Production Management

Business without Barriers
Remove the barriers to optimized output: streamline process to reduce waste and maximize profitability.
Epicor Production Management

Whether you manufacture complex solutions or simple products, you need strong production control in order to build a competitive advantage. As the global marketplace continues to shrink profit margins and customers become more demanding, businesses are looking for agile solutions that can provide the infrastructure they need to respond quickly and efficiently. Epicor offers a comprehensive solution for make-to-order, mixed-mode, make-to-stock, engineer-to-order, and configure–to-order manufacturers; including light assembly features for distribution businesses. Modular in design, the production control suite of modules include Job Management, Lean Manufacturing, Manufacturing Execution System (MES), Quality Assurance, and Advanced Quality Management.

Job Management

Job Management is a comprehensive production control solution designed specifically for the planning, routing, scheduling, costing, and tracking of products; including assembled, manufactured, and semi-finished products. It includes innovative tools for better planning and costing with historical run analysis that compares estimates to actuals on a run-by-run basis. With Epicor Job Management, users can more easily identify wasted processes and continuous improvement opportunities on the production floor for maximized profitability.

Planning Workbench

Access all job related actions in a single view—the creation of new jobs, changing job requirements to match changing demand, and allocating and reallocating jobs to satisfy changing customer demand. The planning workbench allows seamless access to the scheduling board for more detailed job management.

Job Manager

Quickly review the relationship between production jobs and demand. Make changes to the production plan to accommodate new and changing demand.

Production Planners Workbench

The Production Planners Workbench is a dashboard that provides an overview of the material shortages of the selected jobs. Although this information is already available in each job this overview gives the job planner a tool to quickly gather information for multiple jobs at once.

Job Costing

Compare actuals to estimates online, review job costing for materials, material burden, subcontracting, operations (labor/burden), and compare projected and actual billings for profitability analysis. Job costing can be performed on a job-by-job, customer, part product group, or overall company basis.

Order-to-Job Linking

Handle one job or one delivery, one job or multiple deliveries, blanket production runs, and internal work orders to build parts to finished goods inventory.

New/Change Order Notifications

Verify that orders or changes don’t fall through the cracks for viewing and selecting new orders and change orders from job entry. Optionally track all job changes via user ID, date and description.

Drag-and-Drop Interface

Simplify the planning process. Use a tree interface to easily drag-and-drop components, operations or direct materials from another quote, BOM or previously run job.

Planned Overproduction of Assemblies

Produce and auto-receive overproduction quantities to inventory.
Yield Scrap
Everyone has it. Yield Scrap. This functionality offers the ability for scrap reporting at an operation to affect the estimated production quantity of subsequent operations if the scrap exceeds a predetermined scrap allowance. Some users may just want a warning others may want automated predefined actions.

Assemblies
Produce routings, costing, and tracking of single or multiple-level parts.

Scheduling
Schedule jobs based on forward, backward, what-if, finite, and infinite capacity.

Backflush
Backflush labor and/or materials for a single assembly, branch, or an entire job.

Job Tracker
Review a specific job, and check the status of all assemblies, operations and materials, including subcontract status.

Productivity
Track and analyze efficiency and utilization figures by employee, operation, work center, and department.

Quality Control
Extensively track and analyze scrap, rework and added operations.

Material Shortage Indicator
Query material availability at the time of job entry to determine whether jobs can be started within the scheduled time period.

Advanced Production
Advanced Production deploys batching technology that enables users to group multiple parts or operations together for key production processes. The result of this batching process is a single reporting entity or job for simplified scheduling, tracking, and reporting of labor and materials on the plant floor.

The functionality of Advanced Production is available in the job planning and resource scheduling functions within Epicor. Both planned and “on-the-fly” grouping provides powerful flexibility to end users. Additionally, users can select to plan sequentially—one operation after another or concurrently—operations to be complete at the same time for nested operations.

Support For Co Product Production
Oﬀers simpliﬁed production of co or dependent products in the same production run.

Support for Nested Product Production
Oﬀers simpliﬁed production of nested or products of the same material or process in the same production run.

Part and Operation Batching
Easily link multiple operations from the same part of diﬀerent parts to be run either sequentially or concurrently.

Visibility of Production Batching
Single source production enables full visibility and tracking of source operations and parts.

Accurate Cost Control
Material and production costs are applied accurately to multiple jobs as production is complete. Simpliﬁed labor entry allows plant ﬂoor employees to enter quantities for multiple parts in a single step.

Simpliﬁed Plant Floor Interface
Single reporting entity enables multiple part quantities to be entered in a single plant ﬂoor interface while accurate labor and burden cost is accurately applied to each batched part and operation.

Concurrent or Subsequent Flexibility
Flexible to handle multiple production requirements, user can select to either link parts and operations concurrently—to be run one after another or concurrently—at the same time.

Single or Multiple Operations
Flexible to handle multiple production requirements, user can select either a single operation for linking or to link an entire job.

Lean Production
With increased global competition and the demands of an online supply chain, customers have more inﬂuence than ever before. Customers are, demanding greater product ﬂexibility, smaller, more frequent deliveries and higher product quality, at a lower price.

Businesses are widening the scope and focus of lean principles to encompass all processes that contribute to the bottom line. The true beneﬁts of lean thinking will only be fully realized when the entire enterprise adopts the lean ideology.

Speciﬁc functionality has been developed in Epicor for plant ﬂoor operations that are adopting work order less Kanban manufacturing strategies in part or fully to pull rather than push products through the manufacturing process. Epicor Lean Manufacturing Kanban functionality supports this.
Manufacturing without Work Orders (Kanban Flow)
Epicor embedded Kanban functionality (i.e., a signal to manufacture or move product) offers the functionality required to manage several types of systems for Kanban control. As inventory levels or order demand require additional product, Kanbans, such as manufacturing real-time Kanbans, manufacturing flow Kanbans, purchase real-time Kanbans, and stock replenishment Kanbans, are automatically requested. The Kanban manages the stocking and order demand for parts flagged as needing Kanban control. User-defined rules enable parts to be flagged for Kanban control at the part, warehouse, or individual bin or cell location level.

Cell-based Inventory
Manage, plan, and replenish materials within a cell.

Real-time Manufacturing Kanban
Eliminate work orders and reduce on-hand inventories as parts are electronically triggered for replenishment as needed with real-time manufacturing Kanbans. Instead of planning for each order that is processed, parts are pulled through production as inventory or cell stocking levels fall below minimums. The cell is visually queued to produce based on the Kanban quantity for the part at its warehouse, bin or cell location.

Manufacturing Flow Kanban
View future demand to dynamically calculate future replenishment Kanbans with the manufacturing flow Kanban. This gives downstream cells and suppliers visibility of future demand (although the actual Kanban events may differ during execution). As Kanbans are acted on, the downstream demand requirement is dynamically updated. All cells and suppliers have up-to-date visibility of future demand.

Real-time Stock Replenishment Kanban
Move inventory as it is needed in a particular manufacturing cell, shipping area or customer consignment location with the real-time stock replenishment Kanban using automatic triggering of stocked inventory.

Real-time Purchase Kanban
Use the real-time purchase Kanban to replenish directly from the supplier and notify purchasing that a stock replenishment is required. Automatically send an e-mail to the supplier requesting additional inventory against an open purchase contract. Inventory can be received to the main stores, or directly to the production floor. Real-time purchase Kanban automates the replenishment of material from vendors and provides for visibility of current supply requests.

Automated Material Flow
Authorize supplying cells to make a predefined quantity of an item being “pulled” by using operations.

Measurement of Production Activity Against Lean Performance Metrics
Use the Production Activity function to capture production data automatically through manufacturing center transactions. The data you capture through this process can then be analyzed as needed against any lean performance metrics you define.

Lean Metrics
Indicate lean metrics by period, day, week, resource group, even free form parameters such as seasonal. Use the Production Activity tracker to dynamically evaluate the production activity for each resource group against the lean performance metrics you have established for your manufacturing processes.

Support for Hybrid Approaches to Lean
Employ a phased approach to implementing lean practices for tracking material, MRP and Kanban in a mixed environment. By offering manufacturers the choice, at the part location level, how the part will be managed, manufacturers can more easily migrate to lean, while synchronizing MRP and Kanban execution.

Manufacturing Execution System
The Manufacturing Execution System is an easy-to-use, online system for the plant floor that allows plant-based transactions real-time visibility throughout the Epicor solution. This easy to use interface is developed for end users and offers options of deployment that include touchscreen monitors as well as bar coded enablement to simplify data entry while reducing mistakes.

Epicor MES provides accurate labor reporting, a vital concern in job costing and job status. Online transaction tracking gives management a current picture of what is occurring on the plant floor by employee and job.
Integration with Epicor Job Management, Scheduling, Quality Assurance, and Advanced Material Management eliminates dual entry and provides online, real-time views of the latest plant floor scheduling priorities. In addition, integrated document management allows plant floor access to needed documentation including product drawings, process documents—even multimedia videos of difficult to explain processes.

Quality Reporting
Capture rework and scrap reason codes, along with miscellaneous employee comments from the plant floor. Use the Quality Assurance options to report setup inspection, first article, piece counts, and more.

Shop Warnings
Shop warnings appear in various locations throughout the system when certain conditions exist or certain events occur. They are intended to keep supervisors informed of a job’s status or an employee’s performance.

Grace Periods/Multiple Shifts
Manage clock-in and clock-out periods with adjustments made for user-defined grace periods. Accommodate split and staggered shifts.

Trackers in the Plant
Users can access online trackers on the plant floor from within MES. From Job Tracker, Order Tracker, Customer Tracker, Shipment Tracker, and more are available based on login and secure access.

Shop Tracker
Access who’s here, who’s not here, current work center activity, as well as user-defined alert conditions from the plant floor.

Flexible Data Entry Technology
Use touchscreen, mouse, bar code, or keyboard interface to update labor information from the plant floor. Eliminate data entry mistakes and increase transaction speed by simply scanning a bar code tag to complete a transaction.

Document Management
Incorporate employee pictures, product and process documents, including product CAD/CAM drawings or even video instructions on how to perform a process.

Work Queue
Provide employees with prioritized work schedules and make information directly available to the plant floor. Optimized for use on the plant floor with the ability to select multiple operations for work at the same time, full sheet views, views specific to current, available, or expected work, ability to target work based on TAKT, pieces, hours, and setup group designations, and advanced search capabilities.

Multiple Languages
Display the Manufacturing Execution System screens in the employee’s primary language.

Distributed Hours
Automatically split labor hours across multiple jobs being worked on simultaneously by an employee. Likewise, split resource or machine hours when two or more employees work on the same resource.

Inventory Management
In combination with Advanced Material Management, maximize responsiveness in the warehouse with Inventory functions such as adjustment, material issues, physical inventory counts from within MES.

Material Handling
In combination with Advanced Material Management, maximize responsiveness of material handlers with material move queues and give operators the ability to request in process WIP moves of product from one location to another, maximizing control of in process products while reducing delays. Additionally, move WIP products into inventory storage locations or stage WIP at the next resource based on available space and time. Quickly and accurately identify WIP and inventory containers with system generated bar codes.

Automatically collect and report the status of jobs on the plant floor in real time.
Quality Assurance

Extending your solution with Quality Assurance ensures that complete visibility of quality operations including visibility of items in the quality process. Accurate costing demands that products moved through quality accurately reflect their value and are removed from appropriate WIP. Additionally, this module includes processes for supplier returns with links to Accounts Payable for automated debit processing; closing the loop on traceability of products in and out of quality within the plant.

Tie together all quality functions, whether it’s scrapping end parts, rejecting raw materials or tracking first article inspections. Inspectors have queues of items to inspect with full disposition and corrective action follow-up. Plant floor employees can flag parts as nonconformant, which moves them into an inspection queue. Parts that fail inspection may be flagged for review by a material review board.

Discrepant Material Report Processing
After failing inspection, create a DMR to provide the MRB with an online queue of parts that need to be dispositioned.

Corrective Action
Create and track all preventive and corrective actions online. With due dates, audit sign-offs and unlimited comments, corrective actions provide for follow-up of quality issues.

Material Review Board
Disposition parts by an MRB after failing inspection. Online documentation provides an audit trail of MRB actions.

Cost of Quality
Generate cost of quality reports to identify how much quality problems are costing you, whether parts are scrapped from inventory, a job or receipt inspection.

Packing Slips
Print a customizable packing slip for all parts returned.

Debit Memos
Create a debit memo in DMR processing and it is automatically tied to accounts payable.

Audit Trails
View inventory transaction detail occurring in inspection and DMR processing with the material transaction detail report.

Certificate of Compliance
Businesses are increasingly requiring detailed compliance documentation. Depending upon the industry, this documentation is commonly referred to as Certificates of Analysis (COA), Certificates of Quality (COQ), or Certificates of Compliance. To help manage this documentation, Epicor includes the ability to check for Certificates of Compliance at receiving of materials from suppliers, receiving of in process parts from outside operation suppliers, and before shipping products to customers.

Enhanced Quality Assurance
Traceability and audit of quality data drives businesses to develop “systems”, many times paper based, to support the collection and use of quality testing data. Enhanced Quality Assurance is designed to extend base Quality Assurance with support for the management of controlled test plans and the results for products, groups of products, processes, and other testing. It offers the ability to define testing elements or attributes as well as lists of attributes to test which can be used to measure against testing results for pass/fail decision criteria. It includes the data used for Statistical Process Control (SPC) and is easily accessed to build SPC analysis. In essence, Enhance Quality Assurance gathers the data and makes it available to ensure that your next audit goes smoothly.

Inspection Workbench
Monitor WIP, review all inspections in priority and automatically take action on those requirements from the inspection workbench. Inspectors move passed parts back to jobs and failed parts into discrepant material report (DMR) processing, or they simply scrap them.

Nonconformant Records
Create a nonconformant record (NCR) for all nonconformant parts. From a job, shop floor employees automatically create an NCR when they scrap an end part or raw material. Inventory personnel create an NCR when they scrap parts from inventory.

Non-Netting Bins
Use non-nettable bins to keep parts undergoing inspection or on-hand quantities.
Enhanced Quality Assurance is a fully embedded component of the application and is configured to use serial and lot tracking for each sample, storing this data within the results database. Document management, a cornerstone function of the system is linked to inspections plans and individual specification lists and enables access to key documents during results collection. Finally, this module takes advantage of robust configuration tools to enable results entry forms to be configured to match unique business test plans layouts. Familiarity of layout of test plans and results entry ultimately reduces the training effort to bring the system online.

In addition to production and receiving inspections, when used in collaboration with Epicor Maintenance Management, calibration test plans are available for resources, equipment, and assets. This ensures not only the accuracy of quality data collected from these devices, but it can also be used to validate any equipment against business standards with auditable results.

Additionally, for businesses looking to not only perform receiving inspections, but attach logic to the frequency of inspection, Enhanced Quality Assurance offers skip lot rules that define the frequency of inspection for each primary supplier at the part level.

**Inspection Attributes**
Define unique business inspection attributes or characteristics. Attributes can be numeric, character, date, check box, combo box, or comments.

**Specification List**
Sets of attributes define test plan inputs with additional criteria including minimum and maximum values expected as well as combo box choices and documents attachments. For optimum control, each specification list is revision controlled.

**Inspection Plan**
Build inspection plans that utilize specification lists for results collection and that inspect parts, operations or calibrations. Inspection plans use embedded configuration capabilities to build input screens tailored to each unique test plan and layout fields and data to match quality department expectations. Default documents can be tied to the inspection plan. For optimum control, each test plan is revision controlled.

**Results Collection**
Collect and store results data for each sample alongside appropriate job, part, inspection plan, serial number, lot number, purchase order data, and more. Results data can be used to produce compliance documentation and is available for audit purposes online through the Inspection Results Tracker.

**Statistical Process Control (SPC)**
Use results data in an online database for each access and to build SPC analysis.

**Flexible Inspection Plan Configuration**
In addition to the dynamic nature of the inspection plan (i.e. results entry form is dynamically built based on the tied specifications list), multiple inspection plan/specification lists sets can be tied to a part, operation, or equipment. This flexibility supports requirements for standardized test plans to sit alongside product or product group specific test plans with results entry and collection of data for both during inspection.

**Return Material Authorization (RMA) Inspection**
Inspect incoming returns and store results data with predefined Inspection Plan/Specification lists specific to the return of a specific part.

**First Article Inspection**
Make first article inspections and store results for audit ability and analysis.

**In Process Inspection**
Tie inspection plan/specification combinations to an operation to trigger results entry for the operation during collection of data on the plant floor.

**Subcontracting Inspection**
Perform receiving inspections on parts subcontracted to a specific supplier. Track results and generate supplier performance metrics with data from sample results.

**Manufacturing Execution Systems Enabled**
Perform plant floor inspections through Manufacturing Execution Systems (MES) terminals, simplifying effort to bring inspection processing online in the plant. Inspection Data function available via end activity, report quantity, and inspection processing features.
Serial and Lot Traceability
Record the serial and lot number for each sample during inspection results entry for reporting and audit purposes.

Inspection Collect Results Location
Inspect data from within Labor Entry, MES End Activity, MES Report Quantity, RMA Disposition, and Inspection Processing.

Inspection Data Tracker
The Inspection Data Tracker offers an online query of results data for each sample tested along with appropriate job, operation, part, purchase order record that is contextually related to the inspection event.

Skip Lot Cycle Definitions
Optionally categorize and setup cycles for receiving inspection with skip lot logic that follows optimum frequency of inspections for suppliers. Whether inspecting all lots or inspecting one and skipping the next ten lots, skip lot ensures that quality control manages the frequency of inspection.

Resource Calibration Test Plans
Used in conjunction with Epicor Maintenance Management, Enhanced Quality Assurance offers the ability to predetermine inspection plans for resource (gauge) calibrations along with managing the last calibration date. This can be done for Resources, Maintenance Management Equipment, or Asset Management.

Quality Analysis and Real-Time Response to Quality Data
Epicor offers a suite of tools for use of quality data. Whether responding to a bad test result immediately with Business Process Management (alerting a quality manager about a critical result), performing trends analysis or responding to an auditor request with data pulled from a Business Activity Query or reviewing supplier overall performance with Enterprise Performance Management analysis cubes and dashboards, the data you need is available with a robust toolset to support your unique business requirements.

Advanced Quality Management
Epicor Advanced Quality Management (AQM) provides the foundation for significant productivity improvements and cost reductions across your entire enterprise. This solution includes Product and Process Documentation, Customer and Supplier Management, Nonconformance and Corrective Action capability. These modules provide a complete framework for compliance with regulatory and industry standards, including ISO, automotive (TS), aerospace (AS), and FDA (21CFR 11) requirements.

AQM Core Solution Set
This solution includes Product and Process Documentation, Customer and Supplier Management, Nonconformance, and Corrective Action capability.

AQM Compliance and Audit
Industry and regulatory compliance requires three basic capabilities: process control, documentation and visibility. The Compliance & Audit solution, implemented in concert with Epicor AQM core capabilities, enables you to automate your business processes, share key information, provide process documentation, traceability, and track existing and potential issues through effective resolution.

AQM Data Collection
Epicor AQM Data Collection and statistical process control (SPC) enables you to gather all the key data required for receiving, in-process and final inspections. It provides automated management of inspection plans for each operation of business processes, with complete revision control and change history. Collect data against these operations and chart results for controlling these processes and achieving continuous improvement.

AQM Equipment Management
These integrated productivity tools strengthen the management of all preventative and reactive equipment maintenance activities. This solution maintains accurate online records of all maintenance work order and calibration activities.

AQM Product Launch
Epicor AQM product launch defines, automates and documents the critical aspects of your product launch process to assure engineering design information is translated effectively throughout the pre-production process. Advanced product quality planning (APQP) management enables you to synchronize all key processes and activities through the creation of templates, project plans and checklists that manage all details of the launch process. The solution also manages the quality of parts through a series of highly controlled submission warrants, checklists and approval routings, as required by industry-specific quality methodologies, including production part approval process (PPAP), initial sample inspection report (ISIR), and First Article. All part specifications and modifications are documented and communicated to promote error-free production runs.
About Epicor

Epicor Software is a global leader delivering business software solutions to the manufacturing, distribution, retail, hospitality and services industries. With 20,000 customers in over 150 countries, Epicor provides integrated enterprise resource planning (ERP), customer relationship management (CRM), supply chain management (SCM) and enterprise retail software solutions that enable companies to drive increased efficiency and improve profitability. Founded in 1984, Epicor takes pride in more than 25 years of technology innovation delivering business solutions that provide the scalability and flexibility businesses need to build competitive advantage. Epicor provides a comprehensive range of services with a single point of accountability that promotes rapid return on investment and low total cost of ownership, whether operating business on a local, regional or global scale. The Company’s worldwide headquarters are located in Irvine, California with offices and affiliates around the world. For more information, visit www.epicor.com.