

# TRAIN • LEARN • TEST

## An Advanced Operator Training Platform

### YOUR PROCESS, IMPROVED



### OVERVIEW

Training is essential for maintaining and developing the skills of production staff. *PerceptiveOTP* provides an environment in which operators experience a **realistic** and **safe** off-line simulation of their own plant, which can be speeded up to observe control system performance and process responses within minutes.

*PerceptiveOTP* allows process controls to be switched off, enabling the operator to learn the fundamentals of process behaviour in safety. PID controls can be switched on or off and re-tuned, allowing the impact of tuning changes to be tested before they are applied to the actual plant. Advanced Process Control (APC) and Optimisation strategies can also be simulated, providing an ideal work space for learning how to operate higher level control strategies.

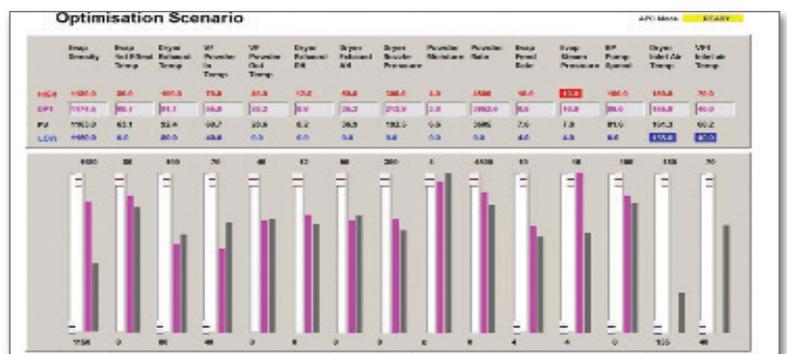
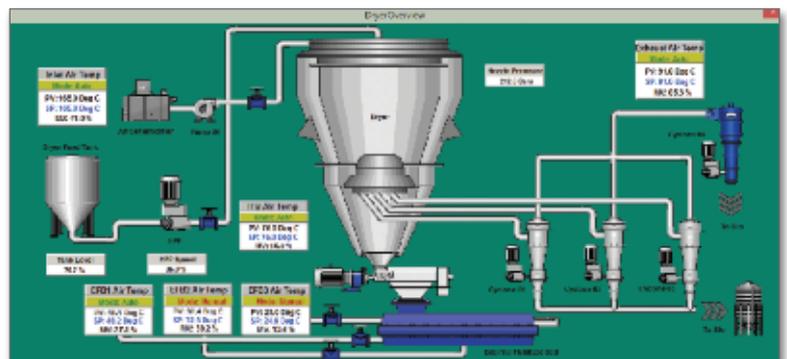
In processes where APC and Optimisation have been installed, *PerceptiveOTP* is the ideal training companion, tailored to the actual controls that have been installed and commissioned.

Within the training platform, we develop typical operational test cases that provide an insight into the behaviour of the plant, enabling new operators to experience realistic process behaviour and obtain a first-level training certificate.

### REALISM

*PerceptiveOTP* is an affordable training tool, capable of providing an excellent real-time simulation of your production process and its control. Because *PerceptiveOTP* is based on an empirical model of your actual process, the simulation reflects the variety of non-ideal characteristics that challenge operators on a daily basis, providing a unique and robust environment in which to learn the fundamentals of your plant and its control.

*PerceptiveOTP* offers a configurable operator graphics package enabling rapid prototyping of new displays or alternatively allows the import of existing operator graphics. Bespoke simulators may easily be developed as required.



[www.perceptiveapc.com/training](http://www.perceptiveapc.com/training)

Experiment with optimisation scenarios.  
Replay and evaluate historical events.  
All in a safe, off-line environment.

## PerceptiveOTP FEATURES

### PROCESS MODELS

Multiple models can be used to characterise different operating modes, such as start-up, grade change and steady state operation. Individual models can be developed to cater for different product formulations.

### PROCESS UPSETS & FAULTS

Various process upsets and disturbances are available, from simple step changes in process conditions such as switching feed tanks, through to environmental swings, e.g. in ambient humidity and time varying profiles of dynamic upsets.

Plant faults and sensor failures can be simulated, testing the ability of the operator and the process controls to recognise a fault has occurred and recover the process.

### APC & PROCESS OPTIMISATION

Advanced Process Control (APC) and Optimisation can be included in the simulation. *PerceptiveOTP* then becomes an ideal training tool for APC deployment.

### SCENARIO PLAYER

*PerceptiveOTP* has a very powerful Scenario Player feature. This optimisation engine gives the operator an optimal solution vs. the current simulated process operating point. The power of the player is the ease with which the operator can change operating ranges of process variables to see the impact on the optimum operating point.

### PERFORMANCE ASSESSMENT

Takes the operator through a series of tasks and scores their performance, generating a training certificate.

## REPLAY

*PerceptiveOTP* has a powerful replay feature for streaming historical data into the simulation environment. This allows the operator to view an historical event, start with the same initial conditions and compare the simulation with the event. Great for evaluating how, for example, a process upset could be better managed or what impact a change in operating point would have on yield and energy efficiency. The replay feature is simple to use and lets the operator select from a number of historical events.

## SCENARIOS

*PerceptiveOTP* includes a Scenario Player that provides the opportunity to practice optimisation techniques. Within seconds, the intuitive user interface allows the operator to adjust the ranges and values of process variables, to determine the optimum operating point for a given set of conditions.



## ASSESSMENT

Perceptive's Operator Training Platform delivers a formalised assessment of learning and training. Operators are taken through a series of tasks, designed to determine how well they understand process fundamentals, process controls and optimisation strategies.

A training certificate is generated at the end of each section once completed, for the operator's training records.

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