

Operational mastery drives Health, Safety, Security & Environment excellence at Shell



AVEVA & Shell developed a global training system in the cloud to embed safety competences for operators in refineries and chemical plants. The system has just won a prestigious Hydrocarbon Processing Innovation Award.

The virtual reality (VR) based simulation helps front-line operators learn responsible behaviours to comply with environmental health & safety targets – before they set foot on site.

It uses scenario-based learning to drive operational excellence in day to day situations, abnormal situations, commissioning and start-up.



How scenario-based learning works

Teams "learn by doing" using real-life scenarios

Assessments include unexpected or unplanned activities with unexpected problems

Operators can practice dangerous procedures in a fully-simulated environment

> Tests challenge how individuals will respond when faced with unexpected problems

The training process explained

Work order issued to check specific valve

On the way, a virtual colleague says he has already checked the valve.

Scenarios quide operator to make the best decision



Using VR, operator locates valve

Operator faces dilemma: to go with colleague or to continue?

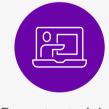
Using the simulated scenario, safety risk is reduced to zero



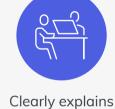
Practice is tailored to each individual



Benefits of scenario-based training



Promotes training consistency



expected behaviours



globally – tailored to each individual facility



in the cloud without the

need for new hardware



New trainees and

experienced operators can learn in the same environment



deeper understanding for those who require it



optimizes team time, travel and energy usage

Four phase training cycle

1. Learn Acquire knowledge through

targeted training materials on process understanding, relevant procedures, policies and references



Learn required skills through simulated operating activities

2. Practice

and scenarios

3. Assess Integrated questions with immediate answers to allow for feedback and reinforcement



Tracking and scoring users as they complete modules

4. Track and manage

ensures everyone receives the right training

and competence will continue to grow, improving asset safety.



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