

ABB Ability™ Manufacturing Operations Management

Manufacturing Execution Technical Facts



ABB Ability™ Manufacturing Operations Management (MOM) offers the complete solution for seamless manufacturing and business processes integration, enabling true interoperability among all entities involved in the production process.

The lifecycle of plant floor data no longer begins and ends on the plant floor. Instead, day-by-day operations require a complex network of many to many information flows between the business and manufacturing systems.

With tight integration links between business and manufacturing systems, MES the speed in which information is exchanged between the plant and the business so manufacturers can respond on demand, optimize plant productivity, enhance efficiency and deliver high quality products to remain competitive.



With true interoperability enabled, ABB Ability™ Manufacturing Operations Management (MOM) offers a foundation for highly scalable and flexible manufacturing execution systems (MES). Standardized and integrated process and information flows drive manufacturing operational excellence and guarantee reliability, product quality, regulatory compliance and support for standards and procedures across global manufacturing facilities. Manufacturers become more responsive to the pull from the market and more predictive to their suppliers.

Flexible, ISA 95 based modeling capabilities and modular architecture with components and optional product modules, ensure an evolutionary approach for the future business needs.



Value propositions







- Manufacturing flexibility for leaner supply chains—more responsive to the market pull and more predictive to suppliers.
- Transparency of operations and accurate manufacturing instructions through seamless connectivity between people, equipment and systems.
- Production visibility to minimize costs, maximize order fulfillment and throughput.
- Improved product quality, reliability, tracking and traceability for regulatory compliance.
- Improved cycle time by identifying the bottlenecks in the process workflows.
- Exception management with dynamic responses (e.g. material shortage, machine or operator downtime, rework).
- Management access to all types of operational data enabling decision support for corrective actions and performance improvement.

ABB Ability™ Manufacturing Operations Management/Manufacturing Execution at a glance	
Product	ABB Ability™ MOM—Manufacturing Execution
Release	7.2
ISA 95 based	 ISA-95
B2MML support	 B2MML
Technology	Microsoft (IIS, .NET Framework, .NET Core, C#, C++, SQL Server Reporting Services, SQL Server Analysis Services), ReactJS, NHibernate, Spring.NET
Database	Microsoft SQL Server 2008 R2/ 2012/2014/2016
Operating systems	Client: Windows 7/8/8.1/10, Server: Windows Server 2016
Browsers	Chrome, Safari, Edge
Virtual environment	Yes
NLS support	Yes



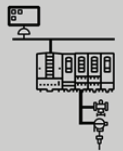
ERP / Business Systems

ABB Ability™ Manufacturing Operations Management

<p>Process intelligence</p> 	<p>Manufacturing execution</p> 	<p>Production intelligence</p> 	<p>Production optimization</p> 	
 <p>Connectivity</p>	 <p>Data Storage</p>	 <p>Common Services</p>	 <p>UX</p>	 <p>Reporting</p>



PLC/SCADA/DCS



Enabling productivity, quality and continuous improvement

Module	Benefit	Short description
Integration	Seamless integration of manufacturing and business	Out of the box connectivity with SAP, ERP LN, Baan, IBM Maximo and other ERP systems. Set of standard interfaces (ODBC, OLE DB), web service, XML, OPC, TCP/IP as well as specific protocols to communicate to external systems, equipment and control system.
Production Management	Plan, respond and change on demand	Flexible and reliable dispatching, management, execution, and monitoring of production orders. Configuration of workflows with optional paths and dynamic flow (routing). Production buffer handling. Automatic mapping of routing coming from ERP and confirmations of ERP operations.
Electronic Work Instructions	Bring consistency to manual operations	Guides the operator through each steps with the required production and safety instructions and checks. Integration with common document repositories (SAP DVS, ZVS, SharePoint, Enovia, SmartTeam). Enables instant messaging and logging of shift notes.
Quality Management	Recognize and respond to quality challenges	Integrated quality management including quality parameter management, manual or automatic data collection, product test certificates. In-process quality control, automatic tolerance validation, manual or automatic reporting of non-conformities, checklist support.
Downtime Management	Improve plant performance and productivity	Collecting and tracking real-time equipment downtime and interruption information and causes. Tracking of non-productive activities (e.g. downtime due to cleaning), idle and rework time tracking. Configurable effect on a product unit affected with downtime (abort, resume).
Material Management	Full material control and transparency	Tracking and tracing of individual parts, lots, batches, assemblies. Material identification, real-time reporting of material consumed and material produced, management of material compatibility and availability, weigh & dispense support, material genealogy.
Warehouse Management	Improved inventory turns and inventory reduction	Management of material storage locations and levels. Support material movement within warehouses and its elements (cells, packages, silos, containers etc.). Material compatibility management. Integration with external warehouses and inventory management systems.
Labor Management	Plan, measure and view labor activities	Configuration of production calendars: shifts, working time, exceptional days and operation mode. Accurate management and tracking of staff presence (join/leave) and activities on a given product against defined production time. Reporting details to ERP.
Equipment Maintenance Management	Plan and execute maintenance activities	Plan, create and execute equipment maintenance tasks based on observations or preventive plans. Execution of task with support of instructions, checklists etc. Keeping track of when the request was created, started and completed. Overview of active maintenance requests.
Overall Equipment Efficiency (OEE)	Uncover hidden potential	OEE dashboard showing current and historical availability, performance and quality parameters and their contribution in the overall equipment effectiveness. Real time visibility and analysis capabilities to enable operational decisions. Motivates production teams to maximize utilization, uptime and quality.
Reporting	Operations and plant performance visibility	Built-in standard reports and views on production progress, production order details, material track and trace, quality etc. Custom reports can also be provided easily using Microsoft reporting services.

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