COURSE DESCRIPTION

CHH610 – Expert Optimizer Fundamentals and Control Strategies

Course goal
The goal of this course is to enable participants to understand the most important aspects of the architecture and functionalities of an Expert Optimizer (EO) strategy, so as to apply this knowledge in their daily activity.

Main learning objectives
Upon completion of this course the participants should understand the fundamentals of advanced process control (APC) technologies and their implementation in Expert Optimizer.

Using a “learning by doing” approach the participants should be able to:
— Connect EO via OPC with automation control systems
— Create logs, trends and link process variables to the operator interface
— Use EO client for data input and data analysis
— Understand and parameterize main blocks in EO
— Understand, tune and optimize EO control strategies
— Maintain the system and troubleshoot most common issues

Most importantly, the user will understand how control strategies are built, and how different technologies are combined to produce best results

Participant profile
This training is targeted to automation and process engineers.

Prerequisites
Participants should have knowledge of the process industries plus basic control instrumentation experience. They should also have a good knowledge of MS Windows and fluent technical English.

Topics
— Fundamentals of APC technologies
— Overview and use of the EO tools
— Link EO with automation systems
— Logging of data
— Operator displays and trends
— Starting and stopping the EO toolkit
— User management
— Maintenance and troubleshooting
— Navigate in an EO program
— Main EO strategy building blocks
— Fundamentals of fuzzy logic (FL)
— Implementation of FL in EO
— Fundamentals of Model Predictive Control (MPC)
— Implementation of MPC in EO
— Parameterizing and tuning control strategies
— Overview of EO control strategies for a cement plant

Course type and methods
This is an instructor-led course with interactive classroom discussions and associated practical exercises. Approximately 50% of the course is hands-on lab activities.

Duration
The duration is 5 days.

Remarks
After you have completed this course, you are qualified to attend our add-on course:
— Expert Optimizer – Advanced Toolkit Engineering (CHH611)
## Course map

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<td>Why advanced process control?</td>
<td>Main EO strategy building blocks</td>
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<td>EO configuration tools</td>
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Typical course layout (time or sequence may change)