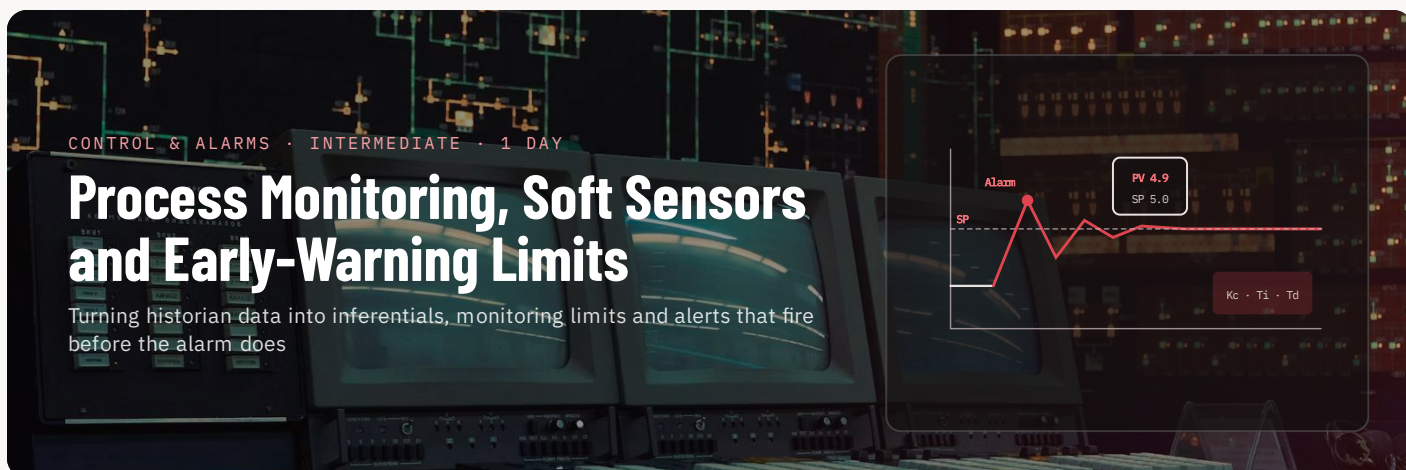




DURATION
1 day

LEVEL
Intermediate

FORMAT
On-site classroom · virtual instructor-led

LANGUAGE
English

MAX. PARTICIPANTS
16

1

soft sensor built and validated

Your

own historian tags trended in CeraTrace

3

early-warning limit methods

◆ Overview

Every plant historian holds years of data that nobody looks at until something has already tripped. This course teaches practical monitoring: which variables actually indicate unit health, how to build and validate a regression or first-principles soft sensor for a lab-measured property, and how to set early-warning limits that catch drift in fouling, catalyst activity or column loading days before the alarm. Participants work on their own tags in CeraTrace.

◆ Learning outcomes

- Select and clean historian data: sampling, compression, outliers and steady-state detection
- Build a linear or PLS inferential for a lab property and validate it against lab samples with bias update
- Distinguish operating envelopes, safe operating limits and early-warning limits and set each correctly
- Apply statistical limits, trend-based and multivariate (PCA) methods to detect abnormal drift
- Design monitoring displays and daily reports that operations will actually use
- Maintain soft sensors and limits under management of change

◆ Who should attend

Process, control and operations engineers responsible for unit monitoring; APC support engineers; anyone setting operating envelopes and daily-report limits

◆ Course outline

MORNING

What to monitor: key performance variables, constraints and degradation indicators · historian data quality: compression, sampling, time alignment with lab data · steady-state detection and data reconciliation basics · building an inferential: variable selection, regression, PLS, first-principles · validation, bias update and lab-sample handling

AFTERNOON

Operating envelope vs safe operating limits vs early-warning limits · statistical and trend-based limits · multivariate monitoring with PCA and contribution plots · early-warning alerts and their relationship to ISA-18.2 alarms · dashboards and daily reports in ProcessVision · workshop on participants' own unit data · maintenance and MOC

◆ Standards referenced

ISA-18.2 ISA-101 ISO 13374 ISO 17359 API RP 554

◆ Tools & exercises

Historian trending, soft-sensor building and monitoring limits in ProcessVision (CeraTrace and CeraControl)

◆ What's included

- ✓ Course manual and slide pack
- ✓ Software access for the course
- ✓ Post-course Q&A with the instructor
- ✓ Exercise and case-study pack
- ✓ Competency quiz and certificate
- ✓ Templates used in the exercises

PREREQUISITES

Process engineering background; familiarity with the site historian

CERTIFICATION

Certificate of completion

INSTRUCTORS

Practising engineers — TÜV HAZOP Leader, CCPSC and IEC 61511 Functional Safety certified — with 200+ years of cumulative plant experience.

Book this course or build a custom curriculum

On-site at your plant or virtual · in-house groups · competency assessment included

sales@cerasus.ai · +974 5506 2743

Cerasus Technologies QFZ LLC · Ras BuFontas Free Zone · Doha, Qatar