Wonderware MES/Performance

Manufacturing Operations Performance Management in Real-time

Reduce costs and increase return on assets (ROA) by monitoring, analyzing and continuously improving operating efficiencies. Wonderware MES/Performance combines production and equipment event tracking with work order execution progress information for a full manufacturing performance solution.

Summary

Wonderware MES/Performance software provides Overall Equipment Effectiveness (OEE) monitoring of production lines in real-time. Automated equipment efficiency tracking and line bottleneck determination quickly shows which plant assets are pulling their weight, and which ones are not. Critical line efficiency and equipment downtime information is communicated to operators and decision-makers, who can take immediate actions to improve performance and productivity. With this higher level of insight, users can quickly identify inefficiencies and attack problem areas which affect plant performance and capacity - unlocking more value from existing plant assets.

Business Value

Keeping equipment operating at peak performance cuts cost, maintains profitability and helps companies remain competitive. Standardization of KPI's and best practices elevates performance consistently across the business.

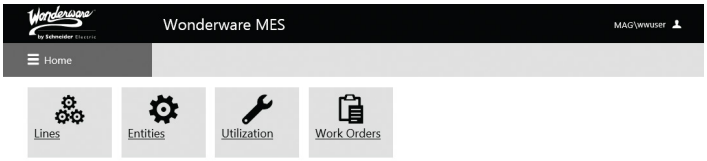
Benefits

- Gain visibility to KPIs for line and equipment performance
- Enable operators and decision-makers to take immediate actions to improve plant performance and productivity
- Increase asset utilization with accurate information on line bottlenecks and equipment downtime
- Improve the predictability of order fulfillment, with accurate planned vs. actual information
- Determine and eliminate plant capacity losses with new insights from performance history data
- Continuously improve operational efficiencies and plant throughput
- Establish best practices by comparing line-to-line and equipment-to-equipment performance across the enterprise

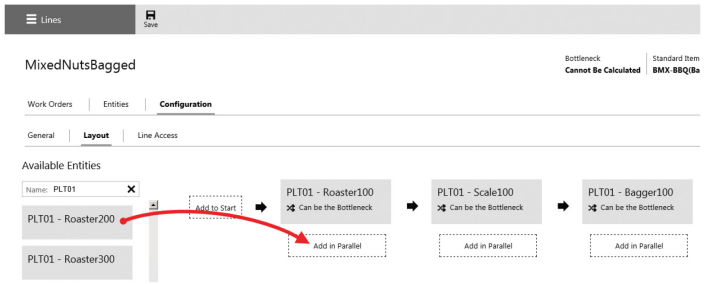
Manufacturing Performance Management

Wonderware MES/Performance software provides the ability to collect and store process data for visibility into Overall Equipment Effectiveness (OEE) key performance indicators (KPIs) and utilization information.

The software is designed to collect plant process information from operators and automated production equipment. It uses work order information manually entered, or provided from an external system, to accurately calculate the OEE KPIs based on work order start quantities and product-specific targets. The software then tracks performance across line equipment at the required production rate.

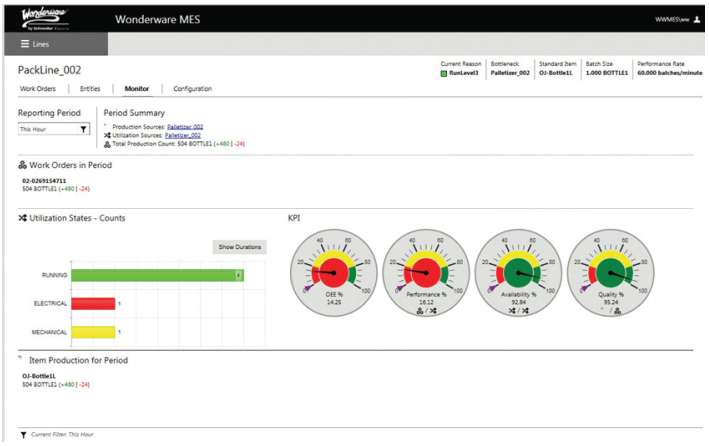


Wonderware MES/Performance is quickly set up by configuring equipment, lines, utilization states and reasons in its web-based user interface. A line is easily modeled by dragging and dropping available equipment into a layout that indicates the flow of product.



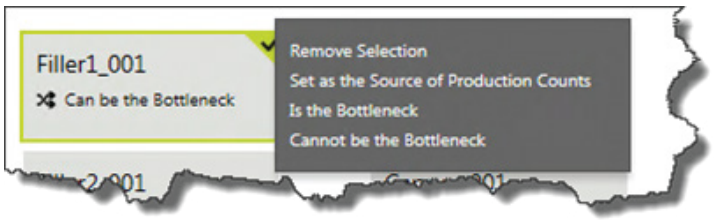
Integration with existing automation systems generates highly accurate and timely views of equipment performance, including short duration events which are not typically recorded. Short duration events can add a significant amount of downtime but when tracked, users see the impact of the events and have a path for improvement.

Unique data collection capabilities on automated plant equipment make Wonderware MES/Performance the first choice for fast moving consumer goods manufacturing.



Line Bottleneck Determination

Production line performance is constrained by bottleneck equipment, but the location of the bottleneck is not obvious for operators and might change with the item produced or equipment failure. To track line OEE, the KPI calculations need to be based on the bottleneck performance and have to consider the amount of good production at the defined line's production source.



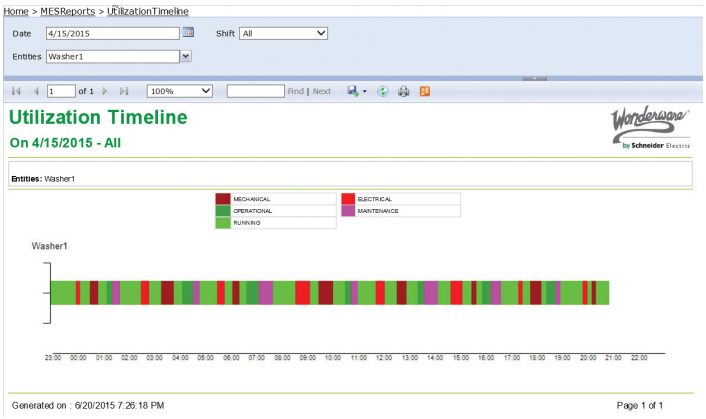
Wonderware MES/Performance determines bottleneck equipment both automatically and manually:

+ **Automatically,** by specifying which line entities could be the bottleneck. In this case, the bottleneck will be determined through continuous evaluation of performance rates.
+ **Manually,** by specifying the bottleneck position when configuring the line. In this case, the specified equipment is always used to set the line's performance amount.

Bottleneck determination helps focus attention on the issues that are truly impacting current performance.

Equipment Utilization Tracking and Monitoring

Wonderware MES/Performance tracks equipment utilization by creating an electronic record of different states and attached reasons. Utilization events, such as equipment start/stop or downtime for maintenance, define the state change. These events can be captured automatically from control systems or entered manually into the system by production operators, or as a combination of both.

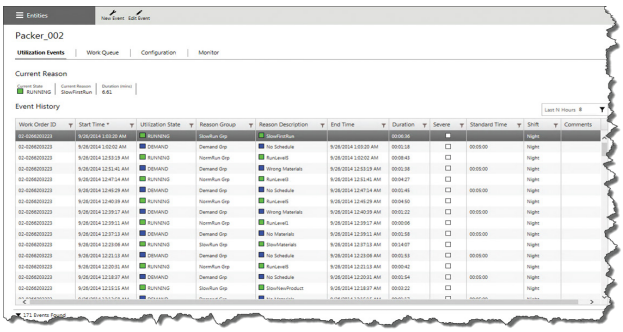


Automatic utilization event and reason capturing allows users to record short stoppages and frees up operators from manual data entry. Pareto graphs display rate counts, durations of utilization states and reasons associated to line or equipment performance.

Any number of utilization reason groups causing a state change for equipment (i.e. running, idle, in maintenance or down) can be defined to get the most accurate, detailed insights which downtime reasons appear most often, or cause the most downtime.

Automatic events may be modified by an operator or authorized person to further clarify the reason for the event, including the ability to merge events or split an event into one or more individual events.

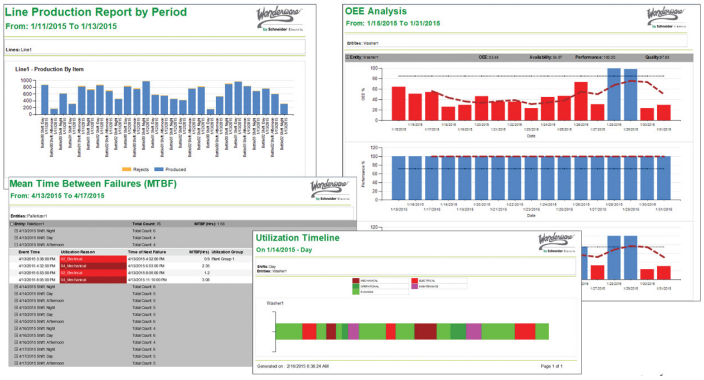
Accurate downtime information helps to rank and analyze the reasons impacting equipment utilization and provides actionable insights for improvement.



Reporting

The entire manufacturing facility operates better with enterprise-wide visibility into real-time production information. Wonderware MES/Performance achieves this with a reporting database optimized for retrieval speed (powered by Wonderware Intelligence) and a full set of interactive report views delivering information on production results and plant performance measures:

- + Line Production
- + Equipment Production
- + Utilization by Equipment
- + Utilization Analysis
- + OEE Analysis
- + Mean Time Between Failures
- + Mean Time to Repair
- + Utilization Timeline



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.

MES/Performance ensures that plant equipment is working to its fullest potential, MES/Operations enables effective process execution and MES/Quality helps to control, maintain and continuously improve production quality.

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

Multi-site Performance Management

The key in multi-site applications is to enforce consistent reporting, analysis and standardization of business processes. Our methodology is based on reusable templates and an easy-to-use engineering environment that empowers users to create, deploy and refine standards and adapt to plant nuances easily.

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