

See How Your Plant Really Operates

Engineering operational systems
built around the **behaviour of your facility.**

*Blurring the Lines Between
Simulations and Operations®*

For Oil & Gas and
Process Industry

One Operational System

Simulytica engineers coordinated operational systems that bring engineering, simulation, monitoring and operational execution together within one operational environment for oil & gas and process facilities.



Engineering, simulation and monitoring have traditionally evolved as separate technologies connected through multiple applications and engineering workflows.

Simulytica takes a different engineering approach.

Rather than assembling collections of engineering applications, we engineer operational systems built around the behaviour of the facility itself. Every operational system is designed to support engineering projects, live operations and continuous operational improvement within one coordinated operational environment.

Every system is engineered, delivered and supported by Simulytica, allowing organisations to focus on operating their facilities rather than integrating engineering software.

One Operational System. One Operational Understanding.

The Plant Comes First

Simulytica represents the facility through the relationships that determine how it actually operates, not through the boundaries of individual software applications.

A facility is shaped by more than process flow.

Machinery performance changes process conditions. Controls respond to operating states. Recycle paths influence stability and production. Thermodynamics, equipment limits and operational dependencies affect the wider plant.

Simulytica represents these interactions together, allowing compressors, process systems, controls and complex recycles to be understood within their true plant context.

This is the basis of plant-aware operational intelligence.

The plant, not the software, is the centre of the architecture.

Engineering Project Systems. We build the system. You focus on engineering.

Traditional engineering projects produce reports, spreadsheets and simulation models. Simulytica Engineering Project Systems deliver continuously valuable engineering environments that evolve with your facility throughout its operational life.



We build, integrate and maintain your Engineering Project System, allowing your engineers to focus on solving engineering problems — not software.

BUILT FOR YOUR PROJECT

From a single compressor to an enterprise-wide engineering environment, every system is designed to evolve with your needs.

Single Compressor
Compression Train
Compressor Station
Process / Facility
Entire Facilities
Enterprise Engineering Systems

EVERY SYSTEM CAN INCLUDE

Custom UnitOps and engineering models
Integration with existing simulators and tools
Live operational data and historian integration
Engineering workflows and automation
Customer-specific engineering views
Reporting, documentation and dashboards
Operational comparison and diagnostics
Training, operator support and knowledge transfer
Scalable architecture for future expansion

ONE ENGINEERING FOUNDATION. MANY WAYS TO OPERATE.

The same engineering model supports every mode from early studies to live operations and beyond.

ENGINEERING STUDIES

SIMULATION MODE

PLANT DATA MODE

HYBRID MODE

ENGINEERING ANALYTICS

FUTURE EXPANSION & AI

SOLID. INTELLIGENT. RIGOROUS.

Our systems are built on advanced thermodynamics with Thermolytica®, and executed by Confluent® using intelligent algorithms for robust, accurate and stable calculations — even in the most complex systems with recycles, turbomachinery and multi-physics interactions.

THERMOLYTICA® Advanced engineering physics and thermodynamics

CONFLUENT® Continuous execution with intelligent algorithms

ORIGIN® Operations, monitoring and engineering analytics

PRISM® Engineering visualisation and customer-specific views

We connect to your existing systems or deliver a complete, scalable solution. We create the UnitOps you need. We take care of the implementation, integration and ongoing support.

**You concentrate on engineering.
We take care of the system.**

Engineering Projects End. Engineering Project Systems Continue.

We stay with you beyond the project, expanding your system as your facility and your needs evolve.

Engineering First. Not Data First.

Most digital twin vendors start with data.
Simulytica starts with the engineering.

Industrial facilities are engineered systems governed by physics, equipment behaviour and operational relationships.

Simulytica begins with that engineering foundation.

- Thermodynamics.
- Process.
- Plant-aware turbomachinery.
- Controls.
- Complex recycles.
- Operational dependencies.

Artificial Intelligence is introduced where it adds value, accelerating engineering workflows, operational analysis and optimisation while engineering remains the foundation.

Engineering always leads.

Engineering defines the model. **Intelligence** accelerates it.



Plant Aware Intelligence

Industrial facilities operate through continuous interaction between process, machinery, controls, thermodynamics and operational constraints.

Simulytica represents the **complete facility** while modelling compression systems, plant aware turbomachinery, controls, thermodynamics and complex recycles within one continuously executing operational system.

Compression systems are represented as **complete engineering systems** while remaining continuously aware of the wider facility including process, machinery and operational behaviour.

This integrated representation produces a **true reflection** of how the plant behaves in real operation.

Better Representation.
Better Engineering.

Complete Representation

Every engineering system, process, compression, turbomachinery, controls and thermodynamics is modelled within the operational context of the complete facility, not as isolated applications.

Built In Context

From individual compressor casings to full compression systems and the wider plant, every level maintains awareness of the others. Decisions, interactions and disturbances are evaluated in their true context.

Operational Advantage

True operational context delivers higher accuracy, reduces integration complexity and improves the relevance of engineering and operational decisions across the entire facility, in real time.

SIMULTICA

Viable Digital Twins™

Built to represent facilities as they actually operate.

Traditional digital twins often begin with data and disconnected software.

Viable Digital Twins™ begin with engineering. They are built around the behaviour of your facility, not around tools or data.

By representing the facility as one continuously executing operational system, Simulytica delivers digital twins that support engineering, simulation, monitoring and operational understanding from the same engineering foundation.

Engineering First

Built around engineering rather than data.

Operational Context

Process, controls, machinery and thermodynamics together.

Continuously Executing

Representing the behaviour of the operating facility.

Engineering to Operations

Supporting the complete operational lifecycle.

Simulytica makes digital twins viable.

EXECUTIVE BRIEFING



Built for Your Facility

No two facilities operate in exactly the same way. Simulytica engineers operational systems around the behaviour of each facility, whether supporting a single compression station or a complete processing plant.

Every system is delivered to reflect the engineering, operational and performance characteristics of the facility it represents.

Offshore Facilities

Designed for complex offshore operations in demanding environments.

Compression Stations

Including unmanned and remote installations of any size.

Integrated Process Facilities

Compression, process and control represented together across the entire facility.

Brownfield and Greenfield

Supporting both existing facilities and new developments.

Deployment is straightforward because every system is engineered for the facility rather than requiring the facility to adapt to generic software.

The same architecture supports cloud, on premises or hybrid environments without changing the engineering model, making integration with existing systems simple and preserving your investment in data, infrastructure and people.

Flexible by design.

Easy to deploy.

Engineered for accuracy.

Ready to operate.

We Build the System. You Run the Plant.

One Operational System. For Engineering and Operations.

Simulytica combines engineering physics, continuous execution, operational intelligence and plant-aware visualisation within one coordinated operational system supporting engineering and operations.

THERMOLYTICA® Engineering Physics

Advanced thermodynamics and phase behaviour models deliver the accuracy and flexibility required to represent real process conditions.

CONFLUENT® Continuous Execution

The continuously executing physics-based engine that orchestrates intelligent algorithms to coordinate process, mechanical, control and electrical engineering systems including complex recycle networks for robust real-time execution.

ORIGIN® Operations & Analytics

Live monitoring, historical replay and engineering analytics provide operational visibility, performance evaluation and decision support across the facility.

PRISM® Operational Visualisation

Engineering views that reveal what matters — from plant overview to equipment detail — bringing clarity to complex operational systems.



Every technology contributes to
one operational understanding.

ONE ENGINEERING MODEL. ONE CONTINUOUSLY EXECUTING OPERATIONAL SYSTEM.

SIMULTICA

ENGINEERING OPERATIONAL SYSTEMS

We Build the System. You Run the Plant.

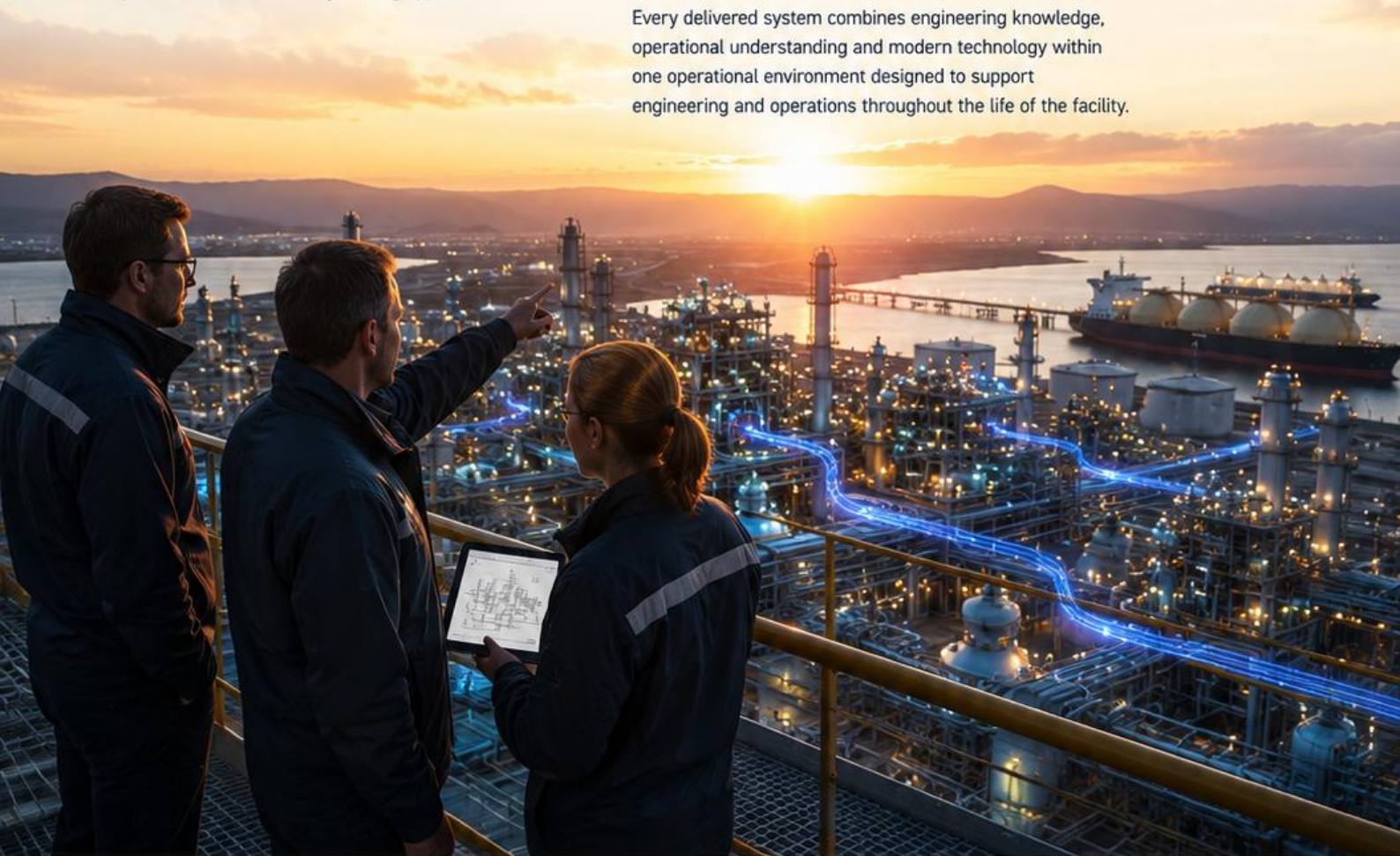
Every facility is different. Every operational system should reflect that.

Most industrial software is delivered as a platform that customers configure, customise and integrate over many years.

Simulytica takes a different engineering approach.

We engineer, deliver and support operational systems built specifically around each customer's facility, allowing engineers and operators to focus on running the plant rather than building software.

Every delivered system combines engineering knowledge, operational understanding and modern technology within one operational environment designed to support engineering and operations throughout the life of the facility.



Engineered for your facility. Delivered as one operational system.

With Simulytica, you gain a trusted engineering partner committed to your success from design, through delivery, and for the life of your operations.

SIMULYTICA

why **simulytica**

Industrial software evolved around applications.

Simulytica was built around facilities.

Industrial facilities have become increasingly complex, yet the software used to engineer and operate them has largely evolved as separate applications solving individual problems.

Simulation.
Monitoring.
Historians.
Performance systems.
Dashboards.
Control systems.

Each contributes valuable information, but none truly represents how the facility operates as one engineering system.

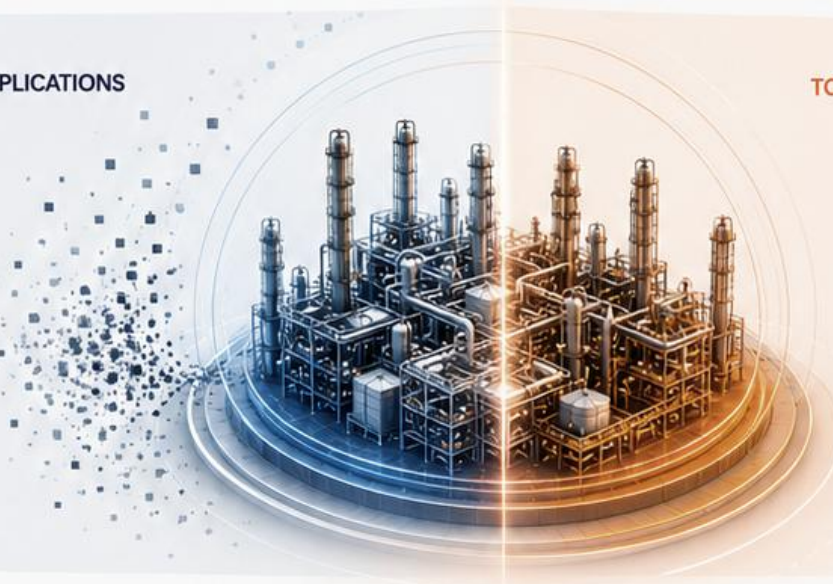
Rather than developing another engineering application, Simulytica develops operational systems built around the industrial facility itself.

The facility became the centre of the architecture.

Founded by engineers with decades of engineering experience across oil & gas and process industry, Simulytica develops operational systems that support both engineering and operations, reducing implementation effort while providing a more complete representation of how industrial facilities operate.

FROM FRAGMENTED APPLICATIONS

Disconnected data
Limited visibility
Siloed teams
Incomplete understanding
Higher risk
Slower decisions



TO ONE OPERATIONAL SYSTEM

Connected engineering and operations
Complete facility visibility
Aligned teams
True understanding of performance
Lower risk
Faster, better decisions

our approach

01

Engineering First.

Physics before data. Engineering defines the operational system. Operational data continuously informs and validates that engineering foundation.



02

Continuously Executing Operational Systems.

Engineering, simulation, monitoring and operational analysis work together within one continuously executing operational system.



03

Delivered Systems.

We build the system. You focus on engineering and operations.



04

Built Around Facilities.

Designed around the industrial facility itself, not around disconnected engineering applications.



Simulytica develops operational systems.
Built around the industrial facility.

One foundation.
All use cases.

One model.
Many outcomes.

One operational
system.



Engineering operational systems
built around the behaviour
of industrial facilities.



Built Around the Way Your Facility Operates.

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