

PTC Windchill® MPMLink™

Accelerate time to production with concurrent design and manufacturing planning

PTC Windchill MPMLink unifies the engineering design with manufacturing process planning to provide a single system that helps accelerate time to production.

Transforming engineering designs into mBOMs (manufacturing bill-of-materials) and manufacturing processes has typically been a cumbersome process that had to wait until the design was completed. With the digital Manufacturing Process Management (MPM) capabilities of PTC Windchill MPMLink, manufacturers can develop both the product and the manufacturing process definition concurrently, thus enabling you to reduce product cost, improve accuracy of manufacturing deliverables, and shorten development cycle time.

Key Benefits

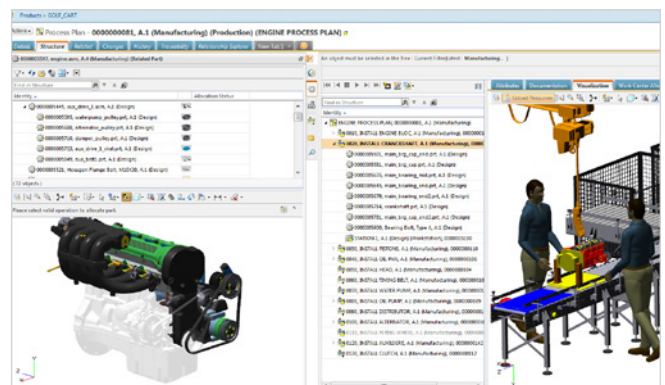
Reduce time-to-market

- Enable concurrent product and manufacturing process definition by managing digital manufacturing process plan definitions in the same system used by the design team
- Reduce late-stage changes requested by Manufacturing by providing manufacturing engineers with early access to design information
- Reduce the time required to create manufacturing engineering deliverables through digital modeling and content management of manufacturing process definitions

Enhance efficiency of manufacturing engineers

- Associatively link mBOMs to the source engineering design information, so that mBOMs always reflect Engineering's current design

- Digitally author and manage manufacturing process plans and the associated resources, instead of relying on inefficient, paper-based tools
- Improve manufacturing process consistency by capturing and sharing manufacturing knowledge, regardless of location or time zone, using enterprise-wide collaboration
- Enable reuse of standardized and normalized processes and resources, thus avoiding data duplication
- Lower the cost of changes
- Increase efficiency by providing an integral change management system that supports both Engineering and Manufacturing needs
- Facilitate cost-effective design decisions by increasing engineering visibility into the potential manufacturing impact of a change



PTC Windchill MPMLink allows the manufacturing engineer to graphically define the process plan steps which can be based on configurable product variations.

Improve production ramp-up and productivity

- Dynamically generate accurate work instructions with embedded 2D and 3D product illustrations
- Accelerate implementation of change in manufacturing deliverables
- Efficiently optimize manufacturing processes with visual configuration tools
- Identify required design changes earlier in the development lifecycle and include timely feedback from Manufacturing

Reduce scrap and rework

- Eliminate discrepancies between the latest process definition and the work instructions used on the shop floor

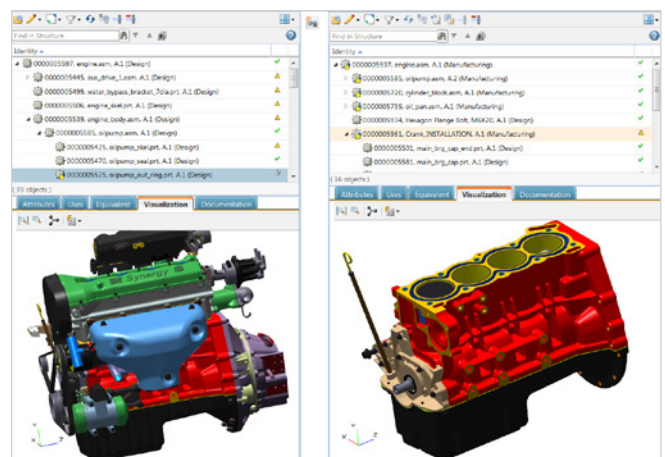
Features

Associative eBOM-mBOM

- Easily transform an eBOM (engineering bill-of-material) into multiple mBOMs – while maintaining associativity – using traceability links
- Create and manage alternate BOMs describing the different manufacturing variations that can produce the same part
- View engineering designs, eBOMs and mBOMs using embedded 3D visualization provided by PTC Creo® View™ technology
- Create and revise manufacturing parts, with or without the equivalent engineering part
- Dynamically generate 3D representations and digital mockups of the mBOM
- Quickly identify and analyze discrepancies between the eBOM and mBOM
- Define and manage customer-specific product and process variations according to different manufacturing sites or product variants

Digital process plans

- Define plant-specific process plans in terms of sequences and operations to describe how a part is manufactured, assembled, reworked, repaired and/or inspected
- Drag n' drop part and resource allocations into manufacturing operations
- Review and analyze process plan definitions in an easy-to-use, interactive Gantt chart, including resource usage and loading
- Define alternate and parallel sequences of operations, as well as alternate process plans
- Automatically playback process plan build sequence to view the in-process state of assembly at any operation
- Directly reuse engineering data, including parts, classification, 3D mockups and manufacturing requirements such as GD &T (Geometric Dimension & Tolerance)
- Automatically create a high-level part machining process plan from a PTC Creo manufacturing object
- Directly utilize quality control characteristics that were define in PTC Creo within process plans and work instructions



Associative eBOM-mBOM relationships can be configured according to options in PTC Windchill MPMLink.

Integral change and configuration management

- Fully manage manufacturing configurations with revision control, lifecycle management, effectivity and access control
- Share common workflow and notification tools between Design and Manufacturing
- Facilitate change impact with visual indicators

Dynamically generate rich, visual shop floor work instructions

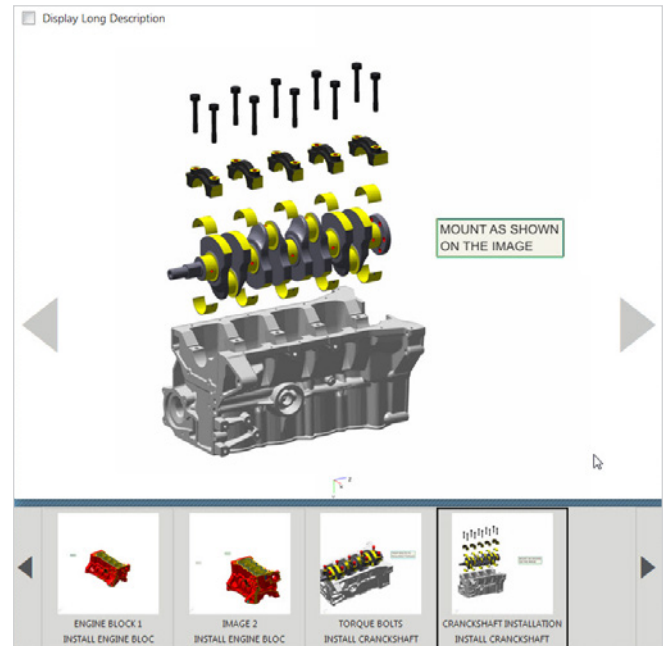
- Generate work instructions, on demand, according to the current process plan configuration
- Access instructions via a simple Web browser
- Directly interact with 3D graphics embedded within the instructions

Manage libraries of resources and manufacturing standards

- Define and manage libraries of both physical and human resources, along with their compatibilities, which are required to perform a production activity, including plants, work centers, tooling, process materials and human skills
- Manage the relationship between a resource and its CAD design, which facilitates the creation of visual aids that include both parts and resources
- Define and manage standard procedures that can be used and/or referenced within multiple process plans
- Manage manufacturing capabilities indicating how the process can be executed in terms of resources, documentation and standard procedures

Pre-defined integrations

- Electronically share manufacturing deliverables with ERP using an out-of-the-box integration to SAP® and Oracle® Manufacturing
 - Integration with 3D Dynamic Analysis Virtual Tools to allow production feasibility analysis in a virtual environment
 - Bi-directional interaction with MES applications to enable a closed loop with the production floor



Create dynamic work instructions using PTC Windchill MPMLink.

Platform specifications

- Prerequisite: PTC Windchill PDMLink®
- Server Operating Systems: Microsoft Windows®, UNIX, Linux
- Browser: Internet Explorer®, Google Chrome and Mozilla® Firefox
- Database: Oracle and SQL Server
- Languages: English, Chinese (Traditional), Chinese (Simplified), French, German, Italian, Japanese, Korean, Spanish, Russian, Portuguese

For the most up-to-date platform support information, please visit: PTC.com/partners/hardware/current/support.htm

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