



INDUSTRY SOLUTION

Closed-loop Performance Management

Performance Manager for Oil and Gas field Operations Management

AVEVA's Performance Manager enables oil and gas companies to drive greater collaboration and operational efficiency, enabling better operations insights and uncovering improvements for operation and maintenance work on the platforms. It empowers oil and gas producers to transform their business to achieve greater operational excellence through improved visibility into contextualised, actionable data – from the process automation layer through the enterprise business system layer, and from oil and gas wells to processing facilities. As a result, Performance Manager reduces unplanned downtime, increases asset utilisation and improves efficiency when implemented together with best-in-class analytics applications.

Overview

Bridging the gap between business goals and outcomes

Oil and gas companies are constantly challenged with sustaining and improving margins and retaining operational knowledge due to changing market and operations conditions such as:

- Changes in crude prices and product market demand
- Variations in availability and reliability among processing facilities
- Declining productivity due to a changing workforce
- Inefficient operations that lead to product quality giveaway, energy inefficiency, capacity underutilisation and unplanned shutdowns

Embarking on a journey of transformation based on oil and gas fields digitisation is imperative for improved profitability and sustainability. Due to the complexity and tradition of production operations, oil and gas producers tend to use diverse software and technologies for each functional domain to optimise or improve the operations. This integration may result in poor coordination among operational silos, reducing operational efficiency, impacting transparency, and increasing operations costs.

Oil and gas producers can improve operational performance by deploying an effective, operations-focused software ecosystem that proactively guides teams and individuals to achieve key metrics and to complete their tasks across the value chain, thus empowering the workforce to focus on the critical issues and activities to achieve their goals. The seamless interoperability between applications, other refinery software, and systems that break down information silos to improve collaboration and agility, aligning the entire operations teams to proceed in the right direction.

Introducing unified and scalable platform for operational excellence

Modern operations management solutions combine multiple software applications to achieve and sustain significant improvements in asset availability, utilisation, and efficiency. This combination creates a challenge for the end user as they have to interact with diverse user interface displays, notifications and data output such as logs and reports to maintain operations in optimal condition.

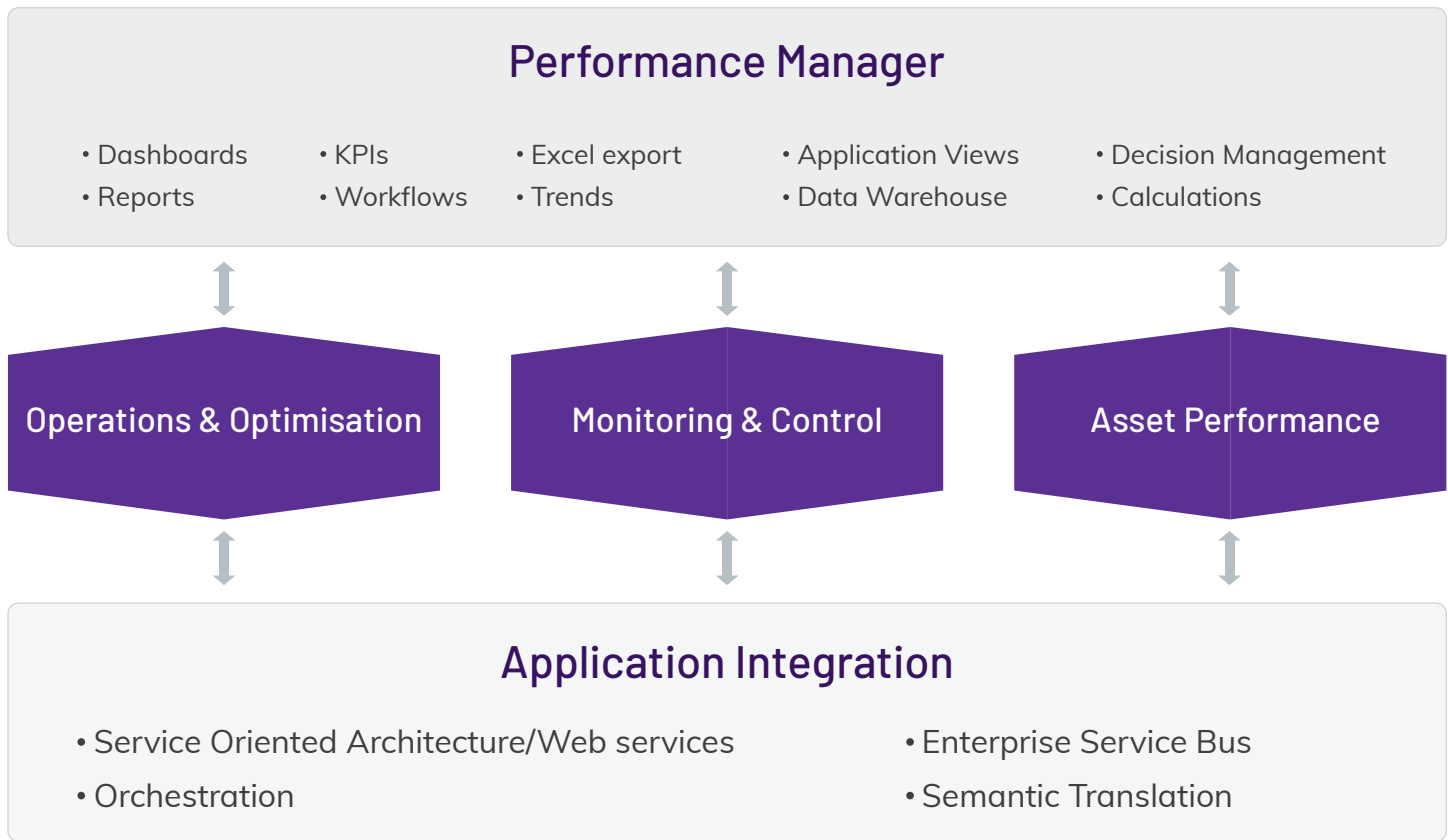
The traditional approach to overcome this challenge is to use highly-skilled programmers to integrate the displays, notifications, workflows, logs, and reports. However, this not only increases the system complexity but also reduces its flexibility to accommodate future system changes within the volatile business environment.

Swiftly extracting more and accurate values from data assets is crucial to optimising operations. As there can be as many as 20 different data hierarchies and fields within the architecture, the deployment of diverse software applications has further complicated the platform integration task of unifying data from these disparate sources.

AVEVA addresses these challenges with Performance Manager, by providing a unified and scalable platform to enable improved collaboration and operations visibility that enhances operations performance and reduces unplanned downtime:

- Consistent navigation of application displays for up-to-date performance monitoring
- Highly-configured KPIs for asset and performance benchmarking
- Standardised and automated workflows, facilitating team sharing and decision-making
- Semantic processing of application data hierarchies for seamless data communication
- Archiving of operations situations in a “decision management” hierarchy

Key elements of Performance Manager

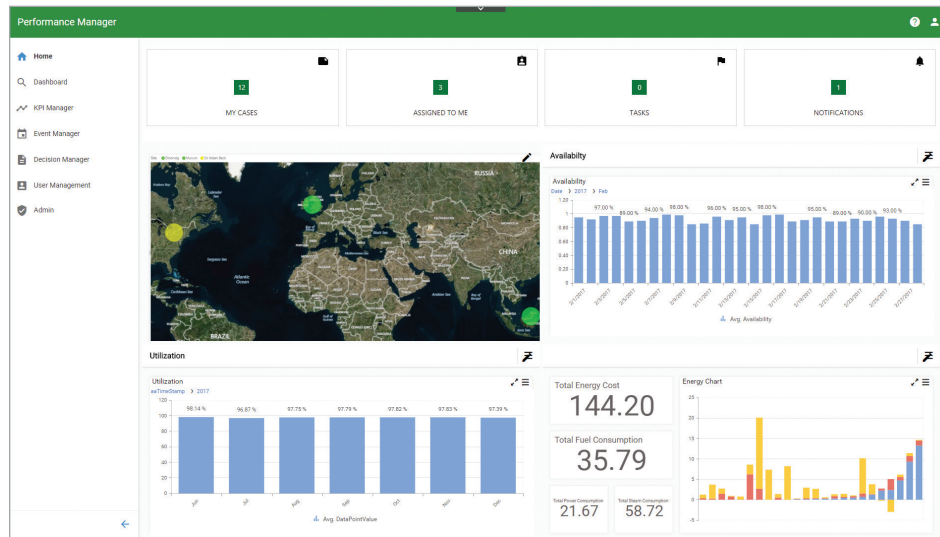


Performance Manager provides performance monitoring and advanced workflow on a single, integrated visualisation platform to enable operational excellence. The modules include an Operational Console, KPI Manager, Decision Manager, Event Manager and Operational Data Management. These tools standardise business workflows and processes, eliminate inefficient work and improve collaboration across functional domains. Performance Manager enables the monitoring of key performance processes and activities that trigger alerts when potential problems arise. The availability of the relevant and timely information helps to manage the workforce and processes and accelerate decision-making, optimise operating performance, and align the organisation to go in the right direction.



Features and Capabilities

- **Integrated visualisation platform:** Operations Console enables role-based, contextual visualisation for the workforce to benefit from immediate insight into operational performance issues, and empowers them to resolve these matters before they escalate to bigger problems. The automated “human” workflows channel the relevant information and events to the users in real-time, helping the workforce to focus on and complete their critical tasks.



Operations Console: Detailed KPIs of performance

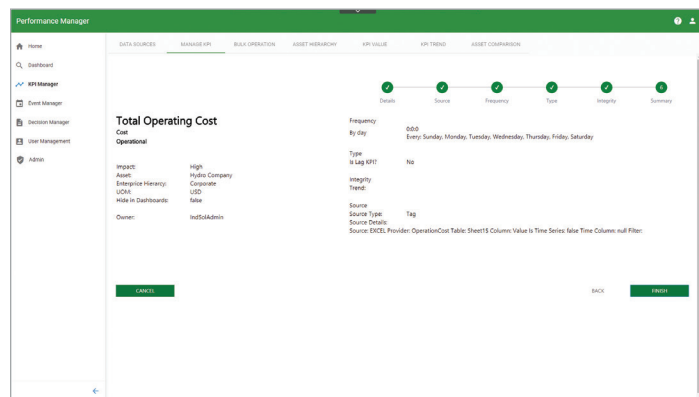
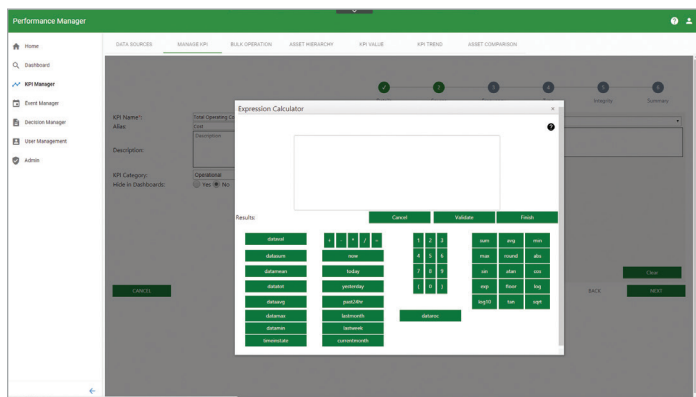
- **Decision Management:** Decision Manager captures critical plant knowledge and provides a linkage between performance events, their root-causes and generates a list of potential actions. The real-time event alerts trigger the notifications, sending them to the right channel and help to surface any operating issues or opportunities for immediate attention. These are implemented and evolved without programming.

The screenshot displays the Performance Manager Decision Manager interface. The top navigation bar includes tabs for MANAGE CASES, CAUSES KNOWLEDGE BASE, ACTIONS KNOWLEDGE BASE, STATUS CONFIGURATION, PRIORITY CONFIGURATION, CATEGORY CONFIGURATION, CASE ANALYSIS, and CASE SUMMARY. The main content area shows a table of cases with columns for Title, Status, Created By, Assigned To, Category, and Priority. The table lists three cases: Wicket Gate Fluctuations, Controller actuator issue, and Shaft Issue. A search bar and a search button are located above the table. A note indicates that a maximum of 100 records are shown.

Title	Status	Created By	Assigned To	Category	Priority
Wicket Gate Fluctuations	New	INDIGLOADMIN	INDIGLOADMIN	Operational	High
Controller actuator issue	Resolved	INDIGLOADMIN	INDIGLOADMIN	Operational	Medium
Shaft Issue	New	INDIGLOADMIN	INDIGLOADMIN	Maintenance	High

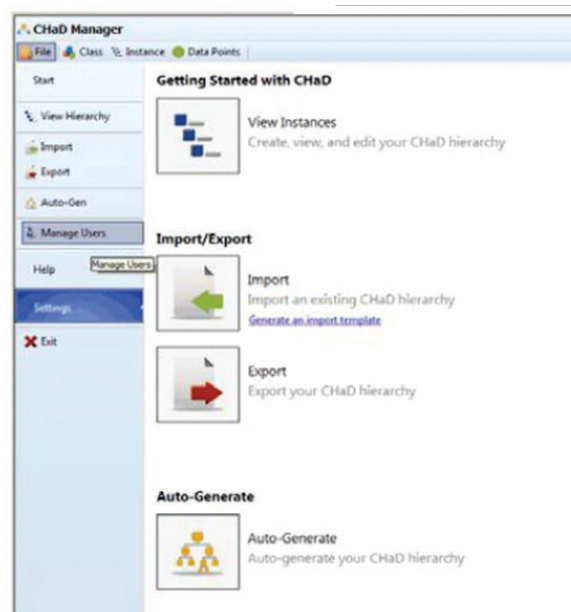
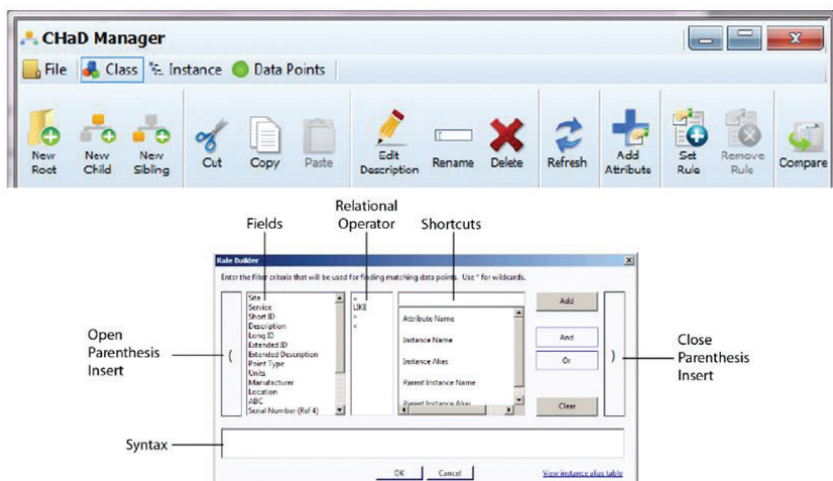
Event configuration panel

- **Highly configurable performance benchmarking:** The **KPI Manager** increases operational excellence through performance and asset benchmarking (including operating boundary thresholds) across the enterprise. The self-service portal allows configuration of any types of KPI with arithmetic expressions, enabling performance benchmarking towards operational excellence. It improves the system flexibility to accommodate future changes. These are implemented and evolved without programming. KPIs can include multiple sets of limits such as economic, schedule and reliability, and can be used in conjunction with polar/spider charts in the Operations Console.



KPI self-configured panel

- **Master Asset model:** The semantic processing function in the Operational Data Management module significantly improves the reliability and accuracy of data insight by reducing the skill level and effort to unify the diverse information names and data structures across the different software applications used by operations management. A self-service portal allows user-defined associations for data tagging to improve system flexibility and reduce the total cost of ownership (TCO).



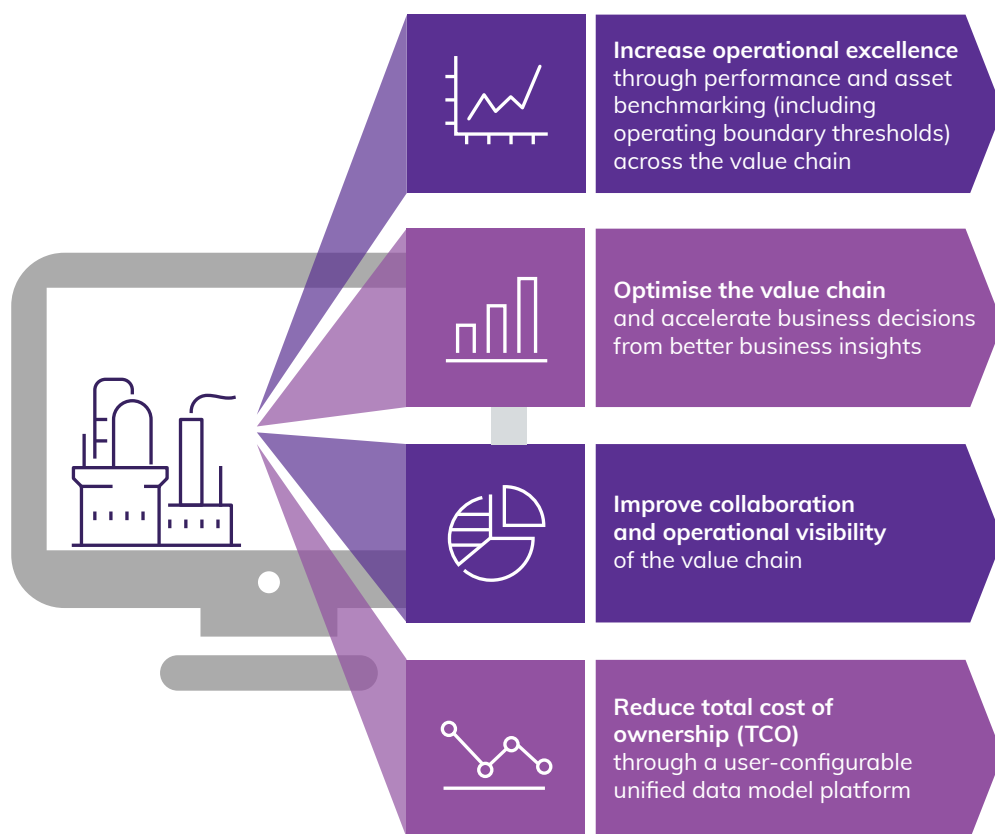
Highly-configured data association interface - Trustworthy configuration of associations among multiple applications

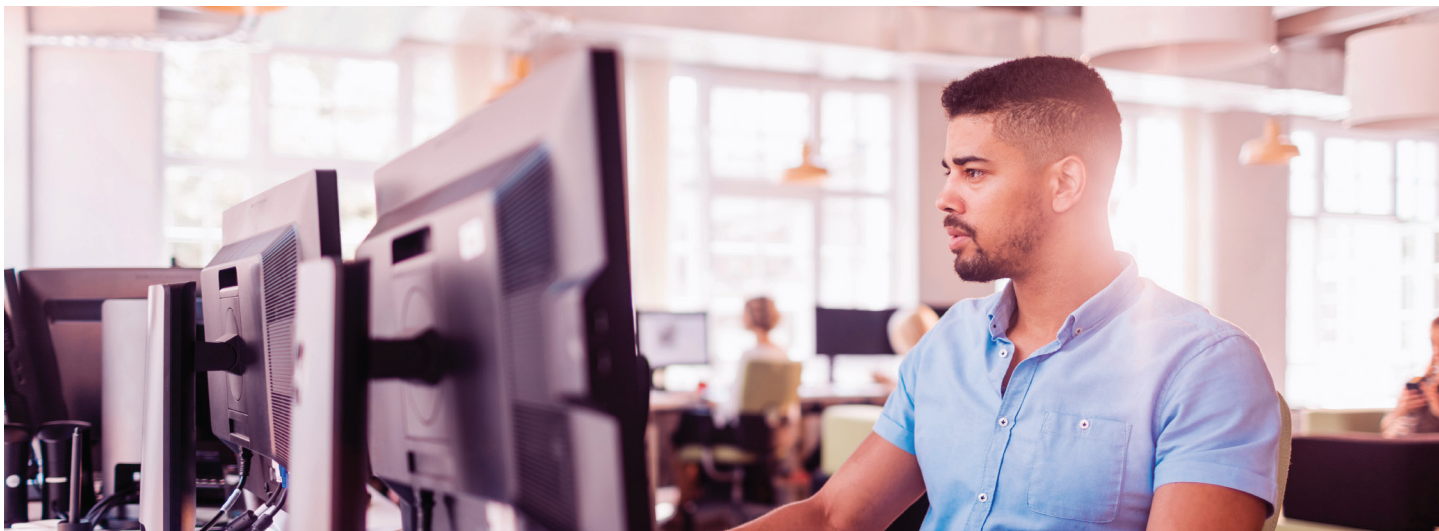
- **Event management:** Operations events history across applications can be retrieved and analysed efficiently in the Event Manager. A self-configured panel allows event data from different assets to be displayed in various graphical formats and different time series for analysis.
- **Model-Driven Configuration:** Performance Manager is built with standard products, supporting a highly flexible, model-driven configuration environment. This environment allows the system to manage and adapt application displays, business rules, application connections and configurations (e.g., URLs, middleware connections, reporting clients); data access services (e.g., SQL queries); and customisation extensions in a task-based activity with minimum programming effort required.
- **“Human” Workflow:** Performance Manager provides intuitive, self-service configuration and monitoring interfaces for procedures and forms to allow the content to be maintained and evolved with subject-matter experts and without IT or software specialists. It provides a rich library of connectors for further integration. The ease-of-use interface allows changes to be made that improve system flexibility for future changes.

Business Value of Performance Manager

When combined with best-in-class operations applications, Performance Manager helps you to achieve and sustain operations performance such as:

- **Increase operational excellence** through performance and asset benchmarking (including operating boundary thresholds) across the value chain
- **Optimise the value chain** and accelerate business decisions from better business insights
- **Improve collaboration and operational visibility** of the value chain
- **Reduce total cost of ownership (TCO)** through a user-configurable unified data model platform





Customer FIRST Software Maintenance and Support Program

Our Mission: Your Success

With Performance Manager, AVEVA offers our award-winning Customer FIRST Software Maintenance and Support Program. Customer FIRST is a flexible portfolio of services that help protect and extend the value of your AVEVA investment across its entire lifecycle. A Customer FIRST Agreement establishes a formal service relationship with AVEVA, enabling access to the latest software upgrades and providing expert technical assistance, optional services, and self-help tools to help you improve your operational effectiveness.

For more information on Customer FIRST, please visit:

sw.aveva.com/support/customer-first/



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