Inprocess Technology & Consulting Group, S.L.
Pedro i Pons 9-11, 13th floor · E-08034 BARCELONA (Spain)
www.inprocessgroup.com

SC-SS02 - ADVANCED STEADY STATE PROCESS SIMULATION

OBJECTIVES

The course content covers the advanced needs of process simulation users. Non-usual capabilities of the software are explored and applied to useful examples. The use of advanced software functionalities will show users how to increase the value that can be obtained from the process simulator.

The course has been designed to include many hands-on exercises to facilitate a more efficient and interesting learning experience. Theory is used to introduce the objectives of every module in the course as well as to help attendees to understand how the underlying calculations are performed.
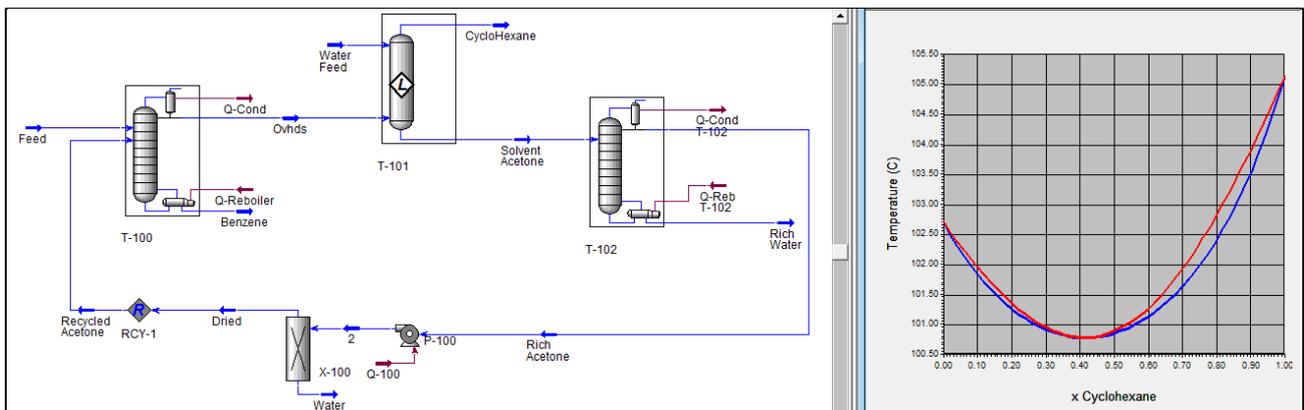
PARTICIPANTS

This course is intended for engineers who are acquainted in the use of commercial steady state process simulators and that will benefit from a detailed explanation of some of the software advanced features.

The course content is aimed at engineers working in departments where the daily use of commercial steady state process simulators requires from them to expand their current knowledge to incorporate non-usual, but still useful, software capabilities.

CONTENTS

The concepts acquired during the course will allow engineers to incorporate advanced features in their process simulation cases to solve problems in their daily design studies, improving the workflow management and reducing the project delivery time. Basing decisions on rigorous simulation results will lead to better and quicker decision-making and furthermore to improve confidence in the decisions taken.

Inprocess Technology & Consulting Group, S.L.
Pedro i Pons 9-11, 13th floor · E-08034 BARCELONA (Spain)
www.inprocessgroup.com

inprocess

TWO-DAYS COURSE AGENDA

MODULE	MODULE TITLE AND SHORT DESCRIPTION	TIME	DAY
1	COLUMN ENVIRONMENT MODIFICATION Advanced use of the column environment in order to modify the standard column configuration that the simulator offers by default, substituting reboilers and condensers by heaters, coolers and shell & tube heat exchangers.	3 hours	Day 1
2	ADVANCED RECYCLES AND ADJUSTS Recycles and Adjusts are powerful mathematical tools that help simulator users to find the expected solution of their problems. Some configurations require advanced modifications that will be explored in this module.	2 hours	
3	DEPRESSURING UTILITY The capability to investigate the expected behaviour of a depressuring holdup is explored using the Depressuring Utility, a Dynamic option inside the steady state version of the simulator.	2 hours	
4	ENHANCED THERMODYNAMICS Exploring some of the ways of modifying the standard setup of the simulator's thermodynamics. Using the Tabular Package it is possible to overwrite the values of physical and transport properties calculated by the selected Property Package. The use of User Properties is also explored.	1 hour	Day 2
5	OPTIMIZATION IN PROCESS SIMULATION Optimization problems are explored using both the standard SQP optimization algorithm and the enhanced SQP one that requires the setup of a Derivative utility.	3 hours	
6	ADVANCED DISTILLATION Advanced use of distillation columns in order to simulate complex problems like 3-phase, azeotropic and reactive distillation. Use of the Sparse Continuation Solver.	3 hours	
7	TROUBLESHOOTING OF CASES Analysing badly setup cases to try to investigate where the errors or mistakes are. Understanding inconsistencies. How to eliminate them.	2 hours	Option