

Wonderware MES/Quality

Quality Management and Statistical Process Control for Manufacturing Operations

Safeguard quality and compliance by digitizing and automating quality operations and sample plan execution on the shop floor. Use powerful statistical process control (SPC) methods to empower stakeholders with visibility into trends and rule-violation notifications to effectively reduce quality losses, minimize variation and improve yields.

Summary

Wonderware MES/Quality software helps manufacturers increase efficiency by capturing and monitoring critical information in alignment with other operational activities and in response to shop floor events. MES/Quality is designed for quality data collection through enforcement of manual inspection procedures or direct sampling from automated plant equipment or control systems. Statistical Process Control (SPC) provides real-time visibility into trends, variation or non-conformance to enable rapid corrective and preventive actions. Wonderware MES software complements LIMS and quality management systems with automated data collection.

Business Value

Using Wonderware MES software, manufacturers can improve yields through increased product quality and operational efficiency. Automation, standardization and enforcement of inspection and data collection procedures help reduce costs while ensuring quality and maintaining regulatory and product safety compliance.

Benefits

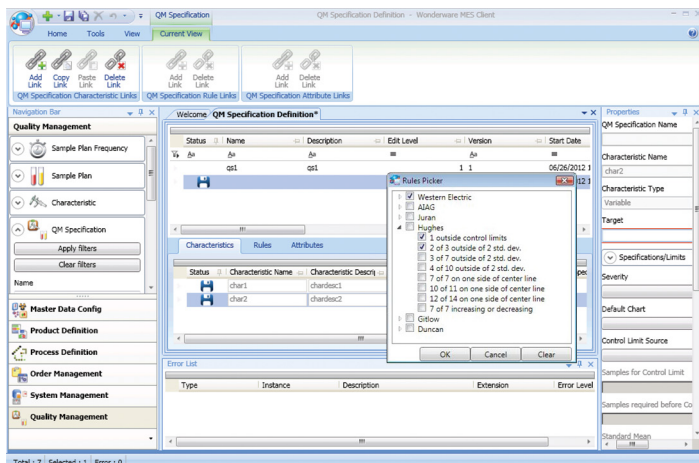
- + Improve product quality and reduce losses through tighter process control.
- + Reduce lead time to corrective actions and minimize impact on downstream operations.
- + Enhance operational agility while securing compliance for ever-changing production schedules.
- + Predict issues and trigger preventive actions to avoid quality losses.
- + Reduce compliance cost with a complete electronic record of product quality and operational activities.
- + Improve yields and reduce giveaway by driving quality closer to specification limits.
- + Capture and digitize best practices and standardize processes for quality inspections, compliance, corrective and preventive action (CAPA), non-conformance (NC), material disposition or sign-off approvals across plants.



Quality Specification Management

Reduce off-spec production through enforcement of quality requirements

With Wonderware MES/Quality, is configured in three easy steps. First the user sets variables and different frequencies for quality data collection. Then the software assists in creating sampling plans that define the events and frequencies carried out to secure complete coverage of inspections and documentation. Finally, the user defines the quality specification for a product, an operation, or piece of equipment by selecting the required variables, a sample plan definition and SPC rules applied to the data.



Powerful specification version management functionality ensures data consistency and supports continuous improvement.

Users can also define as many quality specifications as required, including limits and rules for every product, process, equipment or any context that is meaningful for the business.

Sample Plan Execution

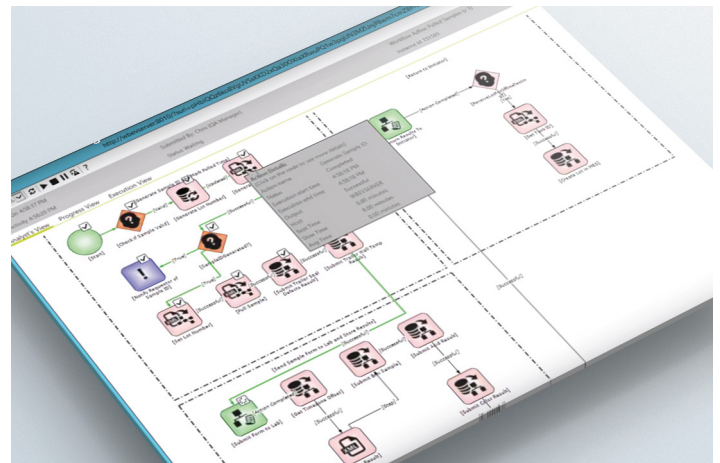
Quality operations management in the context of work order execution

The software dynamically manages quality data sampling requirements according to the work order specification and removes these distracting and difficult to manage tasks from operators. This increases scheduling flexibility and improves overall responsiveness to unplanned events.

When a work order is started, the specified sampling plans are automatically generated and dynamically maintained in alignment with the work order execution progress.

Future sample plans based on production unit count are predicted based on the standard production rate defined for the product currently produced. All related operator quality data entry requests and automatic sampling from connected devices are executed by the system. Spontaneous quality data samples can be triggered for unplanned or specified process conditions.

Workflow Management



Advanced workflow management capabilities automate and enforce routine quality data entry procedures as well as escalated responses, reducing time to action.

Integration with Wonderware Skelta BPM advanced workflow software allows users to model execute and document electronic workflows for manual sample data collection as well as any standard operating procedures in response to planned and unplanned events such as non-conformance, out-of-control conditions or rule violations.

Digitizing and automating the operational quality procedures brings peace of mind that products have been tested to comply with customer, internal or regulatory requirements before they leave the plant.

Statistical Process Control (SPC)

Empower stakeholders to reduce quality losses and take preventive action

Near real-time quality monitoring eliminates time delays to non-conformance notifications while minimizing impact on downstream operations. SPC analysis can be leveraged to “predict” issues and, in response, trigger preventive actions to avoid losses before they cost time and money.

Wonderware MES/Quality includes rich SPC trend and chart display capabilities. Sampled data can be displayed instantly in SPC charts and monitored by operators. These include notifications for violations of control and specification limits. Additional notifications can be configured based on a large set of standard SPC rules indicating specific trends and behavior of quality characteristics.

All industry standard SPC charts are included:

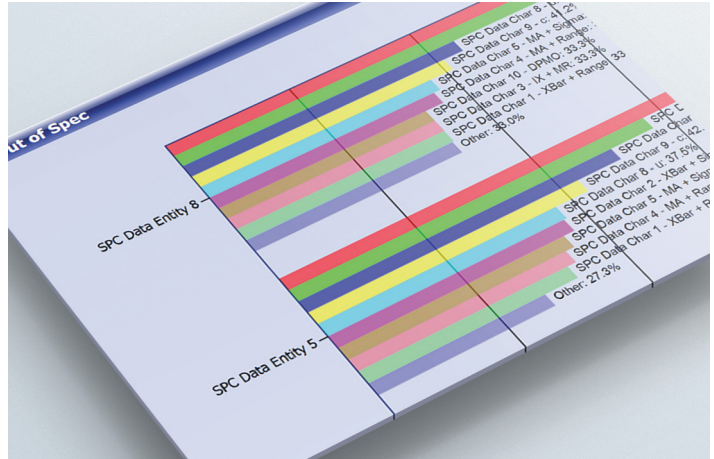
- + X-bar and Range or Sigma
- + X-individual and Moving Range
- + Moving Average and Range or Sigma

Attribute Charts include:

- + P
- + U
- + Np
- + C
- + Defects per Million opportunities (DPMO)

SPC charts offer rich information and display options including statistics on the chart, individual values, mean, and range as well as Cp / Cpk / Pp / Ppk KPI's.

Quality Reporting



Many standard reporting formats are included with Wonderware MES/Quality. These include quality characteristic detail reports, which filter sample data on multiple characteristics and summary reports, which provide details on equipment, product, work order and operation category. These reports are published for flexible information presentation via a web browser.

Quality – A Core Pillar Of Manufacturing Operations Management (MOM)

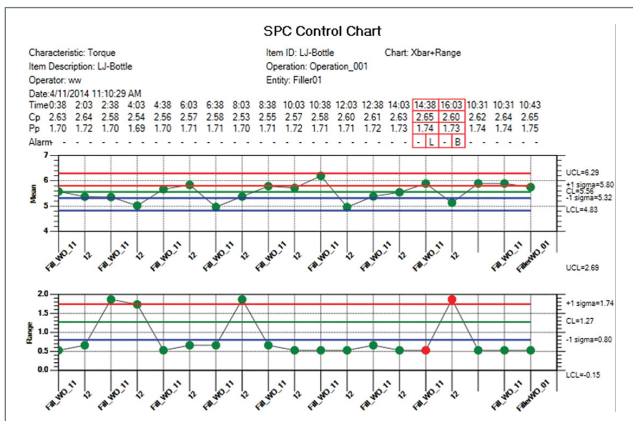
Wonderware Manufacturing Operations Management is where inventory and production management, performance analysis, quality and compliance come together across a common platform and interface.

Where MES/Quality helps maintain and continuously improve production quality, MES/Operations ensures that processes are executed to specification and MES/Performance ensures plant equipment is working to its fullest potential.

Wonderware MOM is scalable and can be deployed at single or multiple sites.

Multi-site MOM

The key in multi-site applications is to enforce consistent reporting, analysis and standardization of business processes. Wonderware uses a unique approach to multi-site MOM that models real-world interactions between the plant, processes and people. Our methodology is based on reusable templates and an easy-to-use engineering environment that empowers users to create, deploy and refine standards.





Wonderware MES Technical Specifications:

Operating Systems

- + 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 other Manufacturing Operations Management solutions, please visit wonderware.com/manufacturing-operations-management