AVEVA
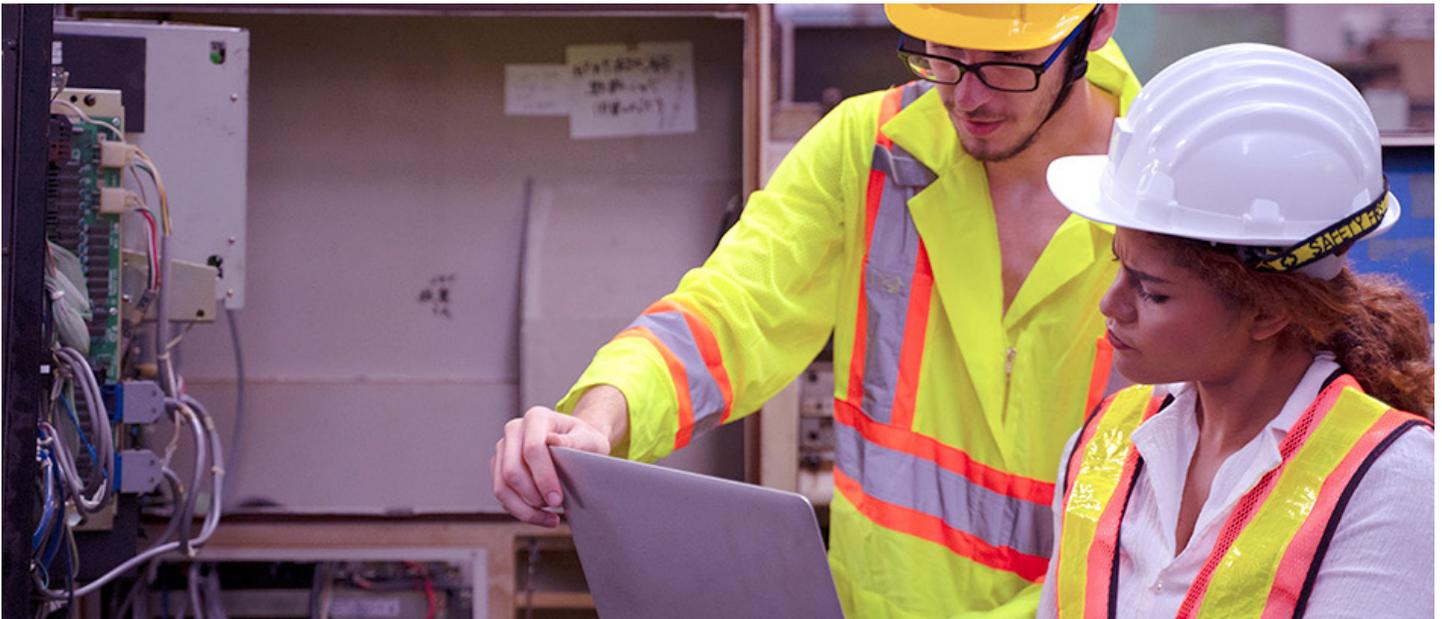
AVEVA™ Operator Training Simulator

Equip your operators to address every operating challenge

AVEVA Operator Training Simulator (OTS) allows operators to train on a computer in an identical environment to the control room. AVEVA OTS provides in-depth process understanding through accurate simulation models of the plant that aid in process analysis and operator training. This enables safe and efficient operations that benefit the plant, the workers, and the overall profitability of the company.

Overview

Operator Training Simulators are advanced computer-based training tools that help control room operators learn the skills they need to run a plant safely, efficiently, and profitably. AVEVA OTS solutions combine dynamic process simulations, emulated control systems, and replicated interfaces to match the look, feel, and behavior of the actual plant – even before it's built. The high-fidelity simulation exposes control issues and procedure problems before start-up, so you can address them and ramp from cold metal conditions to full production with no surprises.

Business value

- Dramatically reduce training time
- Improve start-up, shutdown, or product change-over
- Increase safety and awareness
- Minimize capital cost on new designs or revamps
- Improve operator readiness
- Reduce plant downtime

Entire life cycle of the plant

Validate design	Checkout controls	Operator training	Performance improvement
Design verification and control and operability studies using rigorous dynamic simulation models to minimize capital expenditure	PLC, SIS and DCS control logic testing, verification and validation to reduce DCS costs and minimize commissioning time	Operator training and certification for start-up, shutdown and abnormal or emergency situations in a safe environment	Enable operations staff to safely evaluate new control strategies, optimize alarm management, pre-tune advanced process controls, and optimize operational procedures

Why AVEVA Operator Training Simulator

- **Extensive experience in a wide range of industries:** With over 1200 Operator Training Simulators delivered over a range of different industries such as power, upstream, oil & gas, refining, chemicals, mining, and food & beverage, AVEVA has the experience to collaborate with you on an OTS that generates a real return on investment.

- **Service and support team:** Our experienced service and support team can build a high-quality OTS for you and resolve issues quickly to keep your OTS up to date and running smoothly.

- **Deployment to suit your needs:** Whether on-premises, fully cloud-based, or a hybrid solution, AVEVA delivers the OTS to meet your goals. Our secure cloud platform, AVEVA™ Connect, lets you train operators anywhere with no IT investment. Acceptance testing and maintenance can be conducted remotely to eliminate travel and minimize disruption to your operations.

  Learn more:
  AVEVA Connect | Our Common Cloud Platform

- **AVEVA Flex – flexible licensing:** Achieve faster return-on-investment and remove traditional barriers to software adoption with a flexible subscription program.

  Learn more:
  AVEVA Flex | Flexible Industrial Software Subscription

- **Artificial intelligence:** AVEVA can leverage your OTS to train an artificial intelligence (AI) agent for you. The AI agent can then discover superior operating procedures that optimize performance and reliability while meeting all safety parameters.

System architecture
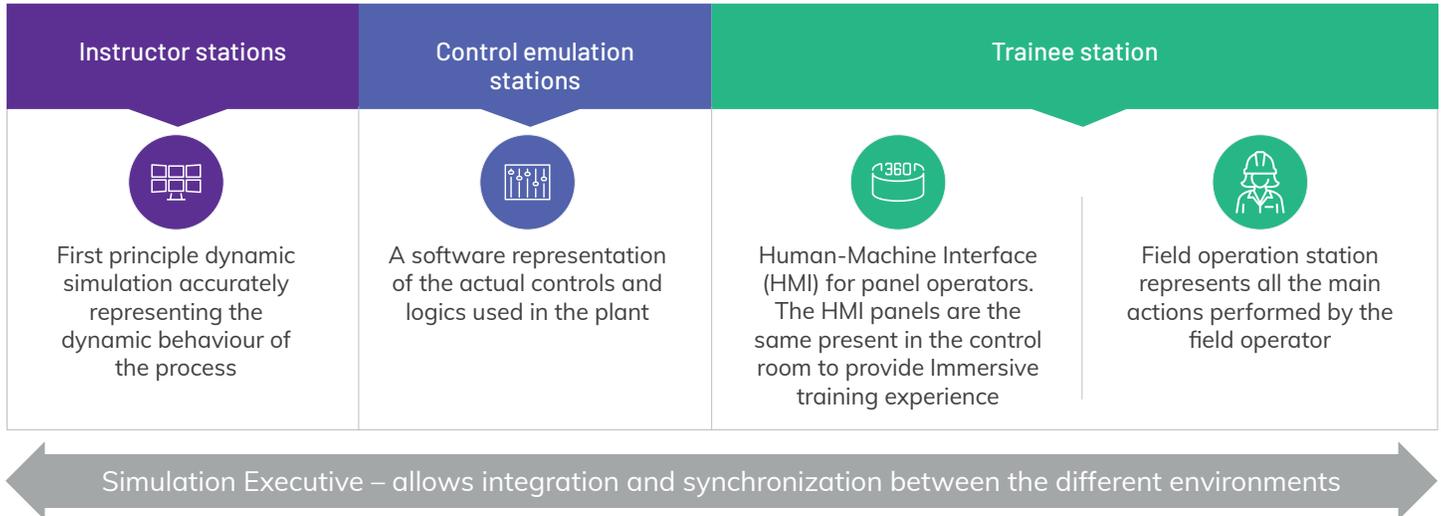
The system architecture of AVEVA OTS consists of instructor, control emulation, and trainee station(s). The synchronized environments allow plant engineers, operators, and managers to adjust controls, set the right conditions, and run the simulator like a real-life plant.

Instructor stations	Control emulation stations	Trainee station	
First principle dynamic simulation accurately representing the dynamic behaviour of the process	A software representation of the actual controls and logics used in the plant	Human-Machine Interface (HMI) for panel operators. The HMI panels are the same present in the control room to provide Immersive training experience	Field operation station represents all the main actions performed by the field operator

◄ Simulation Executive – allows integration and synchronization between the different environments ►

AVEVA Dynamic Simulation

AVEVA Dynamic Simulation is AVEVA's first principles dynamic process simulator covering the entire lifecycle of the plant, through simulation, system checkout, operator training and start-up. The modeler provides rigorous thermodynamic and fluid flow calculations bringing a superior level of robustness and accuracy to dynamic process simulation at your plant.

It is possible to decide the simulation speed and quickly initialize the simulator to any previously saved operating conditions. Instructors can impose malfunctions and score the trainees using the trainee performance monitoring tool.

For more information visit:
AVEVA Dynamic Simulation datasheet

DCS and PLC Control Emulation

AVEVA Dynamic Simulation takes full advantage of modern, open software standards to interface with control system emulators. We have several options for simulating DCS and PLC control from all major vendors. The DCS and logic control emulation systems allow operators to learn about control system response and performance in a safe environment. Operators can run through a wide variety of start-up, shutdown, and malfunction scenarios using the process model.

- AVEVA Simulation for Foxboro controls for simulating the Foxboro controls CP290 and CP270
- AVEVA PLC Simulation for importing and running PLC logics from all major vendors
- AVEVA Simulation for Triconex Systems for the simulation of Triconex SIS systems
- More than 50 engine links to connect to 3rd party simulation software and control systems

For more information visit:
AVEVA Simulation for Foxboro Controls datasheet
AVEVA Simulation for Triconex Systems datasheet

The AVEVA advantage

AVEVA drives digital transformation for industrial organizations. AVEVA OTS is a key part of the AVEVA industrial software ecosystem and benefits from portfolio-wide infrastructure.

AVEVA™ Unified Learning

AVEVA Unified Learning delivers engaging training programs for competency-based experiential learning, so your operators perform better in less time. It provides cloud access to our vast portfolio of training and simulation applications including Operator Training Simulators (OTS) and extended reality. Leverage your investment in process simulation to quickly build a high-fidelity OTS.

Learn more: aveva.com/en/products/unified-learning

AVEVA™ XR for Training

It is very difficult to realistically simulate operational procedures, accidents, or safety events in an actual plant. This can result in inexperienced operators being unprepared to run a plant, placing a company's people and profit at risk. AVEVA XR for Training creates an immersive, interactive, and virtual training environment to empower process industries to train and certify operators effectively.

Learn more: aveva.com/en/products/xr-for-training

AVEVA™ Unified Engineering

AVEVA Unified Engineering integrates all process simulation and engineering (1D, 2D, and 3D) data in one single data-centric hub on AVEVA's secure cloud environment. This allows for bi-directional information flow across the entire project, giving AVEVA OTS more tools and info to efficiently train your operators. The development of the OTS can also be partially automated using engineering data in AVEVA Unified Engineering.

Learn more: aveva.com/en/products/unified-engineering

For more information on AVEVA Operator Training Simulator please visit:

aveva.com/en/products/operations-training-simulator

aveva.com/campaigns/cloud-operator-training-whitepaper

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