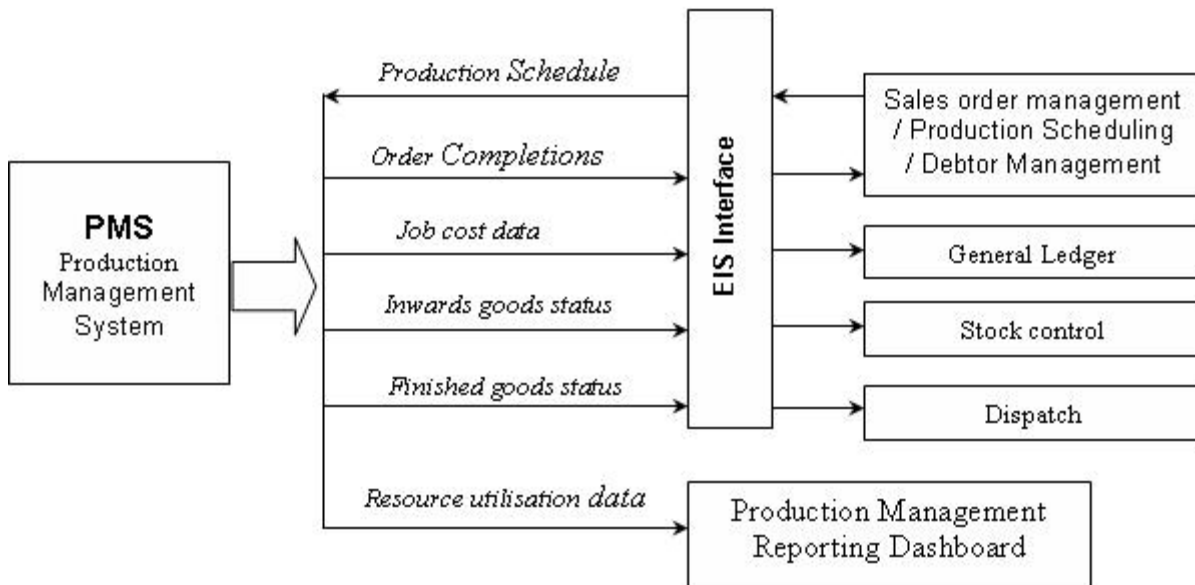


Production Management Systems

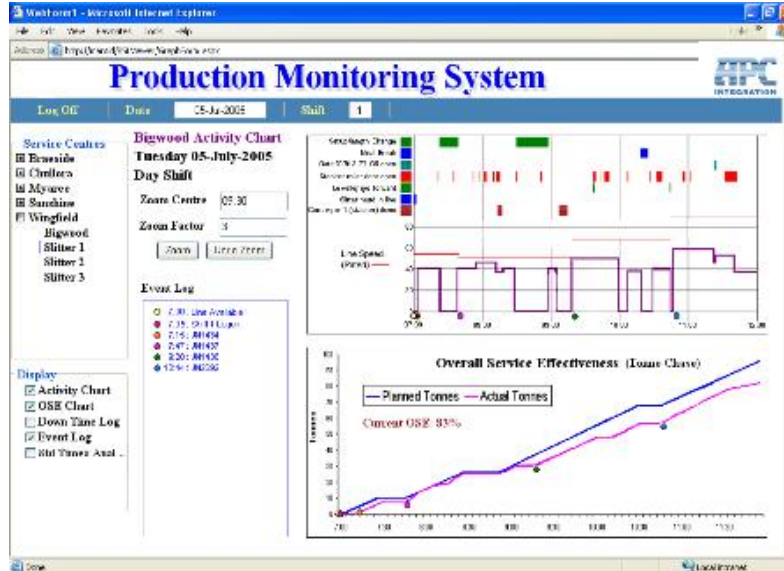
Production Management Systems are factory wide, real-time, information management systems, or Manufacturing Execution Systems (MES). They can include production scheduling and line control as well as quality assurance documentation. They typically interface directly with financial software packages and high level planning (ERP) packages.

The systems are built from a modular set of software components developed and updated over many years and are customised for each site. In this way the systems provide the precise level of functionality required and can be easily integrated into existing computer systems.

Typical PMS Relationship to Enterprise Information Systems



Example of a reporting dashboard



SHOP FLOOR INTEGRATION

Data is collected from the manufacturing process as it happens. The aim is always to have a paperless system that sources data at the point of activity. Data that is entered by keyboard is validated by the software and the operator is alerted immediately to errors enabling the situation to be corrected on the spot.

Typically information management consists of:

- Goods inwards receipt, automatic weighing, QA, and docket / bin card printing
- Inwards goods stock reporting
- Transfer of goods from received stock to production, maintaining batch or supplier traceability and providing real time (as it happens) received goods stock status
- Production line monitoring and control systems including batch control, recipe management, logging and reporting. Downtime statistics can be automatically logged
- Automatic or manual packing systems including carton labelling and pallet management systems
- Sales order entry with real time stock status. Dispatch control, cart note and invoice generation
- Production scheduling with input from sales orders, line capacity, current raw material stocks and so on
- Full product traceability, QA recording and documentation
- Supplier and customer web access to transparent operations processes
- Interfacing to general ledger and financial packages

Data is collected from:

- production line controllers including PLC's (Programmable Logic Controllers) and SCADA systems (Supervisory Control and Data Acquisition)
- electronic weigh scales
- computer terminals
- barcode scanners
- hand held terminals or
- Radio Frequency tag readers



Benefits of a computerised Production Monitoring System:

- Operational cost reduction through:
 - Throughput optimisation
 - Waste reduction
 - Work In Progress Stock optimisation and reduction
 - Down time reduction
- Administration cost reduction through:
 - Automatic, reliable data collection from the point of activity enabling discrepancies to be sorted out on the spot
 - Re-keying of data is eliminated
 - Automatic transfer of data to accounting package
- Improved product traceability through integrating receipt, production line monitoring, packing and dispatch.
- Improved Customer Service.
 - Because information is available in real time customers can be kept informed about the status of their deliveries
 - Carton stock management including automatic stock replenishment improves delivery times



APC uses the latest rapid application development tools from Microsoft. All applications are build in .Net and on MS SQL databases.