DELMIA V5R20 - FACT SHEET

DELMIA V5R20 - Expanding the production footprint of the DS V5 Digital Manufacturing Solutions

INTRODUCTION

DELMIA allows manufacturers in any industry to virtually define, plan, create, monitor, and control all production processes. It provides an array of dedicated applications for industries, combined with an environment for knowledge-sharing, process and resource management, and the ability to capture and implement best practices for manufacturing.

DELMIA PLM technology allows manufacturers to interact with factory processes early in the design stage and months before actual production commitment. Engineers, management, and stakeholders can have a 3D visualization of the real world with the ability to evaluate "what-if scenarios," make changes, optimize shop floor operations, and identify and eliminate costly errors and design mistakes. This allows any enterprise to facilitate higher quality and foster greater innovation. DELMIA also extends its PLM technology to smaller businesses within the supply chain to allow smaller companies to better connect and collaborate with larger manufacturers.

WHAT'S NEW AT A GLANCE

DELMIA V5R20

- Major enhancement to DELMIA - Work Instruction Composer
- New NC Milling Operations
- Increased Robotics Process Coverage
- Improved support for enterprise wide deployments
- Three new products introduced
    - (MRM) DELMIA - Digital Product Rights Management
    - (FDS) DELMIA - Flex Dynamic Cable Simulation
    - (MXT) DELMIA - Extended Step Interface 2 product

OVERVIEW

DELMIA V5R20's products and features listed below bring value to the customer, reinforcing Dassault Systèmes' and IBM's DELMIA fundamentals:

Collaborative PLM – *Leveraging knowledge and expertise across your enterprise*

- DELMIA – Work Instruction Composer (WKC) has been enhanced to deliver a production ready work instruction authoring solution for DELMIA – ENOVIA Manufacturing Hub users.
- DS announces the availability of (MRM) DELMIA – Digital Production Rights Manager that enables the manufacturing enterprise to control and protect their Intellectual Property (IP) when exchanging data/documents throughout their extended enterprise.

DELMIA PLM for Your Industry – *Digital Manufacturing solutions built for you*

- V5R20 extends the already rich V5 machining offering with new finishing and high-speed milling operations that will help reduce machining programming time, tool path execution time, and reduce tool wear.
- Several enhancements to the V5 Robotics solutions deliver advanced capabilities to the DS DELMIA user community.
- DS announces the availability of (FDS) DELMIA – Flex Dynamic Cable Simulation, which provides a highly accurate, physically correct simulation of flexible cables and hoses for robotics applications.

DETAILED DESCRIPTION

Collaborative PLM – *Leveraging knowledge and expertise across your enterprise*

Enhancements to (WKC) DELMIA - Work Instruction Composer deliver a production ready work instruction authoring solution for DELMIA – ENOVIA Manufacturing Hub users.

- Synchronize changes made to manufacturing plans managed in the DELMIA – ENOVIA Manufacturing Hub with the work instructions authored using DELMIA – Work Instruction Composer insuring that work instructions are up-to-date.
- Multi-View support for an operation assists authors in clearly communicating instructions to the shop floor.
- Work Instruction authors now can include tools for shop floor data collection, record buy-off, and stake holders of changes via change notification authoring.
- 3D state management is one powerful capability available to DELMIA – ENOVIA Manufacturing Hub users that allows the user to quickly visualize the product in the "current state" assembly along with the "current state" of manufacturing resources at that step in the process plan. That capability is now supported by DELMIA – Work Instruction Composer to aid in the quick creation of shop floor instructions for complex process plans.

Introduction of (MRM) DELMIA - Digital Product Rights Management enables company to control and protect their Intellectual Property (IP) when exchanging documents.

Today's manufacturers have never been under more pressure. Global demand and breakthrough technologies are increasing the complexity of product designs and the supply chains needed to build them. These distributed organizations need a way to exchange data in secure manner. New in V5R20, Digital Product Rights Manager 1 (RM1) lets users apply and enforce digital rights on V5 documents enabling to secure and control distribution and exchanges.

DELMIA PLM for Your Industry – *Digital Manufacturing solutions built for you*

New NC milling operations - V5R20 extends the already rich V5 machining offering with new finishing and high-speed milling operations that will help reduce machining programming time, tool path execution time, and reduce tool wear.

Three new high-speed milling operations deliver additional value to the rich V5 machining offering. These enhancements will help the machine shop both plan and produce faster with better quality and less costs from cutting tool wear.

- When high-speed machining a slot, the new support for trochoidal operation can be employed. This allows the machinist to mill a slot that is wider than the cutting tools diameter by combining both circular and linear motion. The programmer can define both the diameter of the circular motion and the forward step distance for the linear. This type of motion provides for higher quality machining while minimizing both cutting tool wear and expensive breakage.
- New advanced finishing operation provides a means for the NC programmer to define a milling tool path for finishing or finishing rework that employs both vertical (Z-Level) and horizontal (Contour driven) motion. This combined operation helps both reduce programming time and provides better cutting tool management when there is significant material to be removed.
- For 3-Axis machining, the new Contour Driven finishing operation allows the tool path programmer to morph the tool path style between outer in inner island making a smoother tool path with much less time spent repositioning the tool path (cutting air).

Increased Robotics Process Coverage - Several enhancements to the V5 Robotics solutions deliver advanced capabilities to the user community.

- Motoman delivers to its customers an advanced, 7-axis robotic arm. This robot allows the customer unique capability for the robot to work in confined spaces. In V5R20, DS DELMIA is delivering the ability to accurately simulate this robot with Realistic Robot Simulation (RRS) support.
- Yaskawa provides their robot users advanced line tracking capabilities for automotive painting applications. In this case, the car being painted continues to move along the line and the robots “tack” alongside as they apply the paint coating. V5R20 delivers RRS support for this advanced painting capability.
- Additionally, V5R20 exposes to Visual Basic programmers advanced APIs for our CAA partners to create/modify Tool Center Point tracing and the ability to assign profiles to operations.
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- Several enhancements to the V5 Robotics solutions deliver advanced capabilities to the DS DELMIA user community.

Introduction of (FDS) DELMIA – Flex Dynamic Cable Simulation - a highly accurate, physically correct simulation of flexible cables and hoses for robotics applications.

DELMIA Flex Dynamic Cable Simulation provides a highly accurate, physically correct numerical simulation of flexible cables and hoses with circular cross-section for real-time interaction applications. Non-uniform material composition is supported including multi core, shielded or isolated cables; braided or multi layered hoses. Collision detection and contact simulation are enabled, reproducing complex nonlinear behavior of cables/hoses in contact with arbitrary shaped rigid geometry. Arbitrary connections of cables between each other and with rigid geometry are supported. As a result, wiring harnesses with multiple branches can be modeled and tested in real time, allowing for digital mock-ups and enhanced product design.

Cables, wires and hoses play an essential role in the assembly of any industry product. To consider physical cable properties in the digital design phase of a product helps detecting design problems such as those caused by collisions with rigid parts and other compliant parts. It also helps to determine production requirements, such as cable length and the respectively allowed tolerance. This realistic flexible cable analysis significantly reduces the costs for real-life mock-ups.

(FDS) DELMIA – Flex Dynamic Cable Simulation us available as an add-on to DELMIA V5 Robotics applications.

NEW PRODUCT INTRODUCTION

(MXT) DELMIA - Extended Step Interface 2 product delivers new extended STEP capabilities for long-term archiving and corporate processes.

The DELMIA - Extended STEP Interface (MXT) product enables long-term archiving with full validation properties and nested assemblies. DELMIA supports all STEP validation properties and ensures the best quality controls for data exchange and long-tem archiving.