

WASTE TREATMENT - ORGANIC WASTE FROM HOUSEHOLDS



BEKON Part of the Eggersmann Group



Headquarter Marienfeld



- Founded in: 1951
- Number of employees: 800
- Turnover 2020: ~ 240 Mio EUR



International locations

Today, Eggersmann group is a network of independent companies engaged in the construction sector as well as the development and realization of environmental technologies on an international scale.

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Applications



Typical solid input-materials for Biological Treatment

- OFMSW pretreated from solid household waste collection (0mm-100mm)
- BIOWASTE separate collected from households and restaurants (Dry matter content >30%)
- GREENWASTE and agriculture solid residues



Treatment Options – Biological Treatment

TWO TREATMENT STRATEGIES



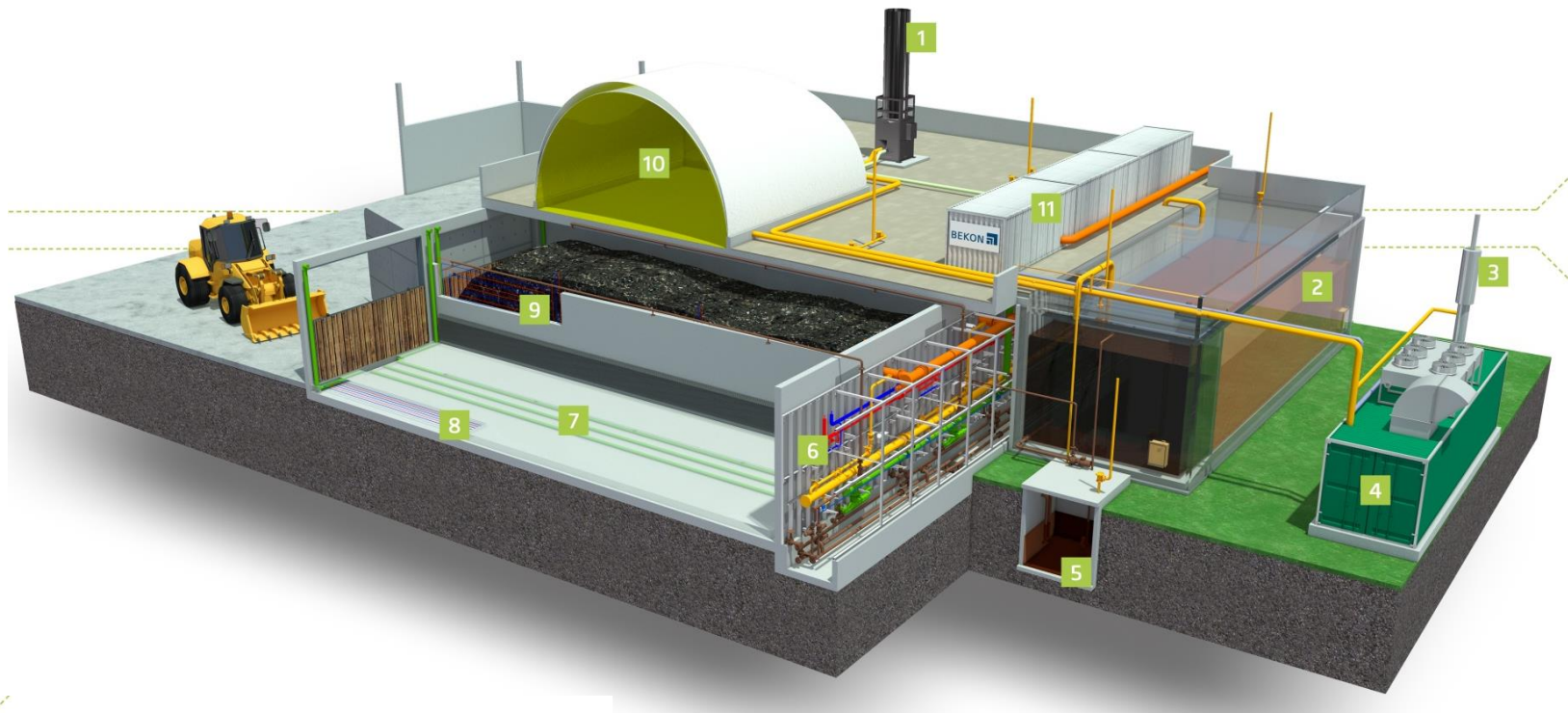
Seperate collected biowaste

- Biogas production
- Composting
- Production of high-quality compost for agricultural and gardening use.

OFMSW (0-100mm)

- Biogas production and/or Biodrying
- Upgrading to RDF
(energetic usage of RDF)
- Landfilling of fine materials and other non combustible materials.

BEKON Dry Fermentation



1 Flare

2 Percolate fermenter

3 Exhaust stack

4 CHP

5 Pump sump

6 Technical walkway

7 Purging air / Exhaust gas

8 Floor heating

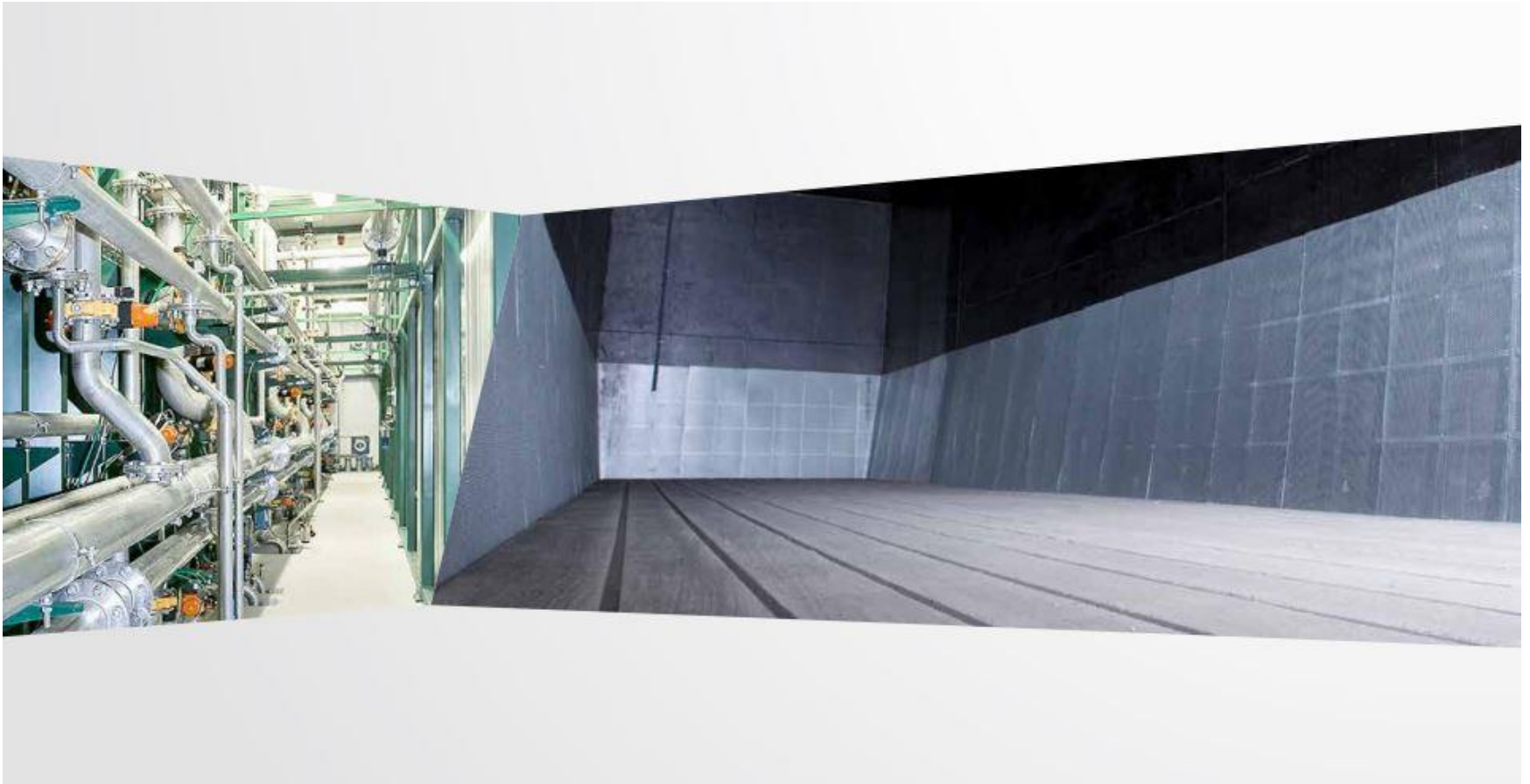
9 Wall heating

10 Biogas storage

11 Technical containers

- For OFMSW and SSO
- Robust and proven technology
- Modular system 10,000 – 100,000 t/a
- High biogas yield
- Prefabrication of main equipment

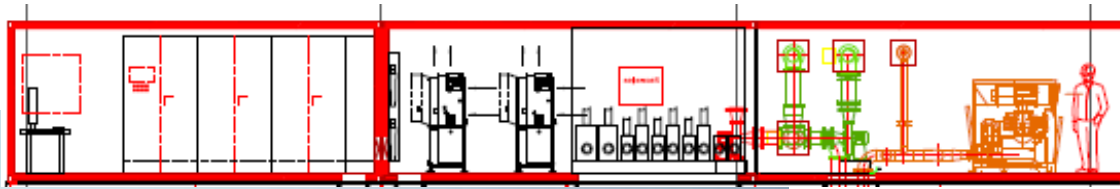
Modular rear wall and Fermenter inside photo with aeration and drainage system



Prefabrication, Delivery and Installation of the rear wall for Dry Fermentation



Prefabricated technik-container on the roof of the fermenters



Electrical Cabinet

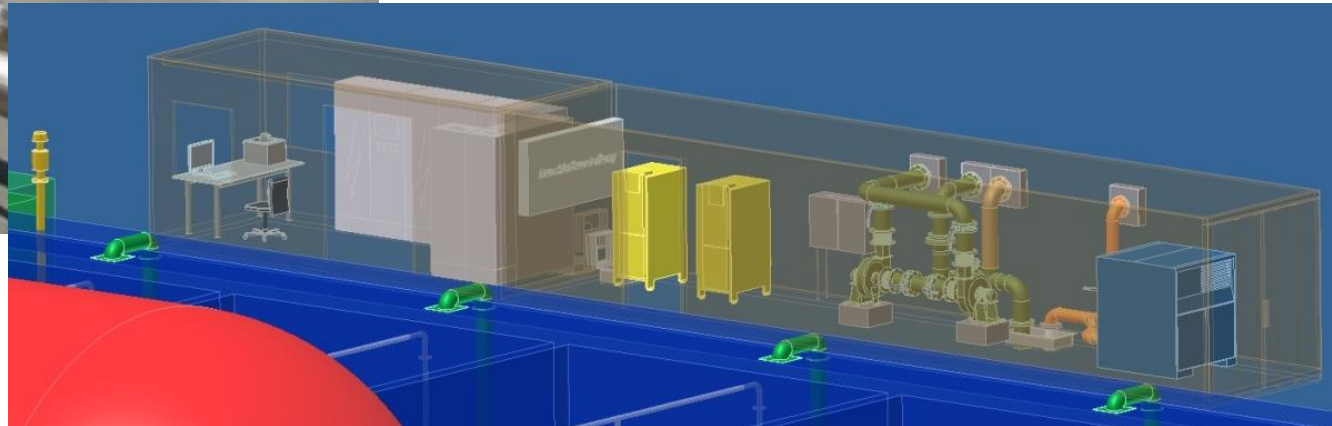
Process Control System

Gas Measurement

Heat Distribution

Compressed Air System

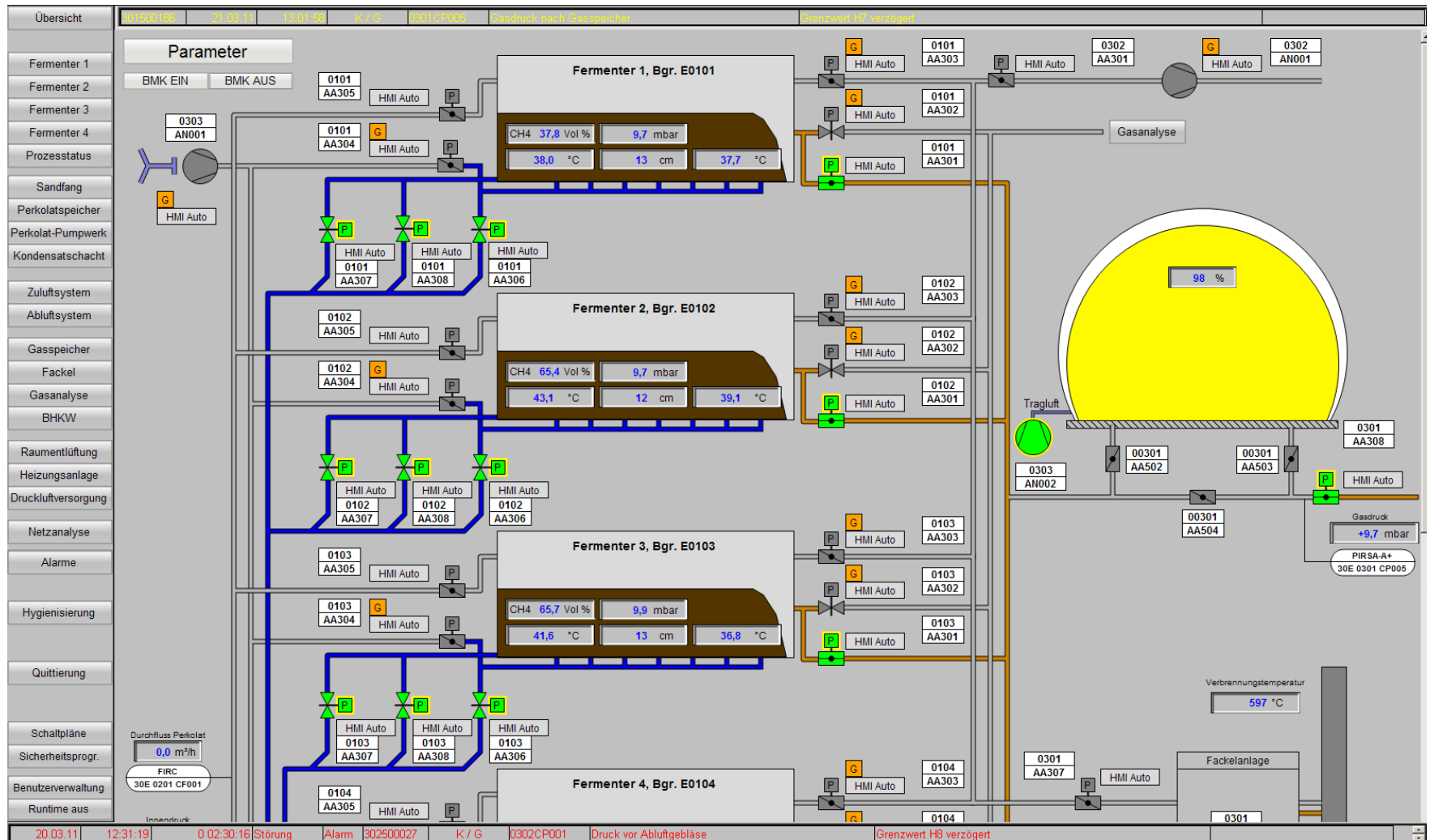
Tunnel Aeration System



Biogas / Dry Fermentation plant / Material operation with wheel loader



Typical Process Control System - Dry Fermentation

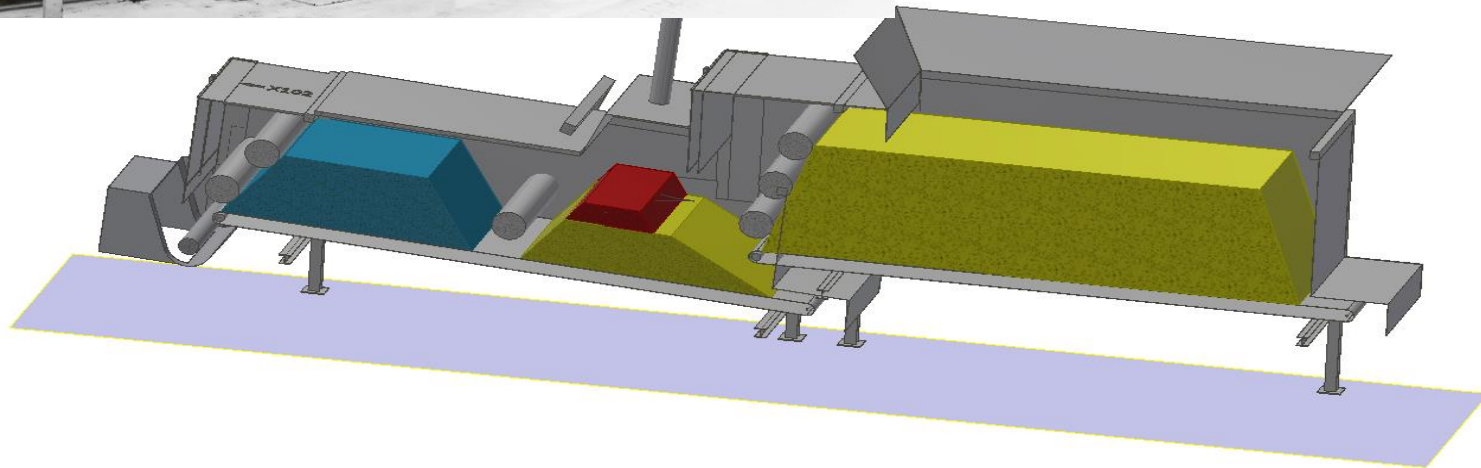


Possible Biogas Utilization

- Production of Electricity
- Biogas upgrading to Natural Gas Quality



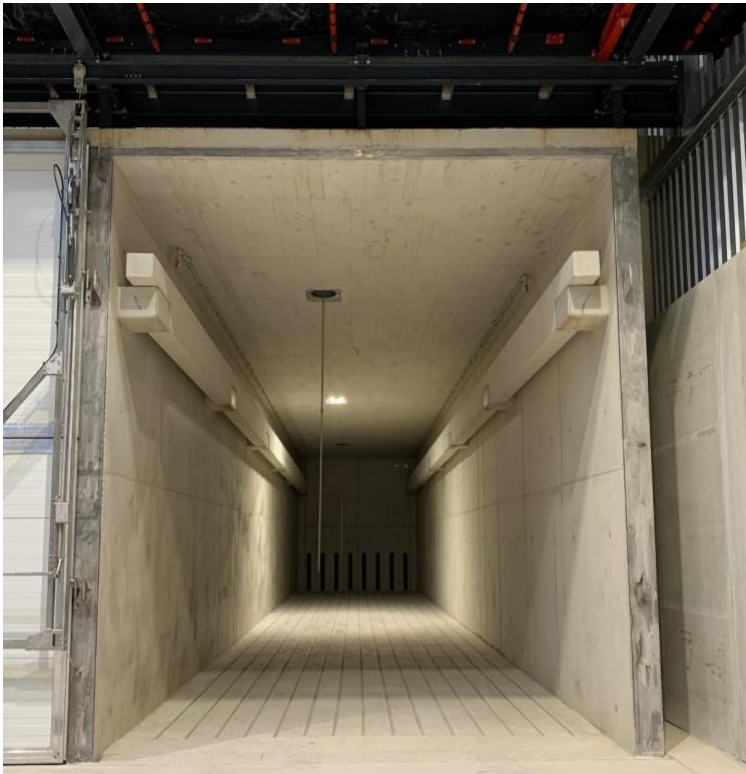
Material Mixing Device - BRT Hartner DM



BRT Hartner DM could be used for premixing the AD Input (Biogas Fermenter) and premixing the Composting Input after digestion.

Composting Tunnels with Filling System

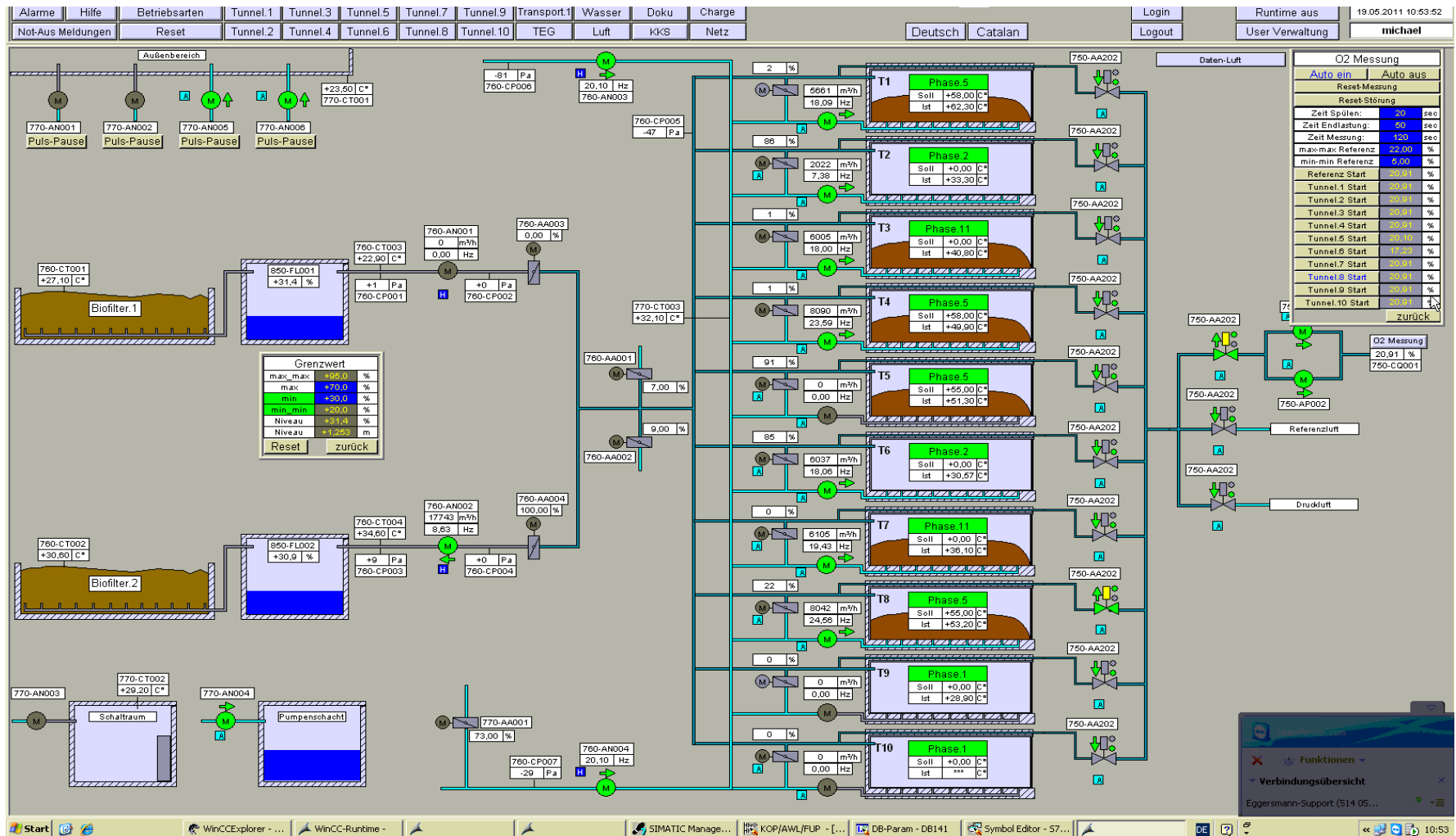
Typical Composting Tunnel
(Front View)



Automatic
Tunnel
Filling
System



Typical Process Control System - Composting



Air Treatment System



Air Scrubber system

Biofilter



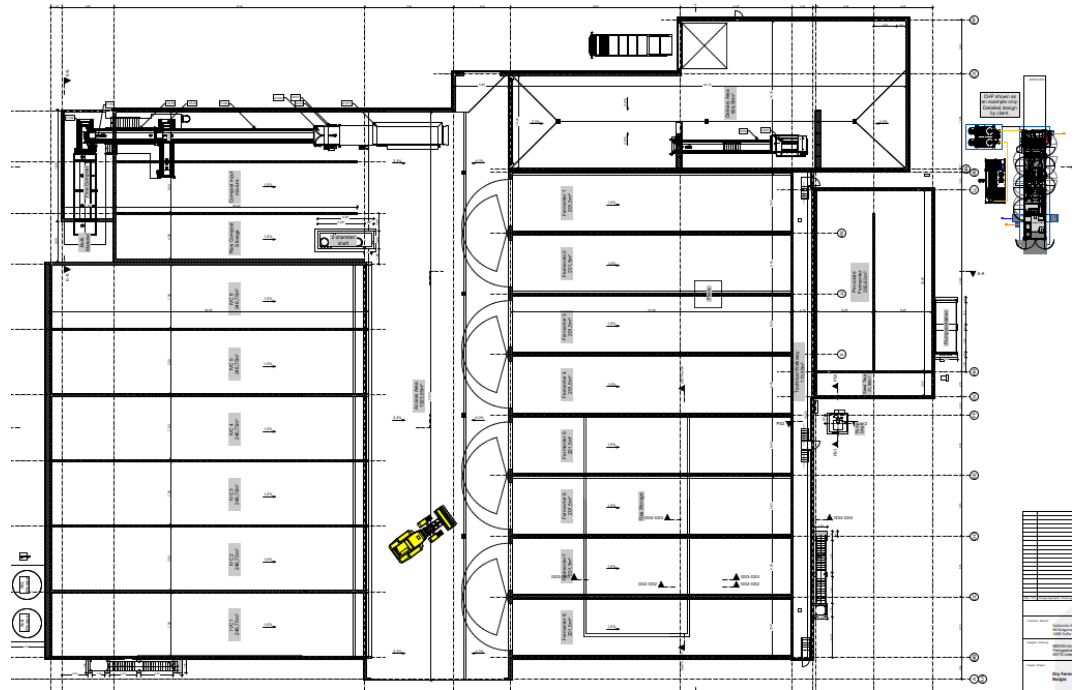
Compost Refining with TerraSelect Machines



Composting of separate collected biowaste is full recycling of the main component of household waste

Project Examples in construction – Project Burgas

- Throughput AD ca. 30.000tpa
- Production of Electricity
- In construction since 2021
- Planned start of operation 2023



Project Examples in construction – Project Blagoevgrad

- Throughput AD ca. 16.000tpa
- Production of Electricity
- In construction since 2022
- Planned start of operation 2023

