



## DELMIA V5R16 - FACT SHEET

### *Growing the Collaborative Manufacturing Community*

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#### WHAT'S NEW AT A GLANCE

##### DELMIA V5R16:

- **enables users to access, manipulate and manage very large datasets** via certified support of Microsoft Windows XP 64-Bit operating system and the introduction of the DELMIA – Manufacturing Change Management product.
- **introduces more powerful capabilities to capture and communicate knowledge efficiently and with confidence** with the new DELMIA – Engineering Requirements Planner Product
- **helps the extended enterprise deploy V5's unified solutions for engineering and manufacturing with** extended Support for ENOVIA – Workpackage capabilities and improved security mechanisms
- **reinforces “Best in Class”, manufacturing process planning** through improved Rapid Upper Limb Assessment (RULA) and the ability to simulate machine tool motion using ISO code in the ergonomics and machining domains.
- **extending the reach of 3DXML in the Manufacturing domain** with the ability to create 3DXML models of both products and resources

#### OVERVIEW:

##### DELMIA V5R16:

Value to the Customer - The DELMIA V5R16 products and features listed below are grouped according to Dassault Systèmes and IBM's PLM Fundamentals. The fundamentals are the core elements of the PLM business strategy that bring value to a customer.

In the **Product, Process, Resource Model (PPR)** category (integrating product development, manufacturing processes, and resources) DELMIA V5R16:

- **helps the extended enterprise deploy V5's unified solutions for engineering and manufacturing** by extending its support of ENOVIA's Workpackage capabilities (the ability to “bundle” many small, component parts into a single object in the EBOM) by allowing the planner to expose and use these component

parts throughout the manufacturing process plan. DELMIA delivers improved security mechanisms for the administration (e.g. People and Organization), as well as access to, and usage of, the data maintained in the Manufacturing Hub. These enhancements serve both to support industry standards, and help the enterprise ensure that sensitive or secure data is not 'accidentally' shared with unauthorized users.

In the **Collaborative Workspaces** category (delivering a shared, real-time, 3D working environment), DELMIA V5R16:

- **enables users to access and manipulate very large datasets** as they develop, plan and validate manufacturing processes
  - With the release of V5R16, DS announces the support of the Microsoft Windows XP 64 bit operating system and certified hardware platforms. Users taking advantage of this new hardware & OS technology will find that the memory limitations encountered when dealing with very large datasets have been removed, thereby enhancing the ability of collaborative reviews and complex process planning, detailing and simulations.
  - In addition to the support of advanced hardware technology, DELMIA V5R16 is delivering two new data filtering capabilities in the Manufacturing domain that provide quicker load times, less 'clutter' in the 3D view, and more control over which data is loaded during collaborative sessions.
  - V5R16 delivers improved performance over an enterprise wide-area network (WAN) thereby allowing remote sites to have direct access to a centralized Manufacturing Hub.
  - With V5R16, DELMIA announces the release of its Manufacturing Change Management product which provides the capability to apply the power of Change Management Actions to manufacturing process planning, thereby providing rigorous control over business processes. Another new feature is the ability to tightly integrate this control with product engineering through ENOVIA VPM V5.

In the **Knowledge** category (capturing, sharing, and reusing information) DELMIA V5R16:

- **delivers more powerful capabilities to capture and communicate knowledge efficiently and with confidence**
  - V5R16 significantly improves the ability of the product designers using V5 to capture design intent and engineering specifications in the V5 3D model and communicate that information downstream. As part of this development, DELMIA announces the release of DPM Engineering Requirements Planner which enables the manufacturing planner to directly use and reconcile these requirements in their process plans. In addition, planners can incorporate these details as part of the electronic work instructions for use on the shop floor.
  - V5R16 provides the aerospace community with the ability to capture 'non-conformance' details on the shop floor using DELMIA – DPM Shop while executing the manufacturing process, and communicate the details of

plan deviations to the enterprise's MES system, thus facilitating compliance to FAA requirements on capturing and document such data.

In the **Process-Centric** category (basing customer solutions on industry-specific processes), DELMIA V5R16:

- **further reinforces 'Best in Class' manufacturing process planning, detailing and validation solutions for the machining and ergonomics domains**
  - DELMIA Machine Tool Path Simulation now includes the ability to validate the ISO code. This enables the NC programmer to deliver a collision-free tool path for a specific NC machine and process setup, thus reducing the need for costly shop floor validation.
  - DELMIA V5R16 also delivers several new ergonomic analysis capabilities in the final assembly domain. Of key importance is the improvement to DELMIA's Rapid Upper Limb Assessment capability. Users can now choose between 'general' (two body segments) and 'detailed' (individual body segments), allowing for quick assessments or detailed examination during their human factors analysis.

In the **CAA V5 - Component Application Architecture** category (promoting openness and extension through a component-based architecture and a community of independent software vendors), DELMIA V5R16:

- **extends the reach of 3DXML in the Manufacturing domain**
  - DELMIA V5R16 extends support for DS's 3DXML in the manufacturing process planning and validation domain. With this release, V5 users are now able to generate lightweight 3DXML models of both product and resource geometry in the context of manufacturing process plans. These lightweight models can then be used downstream with any Microsoft Office application for the purpose of generating documents with 3D interactive capabilities, thereby bringing these documents to life, for improved communication to the intended end-user.

## **DELMIA V5R16 DETAILED DESCRIPTION**

In the **Product, Process, Resource Model (PPR)** category, DELMIA V5R16:

- **extends its support of ENOVIA's Workpackage capabilities** (the ability to 'bundle' many small, component parts into a single object in the EBOM) by allowing the planner to expose and use these component parts throughout the manufacturing process plan.
  - The ENOVIA Workpackage provides the product engineer with the ability to group large numbers of small parts together for better management of the Engineering Bill of Materials (EBOM).
  - Planners using V5R16 can access component parts contained in the Workpackage and use instances versions of these component parts throughout the manufacturing plan.
  - While DELMIA has been able to utilize parts contained in a Workpackage it was up to the process planner to insure that all the parts contained in

the package were accounted for in the process plan. With the release of V5R16, the planner now has a tool that will assist planner in accounting for all the parts from the Workpackage in the process plan thereby minimizing the chance for oversight and planning errors that could be quite costly to an enterprise.

- **delivers improved security mechanisms for the administration** (e.g. People and Organization), as well as access to, and usage of, the data maintained in the Manufacturing Hub. These enhancements serve both to support industry standards, and help the enterprise ensure that sensitive or secure data is not 'accidentally' shared with unauthorized users. These include:
  - Automatic generation of detailed log files each time the People & Organization tables are edited.
  - Automatic monitoring and logging of data marked as 'Export Controlled.'
  - Each time an attempt is made to access data marked as 'Export Controlled,' a comprehensive log entry will be created.
  - Introduction of a new, powerful filtering mechanism for data access control in addition to the existing access control capabilities. This takes into account a comprehensive list of (compound) parameters such as the nationality and current location of the user, the export license, the company's membership, and the contract regarding information disclosure, etc.
  - Users can customize a 'watermark' or 'security overlay' which will appear on the screen or printed output any time that sensitive geometric data is being displayed.

In the **Collaborative Workspaces** category, DELMIA V5R16:

- **supports of the Microsoft Windows XP 64 bit operating system and certified hardware platforms.** Users taking advantage of this new hardware & OS technology will find that the memory limitations encountered when dealing with very large datasets have been removed, thereby enhancing the ability of collaborative reviews and complex process planning, detailing and simulations.
  - Users can access up to 128GB (gigabytes) of RAM and 16TB (terabytes) of virtual memory, enabling those applications to efficiently load and process very large data sets.
  - Additionally, users wishing use DELMIA's 32-bit software on a 64-bit hardware platform will be able to access 4 GB of RAM, as opposed to 3 GB on a standard 32-bit hardware platform.
- **delivers two new data-filtering capabilities in the Manufacturing domain** that provide quicker load times, less 'clutter' in the 3D view, and more control over what data is loaded during collaborative sessions.
  - Through Data Attribute filtering, users can easily control which data will be loaded into the planning session from the Manufacturing Hub as collaboration with upstream and downstream engineers enriches the process plan with more details.
  - Additionally, Volume (bounding box) filtering has been introduced that will provide the planner more control over the amount of data that is

- loaded from the Manufacturing Hub when adding the Manufacturing Context detail to the process plan.
  - Efficiency of collaboration is improved by giving the user the ability to reduce the amount of 3D data loaded into the V5 session through these filtering tools. This provides quicker data load times and less ‘clutter’ when planning, detailing, validating and reviewing process plans and simulations.
- **delivers improved performance over an enterprise wide-area network (WAN)**, thereby allowing remote sites to have direct access to a centralized Manufacturing Hub.
  - The significant reduction in time required to search, load, and save data to a centralized server provides the remote WAN user with faster access to PPR data.
  - Allowing the remote sites to directly connect to a centralized Manufacturing Hub helps enterprises reduce IT costs at the remote site.
- **announces the release of its Manufacturing Change Management** product which provides the capability to apply the power of Change Management Actions to manufacturing process planning, thereby providing rigorous control over business processes. Another new feature is the ability to tightly integrate this control with product engineering through ENOVIA VPM V5.
  - DELMIA – Manufacturing Change Management allows the project manager to configure a project so that planners must use Change Management Actions when creating, editing or deleting process plans and details.
  - Users can also establish and use several maturity levels of planning data to help planners better control and understand maturity of their process plans.
  - Configuration and Effectivity control is automatically extended to those modifications the Change Management Actions represent.

In the **Process-Centric** category, DELMIA V5R16:

- **provides the ability to validate the ISO code thanks to Machine Tool Path Simulation** This enables the NC programmer to deliver a collision-free tool path for a specific NC machine and process setup, thus reducing the need for costly shop floor validation.
  - Validating collision-free, post-processed tool path programs on the shop floor can be both time consuming and expensive. DELMIA Machine Tool Path Simulation provides the user with the ability to use the power of V5 3D to simulate the machine tool path program used on the shop floor.
  - The user is able to seamlessly move from tool path and machining process planning to part validation and machine tool path simulation without the need to switch to third-party applications.
- **delivers several new ergonomic analysis capabilities in the final assembly domain.** Of key importance is the improvement to DELMIA’s Rapid Upper Limb Assessment capability. Users can now choose between ‘general’ (two body

segments) and 'detailed' (individual body segments), allowing for quick assessments or detailed examination during their human factors analysis.

- General color shading quickly flags the existence of a problem needing further analysis exists.
- Detailed color shading provides the necessary tools to isolate the problem area and search for solutions.

In the **Knowledge** category, DELMIA V5R16:

- **significantly improves product designers' ability to capture design intent and engineering** specifications in the V5 3D model and communicate that information downstream. As part of this development, DELMIA announces the release of DPM Engineering Requirements Planner which enables manufacturing planners to directly use and reconcile these requirements in their process plans. Planners can also incorporate these details into the electronic work instructions for use on the shop floor. DELMIA V5R16
  - delivers an integrated set of capabilities features that allow design engineers to establish requirements which are then made available concurrently to manufacturing planners and detailers who have traditionally been considered 'downstream' users. Instead of downstream, these users are now global, concurrent simultaneous users of the product definition and resourceful valuable contributors to the concurrent latest synchronized definition of the Product, Process and Resources.
  - completes and enables the definition of engineering requirements for manufacturing (i.e. specifications, tolerances, flag-notes, standard parts, etc.) to be directly usable and reconcilable within DELMIA Manufacturing Process Planning.
  - Additionally, this further automates 3D work instruction authoring and delivery to the shop-floor, and allows configured manufacturing planning evolution without forcing corresponding engineering changes.
- **provides the aerospace community with the ability to capture 'non-conformance' details on the shop floor** using DELMIA – DPM Shop while executing the manufacturing process, and communicate the details of plan deviations to the enterprise's MES system, thus facilitating compliance to FAA requirements on capturing and document such data.
  - Users can immediately capture and communicate process plan Non-Conformance details while the process plan is being executed on the shop floor, by entering details via DPM Shop's simplified user interface.
  - DPM Shop provides a connection to the enterprise's MES system which allows this Non-Conformance data to be transparently passed through and recorded according to the enterprise's business processes, saving time and effort while reducing the likelihood that these details will be overlooked or otherwise lost.

In the **CAA V5 - Component Application Architecture** category, DELMIA V5R16:

- **extends support for DS's 3DXML in the manufacturing process planning** and validation domain. With this release, V5 users are now able to generate lightweight 3DXML models of both product and resource geometry in the context

of manufacturing process plans. These lightweight models can then be used downstream with any Microsoft Office application for the purpose of generating documents with 3D interactive capabilities, thereby bringing these documents to life, for improved communication to the intended end-user.

- V5R16 provides the support needed to export all geometric data associated with the Product and Resource models in the DS Process Document, thereby giving process planners complete freedom to generate lightweight 3DXML documents for non-technical downstream use.