CUSTOMER CASE

IGSS

Widex heats their new headquarters with groundwater

WIDEX

Customer
Widex A/S

Country
Denmark

Line of Business
Producer of digital hearing aids

System Integrator
NHL Automation

IGSS Application
- IGSS V8
- Single user
- 1,000 objects

Data

Area
36,000 m³

Number of wells
10

Employees at headquarters
650

Danish Widex, a leading global manufacturer of digital hearing aids has installed a sophisticated and CO_2-neutral groundwater cooling-heating system type ATES - Aquifer Thermal Energy Storage in their new headquarters.

The Widex headquarters in northern Zealand houses 650 employees and is the first Danish building where heating and cooling requirements are met without external energy sources - except for auxiliary power to operate pumps, etc.

The ATES plant, which is based on energy storage power in large subterranean aquifers, is calculated to be about 70 percent cheaper to run than a conventional plant.

Environmental authorities have high requirements to the thermal balance of the plant and the supplier EnOpSol and their partner NHL Automation decided to place the control and the extensive documentation requirements in the hands of IGSS, which also serves as the entire plant's dashboard.

The Challenge

Verification of extensive requirements from the environmental authorities

ATES - Aquifer Thermal Energy Storage is an environmentally friendly energy storage technology that can deliver cheap and CO_2 free heating and cooling supply.

In the summer, groundwater is pumped from a cold aquifer via a closed pipe through a heat exchanger that operates a HVAC system or similar. Subsequently the heated water is pumped back to a hot aquifer. When there is a heating need (for example in the winter) the process is reversed and water is pumped from the hot aquifer via a pump back to the cold acquifer.

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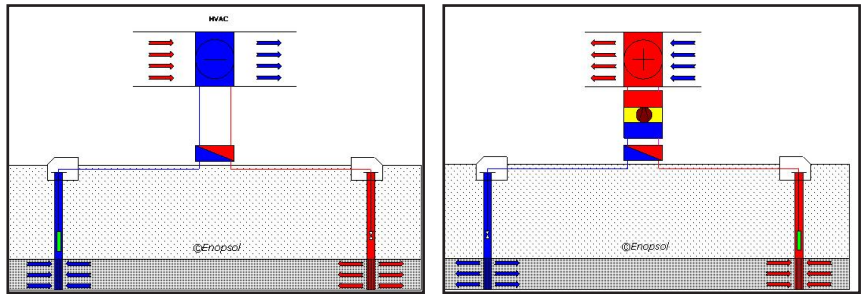
The manageable interface and powerful reporting functionality in IGSS makes it an ideal SCADA system for the documentation demanding ATES systems.

Extraction of groundwater requires a special permit from the environmental authorities, who also requires ongoing documentation that the groundwater thermal balance is constantly being monitored and maintained.

The complexity of a typical ATES system and the extensive documentation requirements place heavy demands on the SCADA system.

The Solution

Ten wells supply 36,000 square meters of office space

The supplier of the Widex facility EnOpSol and their partner NHL Automation uses IGSS to operate their facilities and to manage all alarms, and documentation of operating parameters.

The Widex facility consists of five pairs of wells, distributed over the entire site. Each well has a cold and a hot drilling capability. In addition, two control wells, keep track of unforeseen changes in the groundwater in the area.
The ATES facility is the sole supplier of heating and cooling to the 36,000 square meter Widex headquarters. As stability is an important parameter, NHL Automation opted for reliable industrial components for the entire plant.

"It is important for the fine tuning of the plant and the subsequent documentation that we use a one hundred percent reliable SCADA solution. The Report Generator and graph functionality works very well in IGSS and since it is a single-user system that is easy and straightforward for our customers to use, it's an obvious choice."

Niels Henning Larsen
Managing Director
NHL Automation

For the operation an Industrial PC with a large 19-inch touch screen was chosen. This provides good overview images and details with clear graphics, showing the instantaneous energy flow and the accumulated amounts of energy.

The Result

Intuitive panel and customized reports

Widex now has a reliable, manageable and easy to operate control panel for their groundwater cooling and heating systems. They also have a flexible reporting tool which they can use to easily assemble and configure the reports needed to satisfy both internal and external requirements.

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