



simulation
knowledge
profit

Inprocess Immersive Training Simulator - VR



As part of its suite of products developed to ensure a full professional development of the plant operators in the hydrocarbon and chemical processing industries, Inprocess offers its Immersive Training Simulator (ITS) based on a Virtual Reality engine (VR).

Inprocess' ITS is the perfect ad-on to the custom-made and generic Operator Training Simulators (OTS) in order to simultaneously train Control Room Operators and Field Operators and accelerate collaboration between them.

Independently if applied to brownfield or greenfield assets, an ITS is an ideal tool to train Operations as well as Maintenance staff to be fully aware of the exact location, spatial distribution and the sizing of the plant equipment.

VR provides a sense of presence and immersion that traditional 2D screens cannot replicate. Experiential Learning is a successful teaching method facilitating active learning by providing real-world experiences.

Gamification elements, such as challenges, rewards, and achievements, can be integrated into 3D VR training programs.

Inprocess has chosen Unity Real-Time Development Platform (<https://unity.com>) as the basis of its 3D VR application for a variety of reasons:

- Unity offers a state of the art, standard 3D engine that offers superior performance.
- Being a standard engine, allows our customers to connect the 3D model to any application in mind (maintenance training, etc.).
- Choosing Unity ensures the permanent availability of resources from a well-established market leader.

Inprocess ITS can make use of existing industrial 3D CAD models, offering a unique capacity to efficiently create an interactive training infrastructure. Photographic surveys or laser scans of the asset can alternatively be used as inputs in developing the VR immersive experience.

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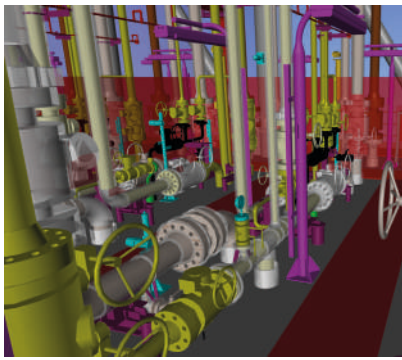
With Inprocess ITS you will:

- Start production earlier in greenfield projects by ensuring operational readiness before plant startup.
- Upskill Operations and Maintenance staff in brownfield assets in a realistic, risk-free, and cost-effective training environment.
- Reduce the risk of e.g., plant turnarounds and shutdowns, by using properly validated operating and maintenance procedures.
- Engage with younger generations of operations personnel, more used to visuals and gaming.

ITS/OTS Connection

Inprocess Operator training simulators (OTS) are based on first-principles models, which emulate the plant process and control response in a detailed and realistic manner. Hence, connecting the Immersive Training Simulator and the Operator Training Simulator makes the learning experience in the VR even more realistic.

Training scenarios are configured for the integrated training of both CRO's and field operators, recreating even the communication protocols among them.



Actions carried out by Field Operators affect the process, control and safety systems, as operators act on manual valves, local devices, external PLCs, etc. Therefore, integral CRO and Field Operators training is possible with the Inprocess Immersive Simulator:

- Start-up/Shut-down/Operating mode change procedures with local devices.
- Local equipment (e.g. Pumps, motors, fans, etc.) started/shut-down at field.
- External packages (e.g. Compressors, Turbines, etc.) available only through local panels.
- Safety scenarios that require field operator intervention.
- Special operating procedures that require manual by-passes.
- ESD valves/pumps need to be re-armed at field.
- Inspection of equipment and field instrument reads.
- Isolation procedures for equipment maintenance.

