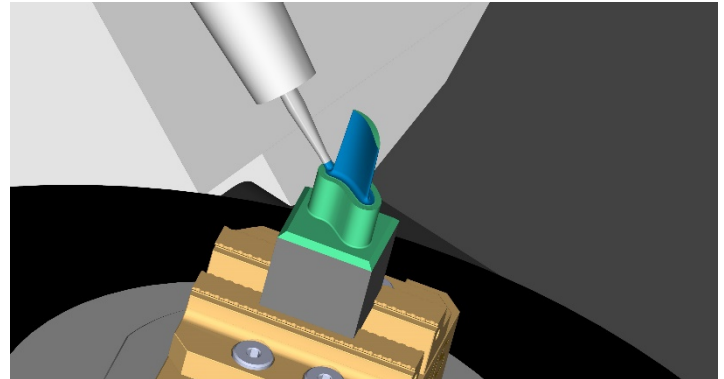


Machine-Aware Manufacturing with ESPRIT® Free-form 5-axis

DP Technology Corp. is preparing for the digital transformation in manufacturing, with free-form 5-axis solutions including digital twinning, machine-aware manufacturing, knowledge-based machining and cloud-enabled devices.

ESPRIT®, DP Technology's flagship CAM system, enables manufacturers to streamline their workflows, prevent silos from forming during the manufacturing process, increase tool life and machine utilization, and create greater access to practical knowledge for process improvement.

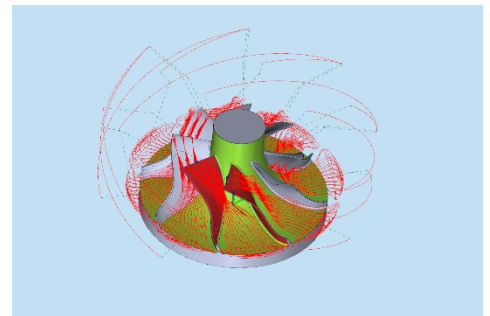
At the heart of accurate and efficient Free-form 5-axis machining with ESPRIT is the concept of Machine Awareness. ESPRIT models your machines' full capabilities, from axis travels and kinematic chains to tooling and workholding. This model generates an accurate simulation that works within the machine's axis travels and avoids collisions. As the simulated part takes shape, Stock Automation accounts for the new space and adjusts the toolpath to suit. The result—a complete and accurate picture of the entire cycle, letting you prove out and optimize your program before you make a single chip.



Full support for tool orientation strategies results in efficient, adapted toolpaths that maximize cutting engagement and feedrate while preserving tool life. As you add operations, ESPRIT automatically calculates links between them to save time and motion. Change the order of operations at will, and ESPRIT automatically adjusts these links. Program the same part for every machine in your shop by simply changing the machine definition, and ESPRIT automatically adjusts to the new machine's capabilities—there is no need to reprogram the part.

Free-form features are easy to create. Simply define the part areas to machine (part), and the part areas to avoid (check). The smart selection, snap, and propagation tools in ESPRIT further simplify this process. From there, choose from several options an appropriate 5-axis Free-form machining strategy. A few examples of these strategies:

- Composite Milling: lets you separately define the operation's toolpath pattern and tool orientation strategy to create complex toolpaths with few limitations.
- Swarf Milling: synchronizes tool orientation with the tool path using defined profiles. Cut with the flank of the tool to minimize the number of cutting passes.
- Impeller Milling: simplifies programming these common, complex parts. Define blade shapes with ruled features and rough, re-rough, and finish the impeller with minimal steps.



- Port Milling: lets you rough out and finish simple or complex port shapes using a spine curve to guide the toolpath and the tool orientation.

Image caption: This photo illustration is an example of a spiral 5-axis finishing operation on a blade.

Image caption: This photo illustration is an example of creating a Free-form feature in ESPRIT.

About DP Technology Corp.

DP Technology Corp. is a leading developer and supplier of computer-aided manufacturing (CAM) software. ESPRIT®, DP Technology's flagship product, is a powerful full-spectrum CAM system for milling, turning, wire EDM, multi-tasking machine tools and metal additive manufacturing. ESPRIT and its support personnel embody DP Technology's passion for excellence and vision of technology's potential.

DP Technology reinforces its commitment to technical excellence by dedicating nearly 20 percent of its annual revenue to ongoing research and product development. This long-term focus has produced powerful technological innovations that have placed ESPRIT in an industry-leading position since its market launch in 1985.

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