



Consulting Automation

Achieve World Class Operational Excellence

- Do you use data or real time actionable intelligence to make operational decisions?*
- Can you consistently run your plant at the highest level of efficiency and productivity?*
- How do you track operational performance?*
- How can you eliminate the gap between the shop floor and the top floor?*

Operational excellence means achieving the business goals with minimal resources. In order to survive in today's competitive global market, organizations need to reduce production cost and cycle time and environmental impact, while maintaining and improving quality, customer delivery and satisfaction. So, how can you empower personnel with real-time automated information to reach operational excellence?

Manufacturing Execution System Suite, a 12 module multi-function, SAP MII platform based solution, creates a strategic advantage by closing the gap from the shop floor to the top floor, quickly integrating disparate plant floor systems and delivering real-time, role based information for operations and management.

Whether you deploy **one module at a time** or **the complete suite**, this solution empowers the appropriate personnel to gain complete real time visibility into operational performance, asset utilization, quality, energy management, production dynamics and much more; helping **accelerate performance** to achieve world class operational excellence.

Manufacturing Execution System (MES) Suite

World Class Operational Excellence

Real-time | Accurate | Global Visibility

Overall Equipment Effectiveness	Track and Trace	Quality (SPC/SQC) Management Information	Energy Management Information
Predictive and Condition Based Maintenance	Paperless Manufacturing	Returnable Container Tracking	Labor Performance Tracking
Material and Quality Management	Plant and Schedule (WIP) Adherence	EHS Performance Management	Batch Management Information

Quality (SPC/SQC) Management Information

Optimizes the quality strategy deployment with real-time actionable intelligence to trigger Corrective and Preventative Action (CAPA) from non conformance production.

- Real-Time Connectivity to Plant-Floor Quality Data.
- **Automatic recording of all quality measurements as they occur** and deliver granular trend information to identify non-conformance production earlier.
- Bi-directional **integration to SAP Quality Management**.
- Real-Time information visibility, alerts and reporting.



- Empower manufacturing personnel with actionable intelligence via **dashboards & immediate e-mail alerts**
- **Real-time quality trending information** to address quality issues before they occur.

Energy Management Information

Holistic energy management solution that looks at “**energy as a raw material**”, driving use, intensity and cost reduction.

- Energy consumption reporting and visualization.
- **Dynamic Energy Targets**, based on influencing factors.
- Energy analysis comparisons & **cost allocation**.
- Compliance with ISO50001/SEP/Better Plants Program.
- **Real Time Email Alerts**.
- Accelerate **asset decommissioning**.
- **Regression, 4 variable**.

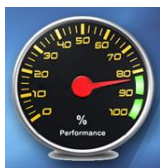


- True “real-time” energy intensity awareness.
- **Utility Billing Reconciliation** to A/Payable.
- Automatic Carbon Reporting from Energy.
- Water Consumption and Title V Mgmt.

Overall Equipment Effectiveness

Provides real time OEE visibility and immediate email alerts based on breach of OEE target set points.

- Trending and drill down into each of the individual metrics
- **Availability** - % of scheduled time that the operation is available to operate.
- **Performance** - speed at which the Work Center runs as a % of its designed speed.
- **Quality** -Good Units produced as a % of Total Units Started.



Paperless Manufacturing

Eliminate all paperwork from the shop floor with this solution.

- Plant, area or machine operational status view.
- Ability to **download order and customer information to PLC** on order change event.
- Operator can view any type of electronic document, product specifications, inspection or setup instructions, etc.
- Order overview and current order progress.
- Product label printing with customer specific requirements.



Track and Trace FSMA Preparedness (Traceability)

In a recall there will be impacts on your supply chain, your record keeping, and your ability to identify products in a required timeframe. Create a FSMA Team that includes:

- Manufacturing/Operations • Food Safety
 - IT / Manufacturing IT • Supply Chain • Product Marketing
- Cooperatively Develop a Blueprint for FSMA Preparedness. Evaluate your FSMA Blueprint against plant manufacturing technology infrastructure and against planned projects:
- Identify the areas / projects where FSMA affects the requirements
 - Adjust project scopes as identified by FSMA Blueprint

Predictive and Condition Based Maintenance

This solution is designed to help production and maintenance personnel predict **which maintenance operations are truly necessary** and when to schedule them without significant production disturbances.

Asset condition based monitoring, runtime and duty cycle tracking can drastically optimize maintenance operations which have the primary goal of ensuring process reliability and high capacity utilization.

Batch Management Information

Drive the ideal golden batch on a repeated basis, confirm **master recipe procedures, process steps, materials and standards are being executed for each unique customer**.

EHS Performance Management

Supports operational **shop floor data** collection to **supplement Environmental Health & Safety** procedures.

Labor Performance Tracking

Automatically **identify and assign all labor** with production activities, work orders, SKU's, etc. As well provide time and attendance information to HR and Payroll.

Material and Quality Management

Verify raw material compliance before production starts to use it. Out of spec material can cause re-blending, rejects and waste leading to increased production costs.

Production and Schedule (WIP) Adherence

Immediately identify **Work In Process** delta based on “**make to plan**”, “**make to order**” or “**make to stock**” production schedules.

Returnable Container Tracking

The solution uses barcode or RFID technology for complete returnable container management including: shipping/receiving dates, cleaning cycles, inspection and purge cycles. Able to see integration to MES, WM and EAM.

For additional information please contact us:

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