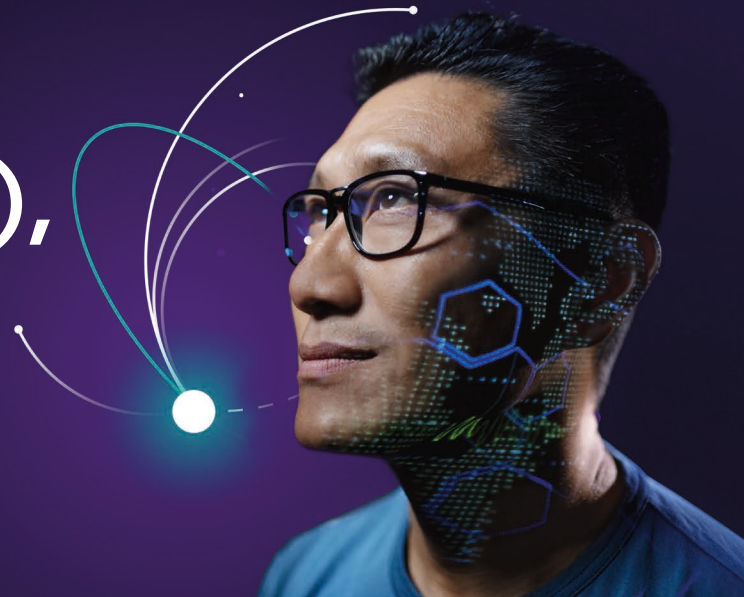


# Stadtwerke München (SWM), Germany

Sustainability for geothermal plants with Omnivise T3000



## The plant

At Stadtwerke München (Munich's City Utilities), Germany's largest geothermal plant with six drillings between 2,670 and 3,140 meters deep has been in trial operation since 2021. To ensure high availability, the three drilling pairs, or doublets, are divided among three heat lines.

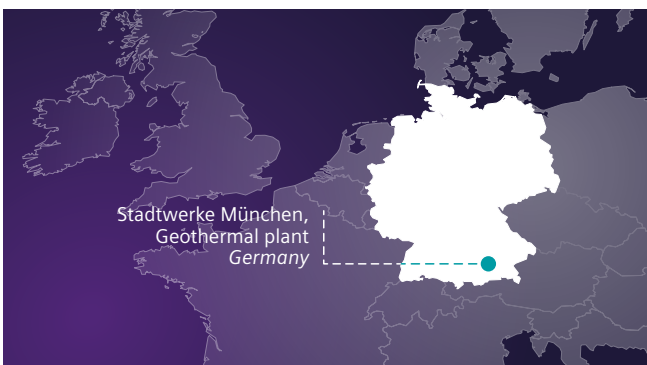
The total plant currently has a thermal output of 50 megawatts. In full operation this plant produces enough heat to supply 80,000 residents in an environmentally friendly way.

## The task

The Siemens Energy Team was contracted to implement the Omnivise T3000 control system at the South district heating plant, including all control functions and the integration into the plant's existing network setup.

A particular challenge here was the integration of the plant into the three existing district heating networks, each with different pressure systems. For this purpose, the team installed a complex district heating network switchover, which is also controlled by the Siemens Energy control system.

To avoid unnecessary high load transients as well as a lot of startups and shutdowns of the sensitive submersible centrifugal pump, the Omnivise T3000 control system uses a strong control for the thermal water system.



## The solution

To ensure high availability, the three heat lines have been divided in pairs among the three doublets. Each doublet is controlled by a highly redundant automation unit. A bypass operation is used to avoid high load transients as well as fast regulations to increase the lifetime of the sensitive pump.

The complete plant is controlled by only a few operators in the main control room. This allows the customer to optimize the energy production and heat distribution of all units at the site. This is possible due to the multi-unit functionality of Omnivise T3000 which allows the operators to control each unit from any workstation.

At a later stage the five main units at the site will have an output of approximately 700 MW electric and 800 MW thermal, all from one main control room. All 19 Omnivise T3000 systems are interconnected to ensure reliable data exchange and therefore a secure heat supply for the city of Munich.

The decisive factor for SWM in integrating the geothermal plant into the existing system was not only the reliability of Omnivise T3000, but also its flexibility. For the operation of the geothermal plant, various couplings to external systems were established, such as an IEC 61850 switchgear coupling and various Modbus TCP/IP and Modbus RTU (RS 485) connections.

### Benefits

- Central control of all automation tasks from the main control room
- Easy to understand automation functions for the operating personnel due to the clear FBD plans
- User-friendly HMI and easy operability of the proven control technology



Stadtwerke München

**“Thanks to the excellent cooperation with Siemens Energy in implementing the Omnivise T3000 control system, another milestone was reached in creating a sustainable, reliable, and efficient energy site.”**

Wolfgang Lex, System Engineer Stadtwerke München

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