

Data acquisition for power system monitoring – Romande Energie

Challenges

For power system monitoring **at Romande Energie, voltages and currents are recorded with various devices** (IEDs, RTUs, Qualimeter, ...) at high sampling rates during electrical events (e.g. power disturbance, voltage dips, overvoltage, short circuit). The aim is to **transmit these records remotely** for a **better deployment of the high- and medium-voltage grid** through **post-incident analysis, predictive maintenance or equipment monitoring**.

A **communication gateway** should be used for data acquisition and transmission from the Substation to the virtual servers. The existing IVPower expert software is used for the post-incident data analysis and can retrieve the needed data from these virtual servers or at real time via the communication gateway.

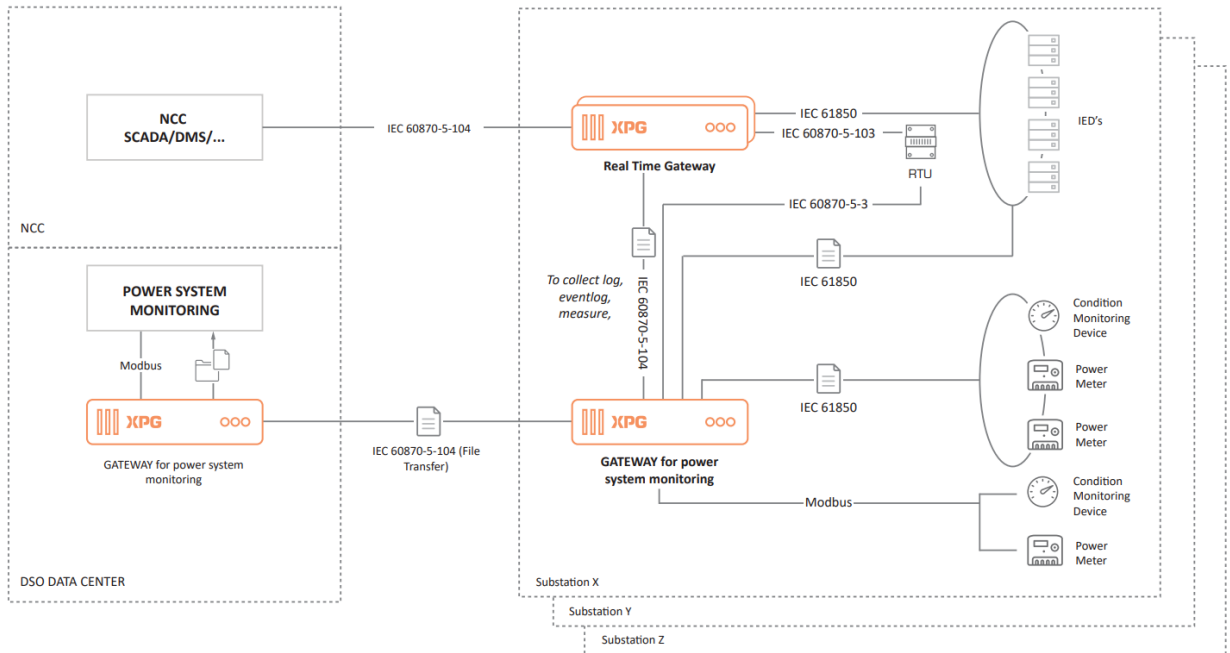
→ Elvexys' Solutions & Services

- **Data acquisition via XPG Gateway**
- **Data compression and transmission via XPG Gateway**
- **Configuration with StreamTools**
- **Maintenance support**

Why choose Elvexys?

- ✓ **Fast and automatic data feedback** in the case of an electrical event
- ✓ **Reduced analysis and trouble shooting time** and incident reporting
- ✓ **Incident records are stored and available** at the virtual servers
- ✓ **Compliant with the highest cybersecurity standards.**
- ✓ **Record data can be polled** from the measurement equipment at real time

Schematic



Hardware & Software

XPG Gateways

XPG is a modular multi-protocol communication gateway that runs on ISOS (Industrial Secure Operating System), both engineered and designed by Elvexys. It is also a chosen hardware which is used for all communication applications, data processing and protocol

IVPower supplied by Netceler

IVPower is a software for power systems monitoring developed to understand short circuits events, power quality disturbances and wide-area phenomena.

Protocols & Standards

- IEC 61850
- IEC 61850 DR (Disturbance Recording)
- IEC 60870-5-104
- IEC 60870-5-104 FT (File Transfer)
- Modbus
- COMTRADE
- Eventlog