the UN Guiding Principle for human rights define the different roles in their protection. The state has a “duty to protect human rights,” business has a “responsibility to respect human rights,” and the right of victims is “access to effective remedy.”

The business responsibility to respect human rights means that a company’s public commitment to respect human rights is embedded in its operations through related policies and processes. It also includes an ongoing process of human rights due diligence, as well as processes for providing remedy to anyone harmed where a business caused or contributed to – through its own operations or business relationships – that harm.

Valmet is committed to the United Nations (UN) Guiding Principles on Business and Human Rights. Within the framework of our Sustainability360° Agenda, we have created a management system for human rights due diligence in our own operations.

There are four steps in Valmet’s site-level human rights impact assessment. The first step includes stakeholder engagement activities, entailing interviews and discussions with managers and employees, as well as suppliers. Based on the interviews and other information collected, we can identify actual and potential negative impacts on people – which is also the second step in the process. Analysis of impacts forms the third step and examines what causes the impacts, and how Valmet contributes to or is linked to negative impacts on human rights. The fourth step is the implementation of the action plan to improve human rights-related routines and practices.

As part of our efforts to create a high-quality system, the human rights impact assessment was piloted in 2018. The findings made during the pilot helped us to further develop Valmet’s human rights practices globally. In 2019, we conducted human rights impact assessments in Indonesia and China.

Valmet is
committed to
the United
Nations (UN)
Guiding Principles
on Business and
Human Rights



READ MORE:

[valmet.com/
corporate-citizenship](https://valmet.com/corporate-citizenship)

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This report is made from paper and pulp that were produced on Valmet machinery and equipment. It is printed on Maxioffset paper, which is certified according to the PEFC standard and the Nordic Ecolabel.

This report is from sustainably managed forests and controlled sources. PEFC certification requires that the forests are managed well with regard to biodiversity, forest health and maintenance, as well as recreational use. The PEFC logo promotes responsible consumption.

The Nordic Ecolabel ensures that products that are used in printed matter fulfill certain criteria. Inks are mineral-oil free, and for all other materials, those that are recyclable and environmentally friendly are preferred.

DESIGN AND PRODUCTION

Miltton Oy

PAPER

Maxioffset 300 g

Maxioffset 140 g

PRINTING

Grano Oy



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