Schlumberger

Symmetry process software platform

Harness the power of advanced thermodynamics for comprehensive process flow simulation

Aligned with United Nations Sustainable Development Goals:
12—Responsible consumption and production,
13—Climate action..

Emissions Reduction:
Reduces routine flaring and fuel gas emissions through energy and feedstock management

Energy Consumption Reduction:
Reduces energy consumption in facilities at all scales, from rotating equipment to entire plants

Applications

- Model upstream, midstream, and downstream process workflows
- Optimize dynamic throughput
- Identify and mitigate HSE and operational risks
- Reduce emissions, energy consumption, and waste
- Ensure asset reliability and operational efficiency
- Manage capex via conceptual design and FEED studies
- Ensure compliance in meeting product specifications
- Optimize compression and reduce risk of failure
- Improve facility performance
- Recognize and mitigate flow assurance risks
- Evaluate surface facilities to confirm viability of carbon capture and storage (CCS) opportunities

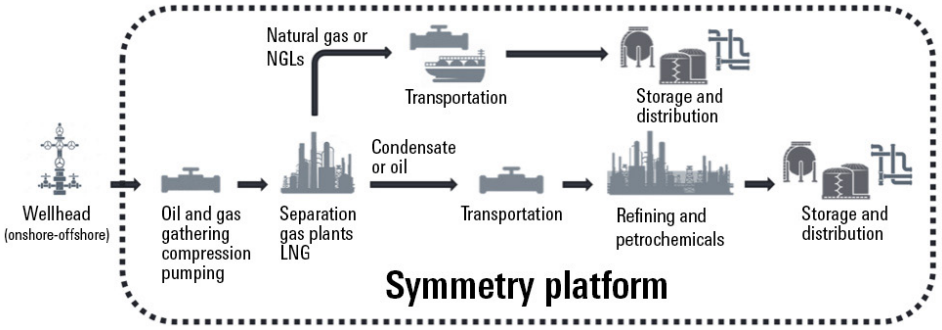
Improve safety, profits, and performance by optimizing process workflows in one platform

The Symmetry* process software platform offers a unique opportunity to model process workflows in a single integrated environment with accurate thermodynamic fluid representation and consistent modeling across all disciplines including process, production, and HSE. The simulator integrates steady-state and transient (dynamic) analyses that can be tailored for each domain. This approach enables companies to optimize processes in upstream, midstream, and downstream sectors while maximizing profits and minimizing capital expenditures. Offered as one of Schlumberger's Transition Technologies, it can help reduce emissions, energy consumption, and waste.

Characterize fluid with a best-in-class approach

The Symmetry platform is powered by a best-in-class thermodynamic engine used for fluid representation, which is extensively validated against experimental data. The built-in database includes more than 20,000 chemicals, 80 thermodynamic property packages, and hundreds of unit operations, providing unparalleled model sophistication and precision.

The software uses a PIONA approach† to model hydrocarbons, enabling process engineers to accurately simulate blending, separation, and even reactive systems. This molecular approach can accurately model the formation of hydrates, wax, and asphaltene and can accurately simulate hydrocarbon mixtures coming from different fields. The behavior of hydrate inhibitors is also accurately represented.

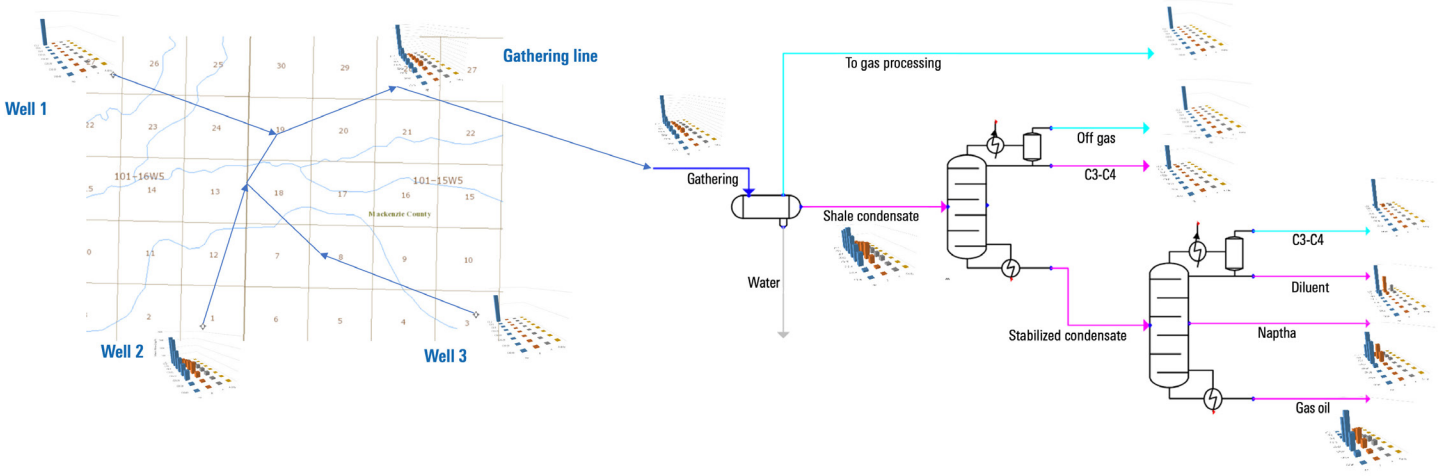


The Symmetry platform provides comprehensive modeling for a complete range of process design needs.

Mitigate HSE and operational risks

Comprehensive identification of specific safety concerns, from fire scenarios to equipment failures, is an essential part of all operations. To mitigate HSE and operational risks, the Symmetry platform provides a complete set of flare and relief system design tools that empowers users to model the performance of entire safety systems. The platform is flexible enough to suit any application, analyzing stand-alone unit operations or complete facilities with appropriate levels of detail using steady-state or dynamic simulations.

Symmetry



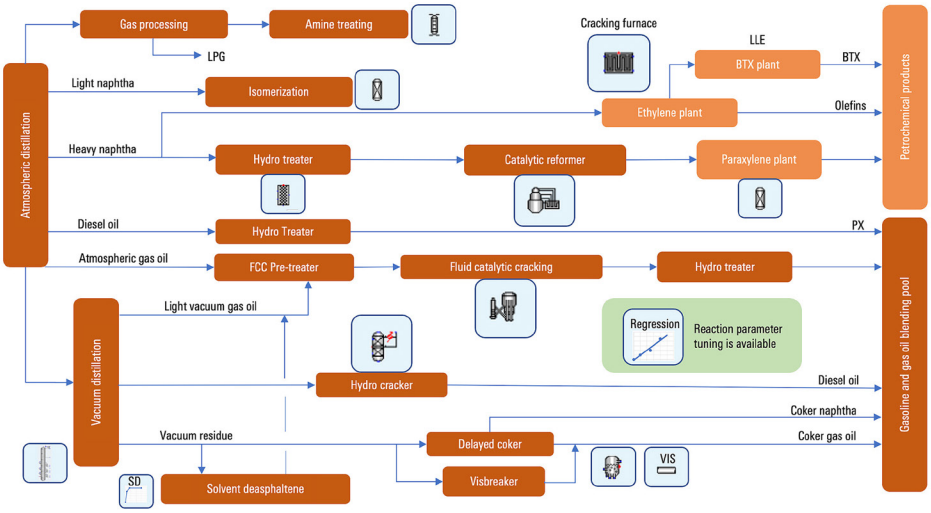
The Symmetry platform uses a consistent molecular representation of hydrocarbons across different fields and from fields to facilities.

Ensure asset reliability

The Symmetry platform enables full-life-cycle modeling from conceptual design to operation, supporting FEED studies, development of operating procedures, operational planning, performance optimization, and troubleshooting. The Symmetry platform offers extensive options to provide openness such as COM, OPC connectivity, CAPE-OPEN, custom interfaces, and more to enable integration with different systems and help customers fully understand their asset.

Leverage the power of integration

The Symmetry platform provides additional competitive advantage by leveraging the DELFI* cognitive E&P environment. This provides access to more than 20 years of deep science across multiple domains and the ability to apply advanced artificial intelligence in many workflows across different applications.



Downstream modeling capabilities of the Symmetry platform.

slb.com/Symmetry

*Mark of Schlumberger
†Molecular Structure Characterization technique
Transition Technologies is a mark of Schlumberger.

Schlumberger