

cpmPlus Enterprise Connectivity - ECS

Productivity through connectivity

ABB's cpmPlus Enterprise Connectivity (ECS) 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.

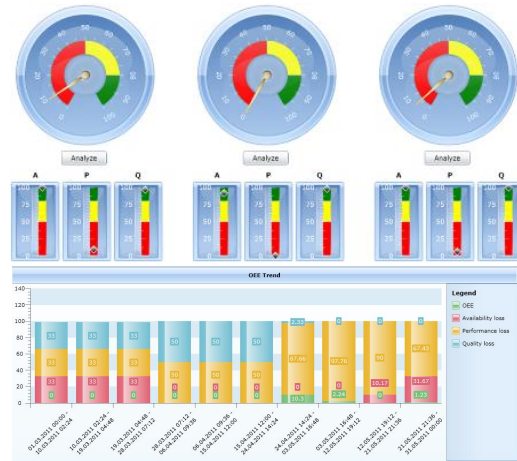
With tight integration links between business and manufacturing systems, ECS helps enhance the speed in which information is exchanged between the plant and the business so manufacturer's can respond on demand, optimize plant productivity, enhance efficiency and deliver high quality products to remain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

With true interoperability enabled, cpmPlus ECS offers a foundation for highly scalable and flexible Manufacturing Execution Systems (MES). Standardized and integrated process and information flows drive manufacturing operational excellence and guaranty 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 proposition

- 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.
- Exceptions 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.



ECS at a glance

Product	cpmPlus Enterprise Connectivity (cpmPlus ECS)
Release	4.3
Market presence	since 2004
ISA 95 based	
B2MML support	
SAP certified	
IIT certified	
Technology	Microsoft (.NET Framework, C#, C++, SQL Server Reporting Services, SQL Server Analysis Services), NHibernate
Database	Microsoft SQL Server 2005/2008, 2008 R2
Operating systems	Windows XP, Windows 2003/2008, Windows 2008 R2, Windows 7, Windows CE x86/x64 support
Browsers	Microsoft Internet Explorer
Virtual environment	✓
NLS support	✓
Redundancy support	✓

Enabling productivity, quality and continuous improvement

Module	Benefit	Description
Integration	Seamless integration of manufacturing and business	Out of the box connectivity with SAP and other ERP systems like ERP LN, Baan, IBM Maximo. Connection to physical equipment (machines, test equipment, PLCs, DCS, barcode scanners, printers etc.) as well as applications (Web Service, XML etc.), systems and databases (Microsoft SQL Server, Oracle, any data source with ODBC / OLE DB interface). ECS web service integration point for external systems.
Production Management	Plan, respond and change on demand	Flexible and reliable dispatching and execution of production orders. Management of production flow units: configuration of workflows with optional paths, dynamic flow (routing) variants based on specific product characteristics, run-time production workflow change, production buffers handling. Order configuration management, Bill of Material (BOM) available on a button click, automatic mapping of a routing coming from an ERP, immediate confirmations of ERP operations. Visibility of status of all production orders and work stations at all times (WIP overview).
Electronic Work Instructions	Bring consistency to manual operations	Manufacturing information and instructions are automatically displayed to the right user through an easy-to-use and intuitive interface. Certification support, procedures, drawings, safety instructions, shift notes, multilevel approvals. Pervasive devices enabled - mobile orchestration of production. Eliminates paper driven production process and time of redundant data entries.
Quality Management	Recognize and respond to quality challenges	Integrated quality management, including quality parameters management, manual or automatic data collection, configuration and production of product test certificates. In-process quality control, automatic tolerance validation, required vs. optional quality parameter value, manual or automatic reporting of non-conformities, checklists support.
Downtime Management	Improve plant performance and productivity	Collecting, tracking and communicating real-time equipment or personnel downtime information and causes. Non-productive activities tracking (e.g. downtime due to cleaning), idle and rework time tracking. Configurable effect on a product unit affected with downtime (abort, resume). Real-time downtime information enables immediate improvement actions.
Material Management	Product genealogy and material movement transparency	Tracking and tracing of individual parts, lots, batches, assemblies. Material identification (barcode labeling), real-time inventory levels update, real-time reporting of material consumed and material produced, management of material compatibility and relevant processes, confirmation of material availability, weigh & dispense support, material and equipment genealogy.
Warehouse Management	Improved inventory turns and inventory reduction	Available warehouses overview, manage physical location of material in a warehouse, manage stock and inventory levels, in-bound/out-bound of the material, real-time overview of a warehouse (locations, levels, filtering by material code). Integration with external warehouses and inventory management systems.
Labor Management	Plan, measure and view labor activities	Production calendars configuration: shifts, working time, exceptional days, and operation mode. Accurate management and tracking of staff attended hours (Join/Leave) against defined production time. Reporting details to ERP for the further cost/payments calculation.
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.
Production Performance Reporting	Personalized view of plant & production information	To managers, operators, manufacturing executives, process engineers, IT professionals, maintenance personnel needed to make important daily decisions.

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 for a better world™

