

CYBER SECURITY



SMART TECHNOLOGY



BIG DATA

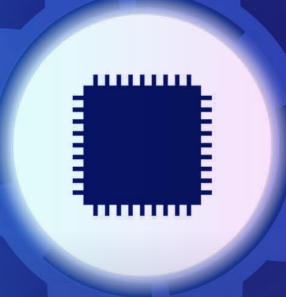


NEW BUSINESS MODEL

AUTONOMOUS ROBOTS



IOT



ANALYTICS



SMART FACTORY



SYSTEM INTEGRATION

CLOUD COMPUTING



AUTOMATION



INDUSTRIAL REVOLUTION



*More than what you think.*

# DIGITAL MANUFACTURING

# Global Manufacturing Industry Challenges & Industry 4.0 Benefits

Manufacturing organizations across the globe face multiple challenges that need to be addressed, given the business-critical nature of many of them. Building a roadmap for Industry 4.0 and executing the initiative is helping manufacturers tackle these challenges and drive transformation.



## Business Challenges

- Unplanned Machine Downtimes/Breaktimes
- High Operating Costs and Low Productivity
- Unidentified Losses
- Lack of Traceability and Transparency
- Lack of Real-Time Analytics
- Reactive Maintenance



## Industry 4.0 Benefits

- Improved Overall Equipment Effectiveness (OEE)
- Proactive Maintenance
- Reduced Machine Downtimes/Breakdowns
- Improved Visibility of the Shop-Floor Operations
- Improved Productivity and Throughput
- Enhanced Tracking and Traceability

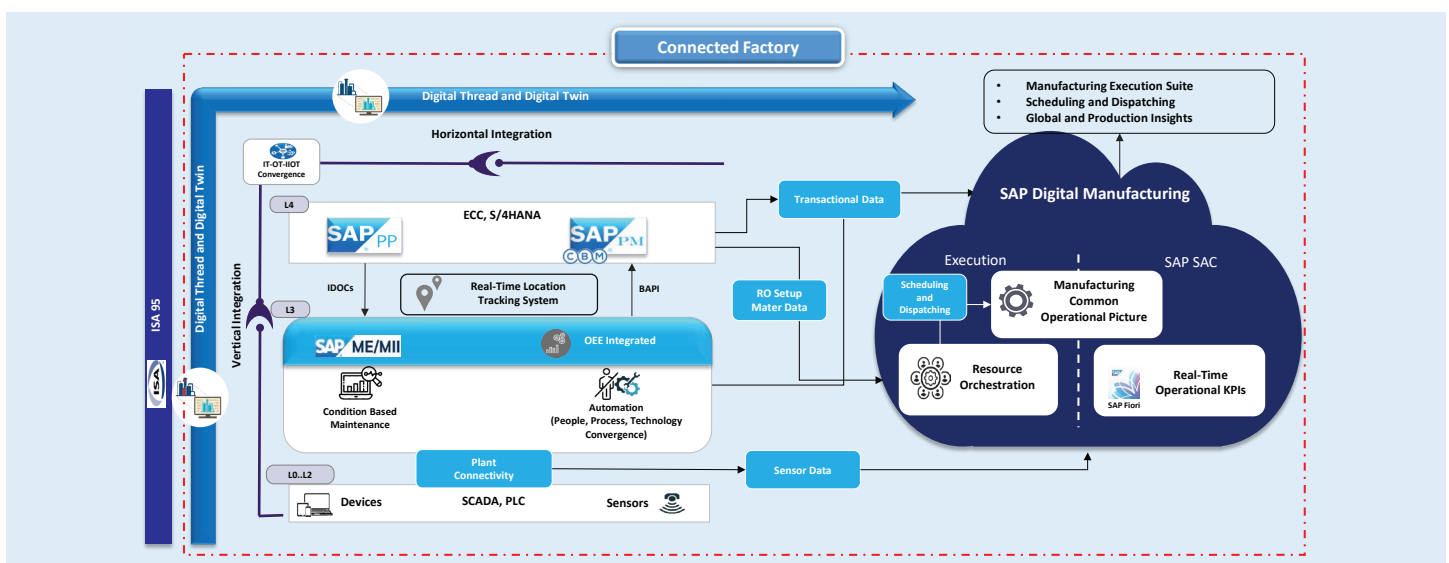
## YASH Digital Manufacturing Solutions

Customer experience must transcend to the end customer in a seamless digital thread. Top floor-to-shop floor connectivity and lean manufacturing frameworks would play a key role in enabling IT/OT convergence across the organization and transforming manufacturing operations, paving the way for consistent operational excellence.

Our '**Connected Factory Solutions**' leveraging **SAP Digital Manufacturing Suite** is helping global manufacturers address the dual mandate of continuous transformation of manufacturing operations while driving sustainability. With a 'Digital Manufacturing' theme, the solution accelerates the Industry 4.0 journey and helps drive Operational, Tactical, and Strategic excellence. The business transformation will help manufacturers transition from being reactive to becoming a pro-active agile organization, with real-time visibility to information and value-generating opportunities across the manufacturing life cycle.

By connecting factories with the **Digital thread and twin**, we create a responsive network that can self-compensate for variation without human intervention. The fully realized Connected Factory creates economic value for shareholders, exponentially improving outcomes and end customer experience.

## Digital Manufacturing Solution (MII-OEE-DM)



# Digital Manufacturing Capabilities

## 1. SAP Manufacturing Integration and Intelligence Capabilities

- Manufacturing Analytics
- Integrated Business Processes
- Enhanced Overall Equipment Effectiveness
- Shop Floor Integration
- Alerts and Notifications
- Digitize Shop Floor Operations

## 2. SAP MII – Overall Equipment Effectiveness Capabilities

- ERP Shop Floor Integration Framework
- OEE Dashboards
- Analytics and Reports

## 3. SAP DM Capabilities

- Powerful Key Performance Indicators (KPIs) and Analytics
- Single Version of the Truth
- Integration of Standard SAP MES Solutions
- Visibility Across the Top Floor and Shop Floor
- Common Operational Picture
- Blend Manufacturing Data with S4 HANA & SAP ERP

## 4. SAP Fiori UI5 Capabilities

- Multi-Device Support
- Cross-App and In-App Navigation
- Personalized User Experience
- UI Client Integration
- Ready-To-Use Elements
- UI Adaptation at Runtime (RTA)





## Digital Manufacturing – MII Solutions Key Highlights

SAP MII and SAP DM drive the operational and tactical excellence of the Manufacturing Organization. Key highlights of YASH's Digital Manufacturing MII Solutions are:

- Setting up a common platform like SAP MII to support multiple ERP systems (ECC and S4) simultaneously.
- Integration of the control systems to SAP MII and ERP systems, enabling the Connected Factory through IT-OT convergence.
- User-friendly and highly responsive UI5 dashboards used day IN/OUT on the manufacturing shop floors.
- Highly complex stored procedures to deliver real-time shop floor KPIs like WorkCenter utilization, WorkCentre Efficiency, Labor hours, etc.,
- Modernizing the legacy MII systems with improved application performance and rich user experience.
- Works with shop-floor automation control systems in collecting and processing sensor data and providing real-time KPIs.
- Comprehensive event management system that triggers real-time alerts/incidents, enabling immediate actions.
- Exceptional visually LIVE dashboards displaying the current status of the machines on the manufacturing shop floor

## Project Summary

Global manufacturing leader in gas and fluid system products and services



## Connected Factory Solution

### Technology Stack:

SAP Manufacturing Integration and Intelligence (MII), Microsoft SQL, SAP Fiori UI5, SAP Plant Connectivity (Pco).

### Project Summary:

The Connected factory solution established through integrating the ERP systems and control systems with MII provides the ability to track/monitor the shop-floor activities in real-time (WorkCenter status, Production order status, Checked-in operators, Operator EvA, WorkCenter efficiency, real-time downtime alerts, quality notification, Operator certification alert, etc.). The solution also includes a supervisor dashboard, WorkCenter scoreboard with key KPIs like Order efficiency, shift efficiency, Eva, Hourly production vs target bar graph, WorkCentre status (last 24 hours), etc.

### Business Outcomes:

- Improved Visibility of Shop-Floor Activities
- Facilities Real-Time Decision Making
- Improved Workcenter Efficiency and Performance
- Established Comprehensive Connected Factory

# Project Summary

Fortune 500 global leader in manufacturing agricultural machinery



## Condition-based Monitoring

### Technology Stack:

SAP Manufacturing Integration and Intelligence – OEE, SAP Plant Connectivity, Microsoft SQL, and SAP Fiori UI5.

### Project Summary:

Implemented condition-based maintenance to monitor the required parameters (asset parameters include Motor Current, Actuator Count, Temperature, Alarm Indicator, etc.) coming from PLCs and create a Plant Maintenance Notification in ERPs when the parameter value crosses the thresholds.

### Business Outcomes:

- Reduced Un-Planned Downtimes
- Improved OEE, Yield and Productivity

Leading manufacturer of air conditioning and control equipment



## Real-Time Location Tracking System

### Technology Stack:

SAP Manufacturing Integration and Intelligence (MII), Microsoft SQL, SAP Fiori UI5, Sewio - Sense Map Visualization, Python.

### Project Summary:

The project deals with real-time location tracking of carts using MII/UI5- IIoT integration to help the customer accomplish the "Schedule Attainment" metric, which measures the efficiency of the plant by meeting its shipping commitments.

### Business Outcomes:

- Improved Schedule Attainment Metric
- Ability to Identify Stagnant 'WIP.'
- Near Real-Time decision-making for Production Staff
- Tracking Orders with Shortage

## Project Summary

Leading provider of water and wastewater treatment solutions, offering a broad portfolio of products, services, and expertise to support industrial, municipal & recreational customers



## Employee Labor Visibility & Insights

### Technology Stack:

SAP Manufacturing Integration and Intelligence (MII), HANA SQL, SAP Fiori UI5.

### Project Summary:

Integrated SAP MII with a 3rd party attendance tracking system and Improved labor tracking by providing better visibility through dashboards/scoreboards and creating labor KPIs such as Employee Utilization, Efficiency, Idle Time, etc. It also offered the ability to run production orders from different ERP systems, ECC and S4HANA, as the customer had both systems configured.

### Business Outcomes:

- Ability to Connect with Multiple ERP Systems
- Improved WorkCenter Efficiency
- Enhanced Labor Data Visibility
- Improved Employee Utilization

Global sustainable and recyclable metal and glass packaging supplier for brand owners worldwide.



## Legacy Code Modernization

### Technology Stack:

SAP Manufacturing Integration and Intelligence (MII), Microsoft SQL, SAP Fiori UI5, Sewio - Sense Map Visualization, Python.

### Project Summary:

The project deals with real-time location tracking of carts using MII/UI5- IIoT integration to help the customer accomplish the "Schedule Attainment" metric, which measures the efficiency of the plant by meeting its shipping commitments.

### Business Outcomes:

- Browser Independent Application
- User Friendly UI Controls
- Improved Overall Performance
- Improved End-User Experiences

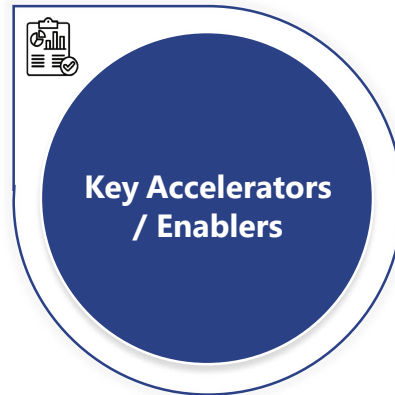
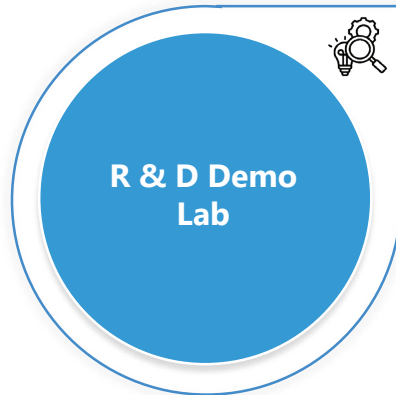
# YASH Key Differentiators in DM Systems

Strong techno-functional team with **1000+** person months of experience implementing Digital Manufacturing and Digital Asset Management programs for global clients



**MoSCoW** model of project implementation and the **Lean Six Sigma** approach are critical in ensuring program success and realizing business outcomes.

YASH's state-of-the-art **R&D Demo Lab** for developing industry-specific accelerators and PoCs and partnering with customers in their manufacturing transformation and Industry 4.0 initiatives.



**10+** proven accelerators/enablers related to Digital Manufacturing and Digital asset management programs (standard questionnaires, RTM models, several APIs/tools that automate manual work) that help compress the project implementation timelines by **~20%**.

For more information contact YASH today at [info@yash.com](mailto:info@yash.com) or visit [www.yash.com](http://www.yash.com)

## About YASH Technologies

YASH Technologies focuses on customer success. As a leading technology services and outsourcing partner for large and fast growing global customers, the company leverages technology and flexible business models to drive innovation and value throughout its customer's enterprise. YASH customer centric engagement and delivery framework integrates specialized domain and consulting capabilities with proprietary methodologies and solution offerings to provision application, infrastructure and end user focused Right-Sourcing services. YASH is a SEI CMMI (Level 5) and an ISO 9001:2015 certified company with U.S. and India headquarters and regional sales and development offices globally with customers spread across 6 continents.



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