AVEVA

AVEVA provides MES, operations and performance improvements to Valmet's automotive manufacturing

Valmet - www.valmet.com
Industry - Manufacturing

Goals

- To enable production data to be easily transferred between the automation and ERP systems.

- To more easily share the production information between departments and company executives.

- To effectively manage bill of materials and track and trace data used in the production of the end products.

Solutions

- AVEVA™ System Platform, formerly Wonderware

- AVEVA™ Edge

- AVEVA™ Manufacturing Execution System, formerly Wonderware

- Supply Chain Connector

Challenges

- Due to growing demand for energy-efficient electric automobiles, the company was eager to have an MES solution installed quickly to enable the immediate ramp-up of manufacturing.

- It was important for the new software solution to easily integrate with existing software and hardware currently installed at the facility for quicker ROI.

Results

- The AVEVA solution was installed quickly, enabling Valmet to bring manufacturing online in three months.

- The software provided flexibility in the management of production data and bill of material documents.

- With its web-based reporting capabilities, all necessary production managers and executives have immediate access tomanufacturing data, enabling more effective decision-making.

A legacy of excellent car manufacturing

Uusikaupunki, Finland – The motto for the Think City electric car is that it "demands very little of you." Touting zero local emissions and energy efficiency that is three times that of a traditional combustion engine automobile, the Think City electric car employs the latest technology to achieve these goals.

Likewise, Valmet Automotive has heavily invested in its manufacturing line to deliver this game-changing automobile to a market increasingly demanding transportation solutions that do not rely on fossil fuels as the power source.

Valmet Automotive's long-standing track record in the production of premium vehicles, including Porsche sports cars, has firmly established the reputation of this car maker of 40 years. To tackle its newest challenge of producing the Think City electric car as well as the continued efficient production of its other models, the company needed to ensure that its manufacturing facility operated at peak performance and efficiency.

To achieve this goal, Valmet chose to review and revise its automation software framework.

Valmet Automotive and AVEVA

When Valmet started expanding its production in early 2008, its management systems needed a major upgrade to employ a more integrated system layout. The decision was made to implement an AVEVA MES solution which would tie together the company's various production applications and automation devices to create a more easily manageable and reportable process.

The Valmet Automotive MES solution includes AVEVA System Platform, which supports simplified and consistent operations across a wide range of industrial operations and manufacturing facilities by eliminating inconsistent operational practices and measurements through a single model. By delivering a common set of application software services, application standards are created once as templates for re-use in any application with similar functionality.

The software features capabilities for collecting, tracking and communicating real-time equipment performance and efficiency information. This application is scalable from the machine/equipment level information to line/plant enterprise processes to provide important key performance indicator (KPI) information used to evaluate the manufacturing process. It also delivers critical equipment downtime and efficiency information to Valmet operators and decision-makers who can then take immediate action to improve plant performance and productivity.

The AVEVA software provides Valmet with a scalable and configurable MES designed to help the company improve its operational efficiency and manufacturing responsiveness. This incremental, low-risk approach to building an MES from AVEVA enables Valmet to implement the solution in steps, from basic functionality including work order management, bill of materials, specifications, data collection and traceability to enhanced capabilities such as inventory management, certifications, labor and production steps. The MES system updates the status of each order and reports back to the ERP system providing real-time order tracking.

Operation workstations on each production line supervise and report the operation of each process via the AVEVA Edge solution. With the AVEVA Edge visualization software, operators can view crisp graphical images of production line processes. This sophisticated operation interface provides context to data, enables faster analysis and facilitates better and more rapid understanding of displayed information.

Operators are presented the right information, at the right time, and in the right format. This empowers Valmet operators to make timely, informed decisions, take corrective action to reduce costs and operational incidents, and improve productivity across the entire operation.

The AVEVA solution was completed in three months, enabling Valmet to immediately improve production of its various automobile lines.

The AVEVA advantage

The AVEVA software solutions offered a variety of advantages to Valmet's overall business objectives. First and foremost, the technology could easily integrate with equipment and programs already installed at the facility from various suppliers. The integration approach enabled Valmet to synchronise production and industrial operations and obtain the speed and flexibility needed to attain sustained profitability and continued growth.

Another key advantage is the ability for Valmet managers and operators to easily and quickly transfer data between the factory automation and ERP systems. This has resulted in improved production throughput and on-time delivery with more accurate, real-time information for production planning, execution and order fulfillment.

Linking the production process with the ERP system enables the company to analyse its overall operational performance using simple, yet powerful data analysis and reporting tools. In addition, integration of the AVEVA solution with the Valmet ERP system provides coordination of customer orders, recording of material purchases, display of production information as well as a variety of operations reports for use by Valmet, its customers or partners.

The system receives production orders from the ERP system according to customer demand, divides the orders by components for purchase and production and processes each customer order through the entire manufacturing process. The AVEVA MES system updates the status of each order back to the ERP system, providing real-time order tracking. The system also manages material tracking for production processes.

In addition, the tracking and tracing of materials used in the production of Valmet automobiles is remendously important for quality control and supply chain management.

The Supply Chain Connector is an application extension of the MES system. It provides data import/export capabilities in standardized formats to facilitate enterprise integration of AVEVA MES software by automatically importing and exporting critical order, material and performance-related information.

As the automobile industry continues its evolution from gasoline-powered combustion engines to more efficient and environmentally friendly designs, AVEVA will power Valmet's automobile production as it speeds along the great "electric" highway.

AVEVA