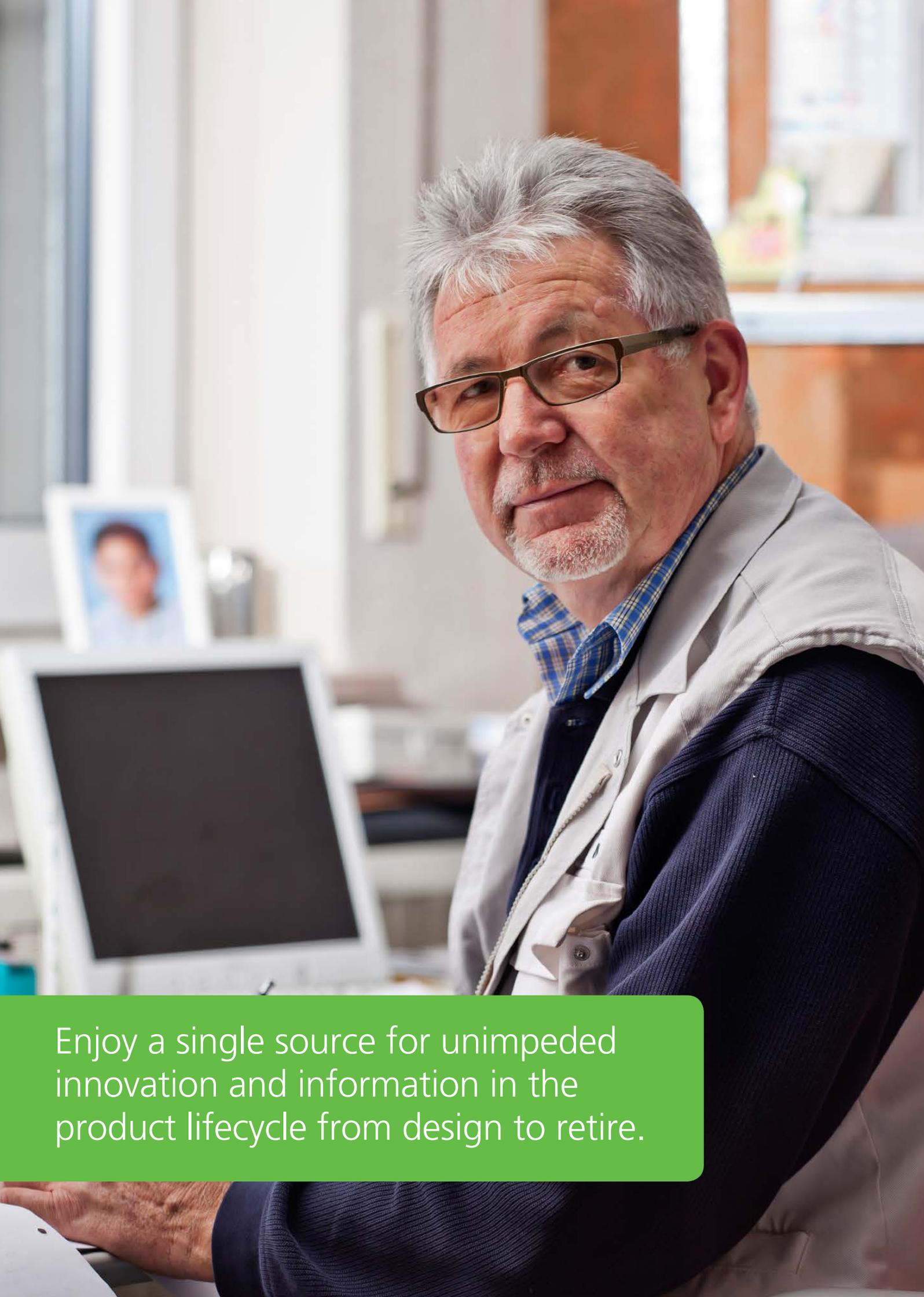Epicor
Product Data Management

EPICOR.

Business Inspired®

Enjoy a single source for unimpeded innovation and information in the product lifecycle from design to retire.

Epicor
Product Data Management

Epicor Product Data Management (PDM) serves as a central knowledge repository for process and product history. PDM promotes integration and data exchange among all enterprise users who interact with products—including project managers, engineers, salespeople, buyers, and quality assurance representatives.

Epicor offers a solution that manages the powerful information traditionally contained in engineering documents, plant floor routings, change orders, sales orders, and quality documentation within a single solution that is easily shared across the enterprise.

Promoting collaboration throughout the value chain, Epicor PDM provides a complete end-to-end solution to manage all aspects of a product's lifecycle, enabling enterprises to control the enormous amount of electronic documents they produce.

- Bill of Materials
- Routings
- Product Costing

- Engineering Change and Revision Control
- Product Lifecycle Management
- Product Configuration

Bill of Materials (BOM)

Epicor supports traditional BOM management with single-level part formats that recognize the materials and components required to build end parts. In addition, Epicor introduces multilevel BOM management that incorporates not only single-level components and material requirements, but also internal and external routing steps for complete end assembly visibility, planning, scheduling, and costing. Epicor introduces visual engineering technology with indented tree structures and drag-and-drop BOM management.
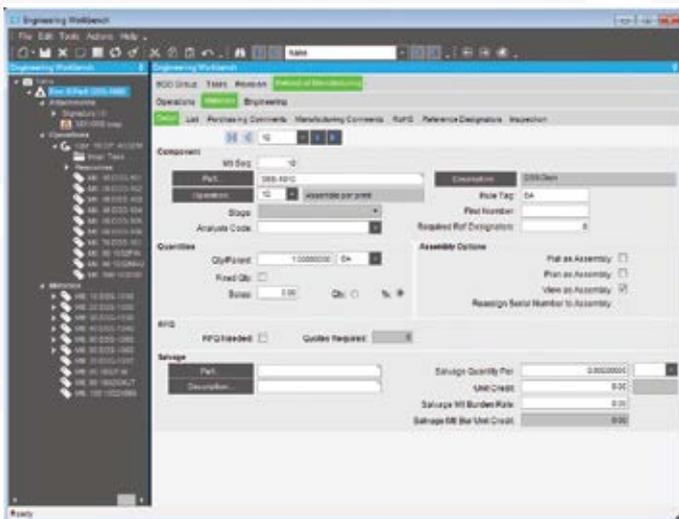
Use the Engineering Workbench to build a visual view of a new bill of materials, accessing similar structures and revision levels.

Methods of Manufacturing
Manage product BOM and routings in one central location. Part specific methods of manufacturing are controlled through engineering and offer drill-down functionality to lower level subcomponents along with material and routing components required for each.

Drag-and-Drop Interface
Use a simple tree interface to easily drag-and-drop components, operations, or direct materials from another BOM, quote, or previously run job.

Visual BOM Display
Easily see the structure of a product, including multilevel components and subcomponents.

Same-as-Except
Manage BOMs easily with "get detail" functionality that enables the user to pull an existing method of manufacturing for a product and make modifications for future runs or similar products.

Alternate BOM
Use alternate BOMs to predefine multiple BOM structures for the same part with perhaps material or component substitutions. In a multi plant environment, BOMs at the plant level facilitate choices of where to build the part using plant appropriate methods. Optionally have several BOMs within a plant for the planner to choose the most cost-effective build.

Expansive Part Number
Use up to 50 characters in part length for a part number. System settings optionally designate maximum length of the part ID used.

Reference Designators on BOMs
Reference designators provide the ability to store multiple reference designators on BOMs. Also offers explosion reports by component and by reference designator from quotes, jobs, and the engineering workbench.

Document Linking
Link product specific documentation (e.g., electronic drawing and machine instructions) for easy access and document control using document management.

Costs Stored
Besides material costs, additional costs for manufactured parts (e.g., labor, burden and subcontracting) are stored and monitored within the BOM structure.

Cost Replace
The cost replace function rolls up costs from the BOM and updates the finished goods inventory file.

Requirements Reporting
A summarized material option, in addition to the standard indented BOM requirement report, is available to provide total requirements for each material.

Critical Path View
Easily view the critical path for the product.

Phantom Structures
Stock assemblies in inventory or maintain phantom assembly structures, giving you the flexibility to process complex jobs without having to first establish a complete BOM.
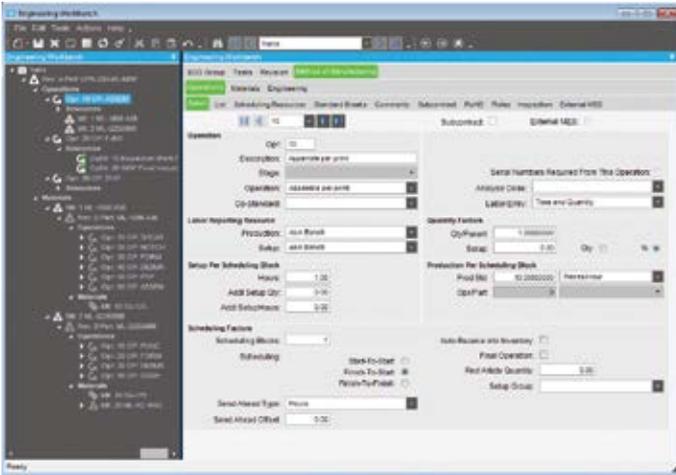
Routings

Detailed routings facilitate planning, scheduling, and costing of products more efficiently. Everything needed to produce a product is managed in one central location.

Managing changes to routings is simplified. Changes are automatically communicated to the plant floor execution system and operators have online visibility of the latest routing production notes as well as standards and resource requirements.

Methods of Manufacturing

Manage product BOM and routings in one central location. The part-specific method of manufacturing is controlled through engineering and offers drill-down functionality to lower level subcomponents along with material and routing components required for each.

Build a visual view of a routing for a new part using the integration to other engineering information and the drag-and-drop interface

Easy to Use Interface

Easily understand, navigate and revise even the most complex, multilevel routing in the tree structure of the engineering workbench. Free up engineers to focus on constructing the most cost-effective build. Quickly build new routings and easily modify existing routings using the Epicor drag-and-drop engineering tools.

Expedite Engineering

Streamline engineering by modifying existing methods for same-as-except quotations and production runs. Enable engineers to begin with an existing method of manufacture from the methods master, a quote or job, then modify it for the project at hand with the Epicor "get details" functionality.

Alternate Routings

Define and maintain multiple routings or material substitutions under a single part number. In a multi plant environment, alternate routings at the plant level facilitate choosing where to build the part using plant appropriate methods.

Flexible Production Standards

Manage and measure jobs using traditional time-based production standards including:

- Pieces per hour
- Pieces per minute
- Operations per hour
- Operations per minute
- Hours per piece
- Minutes per piece
- Fixed hours

Dimensional Planning

Plan by volume and quantity using dimensional planning that is not time constrained.

Daily Capacity

Add flexibility to your planning with daily production rates that are quantity-based rather than time-based.

Resource Planning

Allow the system to automatically pick or schedule the resource to be used or call out the specific resource at the time of planning. Routings can indicate general resource groups needed.

Plan as Assembly

Use Plan as Assembly to plan lower component manufacturing parts without the need to include them in the full assembly structure. This feature enables complex planning for Multilevel complex parts with components that are typically stocked.

Capability Planning

With APS you can specify a capability of a resource and allow the scheduling engine to determine the specific resource based on availability of the capability or skill level.

Default Operation Standards

Enter new routings quickly and easily using default operations and operation standards for resources.

Decimal Precision

Built to manage the needs of precision manufacturers, the production standard field has 10 characters behind the decimal point.

Production and Setup Cost

Perform cost analysis of production separately from setup. This enables tight cost control of these key functions.

Fixed and Variable Burden

Assign resource-specific or variable burden based on the optimization of the schedule and available resources.

Subcontracting Services

Include outside services in routing steps for accurate planning of costs and lead-time. Communicate with purchasing, shipping and receiving, as well as production management for full visibility of subcontracting operations.

Online Routings

Communicate the latest routing changes to the shop floor efficiently with the electronic work queue.

Document Management

Epicor drag-and-drop attachments support the ability to manage and view attachments against any record or application process. With respect to BOMs, additional functionality exists to allow attachments linked to end Products and components to automatically flow to production planning and eventually the production floor, ensuring strong control of product and process documentation at each product revision and production run. Attachments at the record level would typically provide information, drawings, documentation, or context specific to that record. All attachments can be secured using standard role-based security.

Microsoft SharePoint® Repository

Document management and attachments capability also offers the use of a Microsoft SharePoint document repository. This provides document versioning, check-out and check-in support, and facilitates integration to other document management systems.

Engineering Change and Revision Control

Achieve control and consistency in your engineering change and revision process. Engineering Change and Revision Control is designed to enable engineering change management, multiple revision control of products, engineering workflow management, and offers detailed cost analysis of products during the engineering process.

Engineering Workbench

Give engineers an area to manage all engineering tasks related to the modification, review and approval of assemblies, including: full revision updating and control, check-out procedures, security, engineering change orders, BOM maintenance, what-if BOM maintenance, what-if cost rollups, adding parts, placing parts on hold, and product routing maintenance. The engineering workbench also enables engineers to drill into all related information (e.g., jobs, inventories, sales orders, and quotes).

Engineering Approval

Enforce the approval of a method before it can be pulled into a job or quote.

Multiple Revision Capabilities

Store and manage every revision of a product individually along with effectivity dates, historical change, and audit logs.

Revision Effectivity

Manage revision by effectivity date.

Powerful Search

Look for previously used parts by creating a quick wild card search of all parts in the system.

Revision Control

Employ complete revision tracking of fields that you specify, including an audit trail of date, user ID, and description of the change.

Revision Compare

Dynamically and visually compare product methods for product plans that change before the product is complete. Easily compare methods of manufacturing for any part to a quote or job for the part and visually see the changes highlighted in color.

Engineering Workflow

Automatically assign and route the work needed to process changes as well as the process for engineering new products. Tasks are tightly embedded into the system ensuring that transactions can only be updated if the task is at the right status.
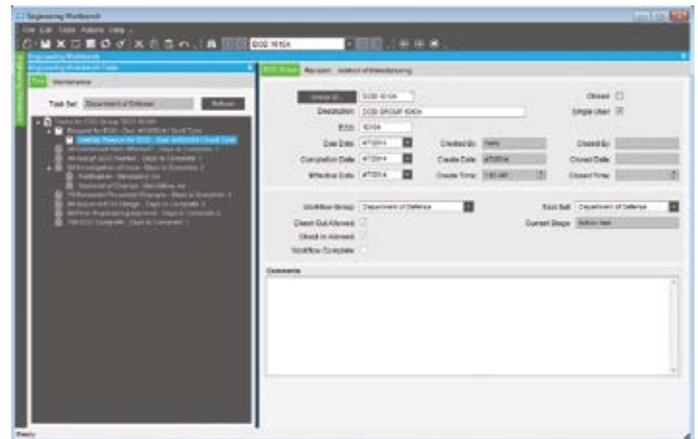
Closely manage the engineering approval process with defined workflow.

Where-Used

By displaying every product or assembly in which a specified component is used, you are able to identify those parts that would be affected by a design change or material substitution being considered.

Mass Replace/Delete

Efficiently update all BOM structures when engineering changes occur.

Express Check-Out

Use express check-out, designed for quick-change environments, for quick check-in and check-out of parts.

CADLink for Epicor

CADLink for Epicor increases the speed of engineering data flowing from the engineer's desktop to the rest of the business, in particular procurement and manufacturing. The solution is designed to streamline the entire product development process. With CADLink for Epicor, engineers push forward BOM revisions to Epicor ERP with a click of a button without leaving their familiar CAD environment. CADLink for Epicor eliminates all the burdens of disparate systems, allowing engineers to focus more on what they do best; engineering.

Driving ERP synchronization, CADLink for Epicor enables engineers to search capabilities of their Epicor ERP system for existing part numbers using either part number or description. Users can also search for part parameters such as class code, product group, and UOM directly from within the CADLink interface. CADLink for Epicor displays BOM data discrepancies between CAD models and ERP data and offers online changes. When revisions are complete, CADLink saves item revisions bi-directly to and from the CAD system and Epicor ERP. CADLink for Epicor is available with major CAD systems. ECN Manager is available for integrated change processing.

CADLink is also capable of handling purchased parts. It allows you to add purchased part numbers and other data directly from within the CAD environment. You can add, view, and edit non-CAD modeled parts, such as paints, consumables or packaging, to the ERP BOM for inventory or costing purposes. This gives engineers an ability to review the complete BOM and not just the components modeled in the CAD.

Product Lifecycle Management

Epicor Product Lifecycle Management (PLM) serves as a central knowledge repository for process and product history, and promotes integration and data exchange among all enterprise users who interact with a product. Epicor PLM manages all documentation associated with a product throughout its entire product lifecycle, and includes full integration with more than 12 computer aided design (CAD) systems as well as various electronic design automation (EDA) systems. Epicor PLM is particularly useful for companies that:

- Design what they manufacture

- Want standardized methodologies around work flow

- Use CAD or EDA systems

- Use drawings to produce a quote or an order

Epicor PLM provides an electronic vault where documents can be securely stored and where access and versioning can be tightly controlled. The type of sophisticated document management that PLM offers is critical for those organizations that need excellent audit tracking and control of all documents across the enterprise. PLM also provides advanced document search and retrieval functionality. Increase your productivity by more efficiently managing the product life cycle—from design to end-of-life.

Electronic Vault
Epicor PLM contains a secure vault, a product knowledge repository that holds documents in a password protected electronic data vault accessible only via the PLM system.

Document Security
Provide a tight level of security. Control who can view or access documents. Protect your specifications, CAD models, drawings, e-mail messages and NC programs from loss or unwarranted access.

Check-In/Check-Out
Prevent users from altering documents that are currently checked out by other users.

Engineering Change Order (ECO) Processes
As many 3D models as desired and any number of derived technical drawings of one or more CAD systems can be assigned to each part. Epicor PLM supports the entire product change order management. All changes to CAD models or drawings are documented in a change history. History entries include date, change reason, and user. Additionally, processes defined using Epicor PLM Workflow assures change order control, from the beginning of the modification to the final release. All part master data, characteristics, and the change history journal are transferred and documented in the title block of the respective drawings. Upon further modifications this data is updated automatically. Additionally, the bill of material can be inserted into the drawing.

Search Capabilities
Search and retrieve by multilevel classification, key fields, or graphically navigate through a document hierarchy.

Document Viewing
Preview drawings or documents, enabling your engineers to quickly view a large drawing without downloading it to their CAD system.

Document Relationship
Maintain relationships of documents to parts, projects, customers, and more. View the relationships between parts and documents (as well as document contents) via a structured tree view, so engineers can quickly see the impact and use of all documents.

Export or Import Documents: Documents can be retrieved from Epicor PLM's protected electronic vault for external processing. At any time later, they can be checked in again. While checked out, drawings are labeled as 'locked,' avoiding any modification conflicts.

Document Linking: Link product specific documentation, for example, electronic drawings and machine instructions for easy access and document control using document management.

Workflow Management: Epicor PLM provides configuration functions that describe the rules for workflow state transitions.

Change Log

Use document change logs for access to historical details of changes.
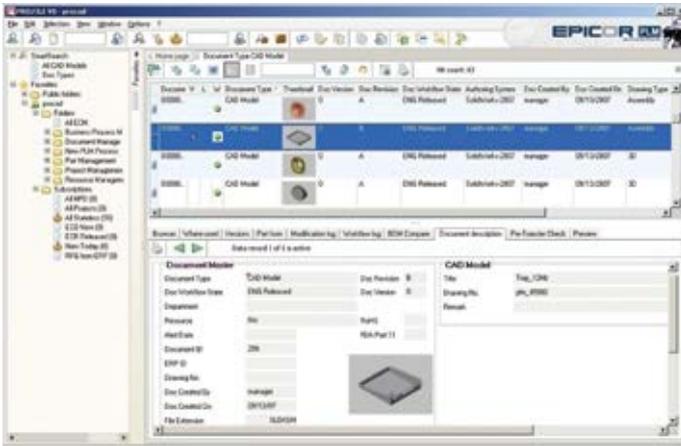
Create a view of the product integrated with engineering to manage the product from design through production.

CAD Integration

Integrate your PLM processes into each CAD program's native menu system. Your product data, versions, revisions and BOMs are directly transferred into the drawing title block, which is automatically updated whenever a modification occurs.

Sub-Document Management

Control and dynamically build documents or drawings that are comprised of multiple components (e.g., pictures, text, or other documents separately). This uniquely enables Epicor PLM to manage multilevel complex assembly documents in a single step.

Project-Oriented Functions

Collaboration in global work groups and project teams is a common and proven method of how work gets done. Epicor PLM fully supports team collaboration. Access to product data and documents can be made available on a project-by-project basis. Employees can be assigned different roles within one or more projects, defining access rights at the project level.

BOM Push from CAD

Push BOM data directly from within the CAD application to Epicor PDM.

Updating Title Blocks

Automatically transfer changes to part master information onto the title block of any associated drawings.

Revision Management

Manage version and revision of CAD documents.

Automatic Generation of BOM

Automatically generate the BOM for a part from CAD files, including "where-used" information.

Drawing Copies

Generate drawing copies in a neutral data format (e.g., HPGL and TIFF).

CAD Systems Supported

Integration is available with a variety of CAD systems including AutoCAD®, Catia® V5, Inventor, ME10, MicroStation®, Pro/ENGINEER®, Solid Edge®, SolidWorks®, and Unigraphics® are available in the mechanical CAD world. Many electrical CAD integrations are available as well.

E-mail Integration

Epicor PLM supports Microsoft® Outlook® and IBM® Lotus Notes® e-mail packages, allowing you to store e-mail messages and file attachments in the secure vault and manage the distribution and access to those messages and files. This is critically important for managing customer relationships and adhering to legal and regulatory mandates.

Microsoft Office Integration

Epicor PLM records documents at their place of origin and works fully integrated in Microsoft Word, Excel® and other Office applications. Text documents or spreadsheets that have been drafted using these applications are directly stored in the database.

Product Costing

As a manufacturer or distributor, you consistently monitor product cost and analyze profitability as a way to pass on cost savings to customers while staying competitive. Epicor offers the flexibility and accuracy needed to analyze product cost on a customer-by-customer, part-by-part, and job-by-job basis.

Elements of Product Cost

Maintain elements of product cost in separate buckets, including material, labor, burden, subcontracting, and material burden cost. Costing methods include:

- Average
- Last
- Standard
- Lot
- First In First Out
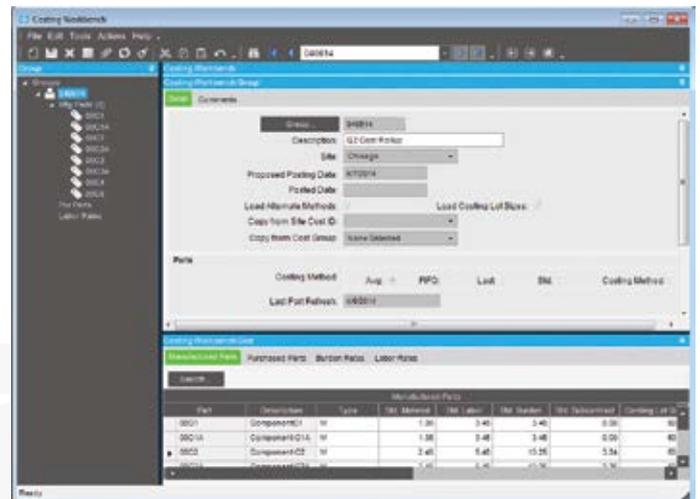
Maintain and view costing by part type and cost type, and access this information throughout the system.

Costing Workbench

Manage part costs in a single location. Specialized tools pull in the most recent costs and automatically perform cost rollups. Designed with full audit capabilities, the workbench offers variance analysis prior to posting new cost tables along with the effective dates of the costing changes. The costing workbench offers easy manipulation of resource, resource group, and operation cost.

Cost Set Grouping

Group multiple parts together for fast and easy periodic cost updates.

Multiple and What-If Cost Sets

Manage multiple cost entries per part with effectivity date per cost set. Optionally generate what-if cost scenarios and review change analysis prior to posting.

Part Cost Per Plant

Set up a unique cost set for each plant allowing part cost per plant to be closely defined.

Cost Load

Pull in initial cost from previous cost sets and make changes for easier cost adjustments. Cost sets can be generated from alternate BOMs or routings for what-if scenarios.

Cost Rollup

Generate a new cost for a product with an automated cost rollup based on the existing routing for the product and current cost values for material, labor, burden, subcontracting, and material burden. For complex parts with many assemblies, you can specify whether to roll up subcomponents.

> **Costs Stored**: Besides material costs, additional costs for manufactured parts (for example, labor, burden, and subcontracting) are stored and monitored within the BOM structure.

Use Alternate Methods

Optionally use alternate routing in performing cost rollup. This is especially useful when generating what-if cost analysis.

Cost Rollup Group Report

Print what-if changes prior to posting. Review proposed change detail including variance percentage.

Product Configuration

Product Configuration enables on-the-fly configuration of highly customizable and dimensional products via a straightforward question and answer evaluation. Product Configuration can be accessed from quote entry, order entry, and job entry. It is Web-enabled, and is available to users employing Commerce Connect.

Approval

Formally approve all configurations before they can be put into circulation. When a configuration revision has been formally approved, it can be pulled into a quote, order, or job. An audit trail logs user ID and approval date.

Bill of Materials

Tie a configuration to a BOM structure containing multiple options. Each option can also have rules attached. Rules are executed during entry of a configuration to correctly configure the BOM and routing.

Revisions

Optionally create unique configurations and rules for each revision of a BOM. Configuration responses are stored with other product information for historical auditing and accuracy.

Component Price Lists

Allows you to use the component level price lists as the product is configured.

Copy/Paste

Allows users to copy configurator rules from one module to other (copy/paste).

Screen Input Builder

Build custom screens in which product features and other inputs can be entered during quote and order entry. Form controls (e.g., fill-ins, combo boxes, and toggle boxes) are used to prompt users for data.

Dynamic Lists

Building conditional options is easy with dynamic lists.

Generic Part/Multiple Rules

Allow use of the same generic part with multiple rules on multiple assemblies.
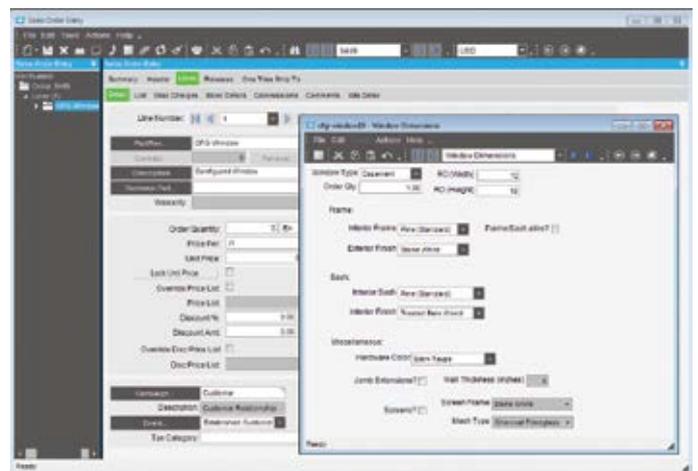
Build complex and flexible configuration models with attractive interfaces to customers.

Global Variables

Provides the ability to hold and use global configurator variables.

Import/Export Configurations

Provides the capability to import/export configurations.

Pricing

Calculate pricing as a product is configured. Either features/options or rules-based pricing can be applied.

Options

Define the features and options of a product at design time, then customize during quote and order entry.

Rules

Build your own unique rules with an easy-to-use expression builder. Process rules during quote and order entry to create an accurate BOM from the features and options selected.

Add Comments to Rules

Capability to add comments to document formulas used when creating the rules.

Keep When Rules

Allows for a configuration at all levels of a part, but only for the subassemblies that are stored. Subassemblies have 'keep when' rules.

MRP Inclusion

Configured parts can optionally be included within MRP to help manage mass produced custom product lines.

Ensure Rule Accuracy

Test rules and inputs during design mode to eliminate surprises during processing. Full reporting is available as an audit trail.

Smart Part Number

Build a smart part string during entry of a configuration to allow easy identification of the options selected.

Create Part Numbers

Optionally create actual part numbers in the inventory master file using the configured smart part number. Creating the part automatically eliminates manual entry when a new part is configured and ordered.

Capable to Promise

Configurations are easily confirmed with embedded available to promise and capable to promise capabilities that consider current capacity, MRP and APS.

Web-enabled Configurations

Easily execute configurations over the Web. Configurations can be embedded right in your Web site or in a Commerce Connect Web store, extending capabilities to configure to customers and distributors more easily.

Configured Parts within Configured Parts

Deploying rules based configurations with configured components can be tricky. Epicor offers a solution for managing the complexities of these configurations with real business benefit.

Multilevel Configured Parts

Manages multilevel configured parts, with the ability to configure and sell an assembly in one company, and produce it in another.

Parametric Configuration

ConfiguratorLink for Epicor is a powerful tool that extends the native functions of the Epicor Configurator to allow it to become a Parametric Configurator.

ConfiguratorLink automatically rebuilds 3D models according to Epicor Configurator parameters defined and mapped to CAD models, allowing users to produce 3D models and drawings quickly in sales and production processes. No mundane CAD work for your engineering staff. Helping employees and customers visualize the configured product is a few clicks away.

ConfiguratorLink also has the ability to search and pull configuration parameters and automatically create CAD files for production processes such as burn table or CNC lathe. Quote integration produces 3D CAD files that are ideal for customer approval and signoff.

Finally, ConfiguratorLink can push parameter data back to Epicor. Any parameter changes made in CAD will be saved back to the configuration parameters in Epicor. No need to jump back and forth between CAD and ERP.

About Epicor

Epicor Software Corporation is a global leader delivering business software solutions to the manufacturing, distribution, retail, and service industries. With more than 40 years of experience, Epicor has more than 20,000 customers in over 150 countries. Epicor solutions enable companies to drive increased efficiency and improve profitability. With a history of innovation, industry expertise and passion for excellence, Epicor inspires customers to build lasting competitive advantage. Epicor provides the single point of accountability that local, regional, and global businesses demand. For more information, visit www.epicor.com.

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