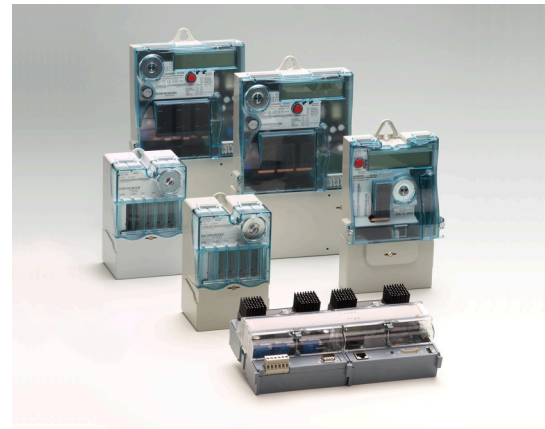




Reference data:

- **Connected IT:**
Billing system SAP IS-U, ripple control center, PQ center, remote meter reading for load profile meters
- **Meters:**
100.000 (Stage 1), 400.000 (Stage 2)
- **Load switching devices:**
22.000 (Stage 1), 90.000 (Stage 2)
- **Transformer stations:**
600 (Stage 1), 3.000 (Stage 2)



Through subsidiaries and holdings, the group is involved in the core business of energy, waste disposal and water. The Group as a whole employs a workforce of around 5.000. Energie AG is the number one infrastructure group in Upper Austria.

In total, Energie AG uses over 28.000 km high and low voltage lines and cables to supply around 6.500 GWh electricity to its 420.000 electricity customers. Over one half of the power is generated in the company's own power stations.

The Group relies on environmentally friendly power generation through renewable sources combined with innovative technologies. Efficient use of energy and the maintenance of high standards of supply reliability have top priority for the Group.

To ensure the economic success due to optimization of existing operation processes and development of new fields of business, Siemens AG Österreich has been awarded to build an integrated complete solution for the automated metering and management of the distribution network.

As a complete solution, AMIS acquires data and information of households, spe-

cial contract customers and the distribution network infrastructure and transmits them to a control center. This allows network distribution operators to optimize essential key processes and offer new services and data to their customers, both on the supplier as well as the consumer side. The most important reasons for implementing an AMIS system for Energie AG are:

- Automation of metering processes (meter reading, blocking of customer installations, billing, prepayment services, etc.)
- Significant improvement of customer processes
- Implementation of various tariffs and tariff management
- Quality improvement of consumption data due to monthly meter reading
- Replacement of ripple control
- Recording of the customer supply
- Support of the energy efficiency program of Energy AG

The new fully electronic multifunction meter combines power and energy measurement, flexible tariff metering, and complete DLC communication over the power supply network, and it is already prepared for value-added services.

The load-switching device enables load switching based on a clock program and

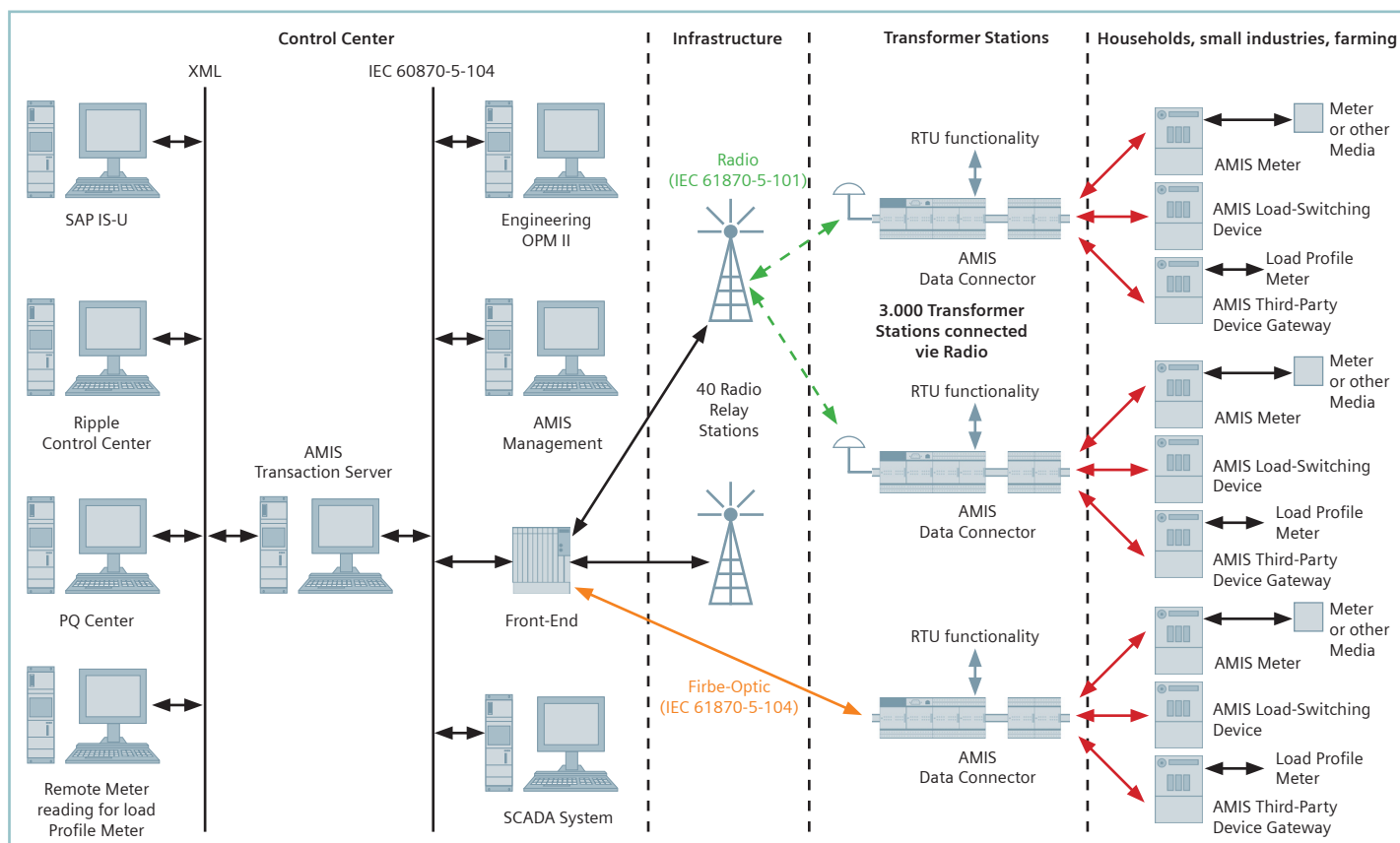
AMIS - Reference

Energie AG Oberösterreich, Austria

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additionally via command from the control center. Existing load profile meters of third-party manufacturers are interfaced to the AMIS system via the third-party device gateway.

The data concentrators in the low-voltage transformer stations compile the data from the meters, load switching devices and third-party device gateways and can be expanded in modular fashion with automation functionality.

The low-voltage network is used to connect the terminal devices with the transformer stations. For this purpose, Siemens developed an own narrow-band DLC communications technology based on spread-spectrum methods that allows highly available and secure communications via the power network. The corresponding DLC modems are a fixed part of the terminal devices and the data

concentrators for the transformer stations.

The AMIS data concentrators are connected to the front-end in the control center either via radio (IEC 60870-5-101) or directly via fiber optics (IEC 60870-5-104). The modems and IP components required for this are integrated in the AMIS Management via the data concentrator and can thus be completely monitored and parameterized remotely.

The AMIS transaction server in the control center processes the data of the terminal devices and adapts the data format to higher-level IT systems (billing system, energy data management, ripple control center, power quality monitoring, etc.).

All terminal device parameters are created and managed centrally in parameter profiles, coordinated with the customer

contract data and the requirements of the higher-level IT-systems. Installation, removal and con-version orders are also processed centrally and distributed electronically with the associated parameter profiles, thereby ensuring data consistency.

The automation data of the distribution network are sent directly to a SCADA system of Energie AG.

AMIS is thus a complete system that provides not only with automated cyclic information acquisition of the consumption data of the power customers, but with an open solution for new services and communication with the customers.

Further planned extensions:

- Automation of transformer stations
- Integration of meters of other media
- Home Automation
- Demand Side Management
- Outage Management

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