

# CATIA PLM Express

## CATIA - Surface Machining

**Efficient and automated 2.5-axis milling, drilling and 3-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 faster and optimize machine tool usage while at the same time producing finished parts with the highest quality.

### Overview

The CATIA - Surface Machining option delivers high-end prismatic and surface strategies for productive mold and die 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, faster machining time, and ensured collision free tool paths
- Drastic reduction of NC programming time thanks to process? templates
- NC machining time reduction thanks to optimized tool paths
- 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- and 3-axis milling and drilling operations for accurate tool path definition

, including support of High Speed Milling technology:

- 2.5X roughing, surfacing, latest pocketing strategies, outline shaping, axial cycles like helicoidal and thread milling, point to point cycles, engraving etc.
- 3X powerful roughing and finishing strategies including concentric, constant chip-removal machining, trochoidal motion, automatic corner radius and 4X sweeping
- 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.

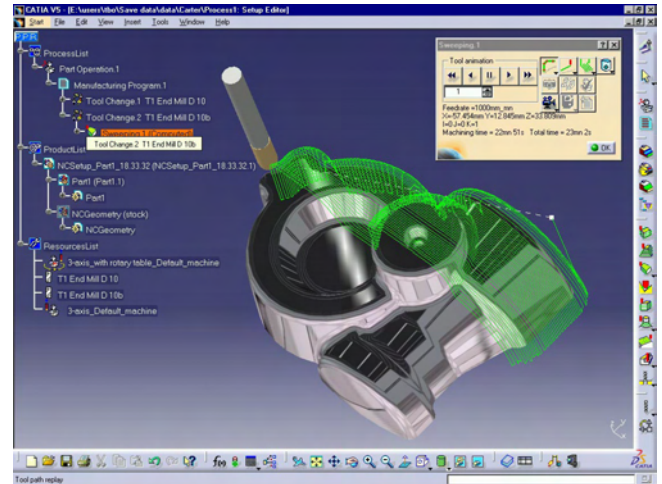
### Accurate verification of the tool path including simulation of material removal and analysis of remaining material in photo mode

(with full tooling fixture and tool holder collision checking)

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



Screen capture of CATIA - Surface Machining

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