

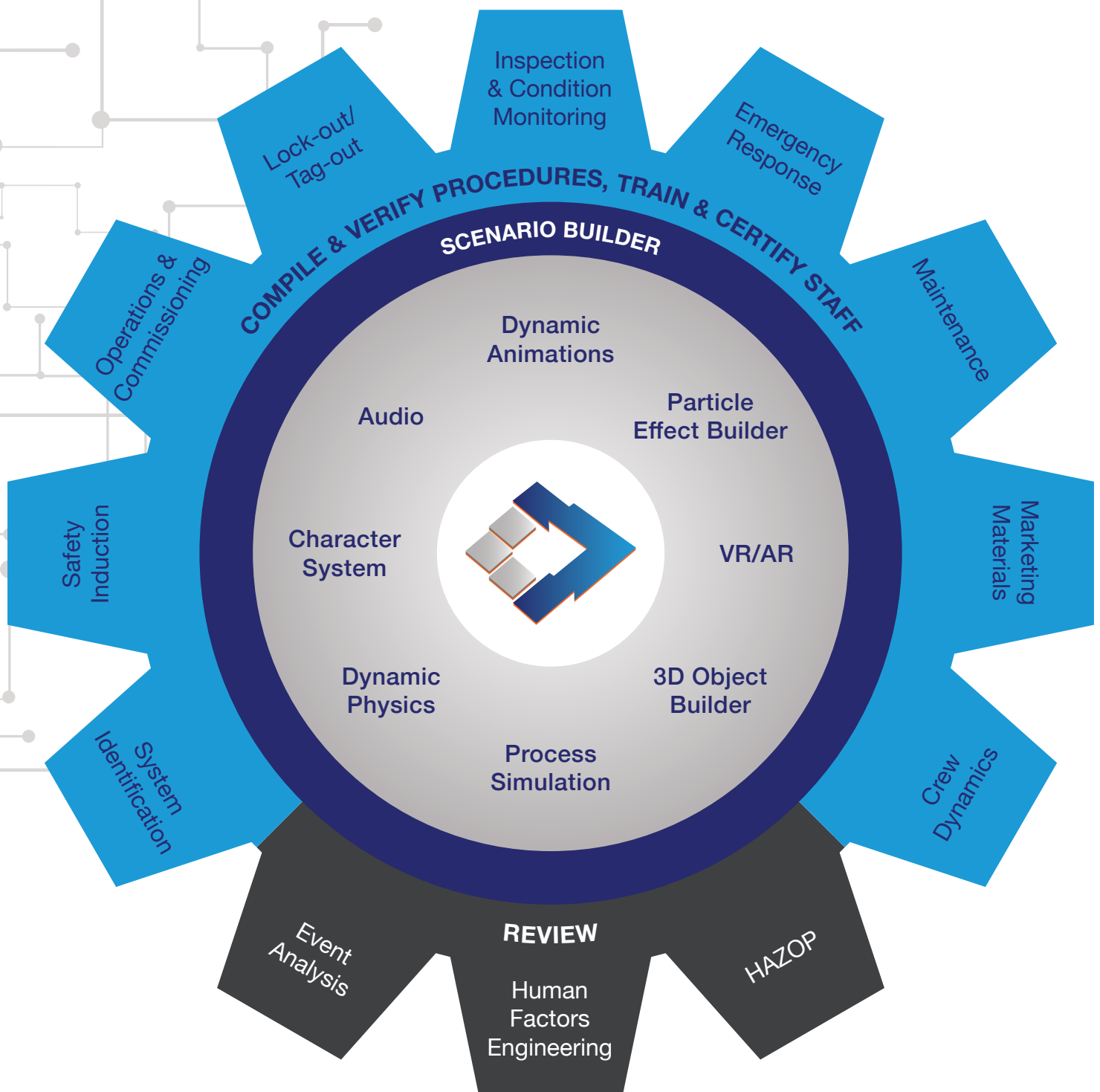


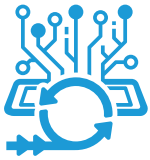
Next-Gen
**TRAINING &
PRODUCTION
SUPPORT**



3D PACT®

Provides users with a host of tools and features such as a User-Friendly Procedure and Scenario Builder with configurable Multi or Single player Tutorial and Test Execution Modes in VR or on Screen, a Particle Effect Builder, 3D Object Builder, Character System, Dynamic Physics, Animations etc. which all seamlessly combine to present the trainee with a realistic, lifelike scenario to execute.

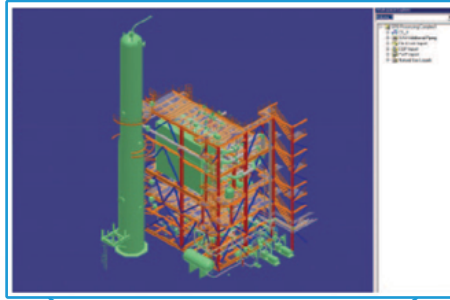
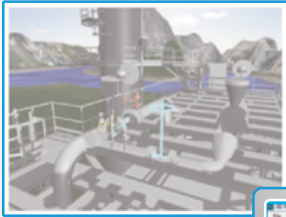




GAME-BASED TRAINING ON MULTIPLE 3D CAD MODELS

Multiple CAD Models

3D Model



Material Library



Import to
3D PACT



GAME-BASED TRAINING ON LEICA TRUVIEW DATA

TruView Projects



TruView Updates

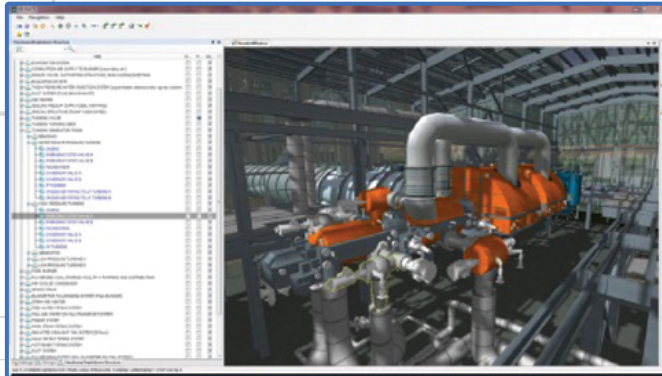


Import to
3D PACT



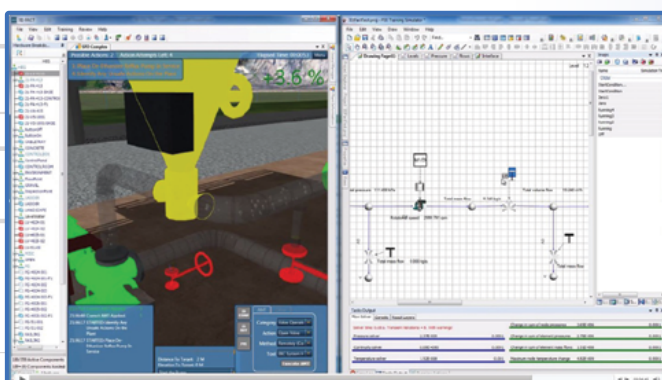
PRIMARY APPLICATION AREAS

The following are areas where 3D PACT and SimuPACT are being used by customers to add value to the training organization as well as for planning purposes.



SYSTEM IDENTIFICATION TRAINING

Trace and “walk” systems to identify them on a plant and view interconnections and dependencies between processes. Use various options to highlight and identify specific plant systems and equipment, down to the component level.

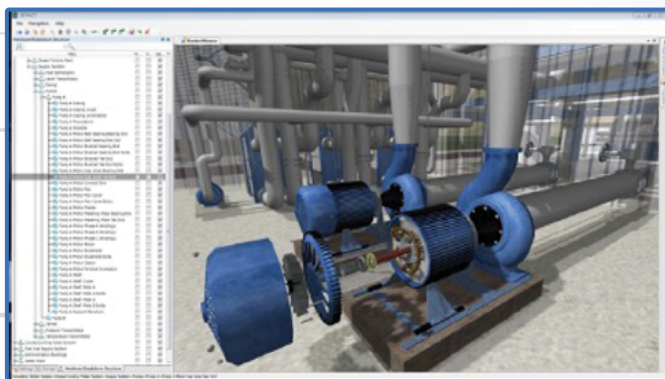


OPERATIONS TRAINING

Perform operating sequences on the plant (as an individual or a crew), providing trainees with an in-depth view and insight into equipment dynamics under normal and abnormal operating conditions. Include dynamic animations and particle effects running standalone or coupled to a third-party simulation to support:

- » Commissioning.
- » Startups, shutdowns, or abnormal/infrequent operations.
- » Emergency operations.
- » Handling emergency situations and site evacuations
- » Field operations.
- » Control room operations – If plant simulation is available, all control room operations can be included in training programs, enabling effective, multi-disciplinary crew training.





EQUIPMENT OPERATIONS TRAINING

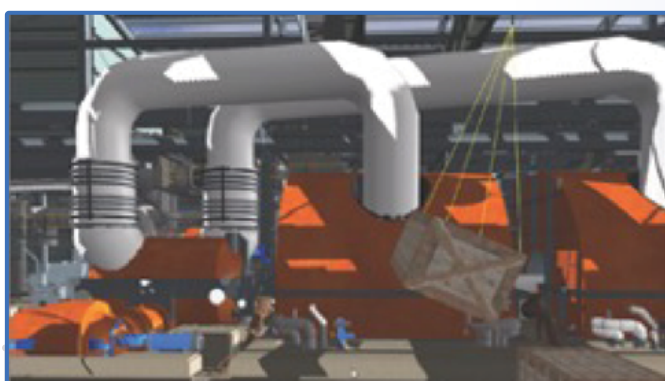
View and navigate the internals of equipment. You can explore areas and spaces which are impossible to access on the actual facility when in service, such as the internals of boilers, turbines, and generators.



INSPECTION & CONDITION MONITORING TRAINING & PLANNING

Perform planning and preparation for inspections at your desk. Not only does this save time, but it offers a risk-free environment for workers to practice and gain confidence to perform inspections and condition-monitoring tests.

Through a remote database connection, employees can further monitor real-time plant status and operational data and gather visual feedback of equipment status while on the road and away from the facility.

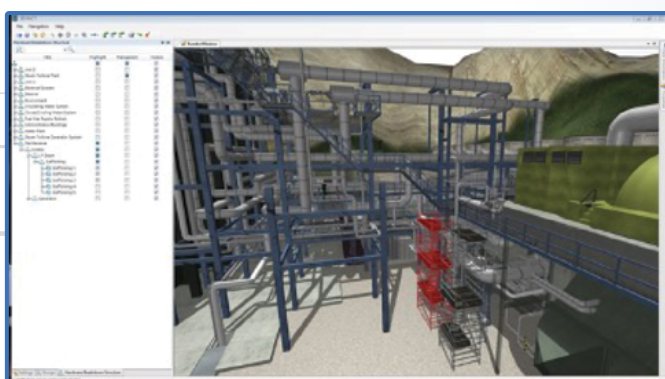


MAINTENANCE TRAINING & PLANNING

With 3D PACT, you can train and evaluate staff on a wide range of maintenance tasks and activities.

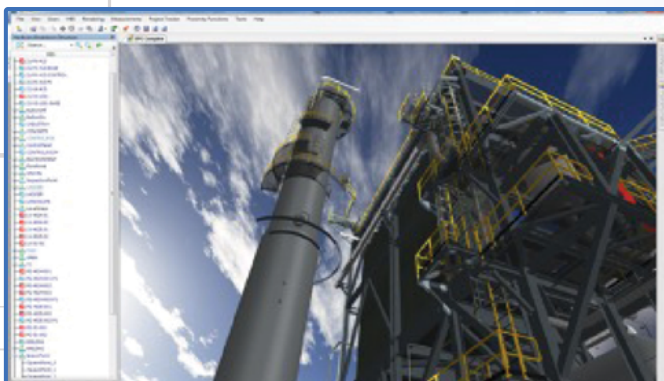
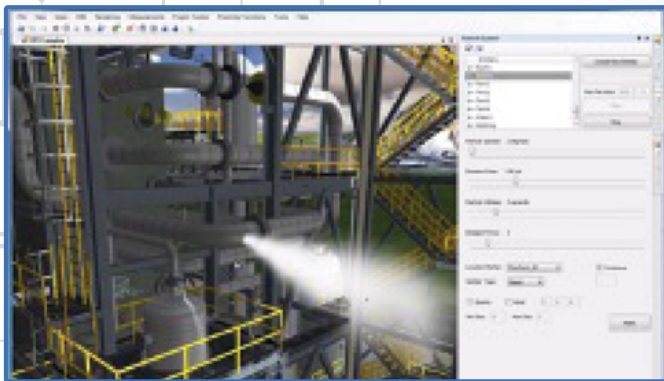
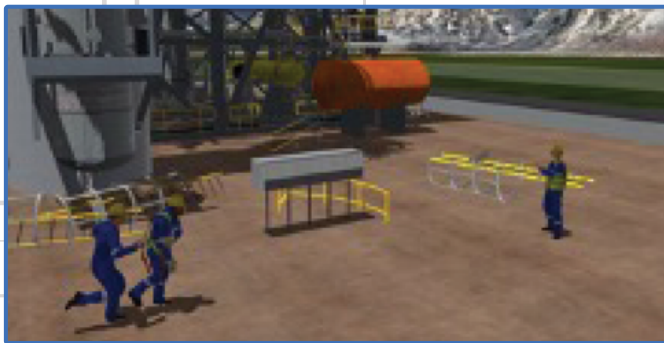
Plan complex and time-critical maintenance tasks so they can be performed as safely and quickly as possible to keep downtime and production loss to a minimum. Once again, 3D PACT allows this to happen on a PC instead of on the actual plant, saving time and providing a risk-free environment for workers to practice before performing tasks on the actual plant. The software includes:

- » Detailed instructions.
- » Visualization.
- » Evaluation of disassembling/assembling equipment, including tools and PPE to be used.



Markers/props can be placed in the scene at points where tasks need to be performed and specific actions can be associated to each marker/prop. The need for ladders or scaffolding is clear when planning and scaffolding volumes can be inserted into models (via block-like construction similar to using Lego™ bricks) for realism and to verify access when scaffolding is in place.

In most plants, scaffolding, harnesses, and other safety equipment are required. The system can ensure that staff is aware of the correct protective gear and safety procedures. Trainees need to equip and are evaluated on using the correct personal protective equipment and safety gear for operational and maintenance tasks. During an evaluation, as a prerequisite to actions being performed, the trainee needs to wear correct PPE and use the correct tools.



LEGISLATIVE & PROCEDURAL TRAINING

Ensure that staff can execute lock-out/tag-out procedures and render equipment safe to begin work.

- » Equipment isolation procedures can be efficiently trained, reviewed, and evaluated before executing such isolations and working on the actual plant.
- » The process to register a defect/deficiency, implement modifications, fill out check sheets/reports, and update drawings can be incorporated.

EMERGENCY RESPONSE TRAINING

Train and evaluate staff on the effective handling of emergency situations.

- » Create awareness for potential threats or unsafe situations, including workers making dangerous actions or performing work in an unsafe manner.
- » Evaluate whether emergency response personnel know which equipment to use and which procedures and routes to follow during emergencies.

ENGINEERING & LOGISTICS REVIEW

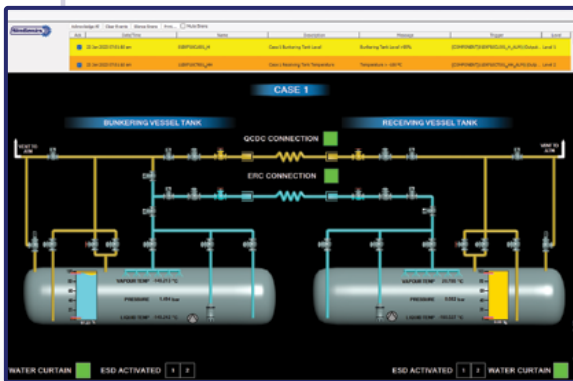
Evaluate the designs of new or modified systems in a facility to ensure the design is logistically feasible and maintainable, making use of the ability to import 3D CAD models, render them, and quickly navigate them.

CONTROL ROOM SIMULATOR INTEGRATION

SimuPACT

Advanced Simulation Software

SimuPACT is an Advanced Simulation Software Suite used to develop Operator Training Simulators, which can be seamlessly integrated with 3D PACT® to enable comprehensive Crew Training.



SimuPACT is an extremely powerful, integrated software platform which enables engineers to develop high fidelity, full-scope power and process plant simulators quicker than ever before. It sports a modern, intuitive graphical user-interface which makes it exciting to develop, analyse and train on.

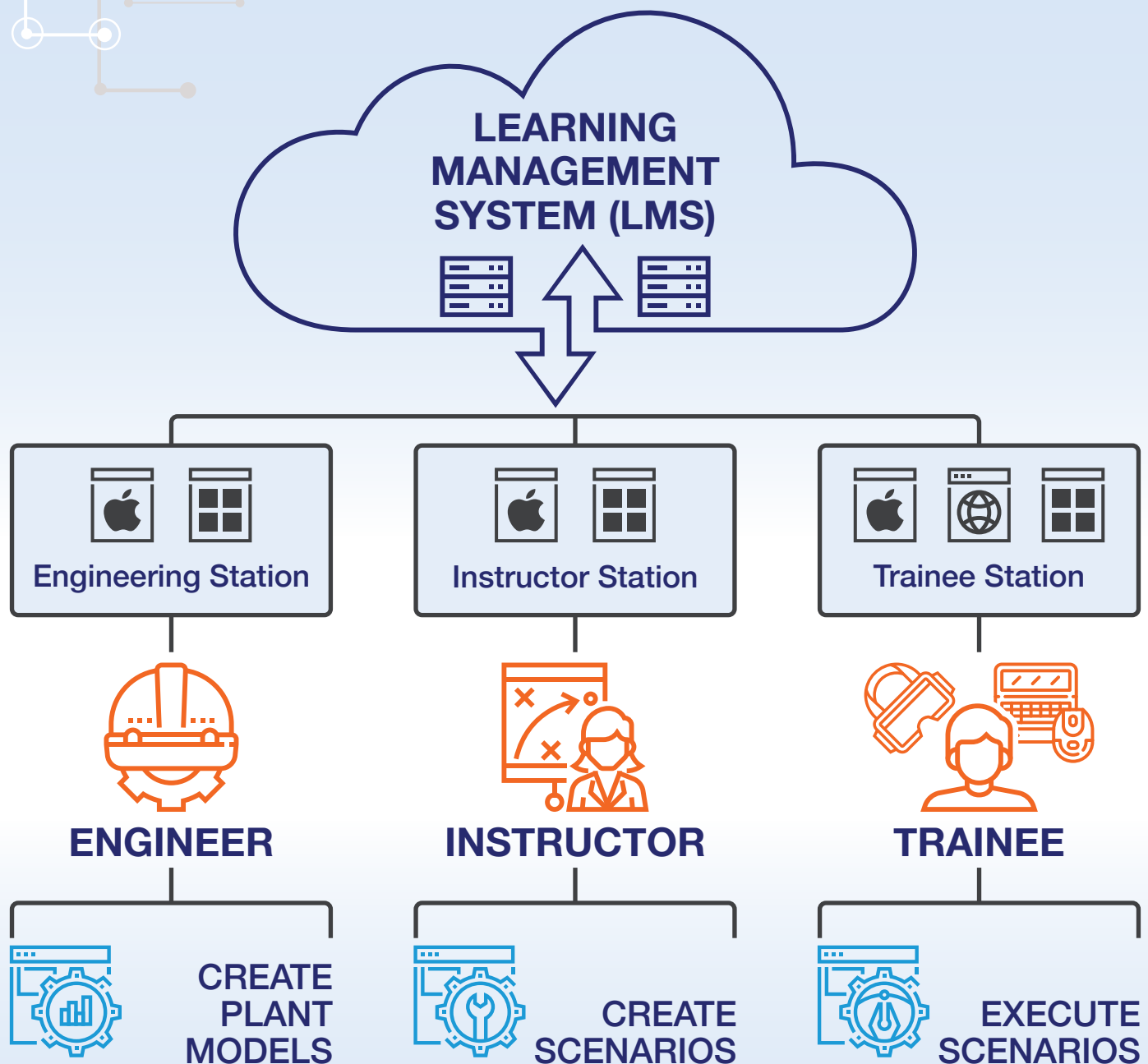
The power of SimuPACT comes from embracing the latest software technologies and engineering strategies, enabling quicker development of full-scope plant simulators, and delivering higher accuracy, which allows engineering analysis and operator training on the same simulation platform, at no extra cost.

SimuPACT sports a totally open, customizable architecture. Using any Microsoft .NET capable programming language, engineers can easily develop and integrate their own solvers, libraries, schedulers or even control all simulator functionality from an external application.

The following high fidelity, configurable solvers and libraries are by default included SimuPACT:

- Multi-Phase Flow with Incondensable Gases and Trace Elements
- Seamless Integration with 3D PACT (Input and Output)
- Electrical Networks
- Logic and Control Networks (Basic and Advanced)
- OPC Client (Integration to 3rd Party Control and HMI Systems)
- Mechanical Solver (Shafts, Gearboxes, Bearings etc.)
- Sensors and Actuators
- Materials Handling (including Slurry Flow)
- Fossil Power (Drum, Benson, Super-Critical, Fluidised Bed Boilers. Various types of Coal Mills, Oil/Gas/Coal Burners, etc.)
- Nuclear Power (3D Diffusion Model)
- Chemical Reaction Builder (Empirical)
- HMI and Local Control Panel Emulation
- Integrated C# Scripting Engine
- Integration library with Aspen Materials Database
- Full Instructor Station capability
- Multi-core, Multi-PC deployment (i.e. can have various operator station and instructor station PCs connected to the process simulation server PC over a network) and Production Support Software

COMPREHENSIVE OPERATIONS & MAINTENANCE TRAINING & PLANNING PLATFORM



United States | Head Office ~ SimGenics Simulation Solutions LLC
558 Silicon Drive, Unit 101, Southlake, Texas, 76092, United States of America
Tel: +1 (970) 261 2070

South Africa ~ SimGenics (Pty) Ltd.
Corobay Corner Unit A-3003, 152 Dallas Avenue, Waterkloof Glen, Pretoria, South Africa
Tel: +27 (0) 12 345 5702/3

Australia ~ SimGenics Pty Ltd.
Level 1, 16 McDougall Street, Milton, QLD, 4064, Australia
Phone: +61 (0) 400 123 033



info@simgenics.com

| simgenics.com