



HYDRO

250 SCALA CONTROL CENTER SYSTEM



ANDRITZ

ENGINEERED SUCCESS



Optimize your operation and process control with 250 SCALA

250 SCALA is a state-of-the-art SCADA system providing all functions for operation, supervision and control of your process. Its scalability allows the use on all automation levels - starting from turbine controller and unit control up to large central control rooms.

Optimized ergonomic control and display concepts guarantee a quick and reliable process overview. The product line extends from the touch panel of the turbine- or machine-controller to singular compact system, to redundant compact systems up to distributed client/server configurations in multi-hierarchical systems.

Microsoft Windows and Linux (Red Hat) are available as server operating systems, each requested system performance can be achieved.

HIGHLIGHTS

- Software version independency of touch panels, power plants and central control rooms
- Innovative human-machine interface with ergonomic operation and display concepts
- Excellent scalability - from local unit control up to central control room
- High operational availability and distributed redundancy
- Flexibility for further enhancements - such as database interfacing, remote alarming, etc.



The best solution for power generation applications

TURBINE CONTROLLER - GATE CONTROL

With a data volume of 500 process signals, this is the smallest application of 250 SCALA: as a small compact 6" touch panel. The general waiver of rotating components allows usage under harsh ambient conditions.

UNIT CONTROL

Touch panels from 6" to 21", preferably without rotating parts, are used for unit control, whereas control and display functions for the turbine- respectively unit controller are integrated.

Fast SSD disk guarantee archives of up to 1 msec resolution for such touch panels.

POWER PLANT CONTROL

The scalability of 250 SCALA starts with standard PCs equipped with one to two screens and extends to large power plant control rooms with up to 50 work-places. The integrated engineering tool with its centralized parameter administration allows the automatic distribution of parameters and process views to the related control panels.

The innovative human-machine interface offers efficient power plant operation:

- Multi-window and multi-screen features
- Zooming, panning and decluttering
- Support of up to eight screens
- Video walls and large screens
- Optimized for touch panel operation
- Context menus
- User-friendly forms
- Multiple selections
- Drag & drop

REDUNDANT POWER PLANT CONTROL

Without additional engineering efforts an existing 250 SCALA system can be made redundant just by simply duplicating the computer hardware. For increased security demands the redundant computers can be placed evenly distributed.

CENTRAL CONTROL ROOMS

Due to the capability of processing high telegram rates without time delay, 250 SCALA is also especially suitable for large control centers with an virtually unlimited amount of process data. For example - with a given data volume of 200,000 process signals a continuous load of up to 3,000 telegrams per second can be processed.

Database interfaces, remote desktop services and video walls are self-evident. Specific concepts allow both the operation as central servers and the communication with various self-sustaining power plant servers, even with different software releases. World picture views with an integrated navigator display allow the well arranged operation of power plant cascades.

In addition to the current SCADA standards additional functions are available, such as:

- Topological coloring and interlocking for electrical networks
- Switching sequences
- Video surveillance
- Remote alarming
- Monitoring of network infrastructure
- Remote monitoring and diagnosis



Functions at a glance

CONFIGURATION:

- Windows 10
- Windows server
- Linux (Red Hat)
- Redundant server
- Multi-hierarchical server and client architecture
- Up to 50 workplaces
- Up to 1,000 automation units
- Remote desktop server capability
- Touch panels and box-PCs

BASIC FUNCTIONS:

- Centralized engineering
- Chronological, spontaneous and post mortem archives
- Spontaneous archives with a resolution of 1 msec
- Long-term archiving up to several years
- Curve displays with up to 100 process signals
- Drag & drop between lists, curves and process displays
- Flexible alarm functionality with different alarm levels
- Unicoded multi-lingualism
- Time zones
- Syslog

ADDITIONAL FUNCTIONS:

- Data synchronization between servers in different hierarchical levels
- Integrated representation of EXCEL reports, HTML and PDF files
- Remote alarm via voice message, E-Mail or SMS with integrated shift management
- Network management via SNMP-V3
- SQL database interface (ORACLE, MySQL, ODBC)
- Topological coloring of electrical networks
- Switching sequences
- HTTP-Server

CYBER SECURITY:

- Two-factor authentication with smart cards
- System hardening
- Provision of pretested anti-virus patterns
- Provision of pretested operating system security updates
- Applications running as services

ENGINEERING:

- Joined parameterization of multi-hierarchical systems with automated parameter transfer
- Integrated engineering tool
- Object-oriented engineering
- Logging of engineering activities
- Standard libraries

COMMUNICATION:

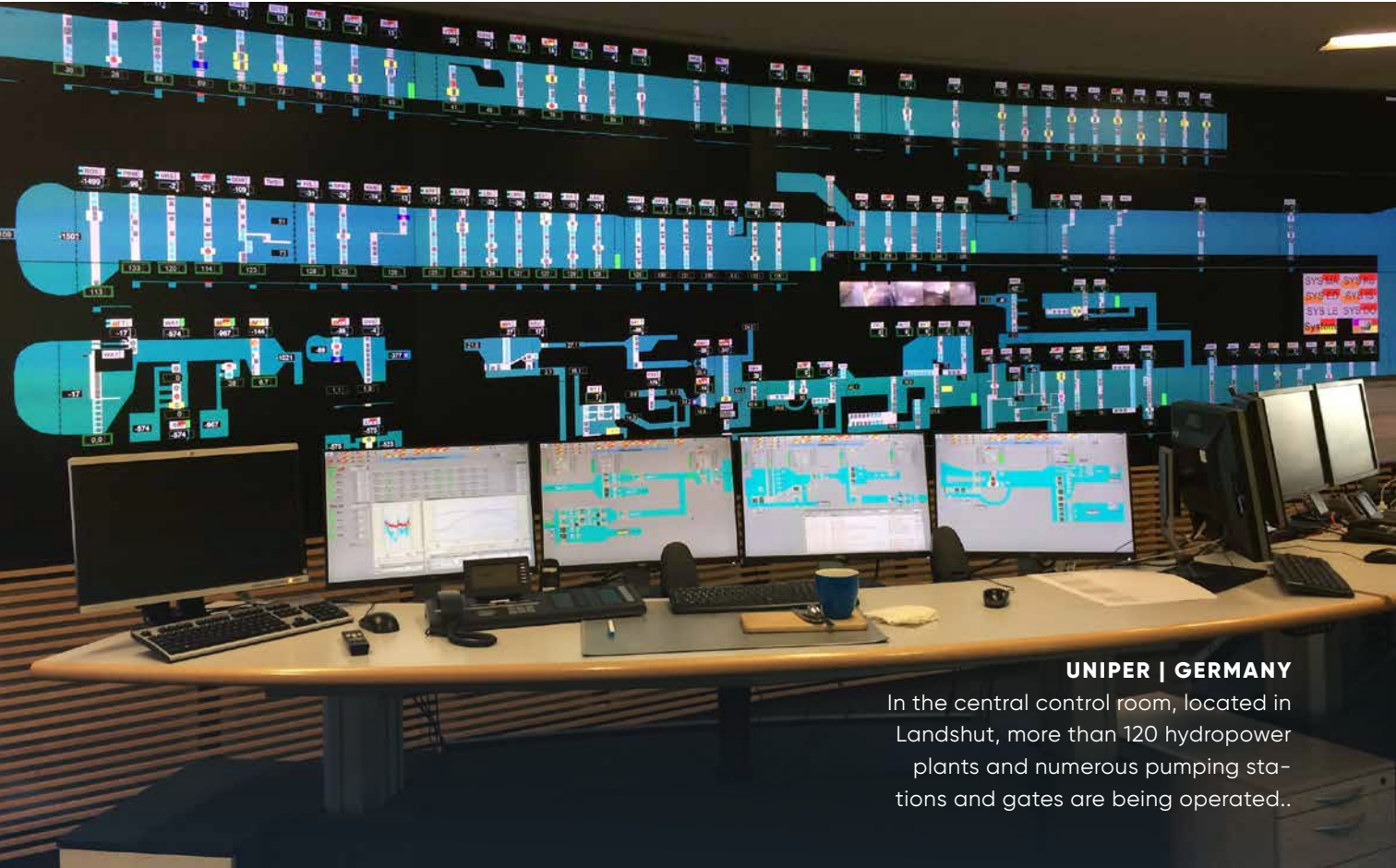
- IEC 60870-5-101
- IEC 60870-5-104
- IEC 61850
- OPC UA, client and server
- OPC XML-DA, client and server
- OPC DA, client and server
- Modbus TCP and RTU, client and server
- ICCP / TASE.2
- API for C++ and C#

SCALABILITY:

- Gate controller
- Turbine controller
- Unit controller
- Substations
- Power plant control systems
- Central control rooms

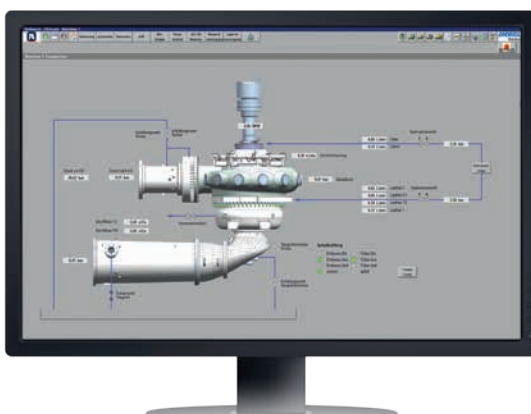


The world of 250 SCALA



UNIPER | GERMANY

In the central control room, located in Landshut, more than 120 hydropower plants and numerous pumping stations and gates are being operated..

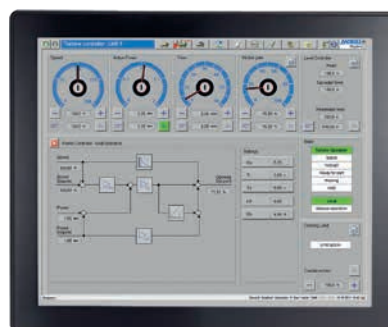


TURBINE CONTROLLER

The turbine controller based on 250 SCALA for all types of turbines. The ergonomic user interface is optimized for touch operation.

VORARLBERGER ILLWERKE, RELLSWERK | AUSTRIA

Based on the scalable 250 SCALA the operating and monitoring of the facility is provided by a redundant SCADA system.





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