

Mittausteknologialla kohti resurssiviisasta ravinteiden kierrätystä ja energiatehokkuutta

Heidi Tervo

Tutkimuspäällikkö

R&D, Valmet Automation

heidi.tervo@valmet.com



We are committed to moving your performance forward

Valmet in brief

Global leader

with unique combination of technologies, services and automation for pulp, tissue, board, paper and energy

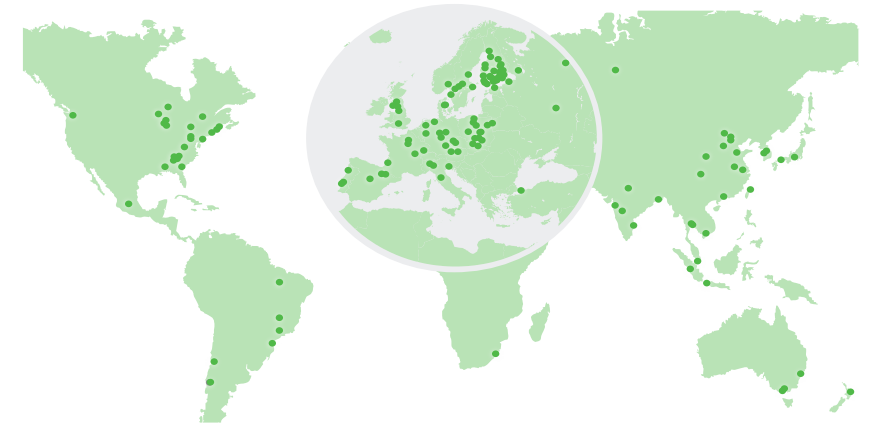


Over 220 years
of industrial experience

5,359 MEUR
net sales 2024



32 R&D Centers



Over 19,000 professionals

- **Over 130** service centers
- **60** production units

**Acknowledged leader
in sustainability**

MEMBER OF
**Dow Jones
Sustainability Indices**
In Collaboration with RobecoSAM

Our offering for your automation and digitalization needs

Delivered as products and technology, projects and service agreements



Distributed control systems

Highly integrated automation system for process control and monitoring.



Industrial applications

Process performance control applications and condition monitoring.



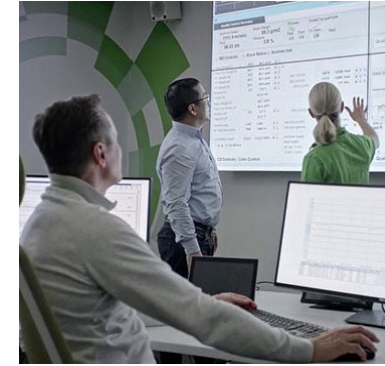
Quality management

Quality control system, quality management applications delivering optimal quality.



Analyzers and measurements

For measuring and optimizing different variables in industrial processes.



Industrial internet solutions

Advanced controls for analyzing, simulating and optimizing industrial production processes.



Automation services

Services for high availability, intelligent maintenance, process performance and risk control.

Valmetin tavoitteet hankkeessa



- Mittausteknologian kehitys
 - Kehittää ja soveltaa mittaustekniikkaa mädätys- ja biokaasuprosesseihin
 - Tutkia olemassa olevien mittausten soveltuvuutta sekä mahdollisia uusia teknologioita
- Monitorointi- ja optimointikonseptin kehitys
 - Määrittää mitä mitataan, miten mitataan ja miten dataa tulkitaan
 - Lisätä ymmärrystä koko prosessin mittaus- ja ohjauskonseptin rakentamiseksi
- Tavoiteltu vaikutus
 - Reaaliaikainen prosessinohjaus ja optimointi
 - Energiankulutuksen minimointi ja ravinteiden talteenoton maksimointi
 - Uusia liiketoimintamahdollisuuksia Valmetin teknologioille

Valmet offering to wastewater management

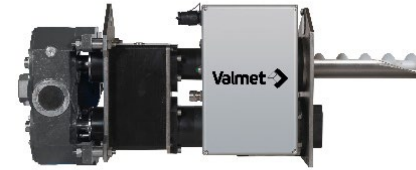
Advanced measurement technology and controls for municipal & industrial wastewater solids management



Valmet Total Solids Measurement,
Valmet TS



Valmet Low Solids Measurement,
Valmet LS & Valmet Polymer
Concentration Measurement, **Valmet PCM**



Valmet Dry Solids Measurement,
Valmet DS & Valmet High Solids
Measurement, **Valmet HS**



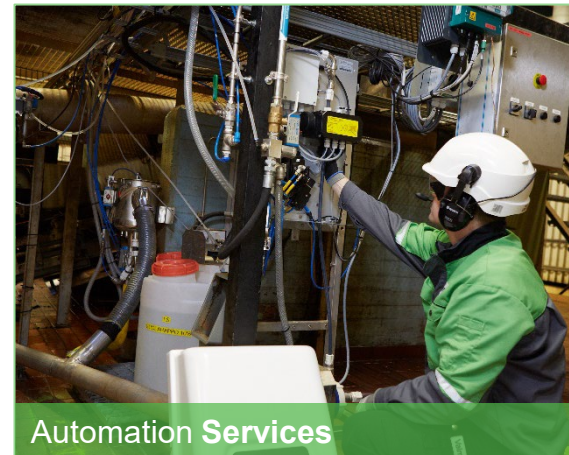
Valmet **Nove**, **Nove H** samplers



Valmet Sludge Dewatering Optimizer,
Valmet SDO



Valmet DNA Automation System



Automation **Services**

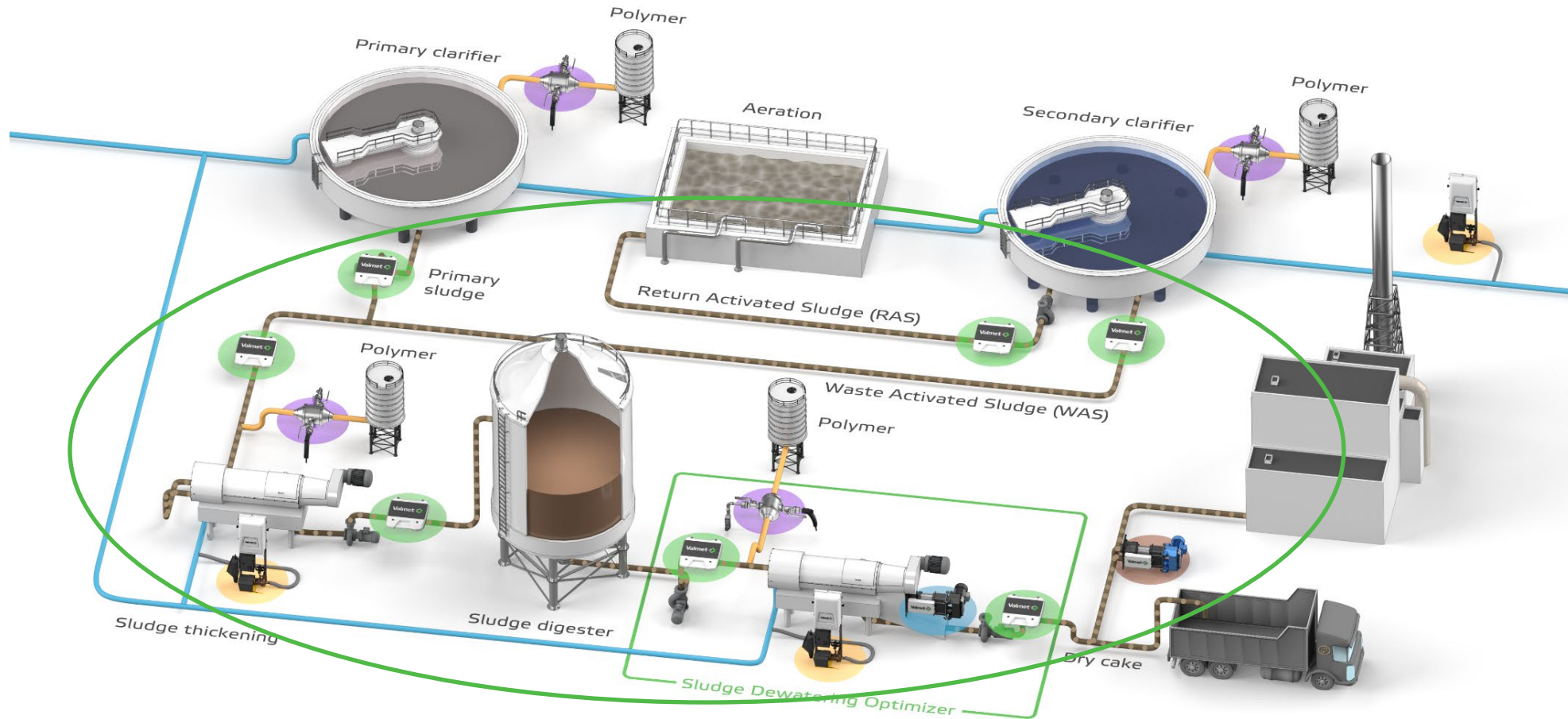


Valmet Industrial Internet, **VII**

Cyber Security – Valmet Automation products and solutions are developed using security best practices.

Urban wastewater treatment

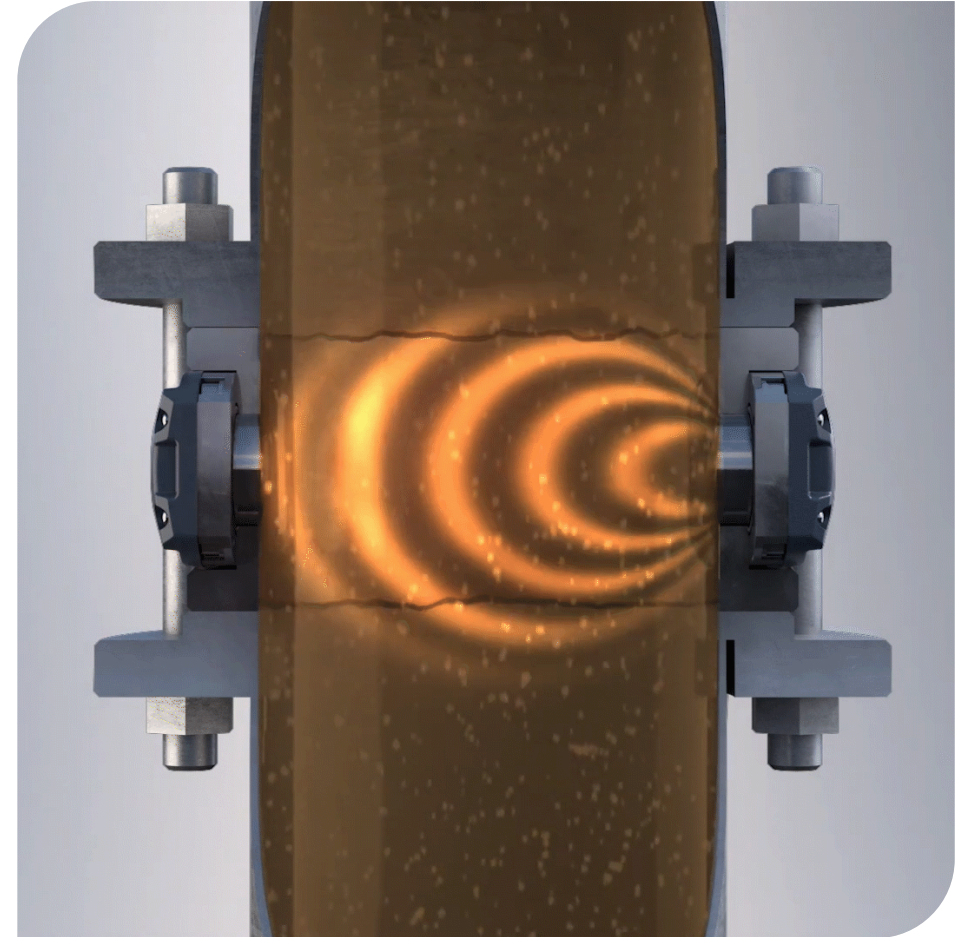
Sludge process



Valmet TS Total Solids Microwave measurement technology

The most reliable and accurate measurement for wastewater solids applications

- Measurement range 0 – 50 %TS
- Fast calibration and maintenance free
 - No regular cleaning and calibration
- Highest Accuracy, largest measurement volume
- Unaffected by solids quality variations and process flow
- The reliability to allow effective optimization and control of the wastewater process



Valmet Low Solids Measurement

Valmet LS – Total suspended solids 0–5000 mg/l

Valmet LS is a LED based measurement for measure total suspended solids (0–0,5 % TSS)

- Optimization
 - Selection of correct polymer type
 - Polymer dosage
 - Centrifuge capacity and runnability
 - Internal solids cycle management of the plant
- Real time measurement specially developed for the centrate
- Entrained air index helps in identifying polymer overdosing
- Robust to impurities with optimum optical properties

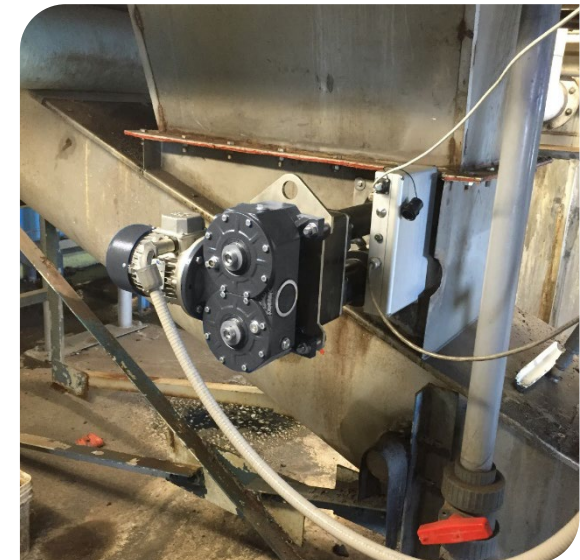


Valmet Dry Solids Measurement

Valmet DS – A unique solution for dry cake measurement

Measurement is based on microwave technology offering stable and accurate solids measurement.

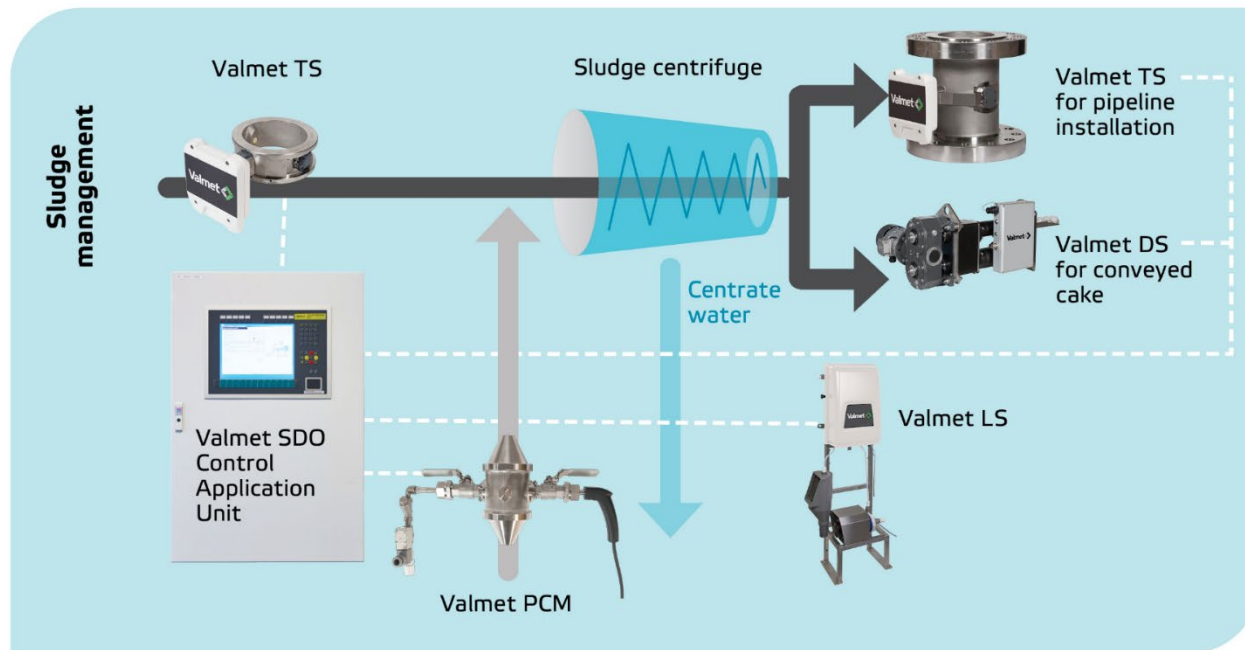
- Measurement range 15–35 %
- Valmet DS unit extracts continuous sample **from falling cake flow**. After solids content have been measured the unit **returns sample back** to the process.
- It is necessary to monitor solids content in order to control drying process to obtain optimum drying efficiency.



Valmet Sludge Dewatering Optimizer

Valmet SDO – Advanced optimizing solution for sludge dewatering

Valmet SDO allows wastewater treatment plants to improve the control of its sludge dewatering process, minimizing the solids amount in the centrate, while maximizing the solids content in the dry cake.



The reward of having reliable solids measurements with controls

Big savings possible with massflow based controls

Further advance environmental and public health benefits in the community

Chemical and energy savings

Optimized plant capacity

Dewatered sludge transport or incineration costs minimized

Y-MAX: Alusta innovaatioille ja yhteistyölle

- Hanke tarjosi Valmetille arvokkaan ympäristön kehittää ja testata dataohjattuja ratkaisuja
- Luo pohjan uusille innovaatioille ja liiketoimintamahdollisuuksilla sekä vahvistaa Valmetin kykyä vastata asiakkaiden muuttuviin tarpeisiin
- Kumppaneiden osaaminen ja avoin tiedonvaihto olivat ratkaisevia kehityksen onnistumiselle
- Yhteistyö tutkimusorganisaatioiden, laitevalmistajien ja operaattoreiden välillä loi kokonaiskuvan
- Yhteinen tavoite: tehokkaampi, kestävämpi ja turvallisempi lietteenkäsittely



Meet us online!

For more information you can download our **Valmet Wastewater Guidebook** [here](#)

And you can **visit and contact us** via our webpages

- [https://www.valmet.com/water and wastewater](https://www.valmet.com/water-and-wastewater)
- <https://www.valmet.com/automation/analyzers-measurements/wastewater/>

