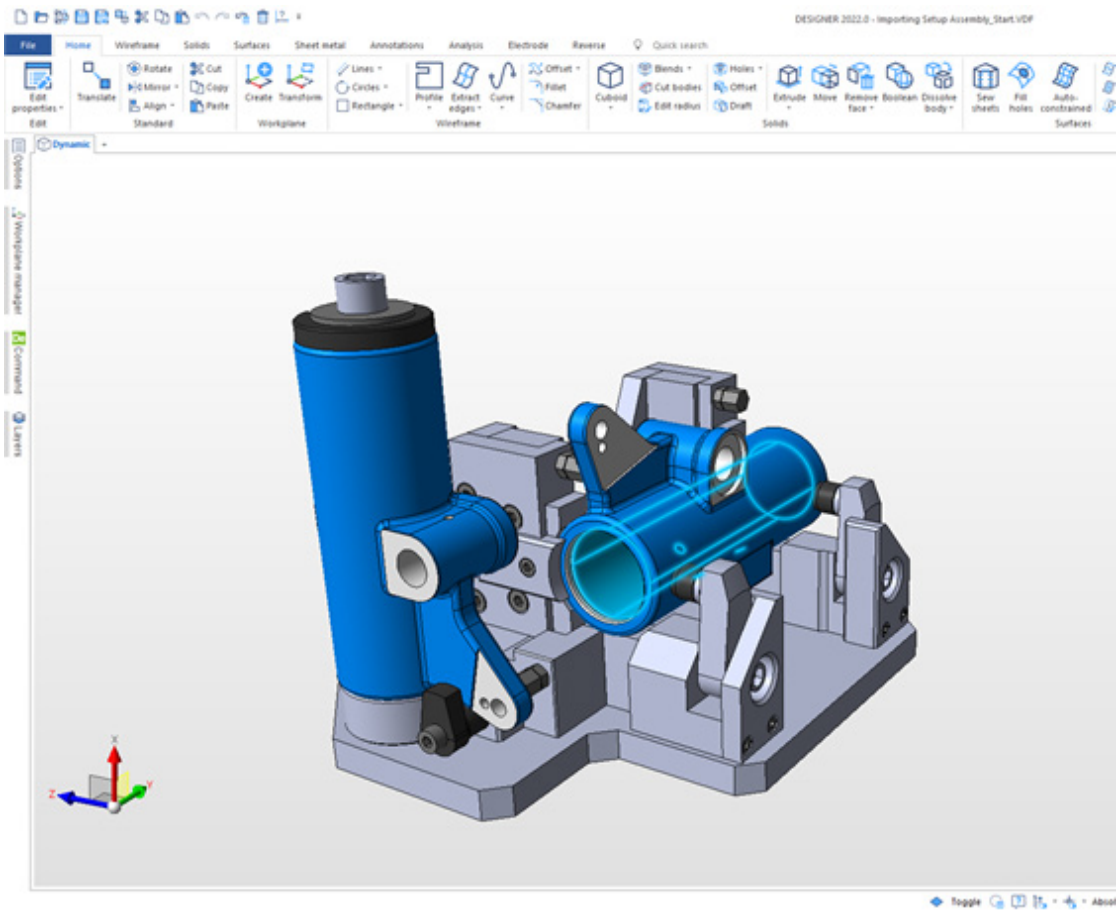
What’s New in ESPRIT Release 4.8

Contents

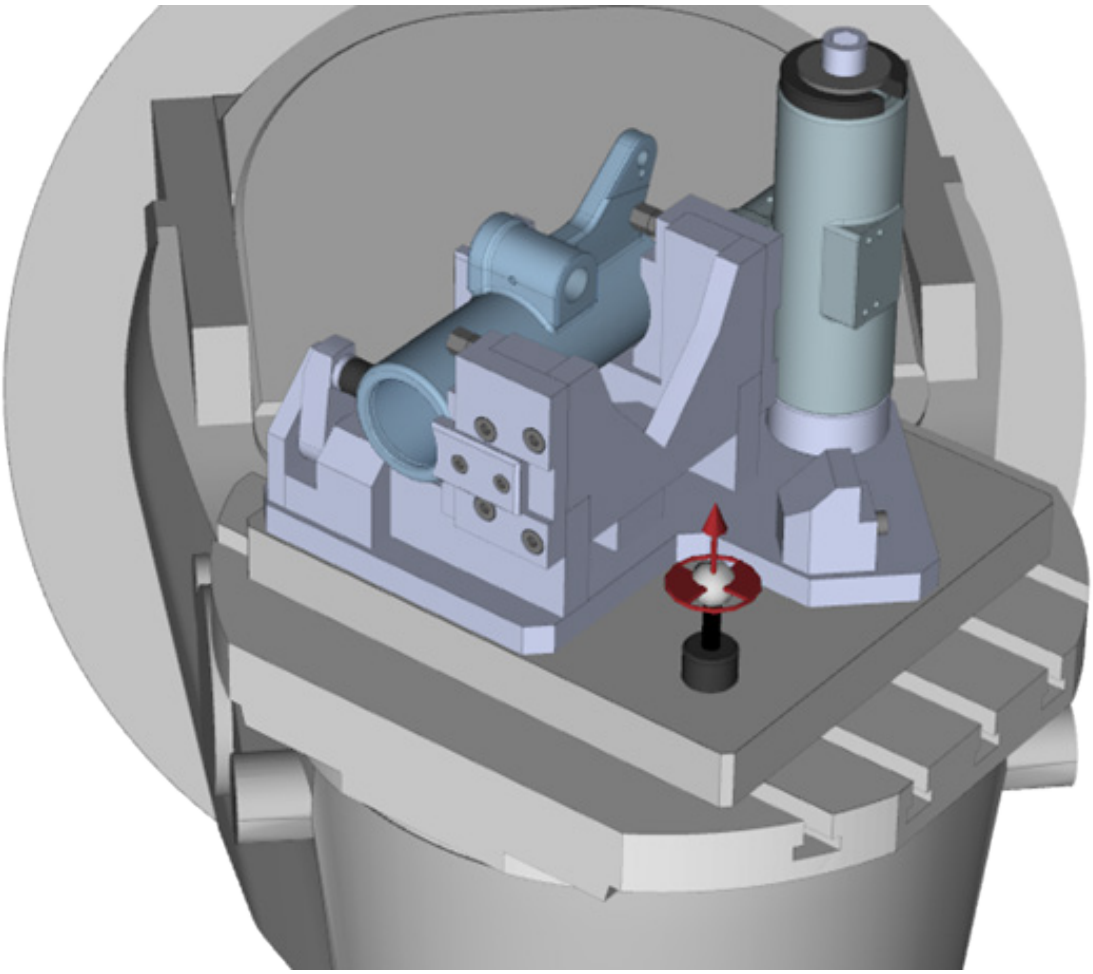
Connection with DESIGNER



DESIGNER is a CAD for CAM application designed to quickly create and edit CAD models using a direct modeling approach. Prepare model geometry for machining, design fixturing, and review PMI, then use the **Send to CAM** command in DESIGNER to easily open your VDF files directly in ESPRIT for a streamlined CAD-to-CAM workflow.

ESPRIT also has new support for importing DESIGNER *.vdf files.

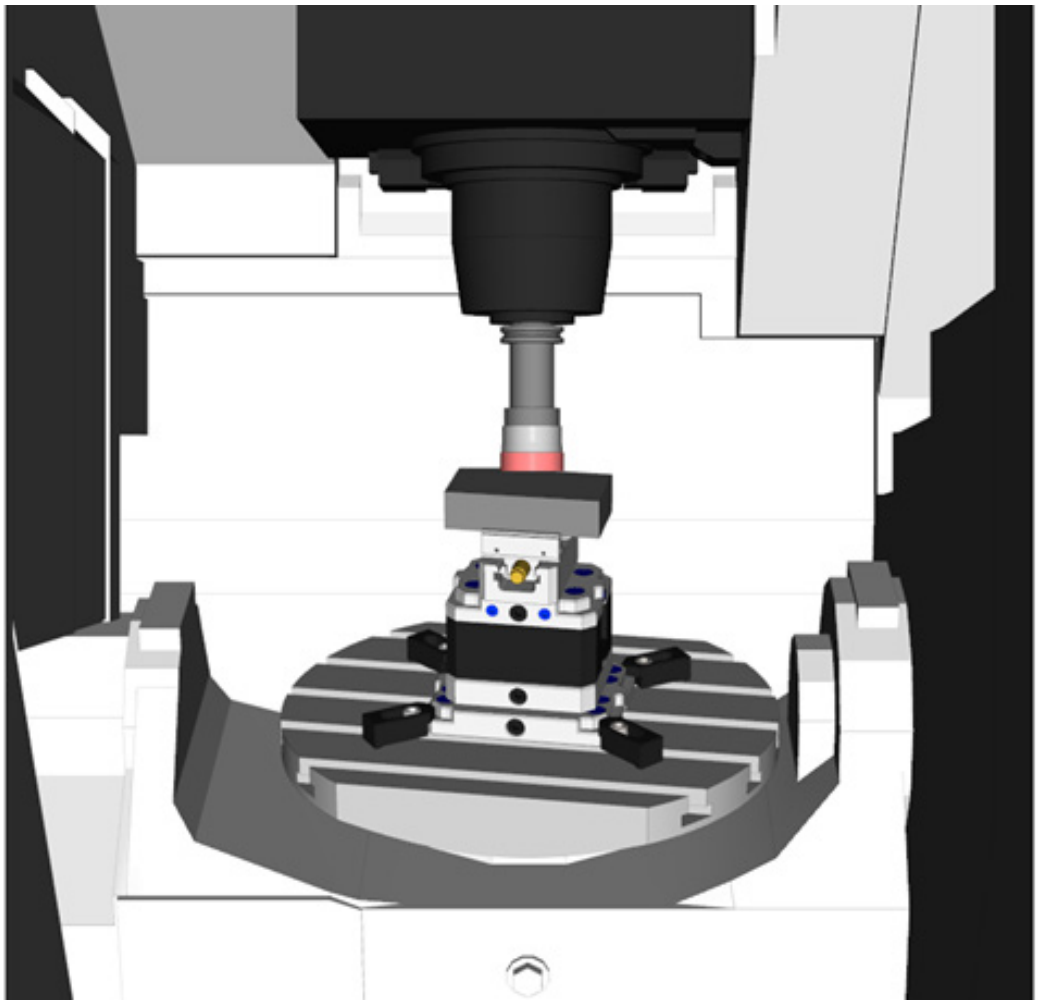
Improved Work Offset Definition



You can now digitize work offsets in machine view, including the ability to select machine, fixture and stock elements. Benefit from a more intuitive workflow for work offset definition, particularly for probing.

Rotary Centerline, a new command for both work offset setup and dynamic work offset setup, lets you instantly translate the work offset to the centerline of an available rotary axis in the machine setup.

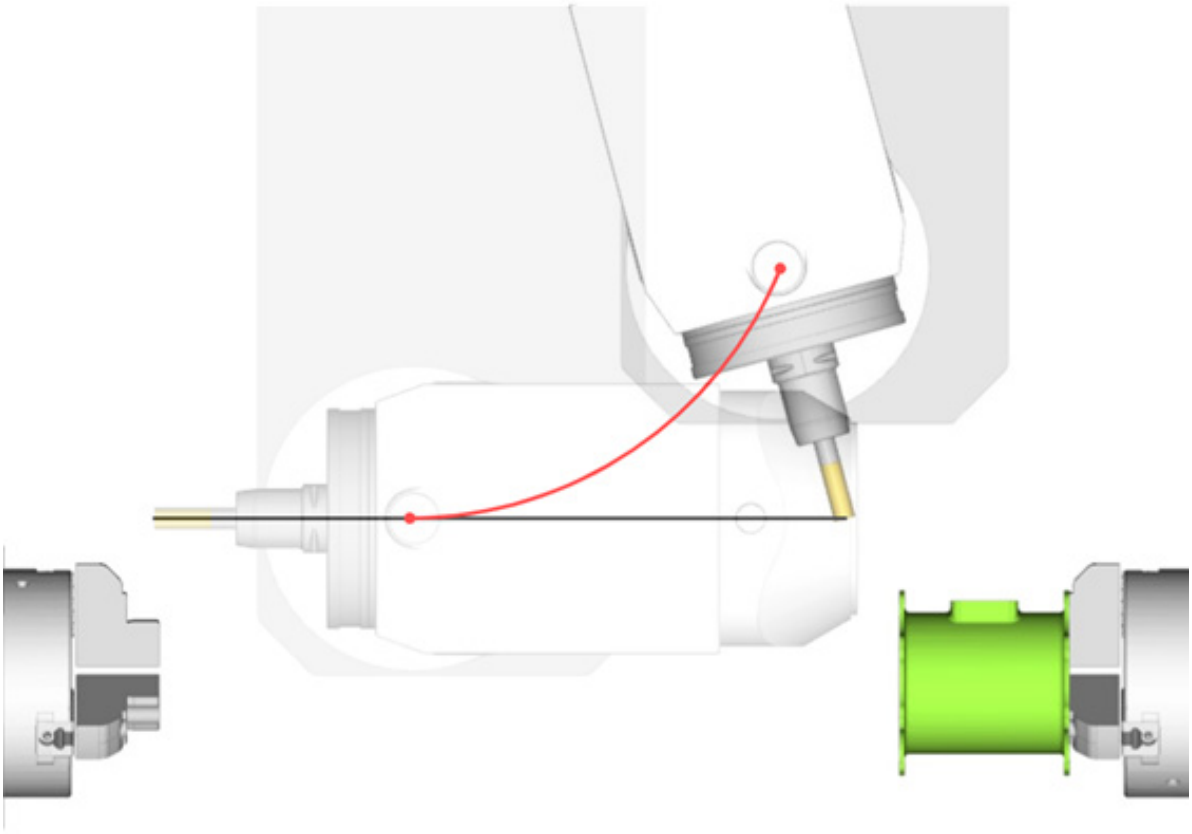
Rotary Solution Solver Enhancements



The enhanced rotary solution solver combines artificial intelligence with an enhanced awareness of machine kinematics to automatically select optimal rotary positions that take full advantage of the machining envelope, prevent machine overtravel or unreachable solutions, and prevent side flip between operations, all without the need to manually edit the rotary solution.

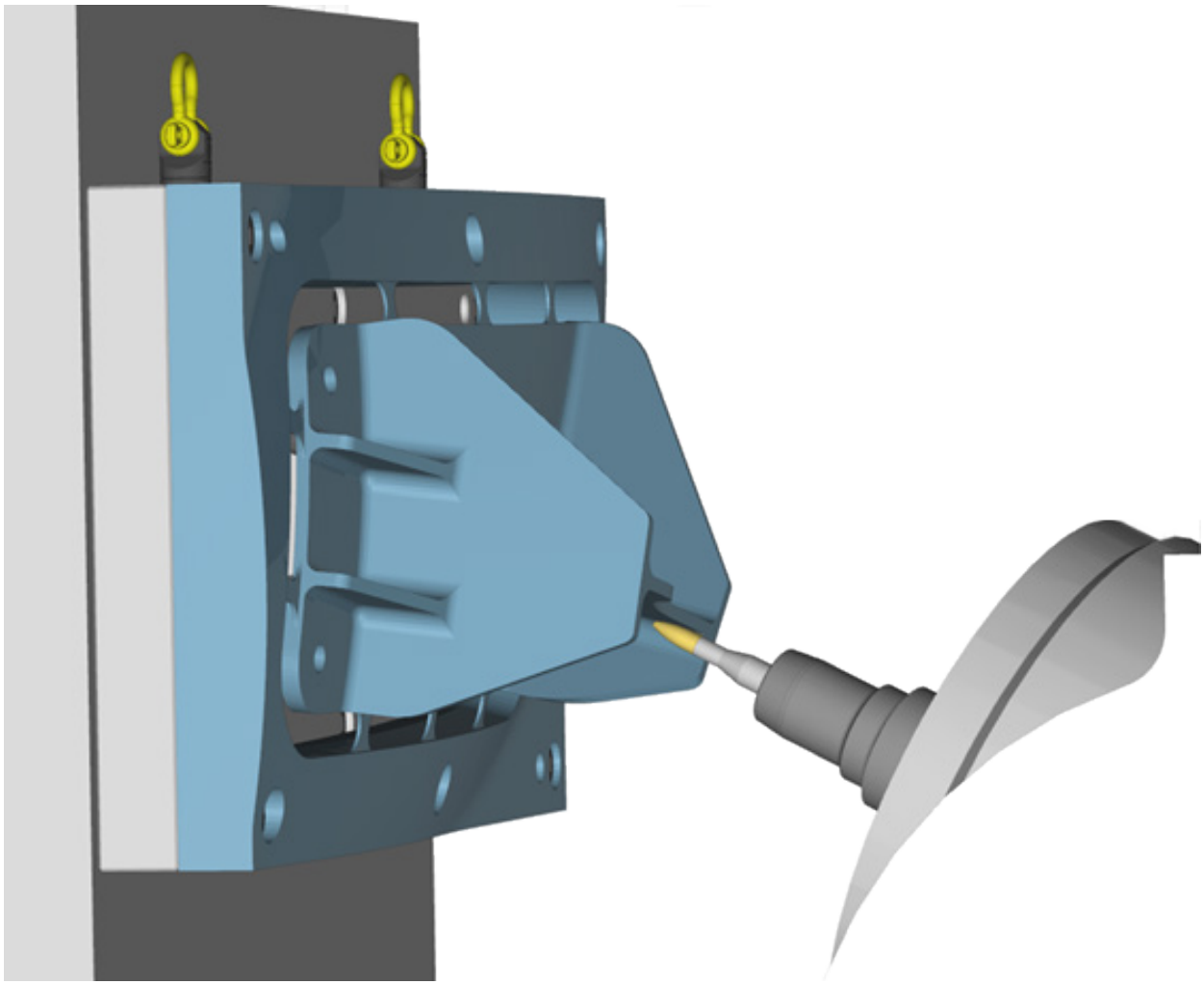
This enhancement is built into ESPRIT R4.8 and requires no updates to machine models or programming procedures.

Next Generation Links for Head-Table Machines



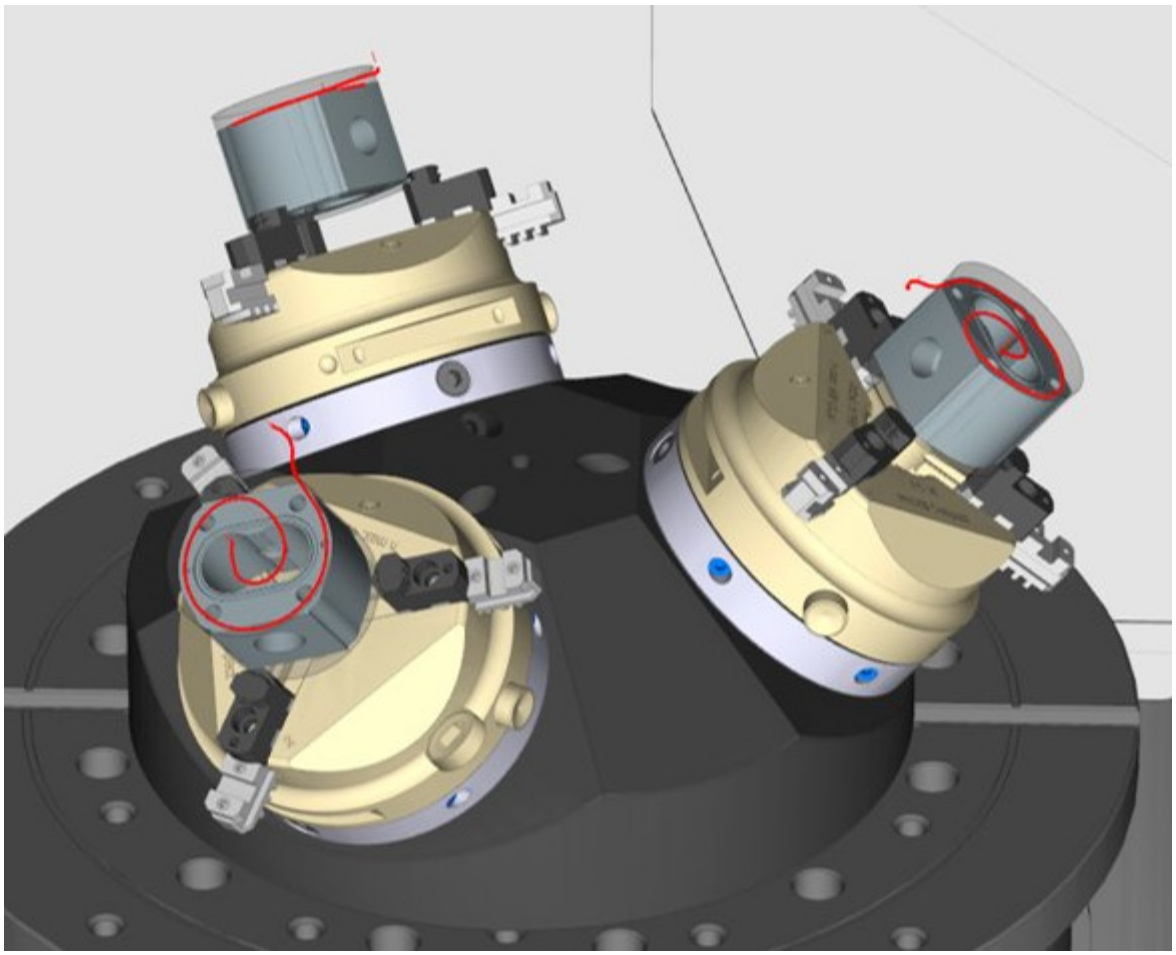
The third generation of the ESPRIT links engine brings new kinematic-specific strategies and recovery options that offer automatic resolution of link errors, optimized tool travel for reduced cycle time, simpler post processors, and link solutions tailored to machine requirements.

5x Plane Finishing for Circle Segment Tools



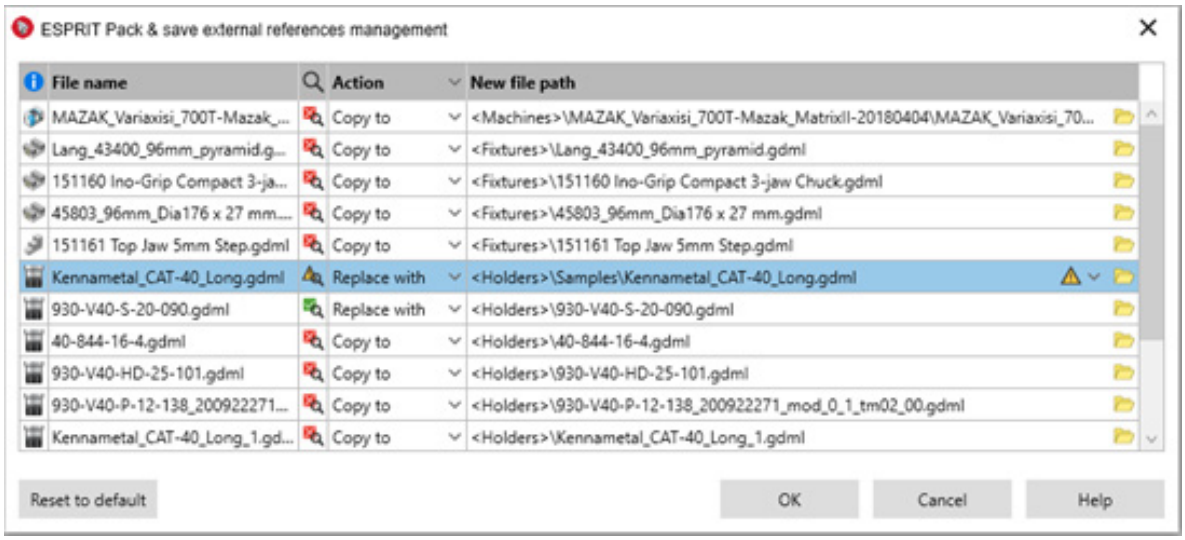
Plane Finishing is a new 5-Axis cycle designed for use on planar faces with circle segment tooling. The cycle creates parallel cut passes perpendicular to a user-defined increment direction, with automatic tool orientation to take full advantage of a large tool radius for better finish and shorter toolpaths, using fixed or variable portions of the circle segment tool arc.

Profit Facing



Profit Facing is a new tool motion pattern for facing cycles that produces spiral-shaped toolpaths intended to maintain constant cutter engagement through the entire cycle. Especially when coupled with the roll-in link strategies introduced in ESPRIT R4.7, this pattern practically eliminates overengagement from facing cycles, as well as repeated engagement/disengagement of the tool, reducing stress on tooling, creating more stable and predictable processes, and increasing tool life and machine efficiency.

Pack and Save updates



The new external references manager for ESPRIT Pack and Save compares the machine, fixture, and holder files in the ZIP package with those in your standard ESPRIT file libraries and then displays information and file management options. Default options let you quickly import and update the referenced files in your libraries, or choose your preferred option for any or all of the files.

Auto Save and File Backup Updates

Some of the options in **File** > **Options** > **Auto Save** have been renamed and reorganized.

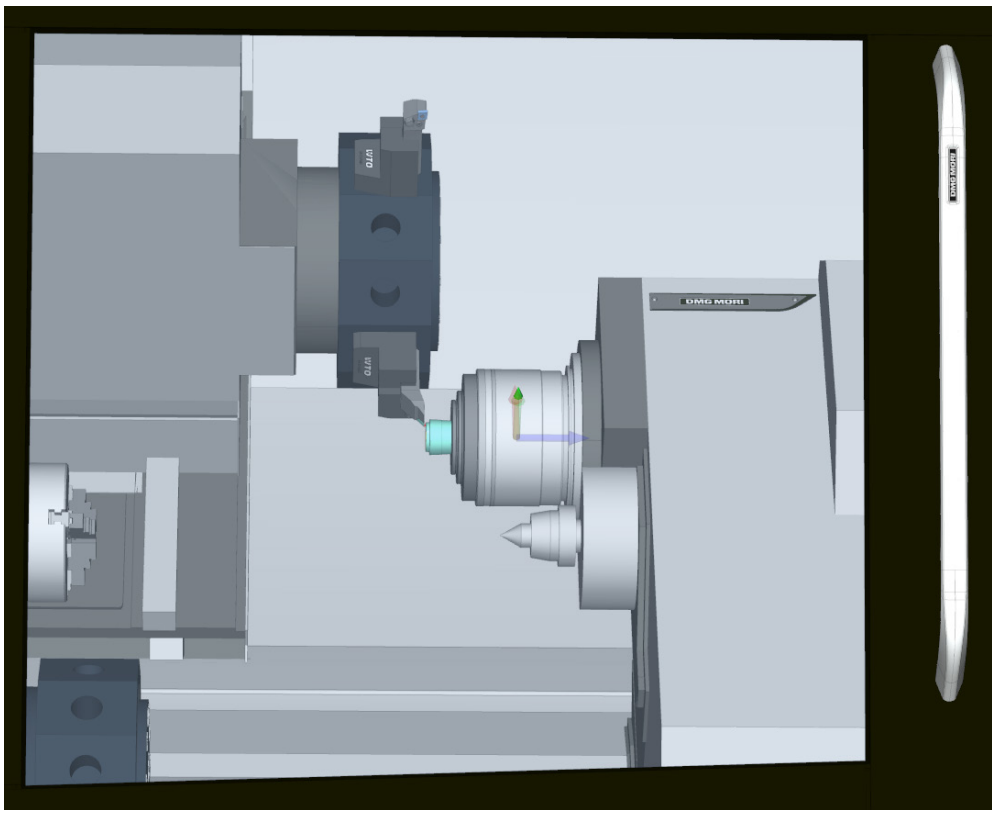
Under the new **File Recovery Settings** header, **Enable File Recovery** (previously named Save Backup on Save) activates and deactivates an automatic file recovery backup.

The Auto Save Settings now feature simpler backup folder selection.

API Update

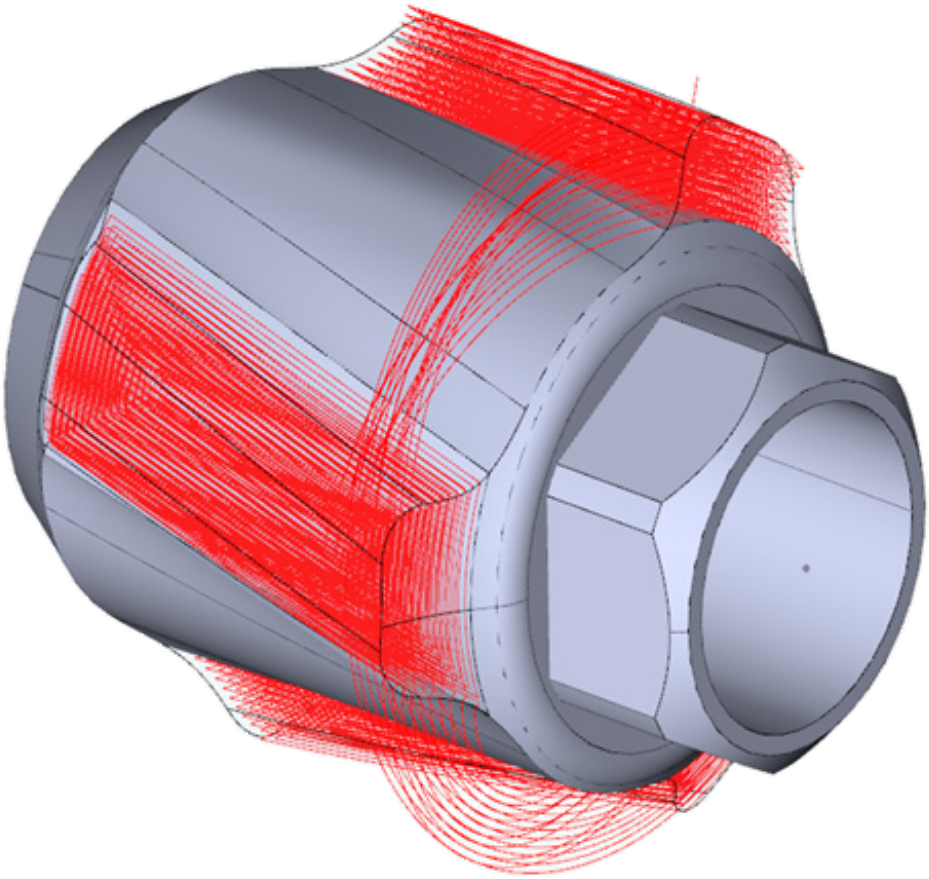
As part of this enhancement, IConfigurationAutoSave::SaveOnFileSave has been renamed to IConfigurationAutoSave:: EnableFileRecovery.

Improvements to Sub-Spindle Collinear Axis Support



Work offsets now fully support translate, rotate, and RTCP when the sub-spindle is not at its home position. This enables more flexible programming, minimized tool travel, and simplified, easier-to-read G-code.

Additive DED - Filling Strategy Enhancement



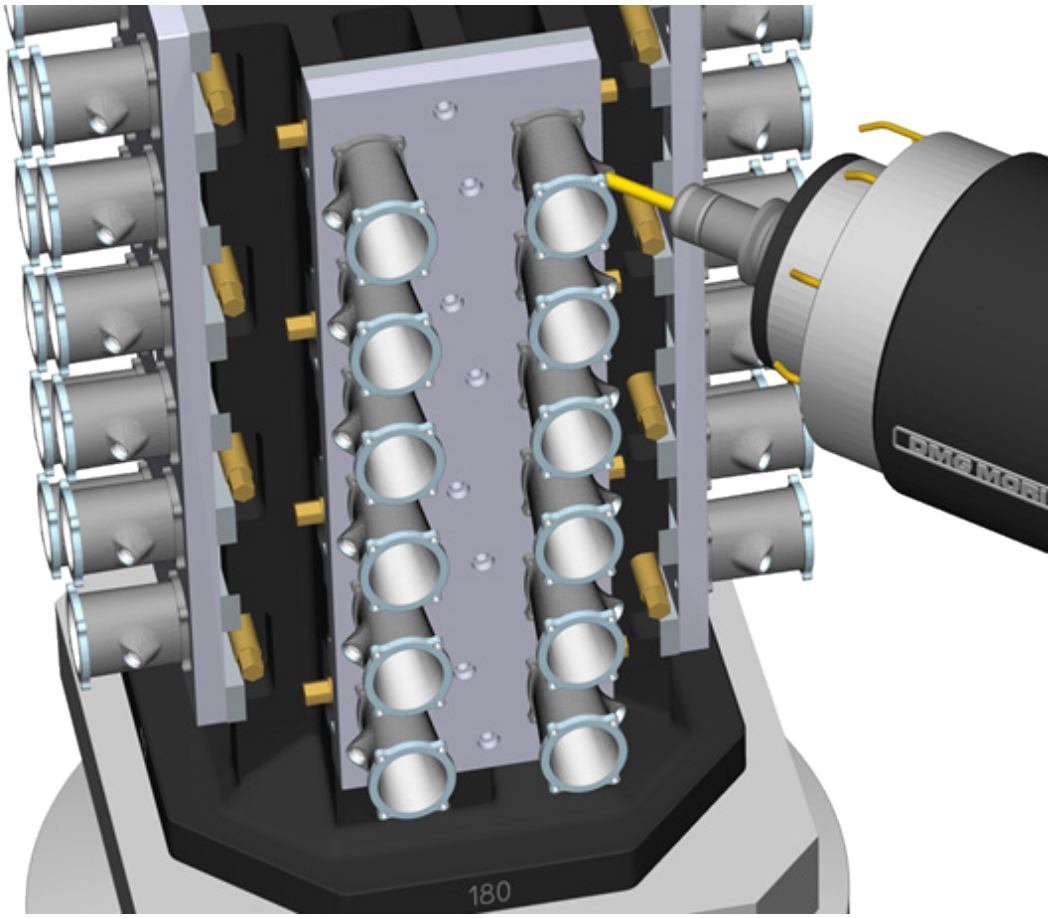
All filling strategies are now available for both Flat and Fillet deposition cycles.

In addition, two new spiral filling strategies are available for Flat and Fillet deposition: **Contour Spiral** and **Radius Spiral**.

Additive - Powder Bed Fusion

A beta version of PBF support is now integrated in ESPRIT, including import, export, and geometric transformation (translate, orient, scale). Create regions-to-support automatically or manually, and create support structures with teeth, perforations, and/or fragmentation.

API Improvements



The ESPRIT API has been enhanced with new support for program optimization, custom process creation, and workflow automation.

For more information, refer to API help from within ESPRIT.

CAD Reader updates

- 3DM 7
- Catia V5_6R2021
- JT 10.5
- NX - Unigraphics 1953
- Parasolid 33
- SolidWorks 2021
- Solid Edge 2021
- VDF - All versions

Post Processor Updates

New Formattable Codes

These formattable codes are designed to support coordinate offsets for mapped tool carriers 1-12 on X, Y, Z, or mapped linear axes 1-6 on mapped tool carriers 1-12.

TC{1-12}XCoorOffset

TC{1-12}YCoorOffset

TC{1-12}ZCoorOffset

TC{1-12}LinearAxis{1-6}CoorOffset