

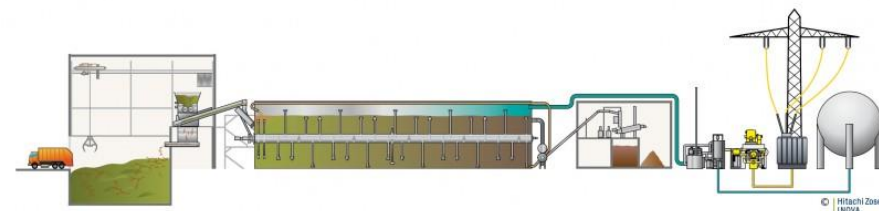
Biogas operations further enhanced by Valmet - the most progressive innovation advocate

Nordic Biogas Conference 2019

Jani Hautaluoma

April 10, 2019

Kompogas® Technology



Valmet in 2018

Orders received
EUR 3,722 million

Net sales
EUR 3,325 million

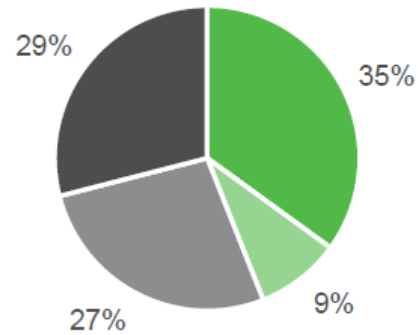
Comparable EBITA
EUR 257 million

Comparable EBITA margin
7.7%

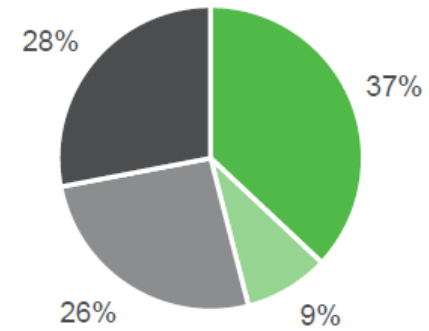
Order backlog
EUR 2,829 million

Employees
12,528

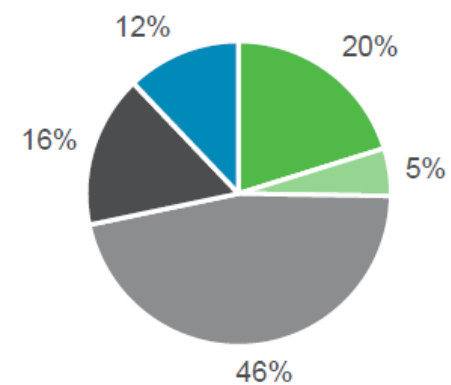
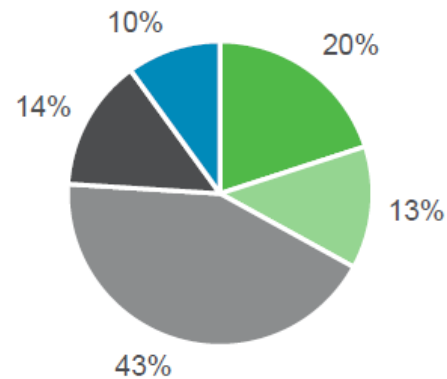
Orders received



Net sales



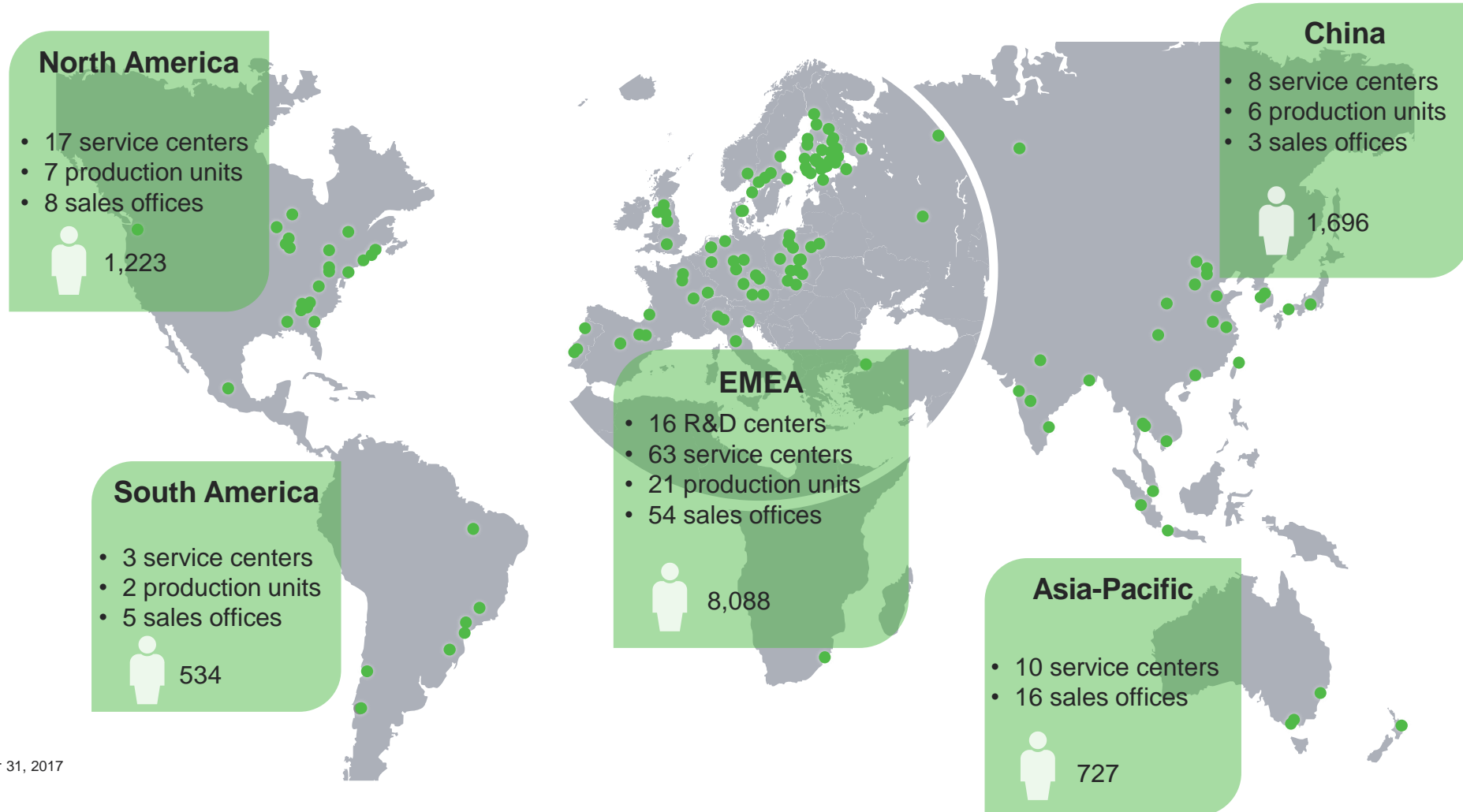
- Services
- Automation
- Pulp and Energy
- Paper



- North America
- South America
- EMEA
- China
- Asia-Pacific

Strong, global presence is a good platform for growth

Over 120 service centers, 87 sales offices, 36 production units, 16 R&D centers



Employees on December 31, 2017

Significant, customer focused research and development work



16
research and development centers

1,300
Protected inventions

EUR **64** million
R&D spending in 2017

Our business environment

We have defined three key megatrends that we carefully consider when making strategic choices.



Resource efficient and clean world

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



Digitalization and new technologies

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

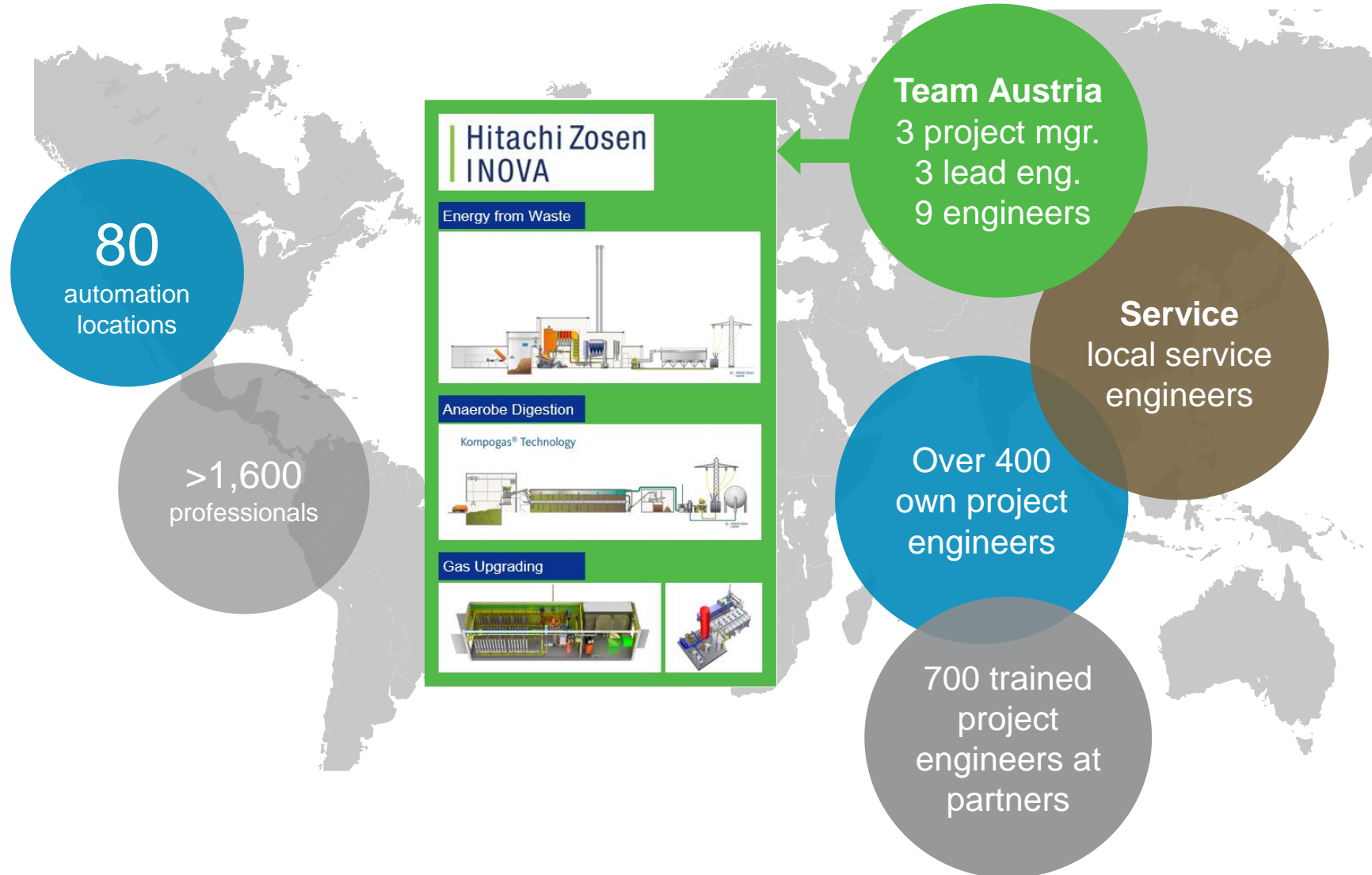


Urban, responsible and global consumers

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

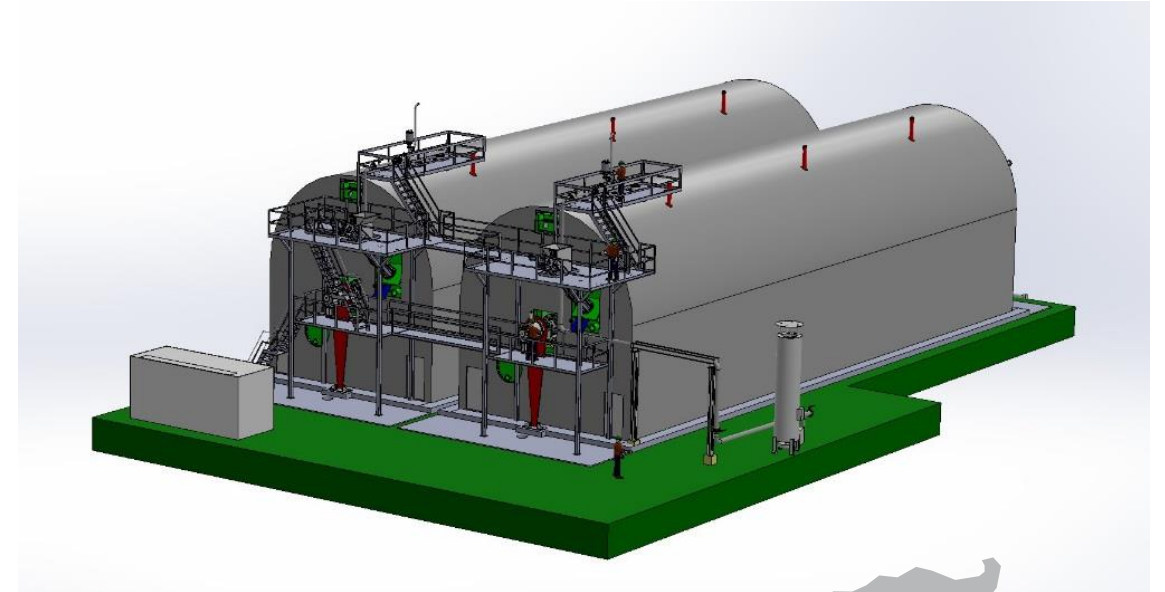
Valmet's global presence

Valmet has strong, capable and committed teams close to customers



Project Epirus, Greece

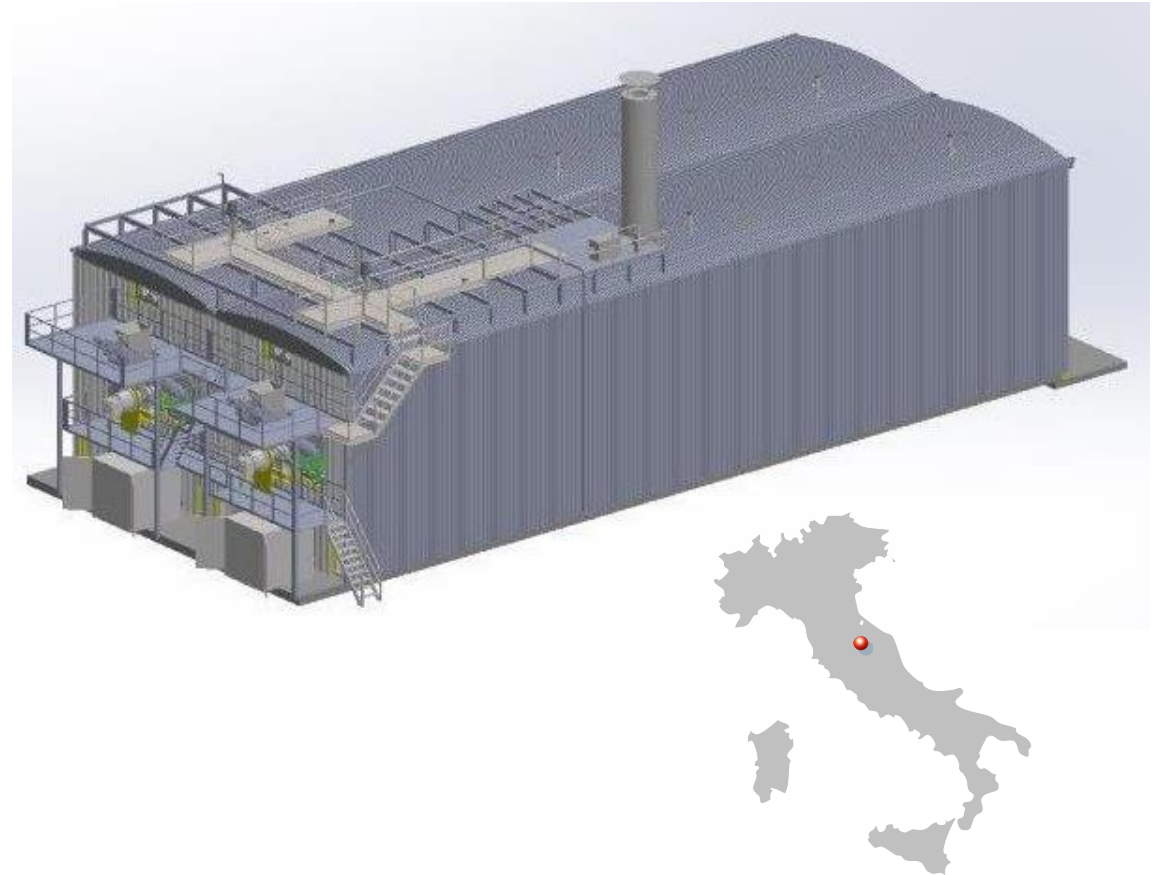
- Start up: 2018
- General Supplier: Terna S.A.
- Fermenter Supplier: Hitachi Zosen Inova
- Owner: Municipality of Dodone
- 2 PF1500 modules
- Capacity each 1500m³
- Valmet Delivery Scope:
 - Valmet DNA System
 - LV Distribution incl. container



Project Foligno, Italy

HZI - Anaerob Digestion

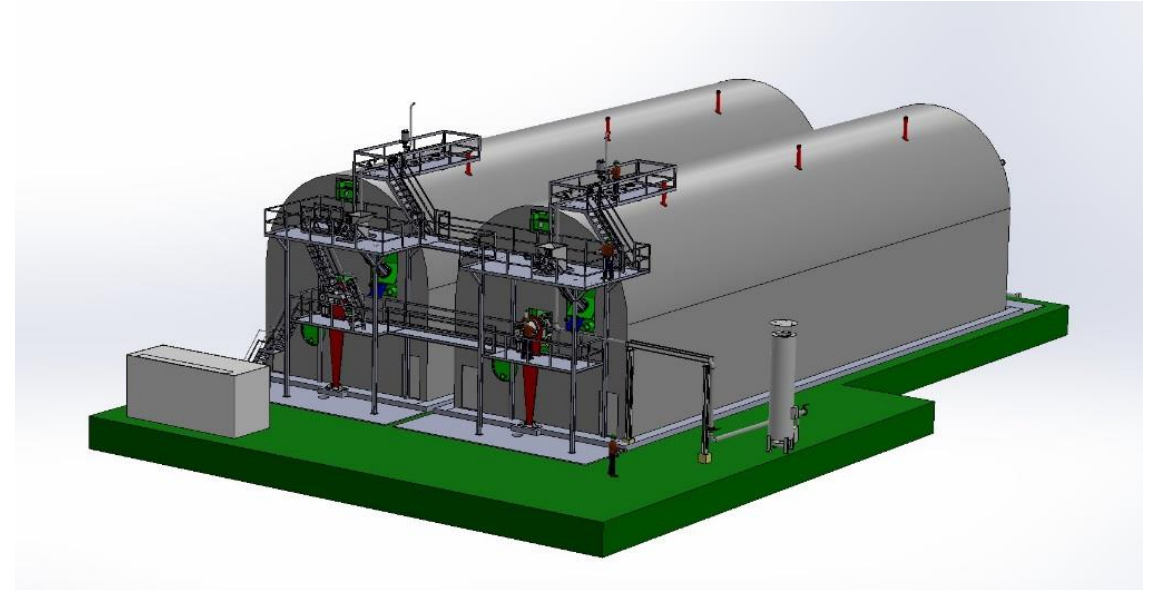
- Start up: 2018
- General Supplier: Cesaro Mac Import
- Owner: Asja Ambiente Italia, S.p.A.
- 2 PF1300C modules
- Capacity each 1300m³
- Valmet Delivery Scope:
 - Valmet DNA System
 - LV Distribution incl. container



Project Chongqing, China

HZI - Anaerob Digestion

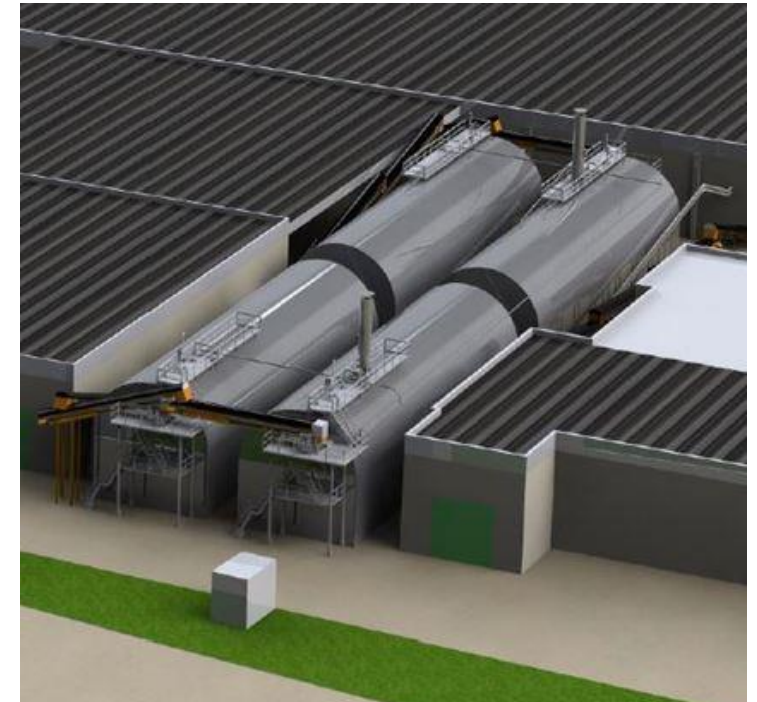
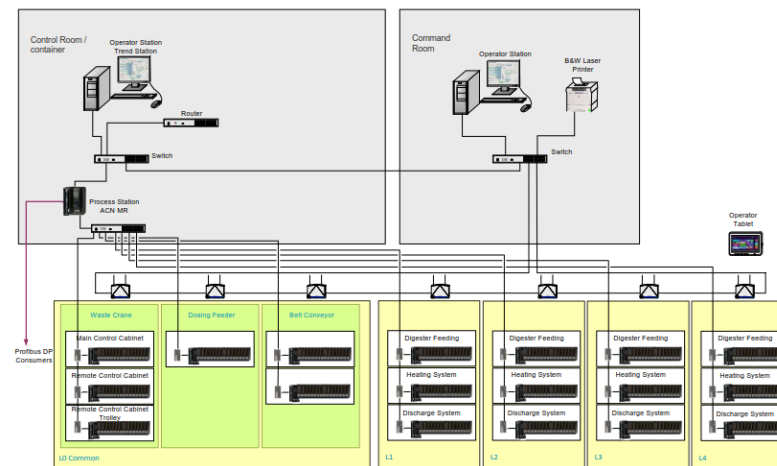
- Start up: 2019
- Anaerob Digestion Supplier: Hitachi Zosen Inova
- Owner: German Biogas - China
- 2 PF1500 modules
- Capacity each 1500m³
- Valmet Delivery Scope:
 - Valmet DNA System
 - LV Distribution incl. container



Project Bologna

Anaerob digestion plant

- 100,000 tonnes of organic waste
- Four fermenters
- 14.3 million Nm³/a of biogas
- 71.05 GWh/a energy production



Europe's largest dry anaerobic digestion plant

Story line

Integrated operations

2016 Tornio
Manga LNG
Process automation



Q1/2017
Gasum LNG
study

Valmet to supply automation for Gasum LNG operations in Nordic countries

Valmet will supply automation for Gasum's LNG operations in the Nordic countries. With Valmet's automation solutions, all measurement data connected to the LNG terminal operations of Gasum's subsidiary Skangas can be collected and controlled centrally. The project was preceded by a successful basic automation engineering phase.



Q3/2017
Gasum LNG
Metering

Q4/2017
Gasum Biogas
plant automation
+ extended software



Q2/2018
Large production and
material mgt system
for a Steel Mill (SSAB)



- Q1/2019**
- More power for development
 - Development together with customers

Competitive
LNG and Biofuel
infrastructure

Valmet 

Asset Tracking with process data integration

Atex certified module is part of the Operations management

- GPS tracking
 - Customized data sharing based on location
 - Mobile tracking service by Yepzon
- Near field identification
- Asset information without physical instruments (location, estimated pressure and volume)
- Possible to activate local automation systems based on confirmed plans

Benefits

- In the future, possible to minimize local utility systems investments
 - CAPEX savings
- Optimization for LNG and Biogas Operations management
 - OPEX savings

RUN-OUT TIME FORECAST	NAME	BAYS	NEXT DELIVERY
<input checked="" type="checkbox"/>	Malmi Helsinki	Bay 1 (CNG0016A) Bay 2 (CNG0013A) Bay 3 (CNG0018A)	-
<input checked="" type="checkbox"/>	Pori Tullimäki	Bay 1 (CNG0017A) Bay 2 (CNG0007A)	-
<input checked="" type="checkbox"/>	Salon Pihovi	Bay 1 (CNG0005A) Bay 2 (CNG0014A)	-
<input checked="" type="checkbox"/>	Espoo Lommila	Bay 1 (CNG0008A) Bay 2 (CNG0009A)	-
<input checked="" type="checkbox"/>	Vantaa Porttipuisto	Bay 1 (CNG0002A) Bay 2 (CNG0004A)	-

CONTAINER	LOCATION
CNG0001A	Salon Pihovi
CNG0002A	Vantaa Porttipuisto, Bay 1
CNG0003A	Salon Pihovi
CNG0004A	Vantaa Porttipuisto, Bay 2
CNG0005A	Salon Pihovi, Bay 1
CNG0006A	Other



Valmet awarded as “The Most Progressive Innovation Advocate” for the LNG industry

”

“This new award shows that we are on the right track for achieving our target. Valmet is a forerunner in developing solutions for both industries on the way toward a zero-carbon society.”

Jani Hautaluoma, Director, Process Automation, Valmet



Results



- Valmet has received an award of being the most innovative advocate for the LNG Industry
- The award was granted at the 2nd Small-Scale LNG summit 2019, Milan, Italy

Goal to become the best automation and software solution provider for the LNG and biogas industry



