POWERFACTORY

Introductory Course: Time Domain Simulation

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Online training course

This training gives the participants an introduction to the handling of the time domain simulation functions in *PowerFactory*. It includes the following topics:

- Definition of result variables and simulation events
- Visualisation of simulation results
- Simulation scan
- Fast Fourier Transform (FFT)
- Definition of dynamic controllers

The various hand-on exercises with detailed instructions ensure that participants will gain a sound introduction to the use of time domain simulations in *PowerFactory*.

WHO SHOULD ATTEND:

The training course is intended for

- Utility engineers
- Power system operators
- Project developers
- Manufacturers
- Consultants
- Electrical engineers in general

This training is highly recommended as a preparatory course for users interested in attending one of the following courses:

- Power System Stability
- Electromagnetic Transient Analysis
- HVDC & FACTS

PRICE PER PARTICIPANT:

- 558.00€* (with valid maintenance contract)
- 635.00€* (without valid maintenance contract)
- 190.00€* (with valid student identification)

*Prices are exclusive of VAT

Training schedule

Central European Time (UTC +01:00)

DAY 1

9:00 Time Domain Simulations in *PowerFactory*
Calculation methods: balanced/unbalanced RMS simulation, EMT simulation. Handling of the time domain simulation. Visualisation of simulation results. Exporting simulation results (*.csv, *COMTRADE format, etc.).

9:45 Exercise: RMS Simulation
Running RMS simulations in a test network. Calculation of initial conditions, definition of result variables and simulation events. Graphical visualisation of results.

10:30 Coffee break

11:00 Exercise: RMS Simulation (cont.)

11:30 Exercise: Simulation scan
Execute a simulation with different simulation scan modules and configurations: fault-ride through, loss of synchronism, voltage scan, variable scan module.

12:30 Lunch break

13:30 Exercise: EMT Simulation
Running EMT simulations in a test network. Calculation of initial conditions, definition of result variables and simulation events. Graphical visualisation of results.

14:00 Exercise: Fast Fourier Transform (FFT)
Getting the harmonic content. FFT configuration options.

14:30 Dynamic controllers
How to assign dynamic controllers to a synchronous machine (AVR, speed controller). Use plots to compare the results for different parameter sets.

15:45 Dynamic Models in *PowerFactory*
System modelling in *PowerFactory*: the general approach. The composite plant model and the controller models (DSL elements). Use of templates from the global library (e.g. for non-conventional generation).

16:30 Exercise: Add a Dynamic Model from the Global Templates Library
Handling. How to add a dynamic model from the global templates library and how to configure/changes its parameters

17:00 End of the training course

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