



*alperia*



NEED

As part of the project aimed to optimize and modernize the distribution network, Alperia, an utility operating in Alto Adige, wants to activate new intelligent services for network remote monitoring. Besides the most innovative functions of telecontrol and supervision, the goal is also to have suitable front-ends to interface existing systems and to have the possibility to store data and track events to make them analyzable at a later time. Alperia wants to strengthen the central point of management, minimizing the upgrade interventions in the peripheral sites, preserving the investments in place and optimizing rollout times.

SOLUTION

SELTA deployed an RTU/SCADA solution in an overall plant made up of 17 primary stations, remote controlled with Enel equipment, and 2500 secondary substations for a total value of about 35,000 I/O. The SCADA eXpert DMS has been installed in addition to SELTA STCE-RTU system in the secondary stations. SCADA eXpert allows Alperia to remotely monitor the entire network in real time, view the topology with the possibility of zooming on specific stations/substations, perform off-line network analysis in standard and fault setting, and finally record data. eXpert also plays the role of SCADA simulator replicating the actual DMS to study collected data, validate and chronologically reconstruct events.

BENEFITS

SELTA solution has introduced multiple advantages for the operator. First of all, it has modernized and made the management of the network and its own behavior more intelligent by using innovative protocols such as IEC61850. This has also led to advantages in terms of security and connectivity, thanks to the use of protocols such as IEC870.5.101/104 and Modbus RTU/IP. In addition, a Disaster Recovery Plan has been implemented ensuring high availability of the entire network that is combined with greater scalability, both as number and type of interfaceable systems and opportunities for systems' hardware upgrade.

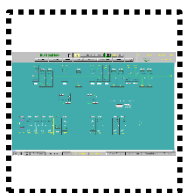
The solution proposed and implemented by SELTA provides the installation of STCE-RTU systems in the secondary substations of the distribution network managed by Alperia. A suitable network site has been chosen as the central node from which to supervise and control the network. At this site a SCADA eXpert DMS system has been installed to interface 17 primary stations, remote controlled with Enel RTU devices, and 2500 secondary substations. eXpert database is Oracle type and has been configured with network stations/substation master data. It's also the repository where all the significant quantities are stored based on scheduling for subsequent table or chart display from operator. With eXpert and STCE-RTU, the network is remotely controlled in real time, it is possible to zoom in on individual stations/substations, perform offline analysis of the network in standard and fault settings. Among features there are alarm management, periodic storage of network status and maneuvers (closing/opening switches, disconnectors), automatic trunk failure search.



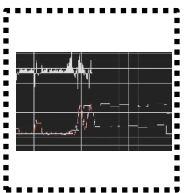
STCE-RTU is an integrated system for remote monitoring and control, advanced monitoring of events and perturbations, local automation of VHV/ HV transmission stations and HV/MV distribution substations. It is also available in compact form (STCE-R)



The solution is designed to protect existing investments and includes both redundant hardware and supervision software. In the central site there are a number of servers dedicated to the main functions including front-end, HMI/DMS, switch and satellite receiver.



eXpert also performs functions of SCADA simulator replicating the actual DMS to study collected data, validate and chronologically rebuild events. eXpert also implements secondary substations operating automa.



Thanks to SELTA solution, the operator can perform offline network analysis even in a fault state to reproduce the occurrence of specific events, understand them and program specific actions.

