Wonderware MES/Operations

Real-time Manufacturing Execution Management

Efficiently and reliably manage the transformation of materials into finished products with Wonderware MES/Operations. Digitize and standardize work order execution processes, enforce products build to specification and capture manufacturing execution and material flow information in real time.

Summary

Wonderware MES/Operations offers a complete set of MES software functions to efficiently manage operational processes and data flow in industrial manufacturing plants. The software allows for a full electronic information and workflow management for manual job execution, as well as data download and execution on automated plant equipment.

Integrated with enterprise resource planning, Wonderware MES/Operations enables agile, short-term production management and provides schedule flexibility for the plant. Enforcement of product specifications such as bill of materials (BOM), setup parameters, rules of material flow and job execution sequence ensures consistent quality. Automatic electronic record keeping provides detailed product genealogy and end to end material traceability. Business applications can be updated with work in process (WIP) and inventory status information in real time. Execution history data offers drill down analyses of operational performance and identification of best practices, facilitating the continuous improvement process.

Business Value

Digitization and increased automation of operational processes can raise efficiencies, reduce errors and improve quality, ultimately increasing yields dramatically. Inventory turns faster, production lead times shrink and the business becomes more agile and responsive.

Benefits

+ Elimination of error prone paperwork

+ Increased automation of data capture and information management for decision support

+ Improved inventory velocity and reduced production order lead time

+ Lower variance in production results, less scrap and rework

+ Reduced risk of managing product recalls or production emergencies

+ Enhanced supply chain visibility

+ Reduced costs of production and of regulatory compliance

+ Secured brand equity and customer satisfaction

Production Management

Wonderware MES/Operations helps manufacturing companies electronically manage and document production, product and process quality, and end to end material flow. The software is designed to provide an information model to enforce business and data collection rules and to assist with job-related specification data and instruction documents in real time.

Work order execution is managed by scheduling instances of the product-related master process, scaled to the requested product quantity. Instances of the process are then broken into jobs and scheduled to equipment for execution on the plant floor.

Detailed records of product genealogy and material traceability allow for fast and effective responses to unforeseen events and help reduce the cost of compliance to consumer and product safety regulations.
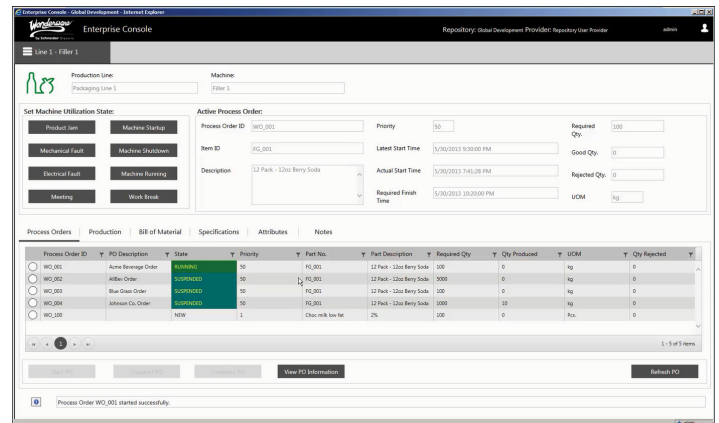
Specification Management

The Wonderware MES/Operations process model includes business rules and product specification information to provide and enforce work instructions, BOM, and setup information to both people and automated equipment. Material consumption can be verified against BOM specifications using barcode or RFID readers.

Inventory and Storage Management

Wonderware MES/Operations can be used for managing inventory and end to end traceability across fixed storage locations, mobile storage units or production equipment for raw materials, semi-finished and finished products.
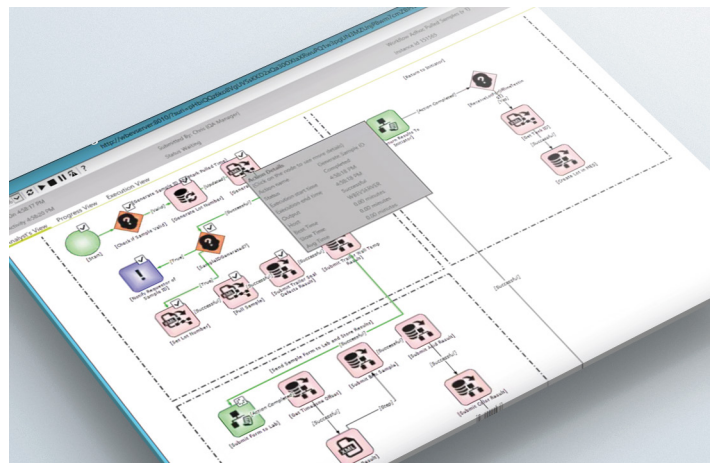
Material quantities are updated automatically in production inventory as materials are consumed and products are made.

You can additionally manage and track work order independent inventory operations such as material receiving, transfer related to pre- or post-production logistics or managing Kanban inventory.

Manufacturing Execution

Electronic workflow management provides integration of people and systems into operational processes and enforces consistent execution of operating procedures. Workflows can be defined in the process specification and business rules and automatically triggered from planned or unplanned production events to provide notifications and information to the right people requiring task execution, data entry response or decision making feedback.

Unique execution and data collection capabilities on automated plant equipment make Wonderware MES solutions the first choice for automated or fast moving goods manufacturing processes.

Wonderware System Platform is leveraged as the infrastructure for execution integrated with the plant equipment control systems. Native integration leverages the platform equipment model and facilitates transformation of control system data into consistent electronic records for storage in the MES database.
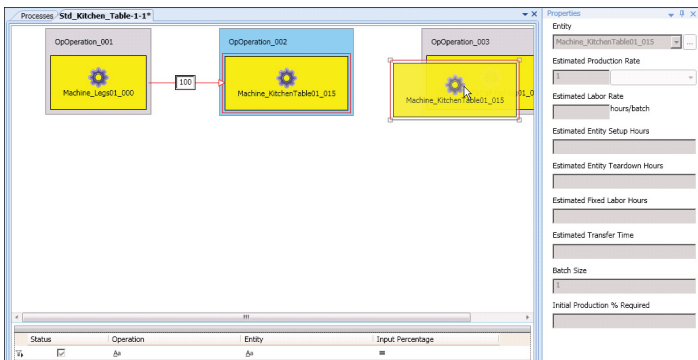
Labor Tracking and Certification Management

Wonderware MES/Operations tracks operators logged into jobs and captures time and duration on machines, which allows accounting of labor costs attached to work order execution by an operator or groups of operators. Jobs can be restricted to operators with valid certificates of necessary qualifications to run the job.
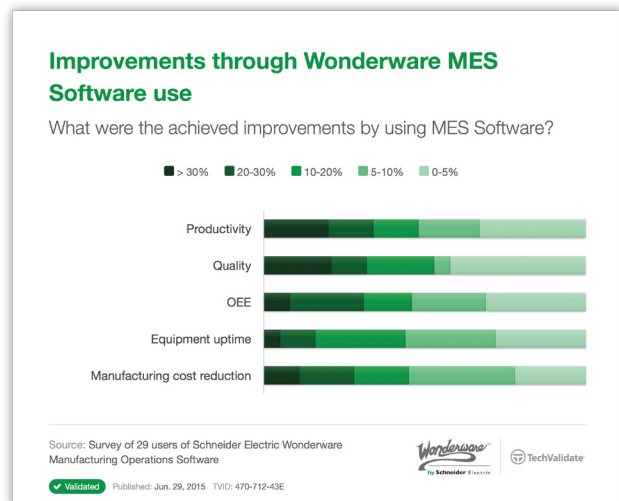
Process Modeling

Wonderware MES/Operations leverages a process model to describe the manufacturing process component operations and link business rules and specification information to product manufacturing.

The process model allows defining and linking the operations, equipment, BOM and setup specifications, routings and flow of materials between operations and the data capture requirements for each operation or step within a process.
An 'operation' defines a task to produce an intermediate or finished product, including the raw materials or intermediate products consumed, any by-products produced, the equipment used to complete the task, data collection, sequence of steps and labor and machine time estimates.Dynamic routing accommodates rework by routing production to rework operations using reason codes.

Reporting

Wonderware MES/Operations includes standard reports which are published for flexible and collaborative information access via a web browser.

+ Genealogy by Work Order

+ Production by Equipment

Manufacturing Operations Management

Wonderware Manufacturing Operations Management is where inventory and production management, performance analysis, quality and compliance come together across a common platform and interface.

Wonderware MOM application functionalities can be scalable and incremental deployed at single or multiple sites.

Multi-site Operations Management

The key in multi-site applications is to enforce consistent reporting, analysis and standardization of business processes. Combining Wonderware MES and advanced workflow software capabilities offers a "model-driven," process-centric approach to MES standardization. Our methodology is based on reusable templates and an easy-to-use engineering environment that empowers users to create, deploy and refine standards and to adapt plant nuances easily.

Wonderware MES Technical Specifications:

Operating Systems

+ Windows 7 Professional, Enterprise,
  or Ultimate Edition (32-Bit and 64-Bit)

+ Windows 7 Professional, Enterprise,
  or Ultimate Edition (32-Bit and 64-Bit)

+ Windows 8.1 Professional
  or Enterprise Edition (32-Bit and 64-Bit)

+ Windows 10 Professional
  or Enterprise Edition

+ Windows Server 2008 R2 Standard
  or Enterprise Edition (32-Bit and 64-Bit)

+ Windows Server 2012 Standard
  or Data Center Edition (64-Bit)

+ Windows Server 2012 R2 Standard
  or Data Center Edition (64-Bit)

Database Technology

+ Microsoft SQL Server 2008 R2 in Express, Standard
  or Enterprise Edition (32-Bit and 64-Bit)

+ Microsoft SQL Server 2012 in Express, Standard
  or Enterprise Edition (32-Bit and 64-Bit)

+ Microsoft SQL Server 2014 in Express, Standard
  or Enterprise Edition (32-Bit and 64-Bit)

+ Microsoft SQL Server 2016 in Express, Standard
  or Enterprise Edition (64-Bit)

Language Support

Wonderware MES Software includes support
for the following languages:

+ English

+ French

+ German

+ Japanese

+ Russian

+ Simplified Chinese

+ Spanish

For more information on Wonderware MES Software
and Manufacturing Operations Management solutions,
please visit wonderware.com/manufacturing-operations-management

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