

# Manufacturing Execution Systems (MES)





# Bridge the gap between management and the shop floor

With today's competitive manufacturing environment, businesses are looking at technology to help them deliver faster, more efficiently and more cost effectively to meet customers' growing demands.

As regulations become increasingly stringent and with the cost of raw materials continually rising, the only way for manufacturers to maintain margins is to work smarter.

It is no longer acceptable for departments to work in isolation, pooling manually. Manufacturers are required to guarantee traceability and accountability as well as meeting the rapidly changing demands on production. These are often challenges only partly met by disparate, legacy, and often custom coded systems.

Astec integrate Proficy Plant Applications from GE Intelligent Platforms; the most proven, comprehensive Manufacturing Execution System (MES), (aka Operations Management), software solution available today.

Applicable to the widest audience of manufacturers, Proficy Plant Applications' open and layered architecture, modular and scalable capabilities, and ability to span the spectrum of production typologies, make it the solution-of-choice for companies large and small.

By bridging the gap between management and the shop floor Proficy Plant Applications provides you accurate real-time production data to make informed business decisions from.

Fully compliant with the ISA S95 standard the scope of the MES system, in terms of activities, typically includes:

#### Management of product definitions

This may include storage, version control and exchange with other systems of master data like product production rules, bill of material, bill of resources, process set points and recipe data all focused on defining how to make a product. Management of product definitions can be part of product lifecycle management.

#### Management of resources

This may include registration, exchange and analysis of resource information, aiming to prepare and execute production orders with resources of the right capabilities and availability.

#### Scheduling (production processes)

These activities determine the production schedule as a collection of work orders to meet the production requirements, typically received from Enterprise Resource Planning (ERP) or specialised advanced planning and scheduling systems, making optimal use of local resources.

#### Dispatching production orders

Depending on the type of production processes this may include further distribution of batches, runs and work orders, issuing these to work centres and adjustment to unanticipated conditions.

#### Execution of production orders

Although actual execution is done by process control systems, the MES performs checks on resources and informs other systems about the progress of production processes.

#### Collection of production data

This includes collection, storage and exchange of process data, equipment status, material lot information and production logs in either a data historian or relational database.

#### Production performance analysis

Creates useful information from the raw production data regarding the current status of production such as Work In Progress (WIP), production performance of the past period, Overall Equipment Effectiveness or any other performance indicator.

#### Production Track & Trace

Registration and retrieval of related information in order to present a complete history of lots, orders and equipment.

In summary an Astec MES solution provides:

- Real-time production metrics
- Seamless departmental integration, faster throughput
- Increased visibility of equipment and personnel effectiveness
- Integration of other systems including ERP, MRP, SCM, WHM
- Analysis of product cost comparison
- Automated root cause analysis
- Reduced changeover and implementation times
- Reduced rework and wastage, improved yield and quality
- Improved traceability/genealogy
- Increased accountability
- Energy performance monitoring and management
- Industry standard performance metrics, benchmark KPIs, Lean 6-Sigma
- Improved IT support and buy-in





### **Improving Operational Effectiveness**

Astec strives to improve operational effectiveness and profitability for our clients by delivering specialist management, production and monitoring information technology solutions.

We implement solutions for many of the world's leading enterprises across numerous sectors including Broadcasting, Food & Beverage (F&B), Power Generation, Utilities, Pharmaceuticals and Consumer Packaged Goods (CPG).

Astec is a Premier Solution Provider (PSP) for GE Intelligent Platforms. Our strategic partnership enables us to utilise our unrivalled product experience and depth of knowledge throughout Europe and North America.



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