Resource Modeling & Simulation

DELMIA V5

INSPECT®

CMM Programming, Simulation and Verification Solution

DELMIA

DELMIA V5

INSPECT®

CMM Programming, Simulation and Verification Application

DELMIA V5 INSPECT is a unique offline CMM programming, simulation, and verification solution that offers direct associativity between inspection features, tolerance parameters, and geometry features of the CAD master model. Developing and verifying inspection programs becomes a single step process allowing CMM programs to be automatically updated, ensuring speed and accuracy in the validation process.

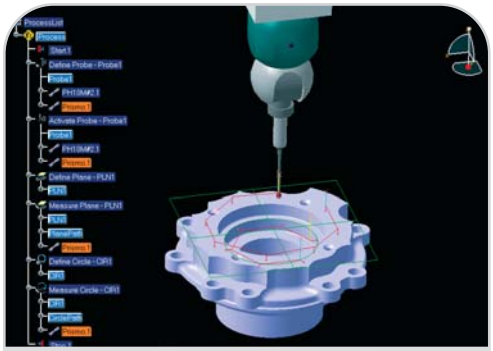
Feature-Rich Inspection

- ***Inspect parts and assemblies***
- ***Manage probes and tool changers***
- ***Define and measure inspection features***
- ***Measure features to user-defined rules***
- ***Create and activate alignments***
- ***Construct features***
- ***Import sub-programs and mirror programs***
- ***Manage thicknesses in large assemblies***
- ***Measure with dual arm CMMs***
- ***Edit processes with GANTT and PERT charts***
- ***Specify sequences for each part without memorizing special language syntax.***
- ***Generate DMIS programs***

Powerful Optimization of the Inspection Process

DELMIA V5 INSPECT is a powerful 3D inspection process definition and simulation tool used to create and optimize processes for part and assembly measurements. While defining the inspection process, users can check for collisions and interferences, and measure distances. Any conflict can be resolved in the virtual environment, increasing productivity and reducing the time-to-market.

DELMIA V5 INSPECT integrates seamlessly with other DELMIA process planning and simulation solutions, offering manufacturers a unique collaborative environment for the share and reuse of the most up-to-date product and process data — offering a truly competitive advantage.



Import & Mirror a Program: *DELMIA V5 INSPECT enables the user to mirror a partial or entire program using a defined plane.*

Easy-to-Use Verification Tools

DELMIA V5 INSPECT's simple graphical programming interface allows the user to specify sequences in a PERT or GANTT chart for each part without having to memorize special language syntax. This interface enables task synchronization between assemblies, tooling, and other resources. INSPECT users can open a window to the GANTT chart and view activities in real time when running a simulation activity increasing productivity. Users can alter viewpoints and display functional dimension and tolerance datums created in the CAD definition as they are performing process verification.

Best Practices - How Rule-based Parameters Work

Rule-based parameters enable you to leverage your best inspection practices. First, your Quality Control (QC) team propagates your best practices and these are defined and saved. These inspection parameters (rules) contain the appropriate probing sequence to be applied to each feature, achieving the desired result. Once a feature is defined, the "rule" automatically determines the number and array of points to be probed, calculates the probe path, and formats the output results. Using Knowledge Expert, companies can edit the inspection parameters to fit their specific requirements.

Extensive CMM and Probe Libraries and Management

DELMIA V5 INSPECT includes a library of the most popular coordinate measuring machines This includes the machines' physical dimensions, available axes strokes, and motion properties for accurate program validation. In addition, comprehensive libraries of probe heads, rotating probes, tool change racks, probes, and styli can be called up to quickly tool the virtual CMM. The Visual File Browser helps users to easily recognize individual CMMs, probes, or styli from a snapshot shown on the retrieval screen.

Probes can be specified for each task, for all probe positions required, and for different tool changer stations. INSPECT will automatically change probes as the user specifies different probes for different tasks.

Definition and Measurement of Inspection Features

DELMIA V5 INSPECT allows the user to define and measure points, lines, planes, circles, cylinders, slots, spheres, cones, and surfaces, by definition of the points to measure, or automatically by the automatic generation of the points in respect to the rules.

The user can define features that are associative to the geometry and tolerance information. If the design department modifies the geometry or the tolerances, the inspection program will automatically update the features and the measurement path. The measurement points will be automatically re-generated according to the measurement rules defined by the user.

Measure Features To User-Defined Rules

DELMIA V5 INSPECT enables the users to define geometric rules and alignments by specifying features that are to be measured in the context of their specific requirement. These rules enable the inspection departments to formalize the manner in which they prefer the measurement to be achieved within their company.

Alignments can be automatically reported to the CAD coordinate system. This powerful function will eliminate the need for the user to manually perform all translations and rotations necessary to bring their alignment to the CAD coordinate system. All constructions, rotations, translations are performed automatically.

Complete Integration

DELMIA V5 INSPECT is integrated with both CATIA®V4 and V5 applications, allowing engineers to insert tolerancing data directly into the INSPECT model. INSPECT is seamlessly integrated with DELMIA powertrain and machining solutions to define measurements of In-Process Models (IPM). Inspection processes can also be exported to Metrologic "Metrolog V5"— a DELMIA CAA partner—performing application for program execution and results analysis.

Manage Thickness & Detect Collisions

- ***Measure features in reference to an existing data that can be selected from existing features list or generated automatically to limit user interactions.***
- ***Define and measure elements even if the thickness of the element has not been designed in the CAD model (particularly from automotive BIW departments).***
- ***Define the material growth direction and indicate from which side to measure the part.***
- ***Change thickness and CORTOL values for a group of features.***
- ***Perform distance and band analysis to determine collision between groups of parts.***

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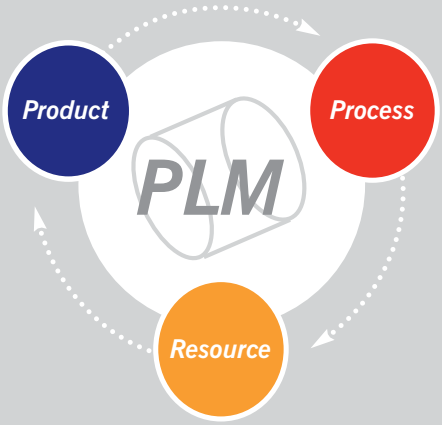

INSPECT & the Manufacturing Hub

DELMIA's entire solution portfolio work on top a unique data model called the Manufacturing Hub, which allow 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 Systemes' 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 in three distinct domain suites, based on how the 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 product design conception.

- *Layout Planning*
- *Time Measurement*
- *Process & Resource Planning*
- *Product 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 product 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 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 product design conception.

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

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