



# ROMeo Automated Rigorous Performance Monitoring

ROMeo Automated Rigorous Performance Monitoring is the plant operations monitoring module of AVEVA's industry-leading ROMeo Process Optimisation offer. It is a comprehensive solution for today's plant performance monitoring challenges for the oil & gas processing, refining, petrochemical, and chemical industries.



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## SUMMARY

ROMeo Automated Rigorous Performance Monitoring provides you with features to maximise your plant's performance, including simulation and modelbased monitoring; an integrated graphical environment for set up and management; built-in data validation; and industry-standard interfaces, with an intuitive, drag-and-drop functionality.

## BUSINESS VALUE

AVEVA is committed to maintaining your plant and equipment consistently at peak performance. ROMeo Automated Rigorous Performance Monitoring offers unparalleled accuracy and reliable results. Choose ROMeo Automated Rigorous Performance Monitoring when your plant's reliability is on the line.

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## A Window into the Real-time Performance of Processes and Assets

Process plants spend a significant portion of their operating budgets on maintenance. The challenge for maintenance departments is applying their limited resources to processes that produce the most effective return. A plant's overall costs can be reduced by access to real-time information on under-performing assets and anticipating the need for maintenance.

ROMeo Automated Rigorous Performance Monitoring is the plant operations monitoring module of AVEVA's industry-leading ROMeo Process Optimisation offer. It is a comprehensive solution for today's plant performance monitoring challenges for the oil & gas processing, refining, petrochemical, and chemical industries. Using real-time plant data and rigorous simulation models, it can extract validated process and equipment performance information. It employs first principles simulation techniques with proven data reconciliation technology to provide plant operating data that is consistent, comprehensive, timely, and trustworthy.

## Benefits

- Diagnose the root causes of process performance degradation
- Determine the economic impact of performance degradation
- Anticipate the need for performing maintenance
- Monitor the current performance of equipment relative to design
- Identify faulty instrumentation to quickly resolve process problems
- Exploit intelligent soft sensor capabilities to calculate unmeasured process parameters
- Track actual performance against plan and understand deviations

## Key Product Features and Capabilities

### Rigorous, Model-Based Predictive Maintenance

Automated Rigorous Performance Monitoring uses rigorous, model-based technology and data reconciliation to calculate validated performance parameters. Identify root causes for performance degradation, allowing direct maintenance spend where it has the most economic impact.

### Automated Monitoring & Reporting

A Real-Time System (RTS) provides an integrated, graphical scheduling environment for automated equipment monitoring and reporting. Users can define complex event sequences for daily, weekly, or other interval frequency.



### Evaluate “What-if” Scenarios

Calculate accurate off-line “what-if” samples via a continuously self-tuning model that represents a plant’s actual operating conditions and evaluates the economic benefits of process changes.

### Seamless Access to Data

An External Data Interface (EDI) enables direct retrieval of process and economic information from numerous sources, including DCS equipment, laboratory systems, and data historians. In addition, the EDI has embedded direct interfaces to Historian Powered by Wonderware, PHD, and PI historians and also supports standard data transfer protocols, such as OPC & ODBC.

### Ensure Data Accuracy & Validity

Built-in gross error detection and data screening functions can identify subtle drifts in sensor data to ensure the long-term accuracy of performance calculations. By calibrating sensors before they trigger an alarm, plants can avoid unnecessary accidents and unscheduled shutdowns.

### Third-Party Models

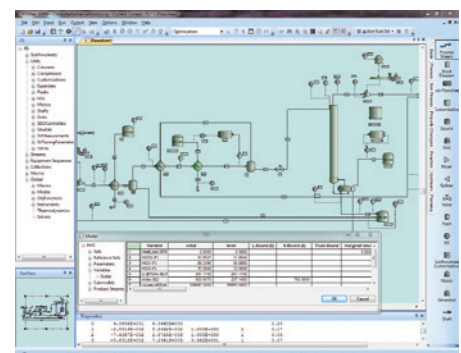
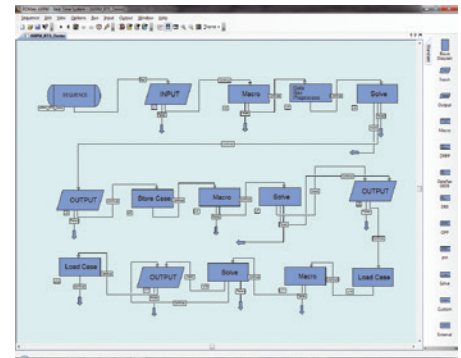
Interface custom refinery, petrochemical & chemical reactor models to accurately monitor catalyst fouling and reactor performance for complex reacting systems. Industry standard applications, such as SPYRO from Technip for olefins modeling, are already integrated into the modeling environment.

## Applications

With an integrated modeling environment for complete simulation, data reconciliation, and performance monitoring, ROMeo Automated Rigorous Performance Monitoring can be used to ascertain the current performance of an entire plant, a process area or individual equipment.

Monitoring applications include:

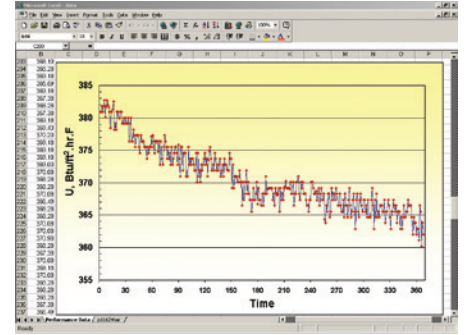
- Heat exchanger fouling, relative to clean values and the benefits gained by cleaning
- Compressor efficiencies, relative to design and the cost of performance degradation
- Tower tray efficiencies, relative to design and the effect of tray flooding on the process
- Catalyst activity, and the economic impact of loss in activity
- Reconciled Heat & Material balance, and KPI monitoring for process performance





## Key Product Highlights

- Rigorous simulation and model-based performance monitoring
- Ability to perform "what-if" analysis and optimisation
- Integrated graphical environment for complete flow sheet set-up, data management, and performance monitoring within the same model
- Built-in data validation, data reconciliation, and gross error detection
- Seamless access to process data via direct interfaces to industry-standard process historians
- Drag-and-drop environment for automation of workflows and monitoring tasks



## The Complete Performance Monitoring Choice

ROMeo Automated Rigorous Performance Monitoring is a complete solution for monitoring the performance of equipment and processes. It is a truly unique performance monitoring solution that integrates rigorous simulation, data reconciliation, gross error detection, and performance monitoring into a single integrated user environment. Its advanced equation-based modeling engine offers a first step towards optimisation and provides a scalable platform that can expand with your business needs.



## ROMeo Process Optimisation Overview

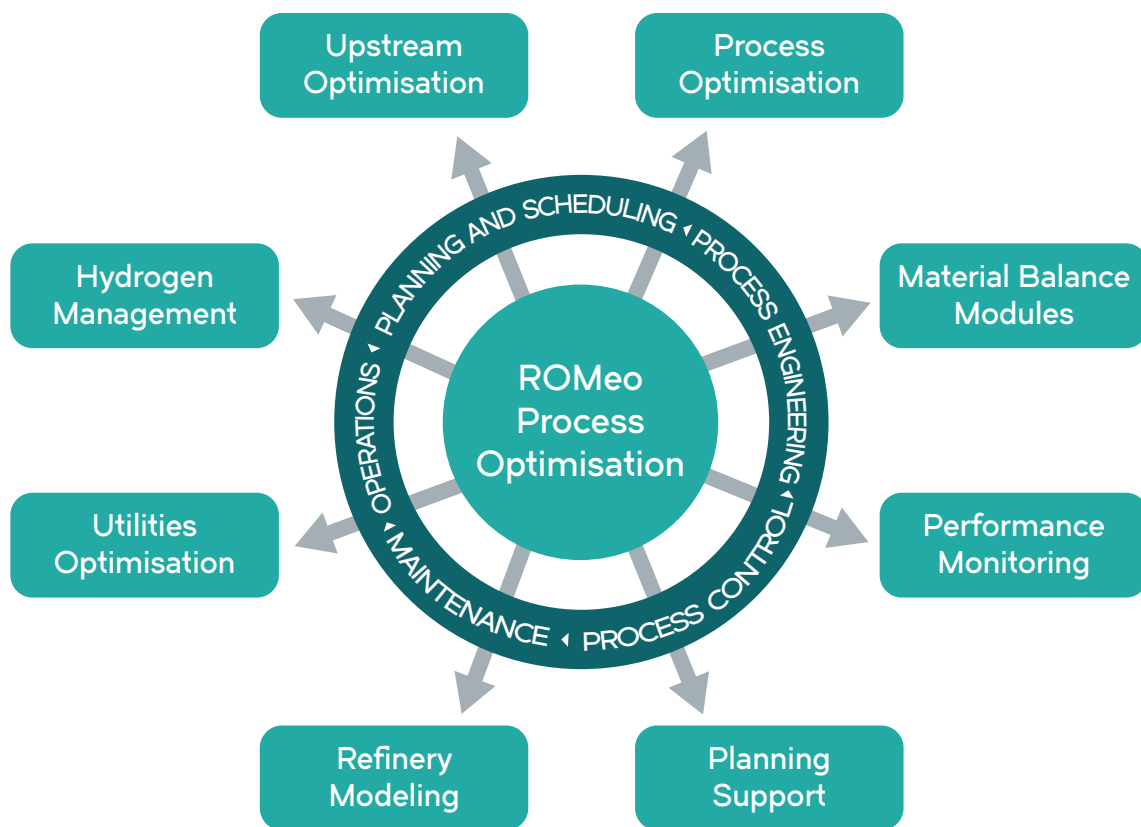
Automated Rigorous Performance Monitoring is part of ROMeo Process Optimisation, a set of modules that delivers the latest generation of rigorous model-based solutions to help users obtain peak performance from their operating units.





## Design-Operate-Optimise a Safe and Profitable Plant

For over 40 years, AVEVA advanced applications have improved asset performance and utilisation with integrated simulation, optimisation, training, and process control software and services. Spanning the entire lifecycle of modern processing facilities, customers range from novice users to experts within a variety of industries, including oil and gas exploration and production, petroleum refining, petrochemical and specialty chemical manufacturing, power generation, EPCs. Benefit from software products, solutions and services that minimise capital demands optimise facility performance.



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