



HIRSCHMANN

A **BELDEN** BRAND

Ethernet in Substations.

Power

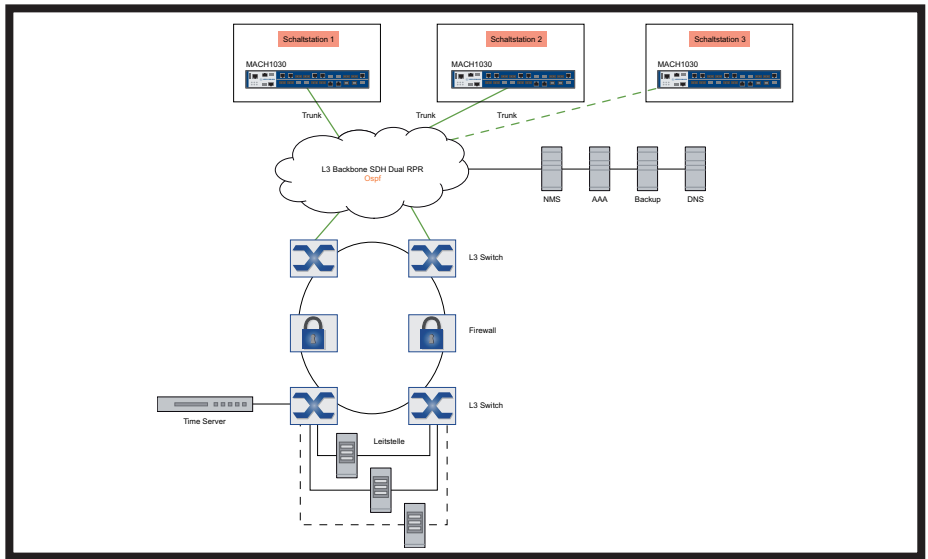
EKT AG in the Swiss Canton of Thurgau has guaranteed a safe and sustainable primary supply of electricity for almost 100 years.



An energy grid must be controlled, regulated and protected. The electricity grid at EKT is monitored and controlled remotely from a control center. All important data and the current operating status, as well as the capacity utilization of the substations, switching stations and cables and overhead wires are reported continuously to the control center, where the

information is displayed clearly to the operator, and, in the event of incidents, alarms are sent automatically via various alarm systems. DDS NetCom AG from Fehraltdorf has been a vendor of Hirschmann™ network solutions and a project partner providing technical support to EKT for many years.





MACH1000

Project details

A routed Ethernet network is used to transport the data. All network components are protected by UPSs and routed to the control center via a redundant backbone infrastructure. In addition to the control in the stations and substations, telephone systems were retrofitted to IP-capable VoIP devices. Further IP applications can be added at any time thanks to the open platform. The stations are now controlled via Ethernet. For this purpose, the Ethernet network was retrofitted and expanded in accordance with the IEC 61850 standard developed for protection and control technology.

Project parameters

- 15 substations, 30 switching stations
- Installed capacity 790 MVA
- Medium-voltage power grid almost 600 km of wires
- Supply area 991 km²

Requirements

- Devices must comply with IEC 61850
- Redundant supply of up to 300 VDC
- Creation of VLANs
- Remote maintenance, SNMP, AAA
- Integration into the existing Network Management System (NMS)
- Extremely high reliability
- Proven systems

Solution

- Hirschmann™ devices from the ruggedized series with
 - IEC 61850 and KEMA certified solutions
 - Redundant power supply from 16V to 320V DC and 90V to 265V AC
- Network management with Industrial HiVision by Hirschmann™ and integration into the existing Kiwi Cat Tools for software and configuration management
- Integration into the existing control system via SNMP
- High availability via proven Hirschmann™ technologies
- Configuration of the management and security functions via local LAN and WAN
- Redundant connection to the backbone
- Layer 3 connection of remote stations
- WL single mode connections of EKT's own cables

Why Hirschmann™?

- Requirements met in full
- Proven reliability of Hirschmann™ devices with extremely high MTBF values
- Long service life and high availability
- Complies with IEC 61850 standard for protection and control technology
- Competent support by DDS NetCom AG, certified Hirschmann™ partner

