



Strengthening the position in Pulp and Energy

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Pulp and Energy business line offering

Leading global technology supplier



Pulp

- Chemical pulp mill
 - Woodhandling
 - Cooking and fiberline
 - Pulp drying and baling
 - Chemical recovery
- Mechanical pulping
- Fiberboard defibrator systems
- Industrial Internet and remote support

Biomass conversion

- Pretreatment for bioethanol production
- Black pellets
- Lignin extraction



Energy

- Technology for biomass and municipal and industrial residual waste
- Fluidized bed boilers
 - Modular power plants
 - Gasification
 - Pyrolysis process
 - Industrial Internet and remote support

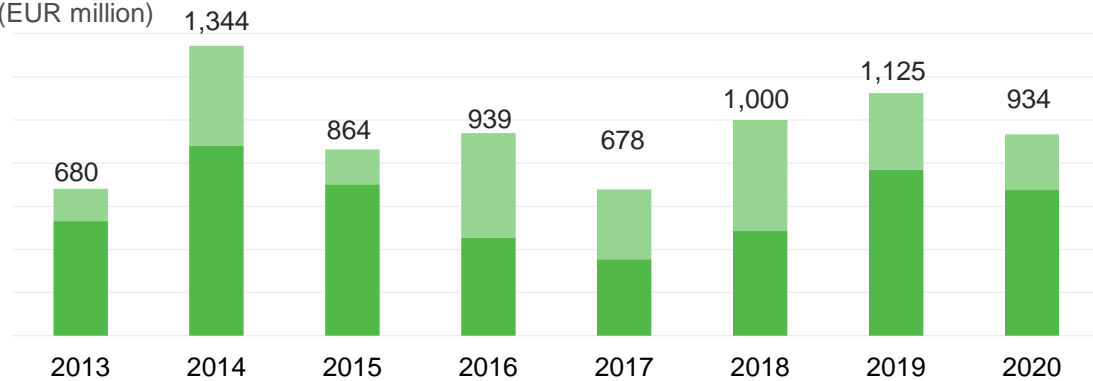
Emission control

- Power plant flue gas cleaning
- Flue gas heat recovery
- NOx control
- Marine scrubbers

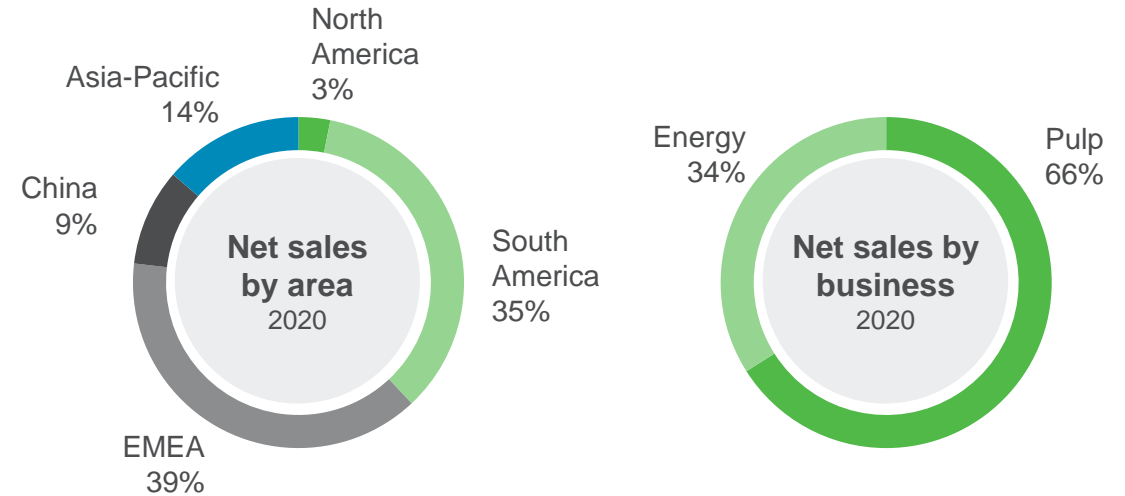
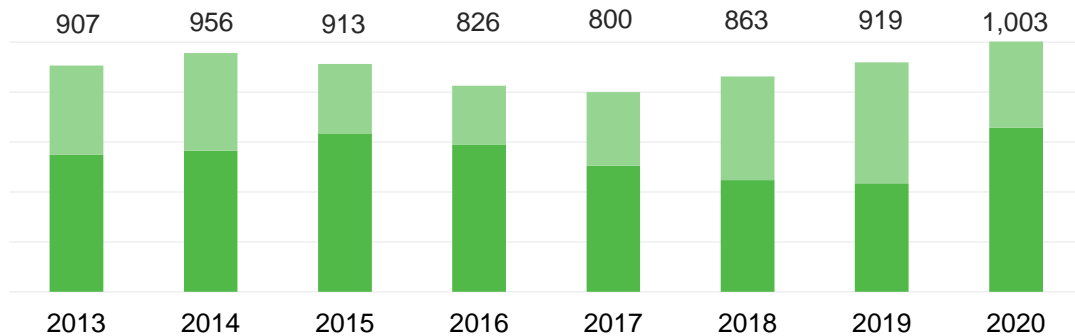
Key figures at a glance

Pulp and Energy

Orders received
(EUR million)



Net Sales
(EUR million)



Capacity costs

	2015	2020
EUR million	218	196
% of net sales	24%	20%

	Market position	Market share	Estimated market size	Long-term end market growth
Pulp	#1-2	~45%	EUR 1.5 bn	~ 1%
Energy	#1-3	~20%	EUR 2 bn	~ 1%

Pulp market drivers and outlook

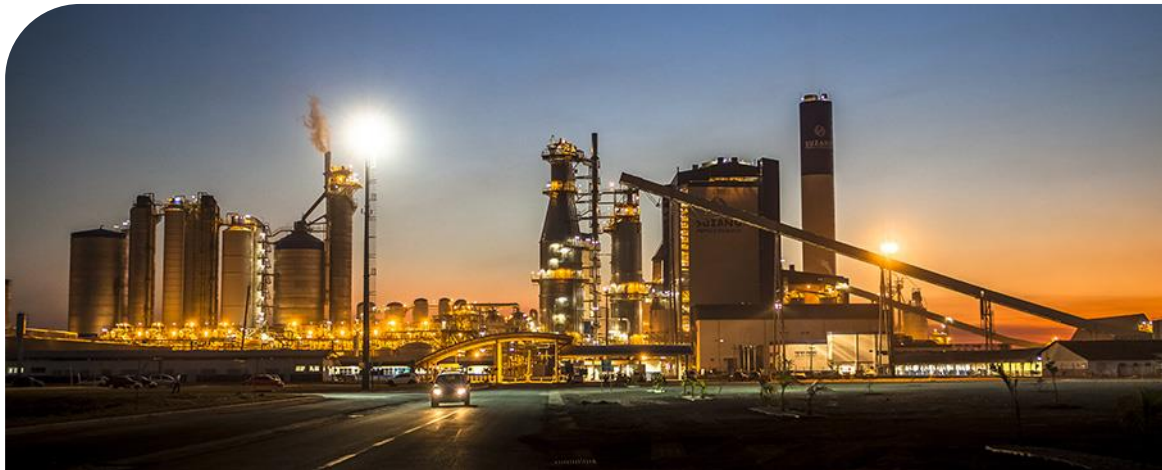
Active market in pulp continues

Market drivers

- Growing demand for sustainable packaging, tissue, hygiene products and textiles
- Increasing environmental awareness and stricter regulations
- Fiber-based plastic replacement
- Demand for second generation bioethanol

Outlook

- Very active investment cycle continues
 - Majority of new mega mills coming to South America and some to Asia
 - Demand for northern softwood driving investments in Nordics
 - Smaller investments continue stable development
- Textile recycling and sustainable fiber-based textiles provide new business opportunities



Energy market drivers and outlook

Energy transformation continues

Market drivers

- Decarbonization in energy production
- Biomass and residual waste used in heat and process steam production
- Tightening air emissions legislation and stricter directives

Outlook

- Modernization of aging thermal power plants
- Pulp and paper and other process industries investing in renewables-based steam production
- Air emission control needed both for new and existing plants to meet tightening emission limits
- COVID-19 has affected the markets and caused delays especially in the marine segment



Must-win #1 – Customer

Success through extensive offering and cooperation

Customer



Technology



Process



People



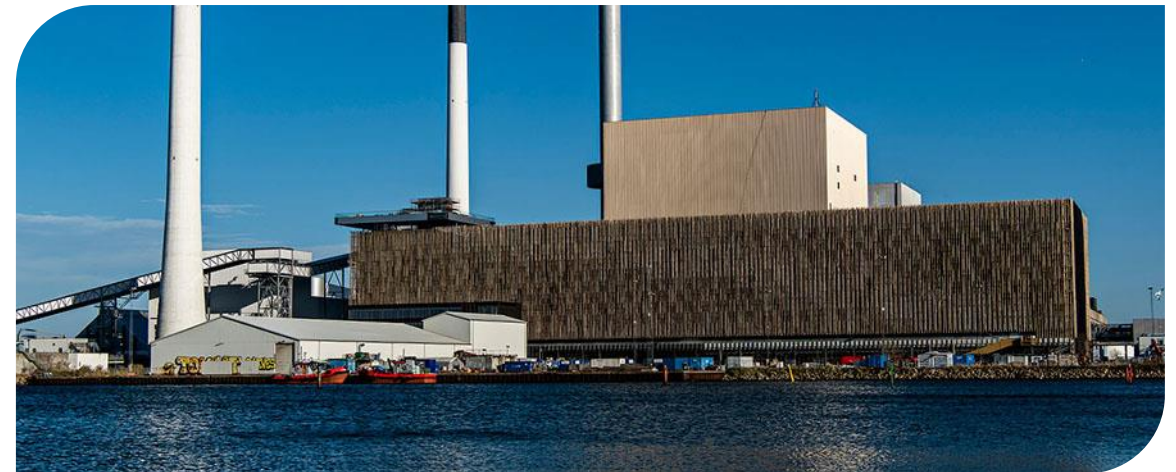
Recent development

- Good orders received volume and improvement in market share
- Successful cooperation with the other business lines in customer projects and Valmet Industrial Internet (VII) implementation
- Efficiently serving customer needs locally

Next steps and development actions

- Further improve market share in pulp and energy businesses

HOFOR fuel handling and biomass boiler, Denmark



- A key development in reaching the carbon neutrality target of the City of Copenhagen
- Biomass-fired boiler plant optimized for district heating with capacity of 415 MW and 150 MW of power
- Biomass storage and conveyor systems

Must-win #2 – Technology

Breakthrough development on multiple fronts

Customer



Technology



Process



People



Recent development

- Several orders for new Continuous Cooking G3 technology
- First “recycled textile to dissolving pulp” technology order to Renewcell
- Biomass pretreatment BioTrac technology references for 2nd generation bioethanol in Europe and India
- Industrial Internet applications and solutions supported with remote connections

Next steps and development actions

- Continued focus on resource efficiency
- Improve competitiveness through modularization

Klabin PUMA II, Brazil



- Key equipment for Puma II project, including cooking and fiberline, pulp dryer rebuild, kraftliner machine and automation
- Start-up in 2021

Must-win #3 – Process

Excellence in executing deliveries

Customer



Technology



Process



People



Recent development

- Clear improvement in safety performance both for own and contractor employees
- Project management development and training programs continued
- Success in implementing the new ERP

Next steps and development actions

- Leverage the full potential of new tools in customer support
- Improve contractors' safety performance

Marine scrubber installations in South Korea



- Exhaust gas cleaning system (marine scrubbers) for seven new container vessels by Daewoo Shipbuilding and Marine Engineering for Korean Shipping company Hyundai Merchant Marine
- Great cooperation with Valmet area organization – all ships delivered according to schedule

Must-win #4 – People

Investing in our people

Customer



Technology



Process



People



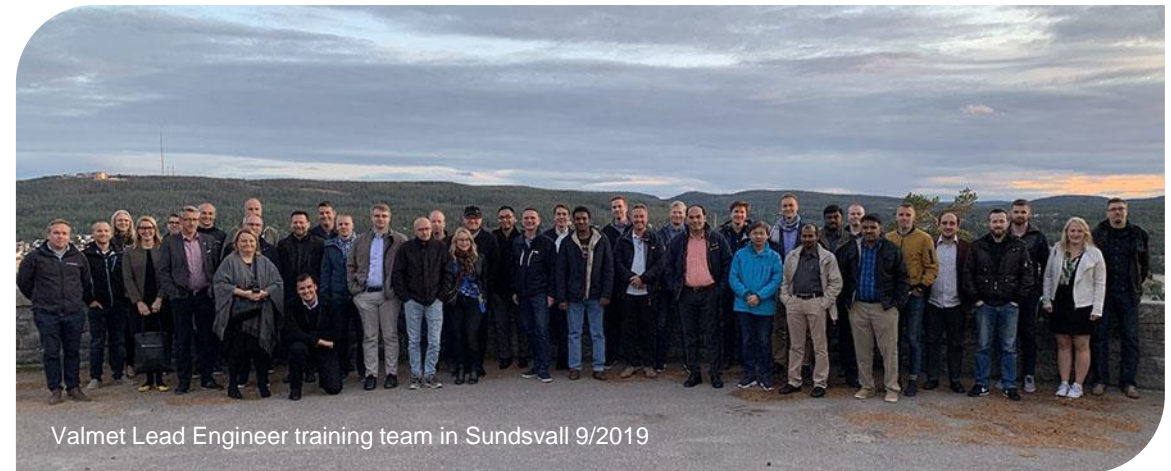
Recent development

- Staying safe, operational and efficient during challenging times in 2020
- Strengthened capabilities, role and cooperation with the area organization
- Continued progress and success in internal training

Next steps and development actions

- Continue competence development and knowledge transfer
- Ensure flexible and efficient resource utilization

Lead Engineer training program



Valmet Lead Engineer training team in Sundsvall 9/2019

- Pulp & Energy internal global training program to strengthen engineering competencies
- Arranged 2018–2020 with almost 100 participants from different locations and business units
- Including team work on business challenges together with business sponsors

