EYESIM Immersive Training System

A COMPREHENSIVE PLANT CREW TRAINING SOLUTION
EYESIM™ Immersive Virtual Reality is a comprehensive solution linking Control Room Operators to Field Operators, Maintenance Operators, and other critical team members in your process, by means of a High-Fidelity Process Simulation coupled with a Virtual Walkthrough Plant Environment. EYESIM provides a complete Plant Crew Training System, capturing best practices, rarely-used procedures and other operations and makes them systems of record for continuous use and refinement.

EYESIM MODULAR ARCHITECTURE
EYESIM’s modular architecture allows you to link to major DCS systems, as well as “traditional” Operator Training Simulators. Leveraging the SIM4ME® Portal, which provides simple, web-based bidirectional transfer of variables between SimSci-Esscor’s™ Dynamic Simulation Suite software and Microsoft Excel®, a collaborative engineering environment is created to facilitate drag and drop, multi-variable application simulation control.

* SimExec is the Simulation Executive that coordinates different simulation engines in DYNSIM.
TRADITIONAL TRAINING SIMULATORS DON’T COVER FIELD OPERATORS

As the chart below shows, the second-highest source of accidents in plant operations are operational errors.

Your challenge? How to ensure that the practices you create are enforced, standardized, and proliferated, from employee to employee, and maintain consistency by shift, by plant, or by site. Static control systems using DCS systems don’t allow for rich simulation or software emulation of processes. Traditional operator consoles with HMI interfaces don’t allow for heuristic learning; and the plant systems that are reflected cannot accommodate the dynamic process model that is required to capture ongoing changes and refinements.

NOW, VIRTUAL REALITY COMES TO THE PLANT

What if your process could be simulated, with full operator interaction? Emulating not only the existing hardware and software systems, but the physical plant design and layout, and operator consoles? And creating an interactive, 3D environment for training, testing, and process simulation? That is what EYESIM Immersive Virtual Reality Training brings. Modeling your plant the way it is, and the way it will be.

Integrating CAD/CAM designs through DYNSIM® for complete design simulation. With a new Virtual Reality HMI paradigm using Interactive, 3D Stereoscopic Models for operator familiarization and training.

EYESIM BENEFITS: OPTIMIZE TRAINING THROUGHOUT THE PLANT

- Provide more realistic environments for trainees, with the opportunity for practice of procedures in training sessions
- React quickly and correctly in medium/high stress situations (accident investigation & training)
- Improve skills for rarely-performed, but safety-critical tasks such as emergency shutdowns
- Optimize the transfer of skills from “off-line” training environments to the work environment
- Reliable and valid evaluation of operational procedures and individual operator performance
- Maximize team training and communications, in the control room, field; by shift and by operations management

EYESIM BRINGS REAL VALUE TO OPERATIONS

EYESIM has shown to reduce the time-to-value, and costs of on the job training, by 30 to 40%. It reduces the time of startup when recovering from a planned or unplanned shutdown, or from warm/cold conditions, by 15 to 20%. And, it contributes to a maintenance budget savings of 1 to 3%. These costs can rapidly reduce the total cost of ownership for EYESIM within the first year deployment.
EYESIM’S SOLUTION COMPONENTS

EYESIM represents the “best in breed” of training components from SimSci-Esscor, representing generations of design and operator training simulation:
• For the Modeling Engine, DYNSIM simulation is used
• For collaboration and integration, SIM4ME portal
• A rigorous Virtual Reality Engine adds capabilities
• A 3D Model and Viewer offer state-of-the-art operator interaction and experience

SERVICES OFFERINGS

To complement the software, offerings include:
• A managed service model for total system maintenance and upkeep
• 3D Photo Scanning and 3D Modeling
• Virtual Reality configuration
• Systems integration
• Training Programs

INFRASTRUCTURE

Whether you need a virtual reality facility to test your designs, hardware and equipment for deployment, or mobile solutions for remote data entry and operator feedback, these components are available to complete your Virtual Reality system.

BASIC ARCHITECTURE

EYESIM’s Virtual Reality experience starts with the control room—a Virtual Reality engine provides operators with a rich, 3D experience using special visors for field training. DYNSIM Dynamic Simulation Software from SimSci-Esscor contributes High-Fidelity Simulation for operator training and process engineering design studies. All contribute to increasing the operator’s basic understanding of the processes, equipment, and procedures necessary for safe and reliable operations.
EYESIM SAVINGS
Use EYESIM to accelerate cost savings that can show a lower total cost of ownership after just a few months’ use. Typical savings include:
• Save 30 to 40% on time and costs for on the job training
• Reduce time of startups, from planned/unplanned shutdowns, or from warm/cold conditions, by 15 to 20%
• Save 1 to 3% on maintenance budgets.

For example, a greenfield refinery producing 200,000 barrels per day can have an annual savings of $3M to $4M using EYESIM.

For more information, visit iom.invensys.com, or contact your local Invensys salesperson about EYESIM.