Visualization system for St. Agathen biomass heat and power plant in Villach

The new St. Agathen biomass heat and power plant has a nominal thermal output of 16 megawatts and burns exclusively natural biomass material. The plant feeds around 60,000 megawatt hours of thermal energy into Villach’s district heating network, providing 9,000 households with carbon-neutral heat. As part of the new St. Agathen biomass heat and power plant construction project, the district heating network was also extended by a further 15 kilometers.

End user
KELAG Wärme GmbH is Austria’s biggest provider of heating produced from biomass and industrial waste heat. The company’s focal mission is to supply customers with heat and process energy produced from green sources. The most important of these are industrial waste heat which would otherwise go unused, and biomass materials. KELAG Wärme GmbH supplies its customers throughout the whole of Austria with a total of 1.7 billion kilowatt hours, enough to cover the heating requirements of around 280,000 homes.

System integrator
Grübl Automatisierungstechnik GmbH is a WinCC OA Solution Partner whose process control system GATvision is based on the SCADA system SIMATIC WinCC Open Architecture (WinCC OA).

The services supplied by the “Bioenergy Plant” division of Grübl Automatisierungstechnik GmbH range from project engineering, software planning and execution through to control cabinet production, wiring and final commissioning of the complete plant.

Realization
2012
Description
For this plant, the services supplied by Grübl Automatisierungstechnik GmbH encompassed electro technical planning, control cabinet construction, on-site assembly and wiring, PLC software, generation of the safety technology software, development of a new process visualization system, on-site commissioning as well as servicing and maintenance.
The complete St. Agathen biomass heat and power plant is made up of the following plant sections:

- 2 x biomass boiler - St. Agathen
- Hot water network - St. Agathen
- District heating network
  - Heat generation plant - St. Magdalen
  - Heat generation plant - Warmbad
  - Biomass heat and power plant - Untere Fellach
  - Heating container – Untere Fellach
  - Heat extraction, supplier OMYA
- Boiler house ventilation
- Low voltage distribution

Technical data
The single server system WinCC OA Version 3.10 exchanges around 6,000 I/Os with the Bernecker & Rainer automation system. Nine control systems supplied by Bernecker & Rainer are used for this, with coupling by means of OPC DA.
A fixed operating station and two web clients are used for plant operation and monitoring.
Wide-ranging data analyses and customer-specific energy logs are generated with the aid of the WinCC OA Report.
The WinCC OA Scheduler is also used to ensure optimum power supplies depending on the time of day.
Reference report
Energy
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**Special features**
The WinCC OA user interface was developed on a plant-specific basis in consultation with the end customer. The plant can also be operated and maintained by means of remote access.

As operating personnel can be automatically alerted by phone or SMS, the plant is capable of operation without continuous supervision.

The end customer benefits from a newly developed look & feel and from the use of customer-specific device objects and faceplates.

**Advantages / Benefits**
The end customer opted for WinCC OA due to the intuitive operation made possible by consistent object orientation, and also due to its economic benefits. The customer also benefits from continued availability during system updates and backups.

The benefits for Grübl Automatisierungstechnik GmbH as a WinCC OA Solution Partner are engineering flexibility and the simple implementation of equipment identification. Use of the web client makes for extreme ease of plant maintenance.
Reference report
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Plant images
Reference report
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Visualization system for St. Agathen biomass heat and power plant in Villach

Screenshots
Reference report
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