

# Quasi-Dynamic Simulation

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## June 21<sup>st</sup> 2021

Online training course

The purpose of this training is to introduce the principles and the handling of the Quasi- Dynamic Simulation in PowerFactory. The participants will learn how to create and assign time-series characteristics, define result variables, execute the analysis and use the various options to analyse the results.

The training contains the following topics:

- Introduction into the Quasi-Dynamic Simulation in PowerFactory
- Different modelling aspects to implement time-series characteristics
- Time Sweep Analysis
- Implementation of measurements and estimation of unknown load states using the Feeder Load Scaling
- Outage Planning

### WHO SHOULD ATTEND:

This training course is intended for

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

interested in performing and analysing time-series simulations.

It is essential that the participants are familiar with the basic handling of *PowerFactory*. Experience with PowerFactory's time-series simulation is not required.

### 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 Introduction into Quasi-Dynamic Simulation

Implementing of time-series characteristics like consumption profiles and introduction into different time-dependent equipment models. Conversion from measurement data from different formats into *PowerFactory*. Definition of result parameters and introduction into different options of the Quasi-Dynamic Simulation command.

#### 10:30 Coffee break

#### 11:00 Exercise: Analysis of a time-dependant network model

Different analysis techniques for the Quasi-Dynamic Simulation. Network analysis through different plots, reports and statistical variables. Assessment of loading and voltage band violations to determine critical equipment at specific points in time.

#### 12:30 Lunch break

#### 13:30 Exercise: Feeder Load Scaling using measurements

Define feeders to implement actual measurements at different points of the network, e.g. at a transformer. Scaling of the consumption of loads that are not exactly known to consider the new measurement and obtain more realistic load flow results over time.

#### 15:00 Coffee break

#### 15:30 Exercise: Outage Planning

Definition of an outage to simulate the maintenance work at a transformer over a specified period of time. Analysis of the network for the new network condition.

#### 17:00 End of the training course