



*MESplus, the BEST MES solution for optimizing productivity.
MESplus will lead you to be the winner
in today's competitive business environment.*

MES Plus



Manufacturing Execution System





Manufacturing Execution System

Manufacturing Execution System is a software application that monitors and controls manufacturing operations as they occur. It provides the most optimized production information from the very first step of procedure such as issuing Purchase Order to the end of production procedure. MES helps the management level of employees acquire the most updated data & information from production lines.

MES is designed to improve production process through eliminating valueless production factors, and it also enhances On-time Delivery, Inventory Turn, Gross Margin and Cash Flow.

In order to enhance competitiveness in manufacturing industry . . .

Systematic management and data analysis are essential for whole operation processes to cut down production costs. Production floor real-time monitoring and fast communication between managers and operators are required in order to take prompt action for occurring problems so that defect rate decreases and yield increases. Prediction and elimination of inefficient squandering factors in organization are crucial to improve productivity.

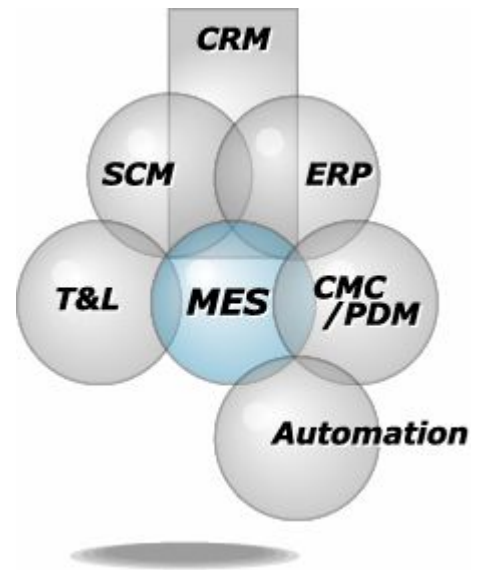
Personnel and resource dispatch at the right time and the right place are critical to increase resource efficiency and to maximize productivity.

MESplus is the optimum Manufacturing Execution System featuring production management, human resource, equipment, material control and more.



- Real-time Operation Management.
- Data Standardization and Data Management in Production Process.
- Effective Inventory Management and Tracking
- System for Raw Materials, Half-finished Goods and Finished Goods.
- Synergy Maximization through System Interface with ERP, Automation System and Other Systems.
- Convenient User Interface with GUI, Web and More Paperwork Minimization.

MES Functional Model



MES plays a role as Information Hub for systems such as ERP, SCM and other automation systems. It enables as a security system for mutual functions through interface.

- CRM: Customer Relations Management
- SCM: Supply Chain Management
- ERP: Enterprise Resources Planning
- CMC: Collaboration Manufacturing Commerce
- PDM: Product Data Management
- T&L: Transportation & Logistics
- Automation : PCL, DCS, Line and Machine Control

MESplus Key Features

↳ Efficiency

- Business Logic Support to Apply Easily in Specialized Production Floor.
- Easy Upgrade.

↳ Flexibility

- Various OS (Windows/UNIX/Linux) and DB(Oracle/DB2/Sybase/MS-SQL)
- Environment Support.
- Easy Customization through Customized File and UPT Table.

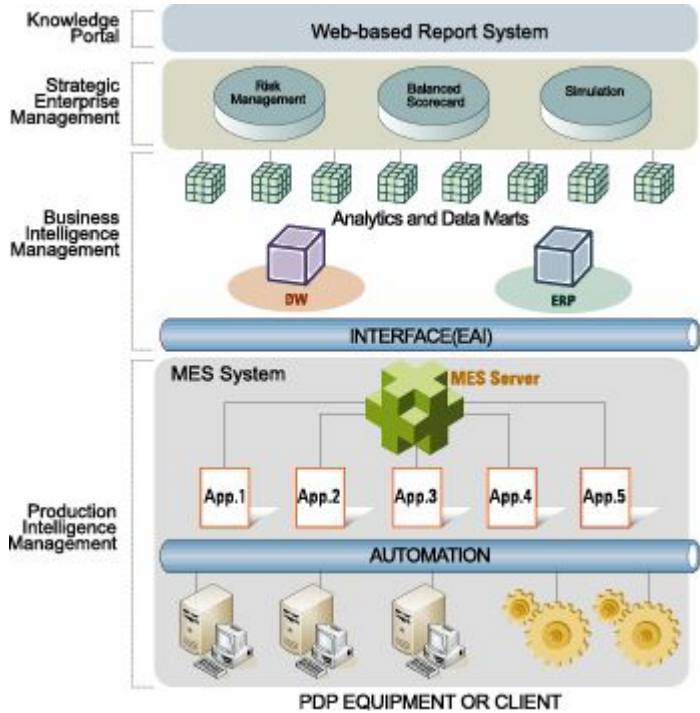
↳ Extensibility

- Easy Function Addition by Adding a Module.
- Easy Interface for System Extensions with EAI, ERP and Other Systems.

↳ Reliability

- Fault Tolerance as a Part of Load Balance Function in Order to Enable Secondary Application Server to Back Up Data in Case an Application Server is Down.
- Guaranteed Message Function to Prevent Data Loss.

MESplus Architecture



MESplus has 3-Tier Architecture: Client, Application Server and DB Server.

Client can be GUI, Equipment, Tool, POP System and more. It uses Middleware for Easy Interface. MESplus integrates with Miracom In-house developed EAI Tool called Highway101. Highway101 helps MESplus to integrate with ERP, SSM, SCM, DW and many other systems.

MESplus Modules

WIP Work In Process	Define Master Info Creation/Control	Production Direct/Control	Lot Tracking & History Management	Production Process Revision
BOM Bill Of Material	BOM Master Info Creation/Control	BOM Basis Direct/Control	BOM Version Management	BOM Basis History Management
INV Inventory Management	Inventory Management	Inventory Commitment Management		
RBS Rule Base Schedule	Rule Base Work Schedule	Schedule Work Priority		
RAS Resource Allocation & Status	Resource Information Creation/Control	Resource Dispatch Status Control	Resource Activity Control	Resource Tracking History Management
EDC Engineering Data Collection	Various Data Collection	Data Analysis	Data Collection History Management	
SPC Statistical Process Control	Quality Control	Various Data Analysis Integration Function	Various Analysis Tools	
FMB Factory Monitoring Board	Location Basis Production Process Monitoring	User Oriented Graphic		
RPA Real time Performance Analysis Agent	Real-time Report	Real-time Function Analysis	WEB Basis Remote Customer Service	
UPT Universal Purpose Table	GUI Prompt Definition By Site	Code Creation By Site	Code Validity Check	
MSG Message Management	Multi-language Support	Msg Customization By Site	Information Notice Information Share	
ALM Alarm Management	Fast Information Alarm System	Paging Service	Engineer Notification	
SEC Security Management	Security Authentication	User ID Creation Management	User Authorization	

MESplus Core Functions

➤ PRODUCTION

- Local Scheduling: Provide Order of Production Unit of Each Procedure According to Basic Definition of Recipe, Priority, and Attributes at Each Step.
- Dispatching Production Units: Distribute Lot, Batch, Job, Order Based Events and Assigned Schedules According to Real-time Production Flow.
- Process Management: Monitor Production Line through Improving In-process Improvement and Collecting In-process Data.
- Product Tracking and Genealogy: Display History and Current Status of Working Lot.
- BOM Management: Prevent Lot error Based on Master Information and Offer Material Tracking and History.



↳ RESOURCE

- Resource Allocation and Status: Offer Current Resource Information and Equipment (entity), Tool (sub-equipment and POP) and Location Management (Area, Bay, Line, etc).
- Maintenance Management: Schedule and Manage Preventive Management (PM) and Regular Maintenance.
- Labor Management: Provide Latest Information Including Number of Production Employees, On-going Work Status, Attendance Rates, Work Quantity and More.



↳ INFORMATION

- Web Report : Support Real-time On-site Operation Report to End Users and through Internet.
- Data Collection : Collect Enclosed Parameter Data from Each Step of Production Unit.



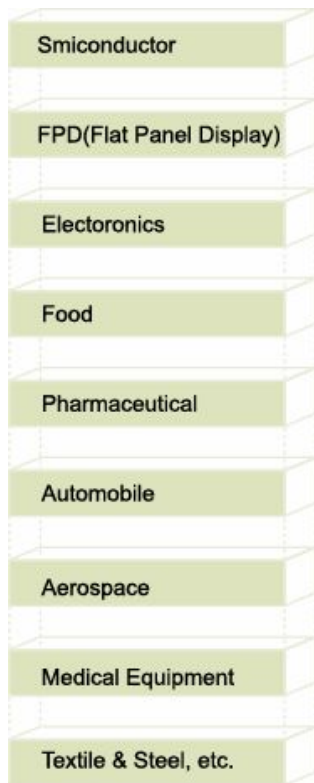
- Quality Management : Find Cautious Problems and Analyze Real-time Data in Production Line to Assure Quality Control.
- Performance Analysis : Offer Updated Real-time Based Comparable Report of History Data and Business Rule.

↳ ADMINISTRATION

- UAC (User Authorization Control) : Control MESplus Function Menu Based on User Privileges. Report Manages Not Only Menu but Also Data Field Unit.
- System Administrator: Offer Following Functions for IT Engineer to Manage MESplus System Easily and Effectively.
- MESplus Process Monitoring and Management
- Batch Program Management Log Management for MESplus Process
MESplus Data Archive



Applicable Industries



MESplus Introduction Effects

Implementation Effects

- Shorten Lead-time
- Reduce Cycle Time
- Decrease Stockpile
- Remove Document Loss
- Reduce Production Cost
- Cut Capital Expenditure
- Decrease Inferior Products
- Enhance Reliability on Meeting Supply Deadline
- Improve Customer Service
- Increase Product Quality
- Simply Documentary Process
- Support Prompt Process Upgrade

Actual Effect

- Manufacturing Cycle Time : Average 45% Reduced
- Data Entry Time : Average 75% Reduced
- Stockpile: Average 24% Reduced
- Lead Time: Average 27% Reduced
- Lost Document Process: Average 56% Reduced
- Documentary Process: Average 61% Reduced
- Inferior Product: Average 18% Reduced

(Source : MESA)



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