

The Siemens logo is displayed in a white rectangular box in the upper right corner of the image. It consists of the word "SIEMENS" in a bold, teal, sans-serif font.

Stromversorgung Paffenhofen

Using transparency to reach the
goals

[siemens.com/mac-ioe](https://www.siemens.com/mac-ioe)

Using IoT to reach the goal

The Reisgang substation of Bayernwerke GmbH feeds power into the distribution grid of the city of Paffenhofen, Germany. In the past, the only method available to check load flows was a comparison with Bayernwerke GmbH. With the help of Siemens, the power supplier Stromversorgung Paffenhofen was able to overcome a range of challenges and independently trace load flows to achieve its goal of providing totally independent and clean power. The Reisgang substation serves as a transfer station in which seven medium-voltage outgoing feeders are connected to the distribution grid operated by Stromversorgung Paffenhofen. The substation is bidirectionally loaded by combined heat and power plants, biomass power plants, photovoltaic systems, hydroelectric power and wind power.

The first job was to establish IoT connectivity of an existing substation to the distribution grid of Stromversorgung Paffenhofen. The creation of certified and, above all, secure data transmission via 4G routers with OPC UA pub sub smoothly facilitated this work. The transparency created in the distribution grid and the demand and feed of power by suppliers like wind power, hydroelectric power, photovoltaic systems and combined heat and power plants, biomass power plants can now be better measured. Supplemental high-resolution live readings now facilitate load balancing and provide a more precise real-time overview of power demand and feed to and from the distribution grid.

"The grid data form the basis of our decentralized energy system of the future. Siemens provided us with a scalable, easy-to-use solution."

Dr. Sebastian Brandmayr – Managing Director of Stromversorgung Paffenhofen



SICAM Navigator combines MindSphere and the SICAM A8000

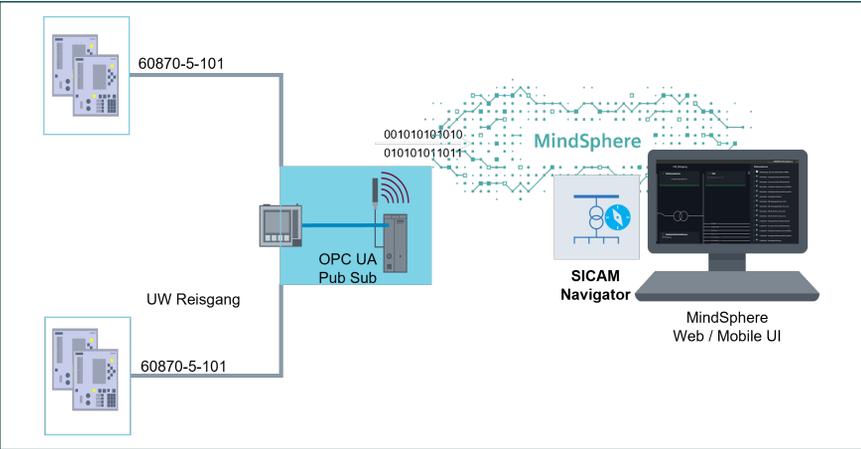
Stromversorgung Pfaffenhofen and Siemens - using IoT to jointly create more transparency

Implementation of a successful problem solution

The A8000 (CP-8021) is part of the IoT-Environment and acts as an IoT gateway. Two SIPROTEC 4 devices are connected via a 60870-5-101 link. Starting from our IoT gateway, an encrypted connection (OPC UA Pub Sub) runs to our IoT platform MindSphere. The SICAM Navigator and the Asset Manager were added to it as apps as well. The system is easy to use and scale. Four different switch positions and readings of active power, reactive power and electricity help create additional transparency. The station view and the readings view that compares a number of outgoing feeders provide assistance here.

A look into the future

From a long term perspective, it is possible to reduce maintenance costs and prevent disruptions with the help of increased transparency.



Siemens 2022
Smart Infrastructure
Humboldtstraße 59
90459 Nürnberg
Deutschland

For the U.S., published by
Siemens Industry Inc.
100 Technology Drive
Alpharetta, GA 30005
United States