ABB Ability™ Manufacturing Operations Management

OEE Application

The ABB Ability™ Manufacturing Operations Management Overall Equipment Efficiency (OEE) Application uncovers hidden potential and maximizes equipment utilization, uptime and quality. It enables customers to calculate and analyze Overall Equipment Effectiveness measure, based on data collected from their production processes.

The ABB Ability™ Manufacturing Operations Management Overall Equipment Efficiency (OEE) Application allows plant managers and operators to quickly identify whether the plant is operating at its highest efficiency by providing a simple and easy-to-use tool to monitor and analysis the three OEE key factors availability, performance & quality for each plant asset.

The Solution

Overall Equipment Efficiency (OEE) is a native Application, within ABB Ability™ Manufacturing Operations Management (MOM). With its common services and modules User Experience (UX), Reporting, Connectivity and Data Storage ABB Ability Manufacturing Operations Management is an ISA-95 Level 3 plant data access and information system which ties any plant data from disparate data sources into one single information infrastructure. MOM is also a platform that hosts a different type of industrial productivity software Application, MOM Applications. This enables MOM users to easy expand and add new relevant industrial software applications as requirements or business objectives change.

How does it work?

The ABB Ability™ Manufacturing Operations Management OEE Application calculating the Overall Equipment Efficiency (OEE) based on automatic data collection from field devices. Operators additionally can provide manual input. Based on the configuration of plant hierarchy, equipment hierarchy and downtime cause definitions the calculated figures for performance, availability and quality as well as Overall Equipment Efficiency (OEE) are available for analysis to identify bottlenecks in the process.

During the configuration phase of the OEE Application, the engineer assigns users to predefined roles that hold different permissions to work with the OEE Application such as administrators, managers or operators.

As a next step the plant hierarchy is being set up that reflects a logical grouping of the customer plants asset. The Downtime Modul is being configured to hold Downtime Classifications and Downtime Causes that are being mapped to Equipment Types. As a last step Equipment Instances are configured and mapped to the different Units within the Plant Hierarchy to retrieve data from assets for automatic downtime calculation purposes.

Once the configuration is done data collection will start. The OEE Application provides a Data Audit mechanism to verify the correctness of records, additionally data can be added manually.

As a result, Plant Managers can use the OEE Analysis Tab to retrieve accurate information on their Unit availability, performance and quality as well as analyzing the Overall Equipment Efficiency (OEE). Units can be compared with each other to quickly identify low performing assets and to initiate counter measures to ensure competitive plant operations. Downtime event analysis allows to drill-down in individual Units to identify downtime root causes as well as the time lost due to each Downtime Cause.

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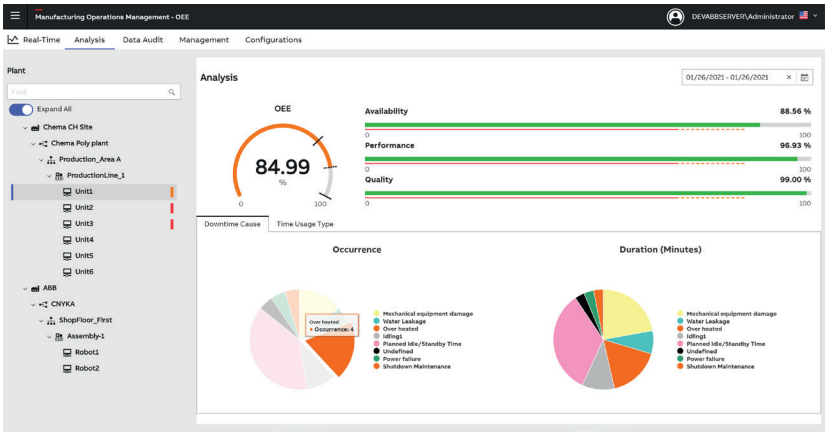
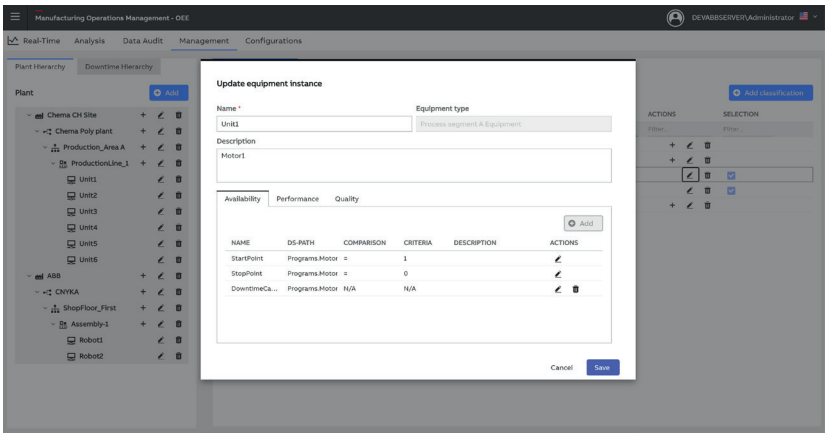
OEE Analysis





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OEE Equipment Instance

Prerequisites
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Key Benefits
- Reduce equipment downtime by quickly identify assets that reduce plant production efficiency
- Increase operator efficiency through increased visibility of operator impact
- Improve product quality by reducing scrap
- Modern HTML5 based Application to support fast integration into existing IT infrastructure.

Features
- Real-time and historical OEE analysis
- Downtime event analysis
- Browser based engineering and configuration
- Equipment comparison
- Data Audit
- User Management
- NLS Native Language Support
- HTML5 based Application

Technical specifications
- Data acquisition through MOM History or 800xA History
- Supports modern web browsers like Edge, Chrome or Safari.

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