E-MES Application Server

THE MODULAR PRODUCTION CONTROL SYSTEM

THE HEART OF EVERY PRODUCTION FACILITY AND THE BASIS FOR ANY SMART FACTORY

Connecting manufacturing and logistics from end to end
E-MES is a flexible, scalable production control system for monitoring and high-level control of subsystems in automated manufacturing and logistics. The solution connects the entire production facility – both horizontally, i.e. across the manufacturing process, and vertically, i.e. throughout all levels, from ERP down to shop floor IT. E-MES offers integrated data capture, analysis and visualization in real time, all from a browser-based user interface. The more subsystems incorporated, the greater the detail that can be displayed – delivering maximum transparency of the production processes.

Web technology
The E-MES user interface runs from a browser and leverages HTML5. The technology is compatible with all leading operating systems and supports the dynamic, graphical visualization of data analysis results. Reports and findings are accessible to users anywhere, at any time – no clients need be installed. As a result, the production manager can monitor plant and equipment from a laptop or smartphone as well as from a desktop computer.

Decision aids at every level
E-MES provides a wealth of information, including the availability of materials at a given time in the manufacturing process, when a particular workpiece underwent a specific process step, what production conditions were present at a defined time, how closely output numbers match targets, and much more besides.

The system compiles custom-configured production reports, making it easier to reconstruct the associated manufacturing processes. It documents product quality on the basis of a fixed set of indicators and provides insight into improvement potential within the process.

Configuration
E-MES is designed around a platform-independent, modular structure: further functionality modules can be added later in line with specific requirements. The E-MES portfolio offers made-to-measure solutions for every customer, from user-friendly operation and monitoring to high-level planning and control functionality. The production control system is configured in accordance with the specific requirements of the customer’s production facilities.

E-MES Software architecture.
Advantages at a glance

- **Maximum level of transparency:** Comprehensive integration of the entire production facility – both horizontally, i.e. across the manufacturing process, and vertically, i.e. throughout all levels, from ERP down to shop floor IT – enables an integrated real-time capture, analysis, and visualization of relevant data.

- **Accelerated throughput:** Efficient material flow management and a smart planning algorithm accelerate throughput.

- **Higher productivity:** Continuous identification and analysis of potential enhancements means improved facility utilization.

- **Enhanced quality:** Capture and analysis of data on the quality of each workpiece supports fault diagnostics and resolution in near real time.

- **Reduced operating costs:** Real time documentation of equipment and resource data enables identification of potential savings.

Example: Key features of E-MES in a paint shop in the automotive industry

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