Process Detailing & Validation

DELMIA V5

DPMASSEMBLY™

The Complete Digital Assembly Process Planning Solution

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DELMIA V5 DPM Assembly™ sets a new standard for assembly process planning and verification software developing manufacturing and maintenance processes. DELMIA V5 DPM Assembly solutions incorporates a single, unified interface for pre–planning, detail planning, concurrent engineering, and assembly process verification.

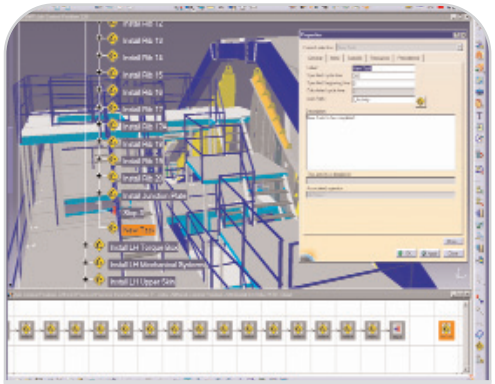
The Value of V5 DPM ASSEMBLY

- ***Facilitates assembly feasibility studies, manufacturability studies, serviceablity studies, 3D process planning, and authoring of assembly process specifications***
- ***Create, visualize, and optimize manufacturing plant/cell layouts and processes with 3D tools***
- ***Forward and backward assembly process verification***
- ***Common V5 environment with CATIA***
- ***Common DELMIA Product, Process, and Resource model***
- ***Graphically create, visualize, verify and modify assembly processes***
- ***Review entire assembly process simulation with VCR-like controls***

Digital Assembly Process Solution

DELMIA's V5 DPM Assembly is designed to optimize both process engineering and the assembly manufacturing process by enabling users to author, simulate, and validate the manufacturing process plan when it is most productive and cost–effective, in the planning stage, long before equipment is installed or moved inside the plant.

V5 DPM Assembly facilitates concurrent design and manufacturing, assembly feasibilty studies, manufacturability studies, serviceablity studies, 3D process planning, and authoring of assembly process specifications. It allows users to capture assembly process information in a way that is re-usable to leverage information across products and across the extended enterprise.



V5 DPM ASSEMBLY PRE-PLANNING
Provides automatic generation of processes through external files

Layout Optimization

V5 DPM Assembly enables users to optimize their assembly manufacturing plant/cell layouts using 3D tools. V5 DPM Assembly allows the user to work with the "spatial organization" and components of the plant, allowing quick, easy layout and downstream evolution of the layout design.

Powerful Simulation Tools

V5 DPM Assembly has the power to simulate parts, assemblies, devices, and robots. Additional solutions provide simulation support for other types of entities, such as human models and NC machines.

Simplified Analysis

V5 DPM Assembly provides optimum verification using advanced interference detection and analysis, superior sectioning analysis, measurement, distance analysis, and 3D geometry comparison tools. Interferences are detected interactively or in batch mode.

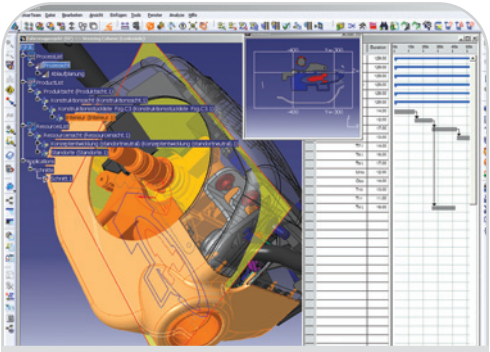
Concurrent Engineering

The full power of DELMIA's V5 DPM Assembly is realized when it is included as part of a concurrent engineering solution, in combination with the Manufacturing Hub. V5 DPM Assembly leverages the Manufacturing Hub to access stored process plans created in DELMIA's Process Engineer and to create, modify, and validate the assembly processes

using a company's preferred manufacturing methods and best practices. Revised process plans are stored in the Manufacturing Hub for use and reuse by upstream and downstream engineering activities.

Common Environment

V5 DPM Assembly shares a common environment with all DELMIA digital manufacturing solutions. V5 Assembly also shares the common V5 architecture with CATIA and ENOVIA and uses a common workbench to easily integrate information to allow companies to capture, manage, and share their best practices throughout the extended enterprise. DELMIA V5 DPM Assembly may be used as a file-based solution, or scaled as a solution in combination with other DELMIA process planning, verification, and simulation tools.



V5 DPM ASSEMBLY
Seamless, integrated 3D world for Process Planning, Detailing and Validating.

Options

Users can quickly and easily generate electronic work instructions for use on the shop floor by adding DELMIA V5 DPM Work Instructions to the configuration. These fully annotated work instructions can include 3D simulations of the assembly process and are accessed on the shop floor via the simple to use, touch screen interface of DELMIA V5 DPM Shop. V5 DPM Assembly can be enhanced by adding DELMIA Multi-CAx solutions, providing integration with the customer's CAD design systems. Worker ergonomics and performance can be analyzed with the addition of DELMIA Human solutions.

The DELMIA Assembly Family

V5 DPM Assembly is available in three powerful packages: Basic Assembly, Basic Assembly with CAD, and the end-to-end solution, ENVISION Assembly. ENVISION Assembly adds resource modification and mechanism creation, inverse kinematics application, resource definition/ revision and sequencing, simulation, detailed planning, and process verification.

The V5 DPM ASSEMBLY Advantage

- ***Easy cataloging of best practices and manufacturing resources for future reference***
- ***Creating operation sequences, assigning resources, determining throughput and cost estimation***
- ***Evaluating assembly feasibility***
- ***Intuitive Assembly Motion Definition***
- ***Geometry-based process modeling***
- ***Detecting clash, contact, and clearance collisions before actual production***
- ***Full support for use of CATIA, PRO-E, UG, and SDRC CAD data***
- ***Annotations and mark-ups for rapid and unambiguous communication***

The Complete Digital Assembly Process Planning Solution

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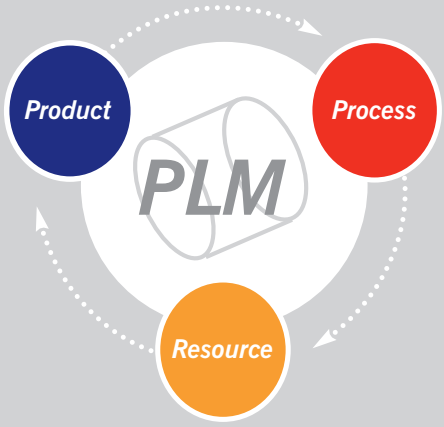

DPM ASSEMBLY & the Manufacturing Hub

DELMIA's entire solution portfolio works on top of a unique data model called the Manufacturing Hub, which allows manufacturers to store, manage and reuse all product, process, and resource information required throughout the product lifecycle.

The Manufacturing Hub is part of a collaborative, PPR data system that supports Dassault Systèmes' Product Lifecycle Management solution. This PPR data system ensures the seamless integration between CATIA, ENOVIA, SMARTEAM and DELMIA. CATIA provides the product design solution; DELMIA provides the manufacturing engineering solution; and ENOVIA & SMARTEAM provide the lifecycle applications and decision support tools.

With DELMIA digital manufacturing solutions, companies have the power to capture, manage and share their best practices and ensure everyone has access to the right information, at the right time.

The DELMIA Digital Manufacturing Solution

DELMIA's portfolio of digital manufacturing solutions are categorized by three distinct domain suites, based on how they impact the flow of the manufacturing process. Each domain employs a set of tools that steps through the entire manufacturing process from concept to implementation.

Process Planning

Provides a comprehensive process and resource planning support environment. The resulting process diagrams can provide a clear overview of the sequences and links between processes and resources early in solution design conception.

- *Layout Planning*
- *Time Measurement*
- *Process & Resource Planning*
- *Solution Evaluation*
- *Cost Analysis*
- *Line Balancing*

Process Detailing & Validation

Employs the structure and diagrams of the Process Planning solutions into the application– specific disciplines of manufacturing. Verify process methodologies with actual solution geometry and define processes to a greater level of detail within a 3D environment.

- *Manufacturing and Maintenance*
- *Assembly Sequences*
- *Factory/Cell Layouts*
- *Machining Operations*
- *Workforce Performance and Interactivity*
- *Shop Floor Instructions*

Resource Modeling & Simulation

Provides the tools to develop, create and implement resources, application routines and mechanical programming that are integral with the Process Planning and Process Detailing/Validation solutions. Within this set of solutions, resources such as robots, tooling, fixtures, machinery, automation and ergonomics are defined and infused into a complete scenario of manufacturing.

- *Factory Flow Simulations*
- *Robotic Workcell Setup and OLP*
- *NC Machining*
- *Ergonomic Analysis*
- *Inspection*

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