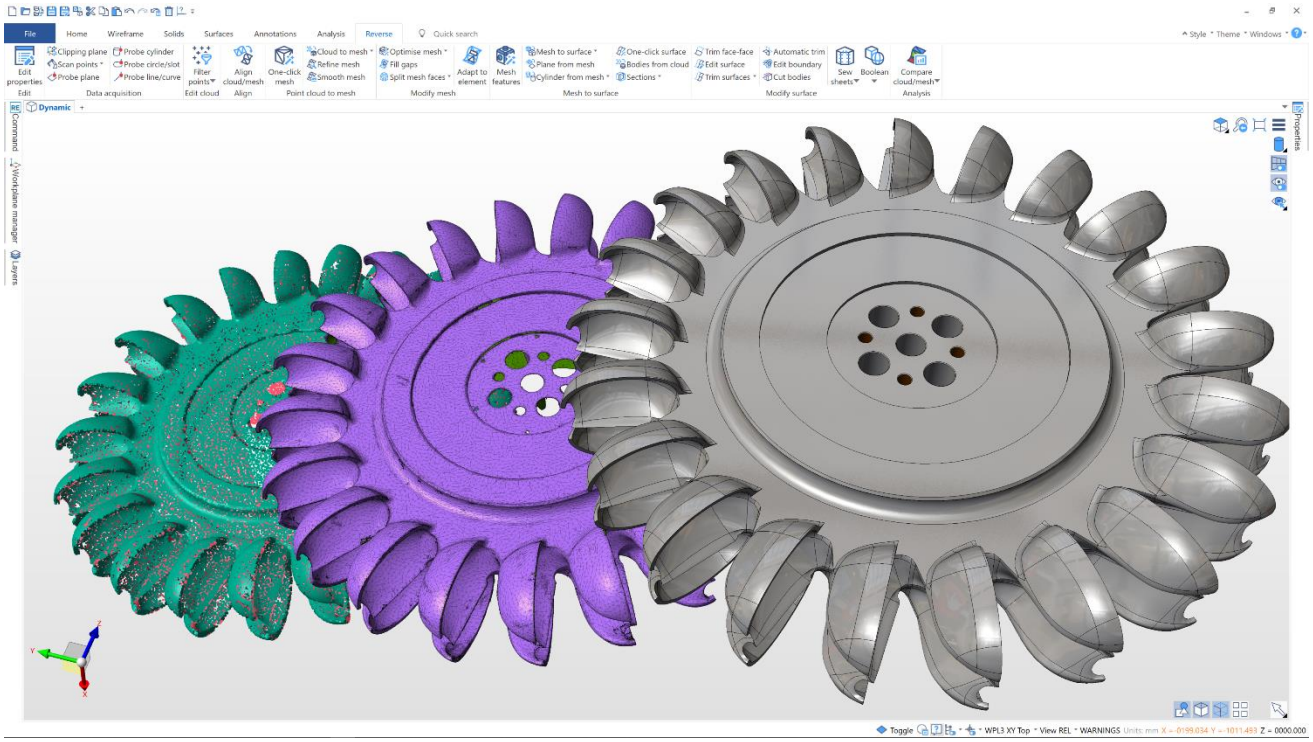
WHAT'S NEW IN REcreate 2022.0 R2



This document highlights new product features and enhancements in REcreate 2022.0 R2.

To run REcreate 2022.0 R2, the maintenance expiry date in the license must be October 2021 or later.

30 November 2021

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Highlights

General Improvements

Enhancements have been made to the overall user experience of Recreate. Improved selection techniques and faster editing capabilities make it quicker and easier to create manufacturable models.

Modelling and Surfacing

The modelling and surfacing capabilities are continuously enhanced to improve commands and make them more powerful. More complex swept surfaces can be created using the Sweep command and surfaces can now be shrunk using the Extend command. This speeds up modelling operations and reduces the time required to make fully reverse engineered models.

Reverse Engineering

The dedicated reverse engineering tools in REcreate have been refined to speed up and streamline the reverse engineering process. New, dedicated commands automatically recognise features on meshes and generate solids and surfaces to reduce user inputs.

This, combined with enhanced validation tools makes REcreate stand out in the market and offers a huge reduction in the users' time and effort to output quality CAD models.

Translators

This release continues REcreate's tradition of bringing updated format support and continued enhancements and fixes to further improve the robustness and performance of 3D modelling and interoperability. The component which provides the appropriate converters for the different CAD formats is consistently improved.

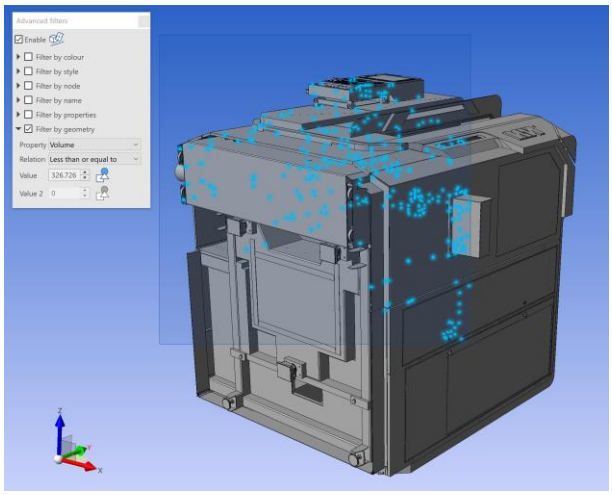
Additional read and write capabilities have been added to improve synergies with the wider Hexagon business and open new market opportunities. As usual, all of the translators were updated to guarantee the highest possible level of compatibility with other systems.

Translators

- CATIA V5/V6 Writer for CATPart and CATProduct files.
- OBJ Reader for OBJ Mesh files.
- ACIS Reader upgrade to 2021 1.0 for Datakit.
- Parasolid Reader/Writer library upgrade to 33.1.200.
- CATIA V5 Reader support for CATIA V5-6 R2021 (R31) with Datakit.
- Inventor Reader support for version 2022.
- JTOpen Reader supports versions up to 10.6 (with Datakit).
- NX Reader supports for NX 1953 Series (up to 1973 with Datakit).
- Pro/E – Creo Reader support for version 8.0 (with Datakit).
- Revit support for version 2022.
- Solid Edge 2021.

General Enhancements

Advanced selection filters

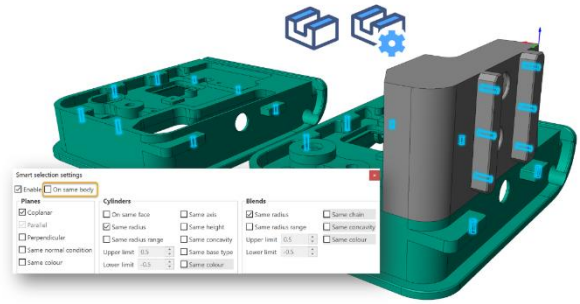


The new advanced selection filters enable fast model simplification and deconstruction.

Quickly select entities:

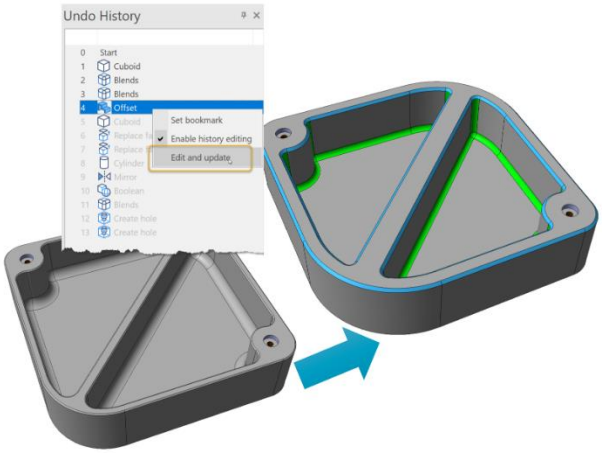
- By layer.
- By name and partial name.
- By the properties of the entity:
  - Component.
  - Manufacturing material.
  - Design material.
  - Material form
  - Label.
- By geometry properties:
  - Volume.
  - Area.
  - Periphery.
- In addition to selection by colours and style.

Smart selection enhancements



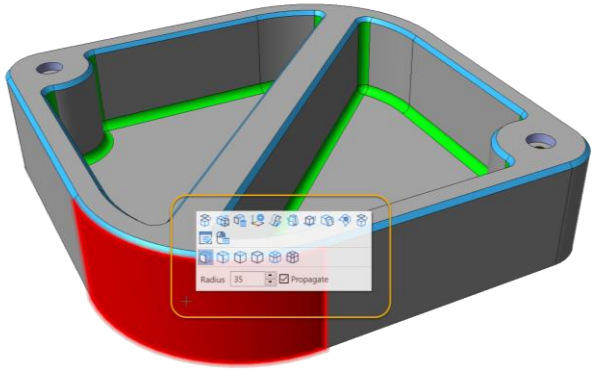
Quickly select desired faces on any model or element in the session.

Undo History editing



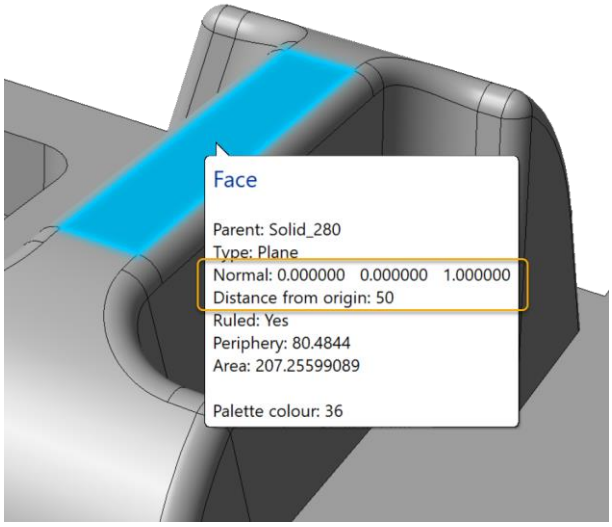
- The Undo History is now saved with the file and can be edited.
- Edit previously created features and operations without having to remodel the part or start from the beginning.
- A correctly rebuilt undo history is displayed in black.
- If an edit in the undo history breaks the subsequent command replay, the previous successful state will be restored.
- This speeds up design changes and removes the need for unnecessary operations.

Direct editing



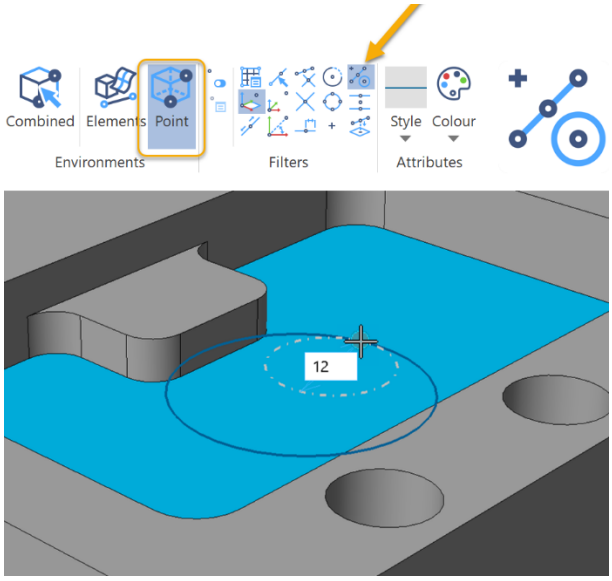
- Direct editing of models and wireframe is now available. This allows fast modifications without having to run any commands.
- Simply click on a face, edge or wireframe element and adjust the parameters. When modifying an edge length or wireframe element, you can choose the direction from which material is to be added or removed.
- This improves the overall modelling experience, making it fast, more dynamic and intuitive.

Dynamic query



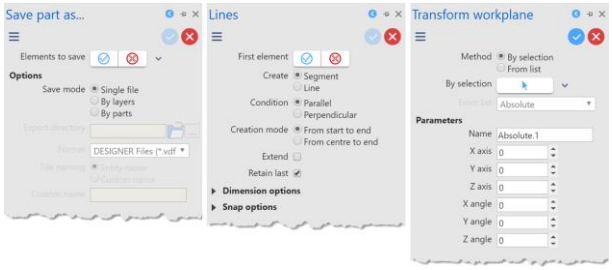
- Displays the Face normal and the Distance from the origin.

Enhanced pick



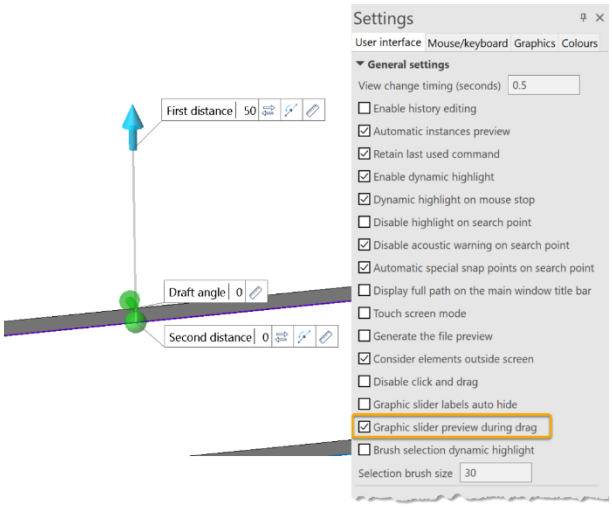
- Draw elements and type in values even if the cursor is snapped to a face on a body
- Much more intuitive with fewer clicks.

Automatic Preview for rapid commands



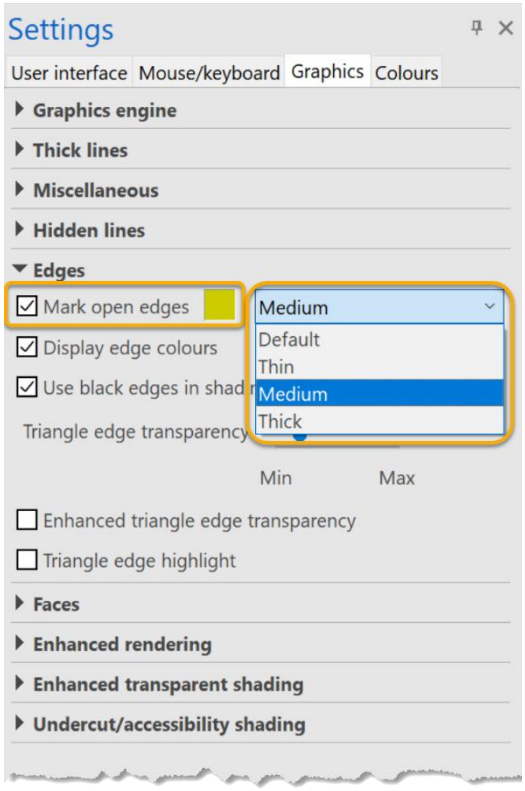
- No option to disable automatic preview for instant commands.

Disable Preview during Dynamic slider drag



- Using the Ctrl key while dragging a slider in the graphics window will disable the calculation at each increment of the slider move.
- Set the global behaviour to default to your preference.

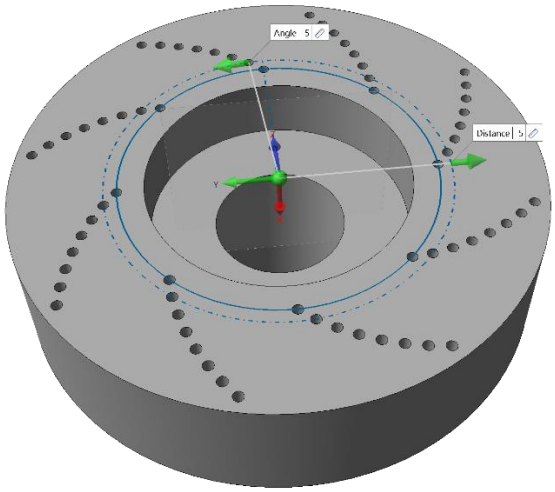
Open Edge display



- More control for the display of open edges.

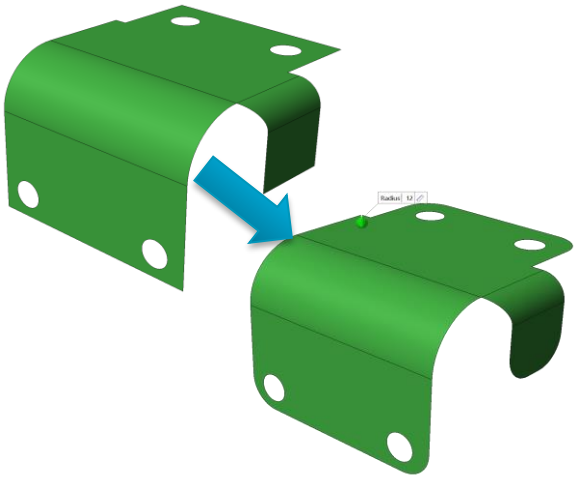
Modelling Enhancements

Radial feature



- When creating a radial pattern feature, the angle parameter is now applied incrementally on each copy.

Blend



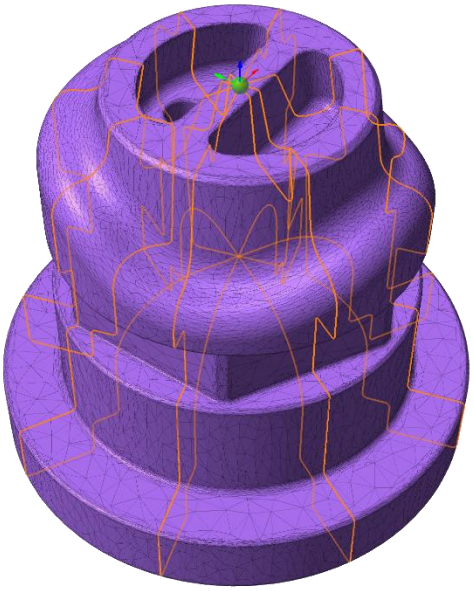
- Ability to blend surface edges.

CAD commands

- Colour option added to CAD modelling commands which create geometry.

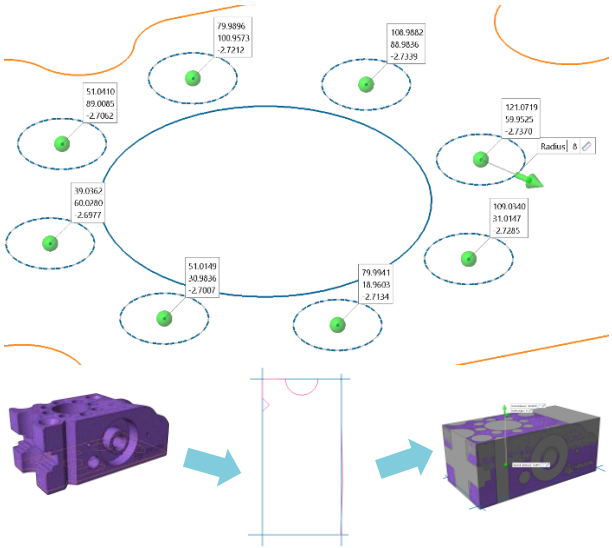
Wireframe Enhancements

Sections



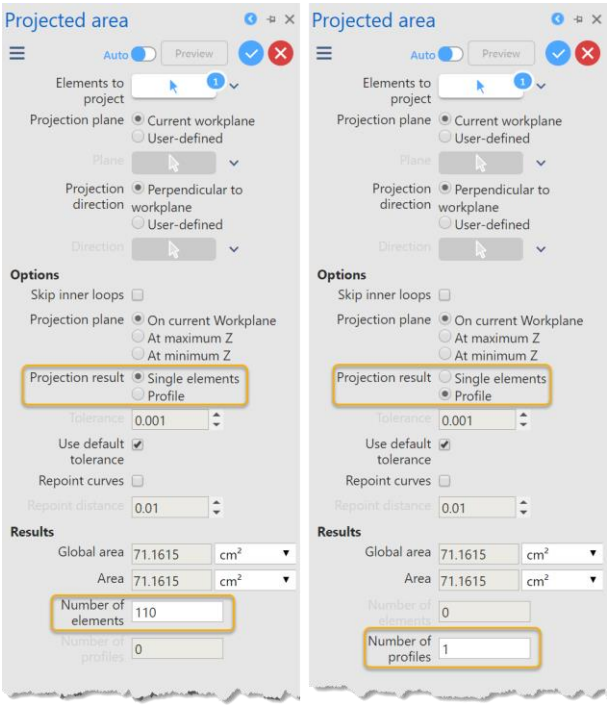
- Create rotational sections in the **Sections** command.

Edit Elements



- Snapping in Edit element.
- Edit multiple circles / arcs simultaneously.

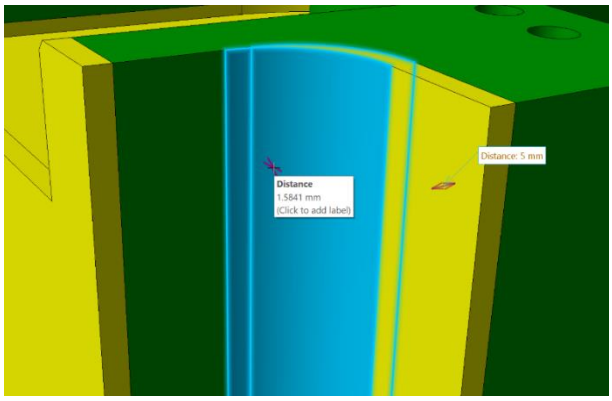
Projected area



- Improved feedback to display the number of elements created.

Analysis Enhancements

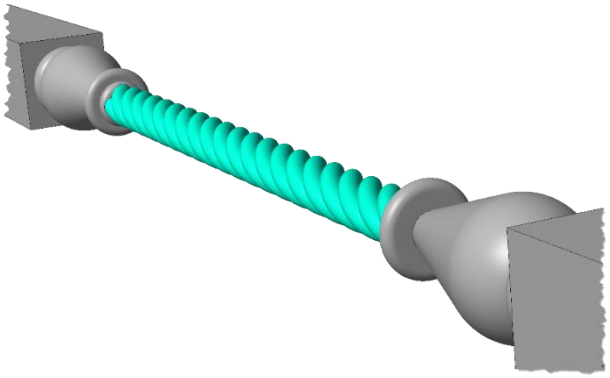
Compare



- Greater analysis of the deviation between 2 parts.
- Display the distance between models on the tooltip for live deviation feedback.
- Create labels to display the deviation on the model.

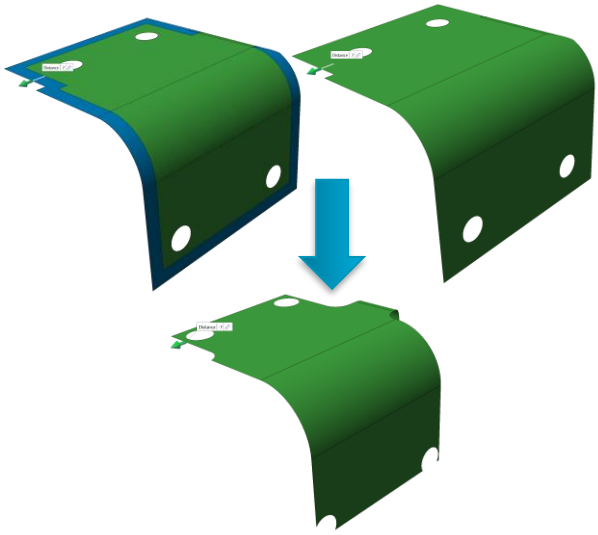
Surfacing Enhancements

Enhanced Sweep command



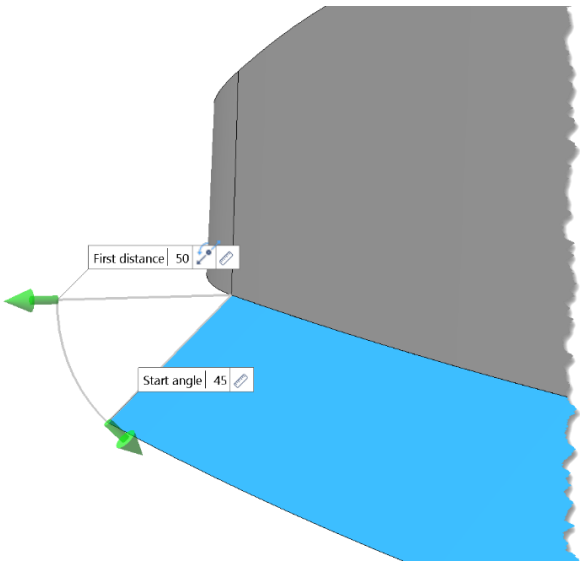
- Create complex, twisted shapes using the new Swept option in the **Sweep** command.

Extend command



- Ability to shrink surfaces in addition to extending them.

Draft



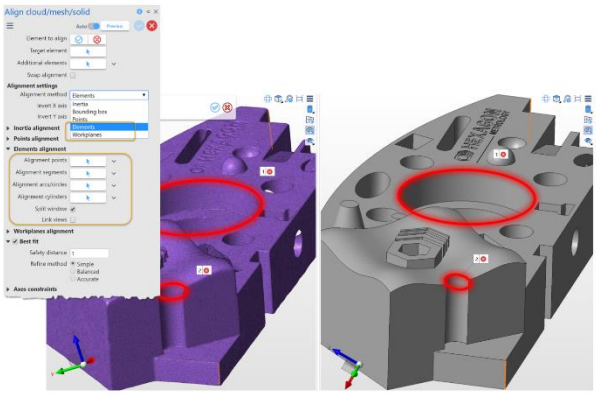
- Draft surface relative to the selected face.

Reverse Engineering

Probe Lines and Curves

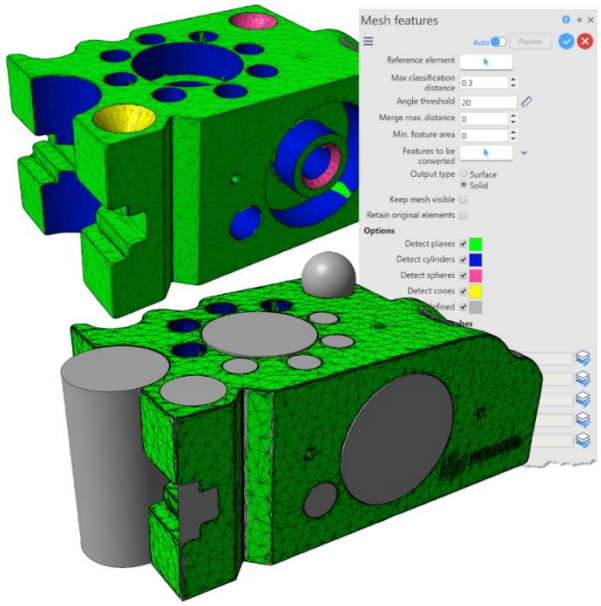
- New command for probing lines and curves.
- This can help with downstream reverse engineering operations such as Alignments.

Alignment enhancements



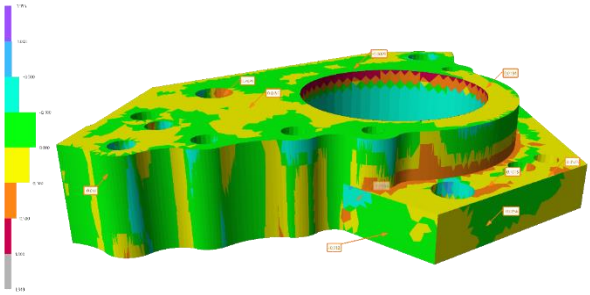
- Ability to align using reference elements makes it easy to align more traditionally difficult shapes.
- Probe any features on the part and use these to align the scans to CAD or to each other.
- Reference elements can be:
    - Points.
    - Segments.
    - Arcs and circles.
    - Cylinders.

Mesh features



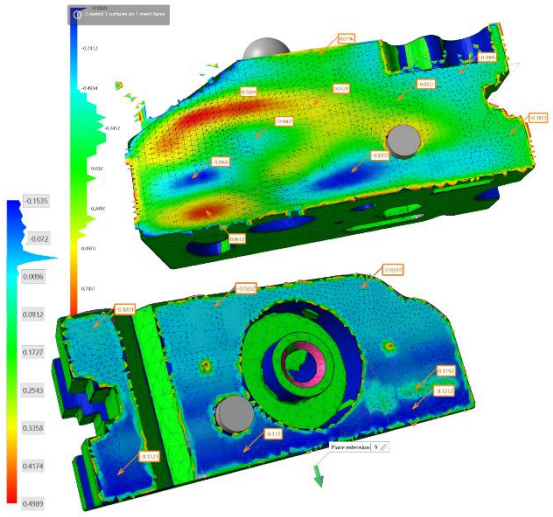
- Automatically identify features on a mesh:
  - Planes.
  - Cylinders.
  - Spheres.
  - Cones.
- Create geometry directly or use the command to split the mesh for fast feature creation in the element from mesh commands.

Compare cloud/mesh



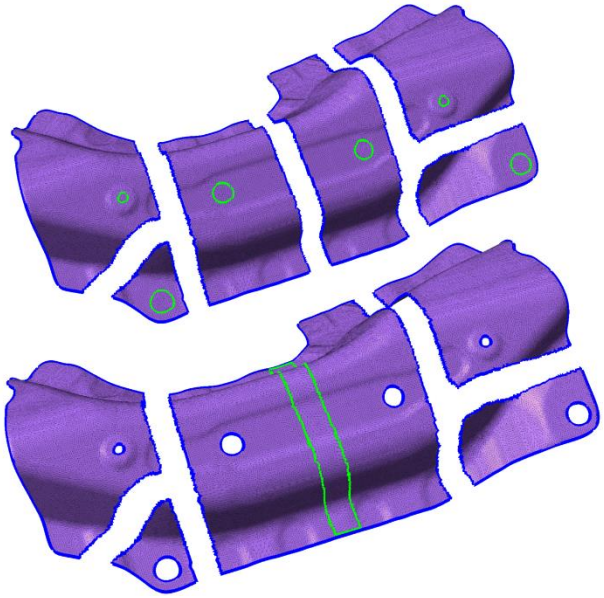
- Display the colour map results on the CAD model and adjust the triangle size of the colour map.
- View the standard deviation in the colour bar.
- Select multiple, fragmented clouds or meshes to compare against any number of CAD or mesh.
- Minimum and Maximum comparison limits.

Comparison and Verification enhancements



- Comparison **during** surface and solid creation:
  - Mesh to surface.
  - Plane from mesh.
  - Cylinder from mesh.
  - Cone from mesh.
  - Sphere from mesh.

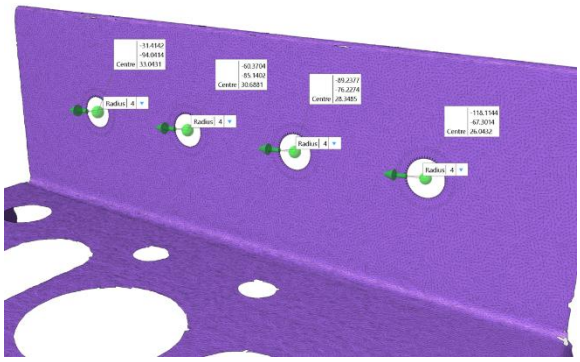
Fill gaps



- Fill holes on multiple meshes simultaneously.
- Join separated meshes together using the **Bridge** function.

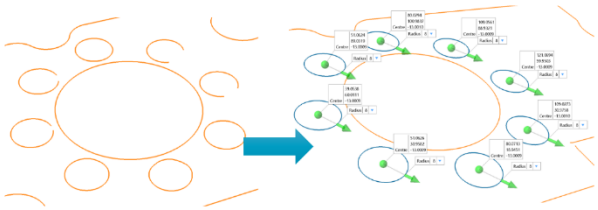
Adapt to Element

Adapt mesh



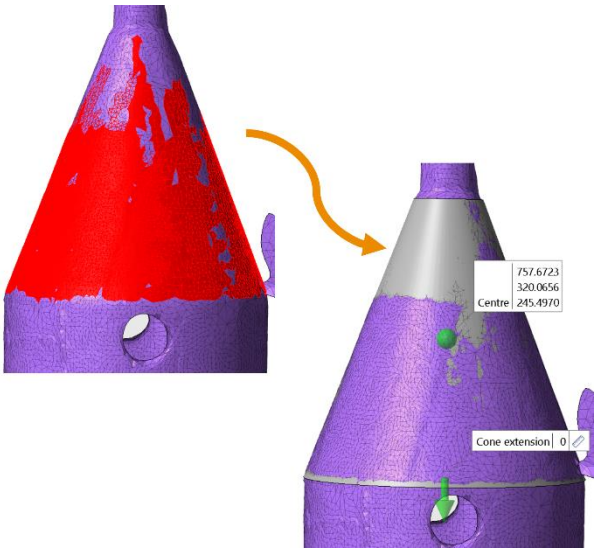
- Adapt to multiple elements simultaneously to speed up the mesh cleaning process.

Adapt profiles



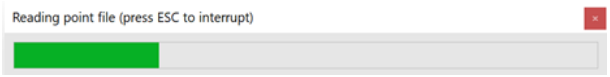
- Modify multiple profiles simultaneously with the **Adapt to element** command.
- Profiles are output from the **Sections** command when creating sections through a mesh.

Cone from Mesh



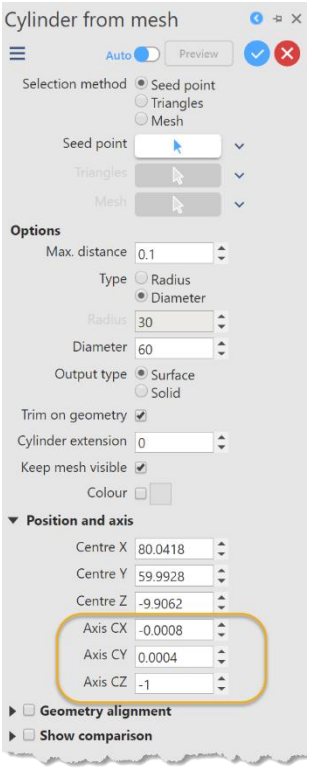
- Create cones from mesh by triangle selection.

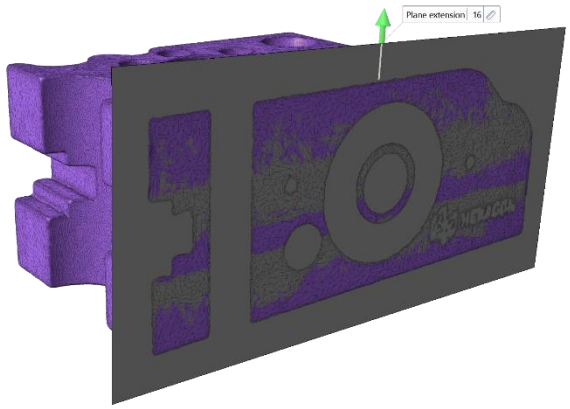
Point Cloud import



- Press ESC to abort import of point clouds.

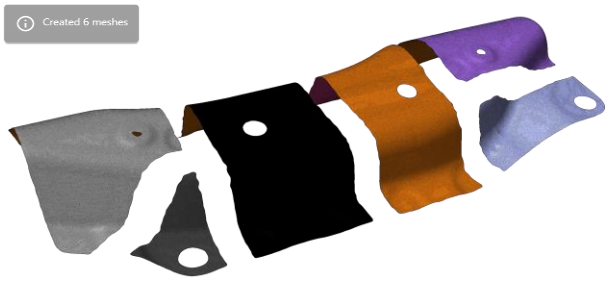
Plane, Cylinder, Cone from mesh commands





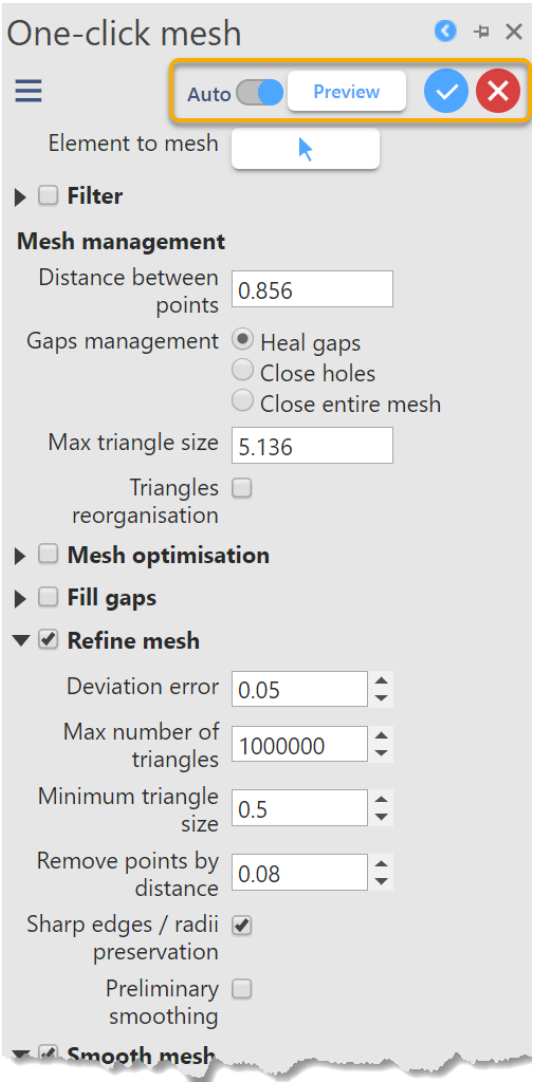
- Orientation of elements from mesh.
- Graphic sliders in the element from mesh commands.

Colours in mesh creation commands



- Display separated mesh regions in different colours.

Automatic preview



- Automatic preview OFF in complex commands with longer operations.