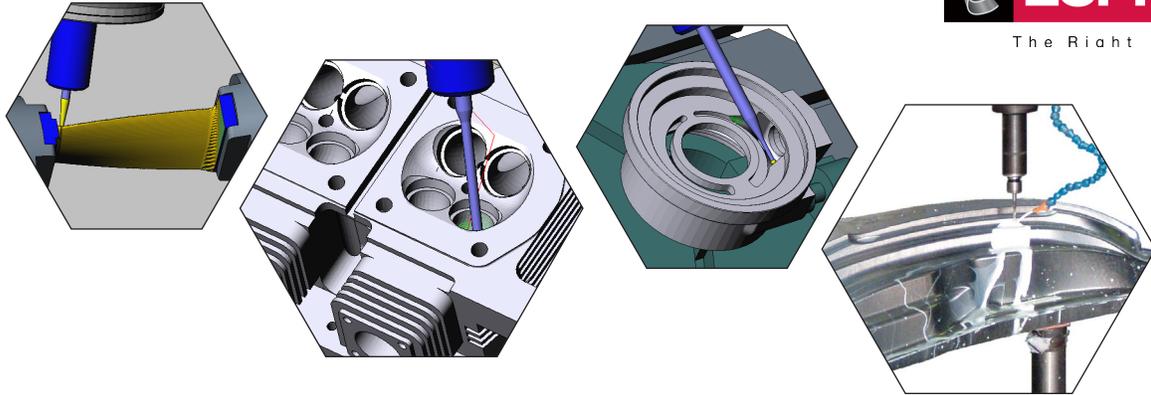


The most powerful *CAM software* ever.



The Right Choice



ESPRIT for 5-Axis

Machining complex 3D parts in a single setup is easy with the powerful ESPRIT CAM system. ESPRIT streamlines programming and provides dynamic onscreen program verification, eliminating the need for expensive machine-tool dry runs.

Program your 5-axis machine cycles with ESPRIT and benefit from the superior surface quality, part accuracy, and material removal rates provided by today's multi-axis machine tools.

5-Axis Composite Milling

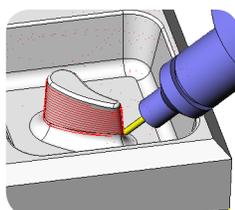
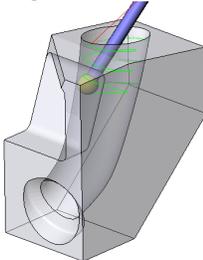
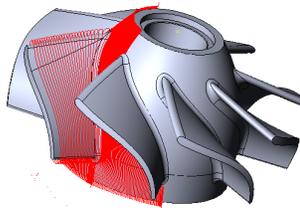
This highly-advanced machining functionality is based on the concept that any 5-axis machining function, no matter how complex, can be simplified into a few simple steps.

The 5-Axis Composite Milling cycle follows the same logic that machinists themselves use when deciding how to machine a complex 5-axis part.

The Composite cycle simplifies the methodology of multi-axis machining into a single programming process that is familiar and easy to understand.

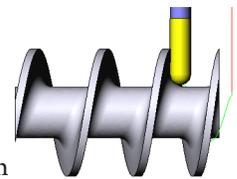
With 6 machining patterns and 5 tool orientation strategies to choose from, this flexible 5-axis cycle gives the user the creativity to compose any complex 5-axis function with few limitations.

Machine with confidence with built-in collision detection and the AutoTilt function.



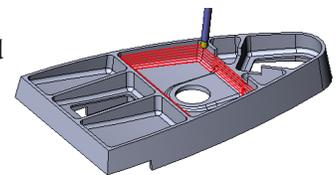
5-Axis Ruled Swarf Milling

ESPRIT's 5-axis swarf cutting strategy utilizes the side of the cutting tool to machine tilted walls. This classic 5-axis strategy is suitable to a wide variety of part geometries by allowing the toolpath to contain several steps along the walls. The tool's 4th and 5th axis positions are automatically determined from the selected walls as the tool moves around the workpiece.



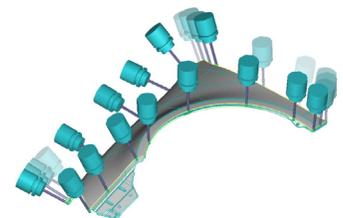
5-Axis Surface Swarf Milling

The 5-Axis Surface Swarf cycle complements the 5-Axis Ruled Swarf cycle. Instead of a strict reliance on ruled surfaces, the tool orientation of the Surface Swarf cycle is based directly on the surface geometry and the use of upper and lower boundaries to give improved control over the tilt of the tool.



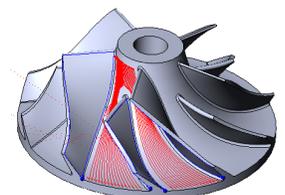
5-Axis Contour Milling

The tool follows a curve keeping its axis perpendicular to the model surface. A lateral slope with respect to the feed direction can also be specified.



5-Axis Impeller Milling

Rough and finish the channel between the blades of an impeller with parametric machining or offset machining. Standard and "splitter" blades are supported.



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In-Process Stock Models

ESPRIT significantly shortens cycle times and automatically generates optimized error free retract movements by always considering the in-process stock model (remaining/rest material).

This precise model is continuously updated for all movements of the tool as they are generated, even in undercut areas, regardless of the tool's orientation. The initial stock can be defined automatically from the original part geometry or imported from a separate data file.

High-Speed Cutting

High-quality part finishes and extended tool life are the result of ESPRIT's high-speed cutting technology. ESPRIT delivers smooth tool motion with fluid links between passes, constant cutting loads, and rounding of all sharp corners. ESPRIT also optimizes the point density along the toolpath taking the maximum advantage of the machine dynamics.

Machine Any Part Geometry

ESPRIT's seamless CAD to CAM interface directly imports any part model from virtually any source, fully intact, with no need for programmers to edit or rebuild geometry. By directly machining your original part geometry ESPRIT provides fast, reliable and safe 5-axis programming.

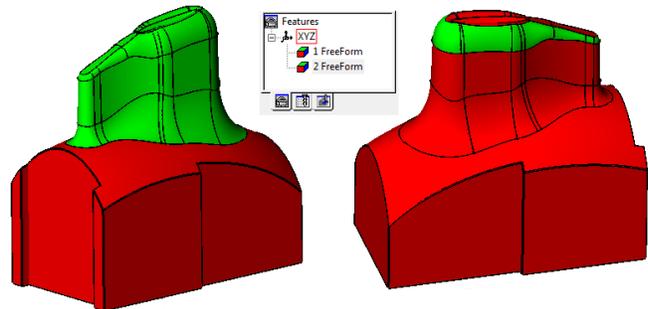
Simulation and Verification

The realistic simulation and visualization generated by ESPRIT renders the complete cutting process with life-like realism, including all toolpaths, inclined or indexed, from 2 to 5-axis. The simulation is not limited to a simple graphical effect, but provides the advance detection of any unreachable axis position, or collision of the machine's moving parts, the tool and its holder, and the part being produced.

FreeForm Features

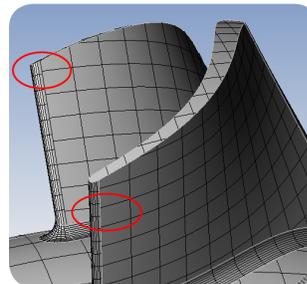
Select and save the surfaces or solid faces to be machined and the surfaces to be avoided as a single object. Faces are easily added or removed and the toolpath updates automatically.

Any number of FreeForm features can be created on a single part model. The user can then select a single feature to machine an entire pre-defined area.

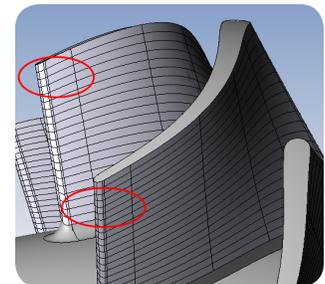


Knitted Surfaces

Overcome flaws in the CAD design with the multi-faceted Knitted Surfaces tool. When the parametric curves on a CAD model are misaligned, the Knitted Surfaces tool will automatically create a single continuous surface from a group of connected solid faces. This knitted surface can then be used to drive a parametric machining pattern, resulting in smooth and continuous toolpath flowing across the parametric lines.



Misaligned parametric curves in the CAD model



Knitted surface with continuous alignment in ESPRIT