Manufacturing Execution System (MES)

THE PLEX MANUFACTURING CLOUD

“Plex is the most versatile solution to use in a manufacturing environment. We know where and how to utilize our resources efficiently and are able to make better business decisions.”

Matt Korth, Engineering Manager, Avon Gear
EFFICIENT SHOP FLOOR OPERATIONS. AN OPPORTUNITY FOR GROWTH

In today’s competitive world of manufacturing, effective and efficient shop floor operations can deliver the differentiation and cost advantage that a manufacturer seeks. Excess inventory, long wait times, over-production, excess scrap and poor quality are some of the sources of potential waste in manufacturing. By eliminating these wastes, a manufacturer can reduce costs of operations and create more business opportunities for growth.

CLOSING THE INFORMATION GAP BETWEEN THE SHOP FLOOR AND THE TOP FLOOR

Typically, the shop floor operation is like a black box to Enterprise Resource Planning (ERP) systems and thus is invisible to executives outside of production. Planners in the back office, preparing the production plan, need visibility to shop floor resources in order to deliver an achievable master production schedule. Production updates might only be reported to the business at a designated frequency – leaving actual operations disconnected from reports. Without an integrated MES, big gaps in critical business information may result, making it difficult to make timely decisions.

SHOP FLOOR VISIBILITY ENABLES TRACEABILITY AND QUALITY

An MES is your eyes and ears on the shop floor to help you manage production proactively. An MES monitors inventory movement and location as raw materials get enriched into finished goods. Further, an MES enables quality assurance procedures to ensure an acceptable product that complies with customer and industry requirements.

By integrating an MES with your ERP software, you can better coordinate production with the rest of the business and be more proactive in delivering quality products in a timely, cost-effective manner.

Plex MES is a cloud-based shop floor execution solution that orchestrates real-time production management, end-to-end inventory control and traceability, and closed-loop quality that integrates in to your corporate ERP system.
REAL-TIME PRODUCTION ECOSYSTEM
Plex MES delivers a real-time production ecosystem that initiates, guides and reports shop floor activities as they occur – at the manufacturing moment – for optimized and responsive plant operations. It is a central hub connecting incoming signals like MPS schedules and outgoing data such as quality or production information collected by PLCs. Real-time data collection and reporting ensures that issues become visible instantly, making it possible to respond immediately.

END-TO-END INVENTORY TRACEABILITY
For every action on the shop floor there is a transaction in Plex to record who did what, when and where. The result of this precise genealogy is a detailed historical record that can track back to where issues may have originated. This visibility makes it easy to see the location of every unit of inventory. By reducing uncertainty, you can maintain lower inventory levels, tying up less less capital on the floor while cutting carrying costs going forward. Utilizing lean manufacturing processes for production execution, Plex maintains a tight control on the accuracy of shop floor inventory resulting in fewer stock outs.

CLOSED-LOOP QUALITY MANAGEMENT
Quality is an integral part of Plex with built-in error proofing, which makes it difficult for manufacturers to make a bad part. This integral quality control and checkpoint system minimizes waste and ensures standards compliance, documentation and traceability.

An intuitive touchscreen-enabled Control Panel is the heart of Plex MES for real-time monitoring and management of production activities on the shop floor.
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SHOP FLOOR CONTROL

- Common control panel hub to empower operators with the right information and data to make decisions in real time
- Machine integration tools to connect the production hub with your shop floor equipment, wherever you need it – even wirelessly
- Error proofing, for example to stop production for quick containment of potential quality issues
- Data exchange with controlling systems for bill of materials, bill of resources, process set points and recipe data
- Communicate directly with the machine operators to share setup documentation, manufacturing instructions, bulletins, quality expectations, run rates, job information and more

INVENTORY TRACEABILITY

- Real-time inventory data with unsurpassed accuracy, collected at the point of production, movement and shipment – using data collection devices
- Full visibility into product traceability, genealogy and lot management, which can quickly and accurately identify specific inventory at an extremely granular level for any need
- Integral barcode printing and scanning to streamline and mistake-proof material handling from raw material, to work in process and finished goods

QUALITY MANAGEMENT

- A comprehensive and sophisticated quality management functionality that is a tightly integrated, fundamental component of the MES – not a “bolt on”
- Detailed document authoring and management to streamline audit performance and compliance to industry-specific quality and regulatory standards
- Real-time data collection at point of production with electronic inspection check sheets in support of dynamic Control Plans, Statistical Process Controls, and other modern quality assurance methodologies
- Support for compliance to industry quality standards such as ISO9001, TS16949, AS-9100 and more