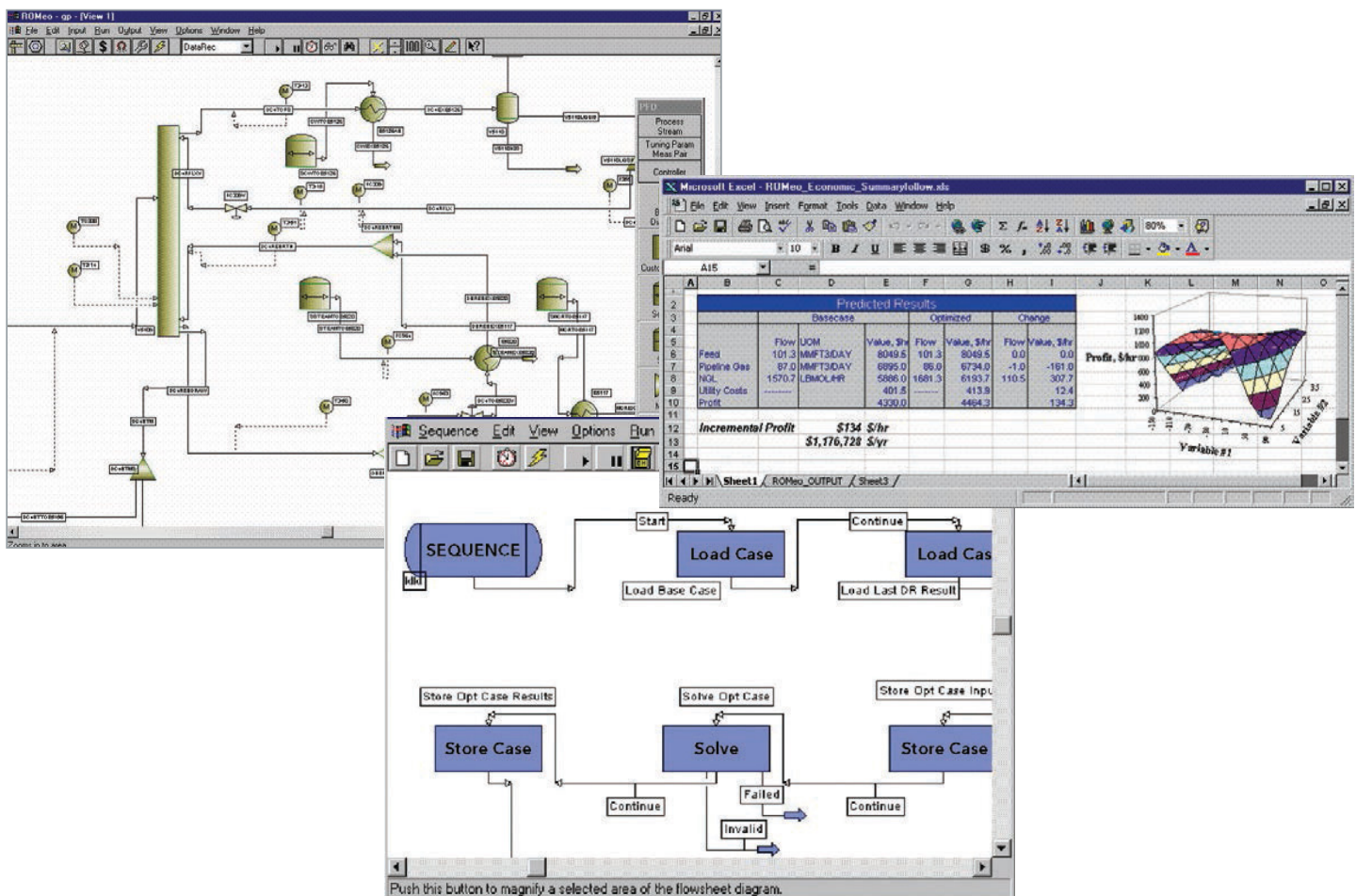


ROMeo Process Optimization Solution

Rigorous Online Modeling with Equation-based Optimization

ROMeo Process Optimization provides real-time optimization for the refining, petrochemical and gas processing industries. This industry-leading technology generates precise operating information that improves performance, allowing for increased profitability. The provided real-time data is based on current economic and process conditions, giving operators the ability to make informed decisions at an expedited rate.



ROMeo Process Optimization Solution



SUMMARY

ROMeo Process Optimization uses First-Principle simulation techniques to achieve real-time operational excellence in your process. ROMeo provides maximum and sustainable plant performance with increased return on investment.

BUSINESS VALUE

Optimization is where operations meets economics. ROMeo Process Optimization can sharpen plant performance and profits. Typical benefits range from \$0.05 to \$0.25/bbl throughput, with a payback period of one year or less.

Maintainable Optimization Solution

SimSci™ proudly offers ROMeo® Process Optimization proven, comprehensive solution to today's plant profit optimization problems. Directed at the oil and gas processing, refining, and petrochemical industries, ROMeo is the only software product that has been designed specifically to address the need for real-time, nonlinear optimization of continuous processes. ROMeo uses real-time process and economic data to determine set points that guarantee maximum operating profit while satisfying all regulatory requirements. ROMeo employs first-principle simulation techniques with proven data reconciliation and optimization technologies to provide maximum, sustainable plant performance and increased return on investment. Typical benefits range from \$0.05 to \$0.25/bbl throughput, with payback periods of one year or less.

Integrated Modeling Makes Optimization Easy

ROMeo is the only complete process optimization solution that integrates heat and material balance rigorous simulation, data reconciliation, gross error detection, economic optimization, and performance monitoring into a single user environment. Its Online modeling and optimization capabilities utilize industry — proven thermodynamic methods and data to generate highly accurate operating information — enabling managers to react quickly and precisely to changes in market pressures, energy costs, and equipment performance. ROMeo's integrated interface and drag-and-drop functionality minimizes the user's learning curve and accelerates real economic benefits. Its equation-based optimization engine is unmatched in modeling large processes.

Substantial Benefits of ROMeo

Evaluate “What-If” Scenarios

ROMeo Process Optimization provides a Microsoft® Excel-based and flow sheet-based interface to enable offline “what-if” scenarios, using precise models that represent your plant's actual operating conditions. ROMeo models can also be used for procurement planning, and for ‘evaluating the benefits of process changes.

Automate Optimization and Reporting

ROMeo's Real-time System (RTS) provides an integrated, graphical scheduling environment that enables users to automate optimization and reporting. Using ROMeo's RTS, users can easily define complex event sequences for closed loop optimization without user intervention. Task sequences can be scheduled to run daily, weekly, or at any preset interval. They can also be dynamically controlled when specific conditions, such as reaching steady state, are met.

Visualize Results and Key Performance Indicators

ROMeo's industry proven results can quickly be visualized using embedded web page reporting and via the Wonderware® Intelligence application for web-based dashboards, displaying key performance indicators and other important operations information.

ROMeo reporting enables plant staff to:

- Satisfy all physical and quality operating constraints
- Perform “what-if” analyses to improve product yields and quality
- Determine the cost of constraints and the benefits of debottlenecking
- Identify faulty instrumentation and resolve processing problems quickly
- Utilize personnel, inventory, and capital resources more efficiently
- Acquire current information for more accurate short-term and long-term planning

These on-demand reporting features enable ROMeo users to achieve faster operational decisions & enhance the profitability of the process.

ROMeO Process Optimization Solution

Applications

ROMeO's unified modeling environment provides complete flow sheet definition, simulation setup, data reconciliation, and optimization for refiners, petrochemical companies, and NGL/LNG producers. The average payback period is 6-12 months.

- **ROMeO in Refining:**

Increase profits by optimizing feed train, crude processing, and vacuum units, including hydrocracking and catalytic cracking applications — even entire refineries. ROMeO interfaces with state-of-the-art refinery models to accurately represent kinetic reactor behavior. ROMeO now offers native refinery reactor models that complete the refinery-wide modeling and optimization capabilities.

- **ROMeO in Olefin Production:**

Leverages an integrated SPYRO module and Technip's rigorous coil modeling technology to accurately represent furnace operations.

- **ROMeO in NGL/LNG:**

Increase plant profits by quickly responding to changing market conditions.

- **ROMeO in Utilities:**

Optimizes utilities systems and utility plant flowsheets with the power of Mixed Integer Non-Linear Programming (MINLP) functionality in the solving process.

Easy to Use

ROMeO's Process Optimization user interface and client/server architecture enables users to create flow sheets and specify optimization constraints from anywhere within the computing network.

Easy to Implement

Equation-based modeling enables flexible model specifications, and allows project implementation and optimization to start at any level and scale.

Easy to Customize

ROMeO provides a powerful graphical mechanism for extending its library of models and correlations. With its integrated algebraic modeling language, ROMeO users can directly customize their models and calculations to fit their purpose.

Easy to Integrate

ROMeO's graphical user interface and open architecture supports OPC, ODBC, and other data communication protocols, as well as direct interfaces to industry-standard process historians. Additionally, ROMeO can communicate with third-party products utilizing OPC-UA.

Diagnose Performance Bottlenecks

ROMeO uses validated and reconciled data to calculate performance information including exchanger fouling, catalyst activity, compressor, and column tray efficiencies. Users can efficiently diagnose the root cause of performance degradation and processing bottlenecks. By quickly identifying problem areas before they trigger an alarm, plants can avoid near misses, accidents and unscheduled shutdowns. ROMeO includes methods to prevent inaccurate or faulty information from adversely affecting plant control systems.

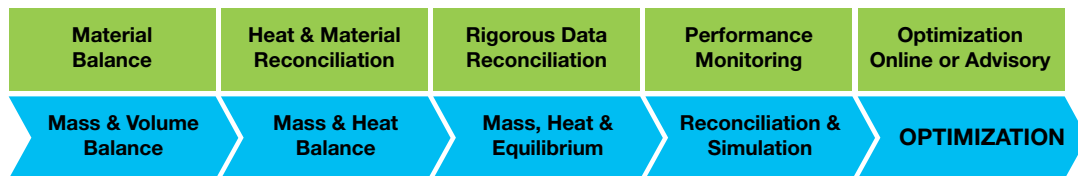
Make More Informed Decisions

ROMeO's External Data Interface (EDI) enables the retrieval of process and economic information from numerous sources, including the DCS, laboratory, data historians, ERP, plant instrumentation, or any OPC, ODBC, OPC-UA and other industry-standard compliant applications. It is easy to access complete and accurate information to support optimal decision making and reliable planning.

ROMeO Process Optimization Solution

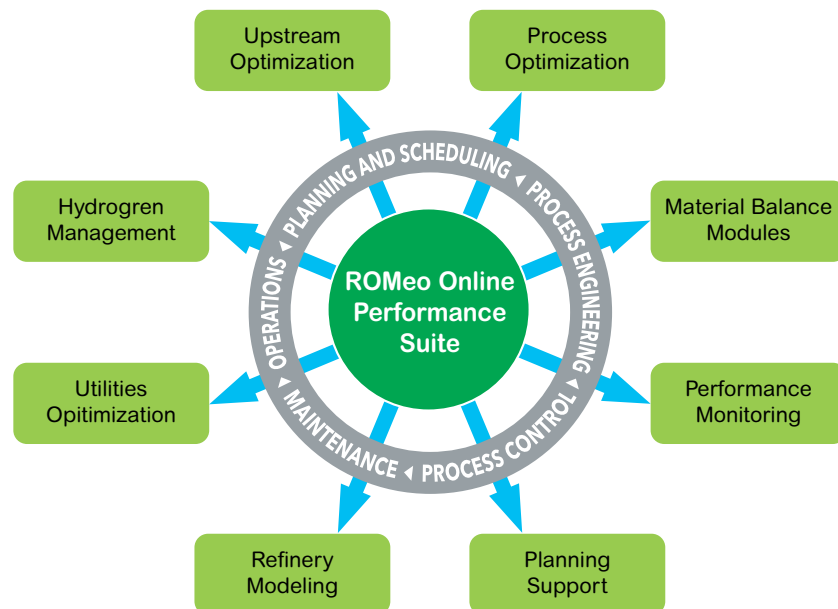
The Only Complete Choice

ROMeO Process Optimization is the only scalable solution for maximizing profits while minimizing plant and processing costs. It is also the only commercial solution that integrates rigorous simulation, data reconciliation, gross error detection, optimization, and performance monitoring into a single, user-friendly environment. No other product offers greater accuracy or more reliable results. Choose ROMeO when your plant's profitability is on the line.



ROMeO Online Performance Suite

ROMeO Process Optimization is part of the ROMeO Online Performance Suite, a set of modules that delivers the latest generation of rigorous model-based solutions to help users obtain peak performance from their operating units.



Design–Operate–Optimize a Safe and Profitable Plant

Since 1967, SimSci advanced applications have improved asset performance and utilization with integrated simulation, optimization, training, and process control software and services. Spanning the entire lifecycle of modern processing facilities, customers range from novice users to executive experts within a variety of industries, including oil and gas exploration and production; petroleum refining; petrochemical and specialty chemical manufacturing; power generation; EPC; and more. Benefit from software products, solutions, and services that minimize capital demands, optimize facility performance, and maximize investment returns.

For more information on ROMeO, please contact your local SimSci representative, or visit our website at:

www.software.schneider-electric.com/simsci.

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