# Online-Course: IEC 61850 – Basics and Applications

3 days à 5 hours | English | # oCpuc02en

Are you new to IEC 61850? In this training course, you get a thorough introduction to the IEC 61850 standard in a combination of theoretical and practical sessions. Work in a digital substation environment with IEDs from different vendors and network architecture for station and process bus. Learn how to efficiently navigate through IEDs and how to orient yourself in IEC 61850 substations with the help of what you have learned, supported by OMICRON's IEC 61850 testing solutions.

## Objectives

> Experience the different parts of the IEC 61850 standard and understand its applications
> Work with the Client/Server, GOOSE and Sampled Values services for power utility automation
> Have an insight into the system configuration concept with the Substation Configuration Language (SCL)
> Learn about the principle of functional testing of IEC 61850 based IEDs and systems

## Content

> Basics of IEC 61850
> Data model and services
> Specific communication mappings
> Client/Server communication for SCADA applications
> GOOSE analysis and applications
> Sampled Values on the digital process bus
> Overview of the main aspects of substation communication networks
> Basics of the substation communication configuration based on the SCL
> Overview of testing in IEC 61850 environments
> Introduction to Cyber Security
> Live demo in the environment of a fully digital substation

## Solutions

Overview of all OMICRON IEC 61850 testing solutions.

Work with:

IEDScout
StationScout
MBX1
ISIO 200

## Audience

Technical staff from electric utilities or companies involved in project planning, commissioning or maintenance of IEC 61850 systems

## Prerequisites

Basic knowledge of electrical engineering

No or little previous knowledge of IEC 61850


## Implementation

This course takes place entirely online. From your desk, you participate in sessions with our trainer. Innovative tools and methods allow you to actively participate and interact with both the trainer and the course participants. Subsequently, comprehensive practical parts on our digital substation on protection relays of different manufacturer will enable you to apply the knowledge you have learned during the theoretical sessions. For this, you will connect in small groups directly to our training room via remote access.

## Structure

> Introduction round
> Theory session
> Hands-on session
> Lunch break
> Theory session
> Hands-on session
> Question and Answer session and discussion

A detailed agenda will be provided shortly before the training starts.

## Your Tools

> Computer/Laptop with Internet access
> Headset
> Webcam
> Cisco Webex access (provided by OMICRON)