GRID AUTOMATION TRAINING

IEC 61850 - ITT600
Course SEP800

INTERNATIONAL STANDARD

Communication networks and systems in substations -

IEC 61850

Course goal
The goal of this course is to learn basic of IEC 61850, SCL Engineering tool in PCM600 and the ITT600 Explorer analyzing tool.

Learning objectives
Upon completion of this course the participants should be able to:

- Understand IEC 61850 in general
- Describe the IEC 61850 model
- Have knowledge about the IEC 61850 documentation
- Use the PCM600 SCL engineering tool
  - GOOSE engineering by using two different methods
  - MMS engineering
  - Migration from IEC 61850 Ed1 to IEC 61850 Ed2
- Use the ITT600 analyzing tool
  - Analyze and debug a IEC 61850 system regarding GOOSE and MMS

Prerequisites
Participants should know the fundamentals of working with control systems and electrical power networks. They should also have basic knowledge about communication protocols used in SA applications. Furthermore, they should have participated in course PCM600 (SEP601).

Also, be aware that all scheduled courses will be in English.

Participant profile
This training is targeted towards system integrators who want to learn about the IEC 61850 and the related tools.

Topics
- IEC 61850 general
  - What is and why IEC 61850
- IEC 61850 documentation structure
- IEC 61850 model
- Communications GOOSE and MMS
- Engineering strategy
- Ed1 vs Ed2
- SCL file types

- PCM600 SCL engineering tool
  - Engineering of a IEC 61850 system for MMS and GOOSE, station bus
  Note; engineering of process bus, 9-2 LE is covered as a separate course

- ITT600 analyzing tool
  - Use ITT600 for tracing and debugging of a IEC 61850 system
  - How ITT600 can be used as a full-fledged IEC 61850 client

Course type and methods
This is an instructor led course with interactive classroom discussions and associated exercises. Approximately 60% of the course is hands-on activities. In the exercises Relion 670/650 series will be used.

Duration
The duration of the course is 3 days.