OmegaCube ERP

Manufacturing Execution System (MES)

Data Sheet

Manufacturing Execution System (MES)

OmegaCube ERP's Manufacturing Execution System (MES) helps manufacturers to control complex manufacturing operations and get minute by minute updates on shop floor operations.

With OmegaCube ERP's MES, they can track, monitor and collect real-time production data, which them improve production quality, and overall efficiency.

Work Order Management

- Manage regular, repair, rework and stock work orders in one database.
- Utilize alternate routings, BOMs and part revisions.
- Generate pick lists based on work centers and move material using bar codes.
- Decide priority of work order based on demand due date.
- Define routing instructions, tools, fixtures, quality inspections to parts on a work order.
- Allow shop operators to view all work order information on a single data collection interface.
- Modify job scheduling, material, labor and machine requirement based on changes to work order due dates.
- Utilize data collected on the work order to update standard routings.
- Collect and provide comprehensive job costing information.
- Link 1st piece inspections, in-process quality inspections to each routing step.

Inventory Management

- Cradle to grave traceability information for lots & serial numbers.
- Track Heat No. & material composition data. Attach mill certificates to lot numbers.
- Use bar codes to move inventory, picking, receiving and shipping processes.
- Generate bar code labels using the in-built report writer or using third party applications.
- Maintain a master list of inventory locations to include shipping, receiving, quality hold, warehouse, work center and vendor locations.
- Transfer inventory from one location to another using mobile devices.
- Perform inventory counting using cycle count or full inventory methods.
- Utilize bar codes to count inventory and reduce errors.
- Use parameters like Item types, location and warehouse to perform counting operations.

RFID Integration

- Automated shop data collection with minimal employee interference.
- Best suitable for serialized or lot controlled environments.
- RFID printing on Zebra printers.
- Works with IMPINJ & Think Magic RFID readers.

Bar Code Integration

- Supports several bar-code devices i.e. connected, wireless and portables for enhanced mobility.
- Efficiently manage receiving, shipping, labor reporting & production reporting.
- In-built customer specific, automated bar code labels & reports.
- Aids in efficient employee shop data collection.
- Supports 1D and 2D bar-code printing & reading.
- Can be integrated with Kanban & Serialized Inventory.
- Can be integrated with Zebra, Bartender, Wasp or native software.

Maintenance Management

- Auto-generate repair & maintenance work orders and dispatch to personnel.
- Create & maintain machine/equipment information, associated repair bill of materials.
- Create user-defined preventive maintenance plans (PM), repair procedures, check lists, spare parts list; link them to specific equipment.
- Allocate personnel and material inventory against the work order.
- Link drawings, instruction manuals & electronic documentation to equipment and PM plans.
- Link maintenance to scheduling & capacity planning.
- Trigger maintenance alerts and reminders based on equipment usage directly from shop floor data collection.
- Maintain comprehensive maintenance logs & repair history.
- Collect labor-time reported against maintenance work orders.
- Access maintenance work orders & create new ones from any mobile or tablet device.

Testing Data

- APIs to collect data from Coordinate Measuring Machine (CMM).
- Interface to testing software like LabVIEW.

Nesting Integration

- Send processed work orders with appropriate BOM from ERP to nesting applications (SigmaNest and ProNest).
- Send work order, inventory data, work center details & nesting layout from ERP to nesting applications.
- Auto-import of parts cut information, cutlist details, material drops, scrap generated details from nesting to ERP post job completion.
- Capture completions, part weight, labor and drop information from machine controller through XML interface.
- Get triggers from machine at each stage of parts cutting allowing you to get real-time job update.
- Automated order creation, prioritization and dynamic nesting for single order or a batch of orders.
- Based on order-due date, auto-prioritize each order or combine multiple hot orders in a single nest layout.
- Auto-update of inventory levels & Work Order with nesting details, parts cut information, material costs/order etc.

Shipping & Logistics

- Two way interface to UPS, FedEx, USPS and Starship.
- Send address and weight information and get
- shipping charges, actual weight and tracking numbers.
- Configurable pick-list processing with fulfillment processes to fit your needs.
- Schedule drivers and decide shipping routes. Implement One-click invoicing process & print
- customer-specific labels.
  Send tracking information to customers.
  Generate material certifications, Bill of Lading and relevant shipping documentation.

Quality Management

- Support TS 16949 and AS9100 based quality metrics.
- User-defined quality attributes for item or for each operation in routing.
- Print certifications, Material Safety Data Sheet (MSDS) and inspection sheets.
- Document corrective and preventive action using 8 Discipline (8D) methodology in Quality
- Management.
- Use analytical tools to drill down into details of quality metrics of parts, machine, & employees.
- Gain powerful insights using quality dashboards.
- User-defined list of specifications a part should meet, their target values and tolerances.
- Allow operators to put work in process and/or inventory on QA hold.
- Centralized database to store all non-conformance data.
- Integrated into Return Merchandise
- Authorization (RMA), receiving, shop floor transactions and inventory.

Machine Interface

- Track machine utilization, machine health and determine Overall Equipment Effectiveness.
- Integrate and receive data from machines using
- Modbus serial or TCP/IP protocols
- Customizable XML, CSV, Text or SQL interfaces into machine controllers
- XML based interface to receive parts data from Laser machines

Data Collection & Time Reporting

- Bar-codes to tag incoming goods during goods receiving & track its movement.
- RFID based input & real-time update of shift login and logout by personnel.
- Track time, attendance and maintain cost by jobs, operations & departments.
- Automatic lot number assignment & bar code label generation.
- Automated shop data collection through RFID with minimal employee interference.
- Backflushing and manual issues with or without lot control.
- Integrate and receive data from machines using
- Modbus serial or TCP/IP protocols.
- Automated customer specific shipping labels.
- Capture nesting job completions, part weight, labor & drop information from machine controller through XML interface.

Tooling Database & Management

- Maintain a master list of tools, tool sets, dies, and fixtures.
- Tool production and maintenance history logs
- Define tool maintenance schedules or usage based automatic maintenance.
- Maintain detailed logs of tool procurement, repair and maintenance.
- Utilize tool issue/returns to specify what parts where made when using a specific tool or die.
- Maintain detailed digital documentation of tool and fixture usage, SOPs, safety instructions etc.

Since 1999, OmegaCube has consistently believed in building and delivering powerful products with a single philosophy,

No two companies operate exactly the same, and they need flexibility in their systems in order to sustain their competitive edge, always.

Begin your first step towards business growth through automation!
Get in Touch with us today.

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