



# CATIA PLM Express

## CATIA - Multi-axis Surface Machining

Efficient and automated 2.5-axis up to 5 axis surface NC programming

It is essential to quickly and truthfully respond to customer's needs in today's global environment. Therefore, companies need to produce parts quicker and optimize machine tool usage, while producing finished parts with the highest quality.

### Overview

The CATIA - Multi-axis Surface Machining option delivers high-end prismatic up to multi-axis surface strategies for productive complex machining with best-in-class quality results. NC programmers benefit from full associativity with CATIA design parts, and powerful machining automation capabilities to drastically reduce NC programming and machining time.

### Customer Benefits

- Best in class surface machining quality (especially through accurate scallop height calculation), faster machining time, and ensured collision free tool paths
- Drastic reduction of NC programming time through automation of the machining process
- Ultra-large NC program management and ultra-fast computation thanks to 64-bit support
- Seamless design-to-manufacturing process with manufacturing features recognition and full associativity in the event design changes are made

## Key Capabilities

### Full set of high-end 2.5-, 3- and 5 axis milling and drilling operations for accurate tool path definition

, including support of high-speed milling technology:

- Several 5-axis contouring and sweeping strategies such as multi axis sweeping, contour driven, isoparametric, curve machining and dedicated tube machining operations
- Multi-axis machining of multiple surface with full collision avoidance
- 3X powerful roughing and finishing strategies including concentric, constant chip-removal machining, trochoidal motion, automatic corner radius and 4X sweeping
- 2.5X roughing, surfacing, latest pocketing strategies, outline shaping, axial cycles such as helicoidal and thread milling, point to point cycles, engraving, etc.
- Sweepings with various strategies (parallel plans, parallel to a curve, with constant z, many strategies to manage the step over)
  
- Full automatic or manual finishing rework
- Automated detection and reworking of non-machined areas in roughing or finishing

### Powerful automation capabilities for efficient NC programming:

- Capitalization of already defined processes thanks to machining process templates
- Automatic sequencing, user defined features, etc.

### Accurate verification of the tool path including simulation of material removal and analysis of remaining material in photo mode (with full tooling fixture and tool holder collision checking)

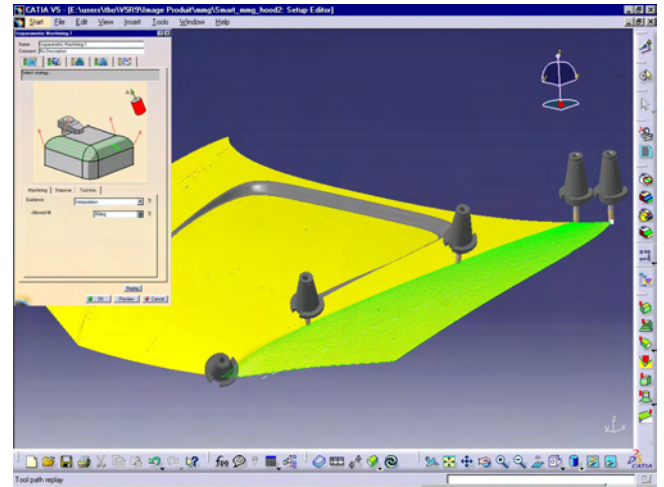
### NURBS output for five axis machining

### Management of a broad range of tools

(conical tools with positive or negative cutting angles, groove cutter etc.)

### Native retrieval of external files for immediate machining

### Automatic generation of the manufacturing documentation



Screen capture of CATIA - Multi-axis Surface Machining

that includes the machining phases, tools, machine and the cutting parameters

Visit us at [www.3ds.com/my-catia-plm-express](http://www.3ds.com/my-catia-plm-express)

### About Dassault Systèmes

a world leader in 3D and Product Lifecycle Management (PLM) solutions, Dassault Systèmes brings value to more than 90,000 customers in 80 countries. A pioneer in the 3D software market since 1981, Dassault Systèmes develops and markets PLM application software and services that support industrial processes and provide a 3D vision of the entire lifecycle of products from conception to maintenance. The Dassault Systèmes portfolio consists of CATIA for designing the virtual product - SolidWorks for 3D mechanical design - DELMIA for virtual production - SIMULIA for virtual testing and ENOVIA for global collaborative lifecycle management, including ENOVIA VPLM, ENOVIA MatrixOne and ENOVIA SmarTeam. Dassault Systèmes is listed on the Nasdaq (DASTY) and Euronext Paris (#13065, DSY.PA) stock exchanges. For more information, visit <http://www.3ds.com>

CATIA, DELMIA, ENOVIA, SIMULIA and SolidWorks are registered trademarks of Dassault Systèmes or its subsidiaries in the US and/or other countries. Copyright Dassault Systèmes 2002, 2006. All rights reserved. IGRIP®, QUEST®, IGRIP®, ULTRAARC®, ULTRAPAINT®, ULTRASPOT®, VIRTUAL NC® are registered in the US Patent and Trade Mark Office by DELMIA Corp. INSPECTTM is owned by DELMIA Corp.

