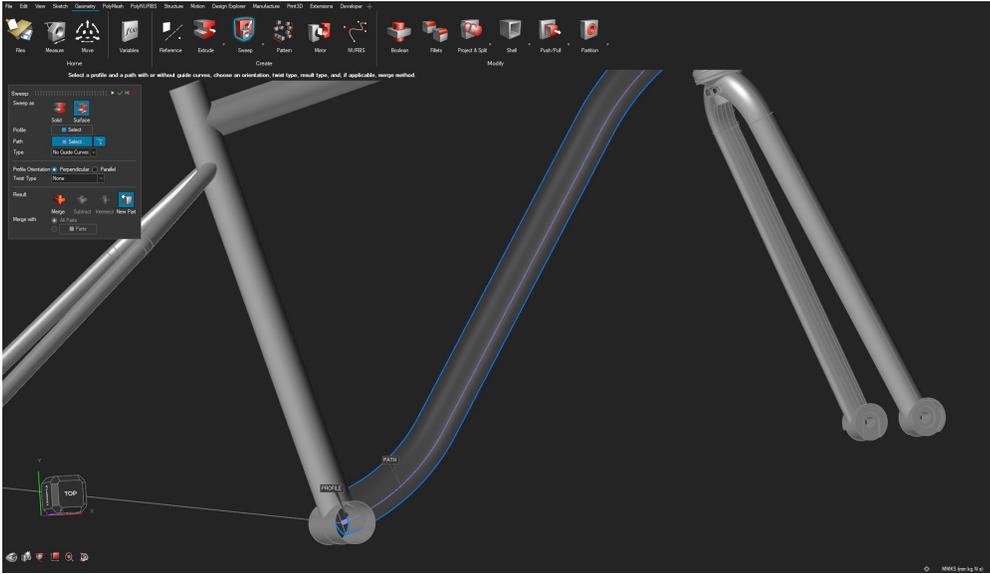**RELEASE NOTES**

Altair® Inspire™ 2022.2 and 2022.2.1

△ ALTAIR

New Features and Enhancements 2022.2

Geometry

Sweep

- You can now sweep a solid or surface from a profile using path and guide curves.
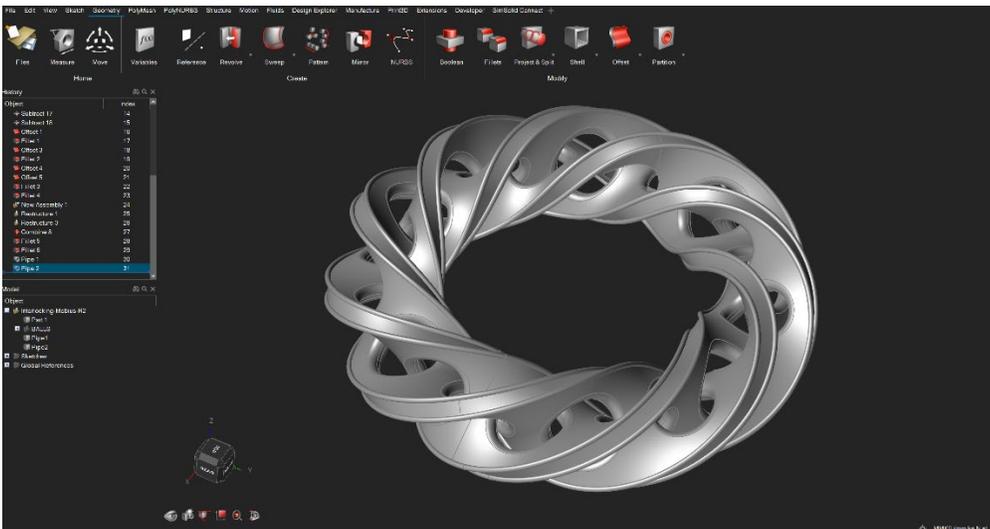

NURBS Curve

- 3D NURBS curves can be created and used for Sweeping or other operations by selecting points on geometry.

Pattern Along Curve

- You can now create a pattern along a curve by selecting a path and one of several alignment methods.

New Projection Type for Project and Split

- You can now project along a surface normal.

△ ALTAIR

Shift+S to Select a Sketch Plane Without Rotating the View

If you don't want the view to be rotated along the sketch normal when selecting a sketch plane, you can now you can press Shift+S while selecting the sketch plane.
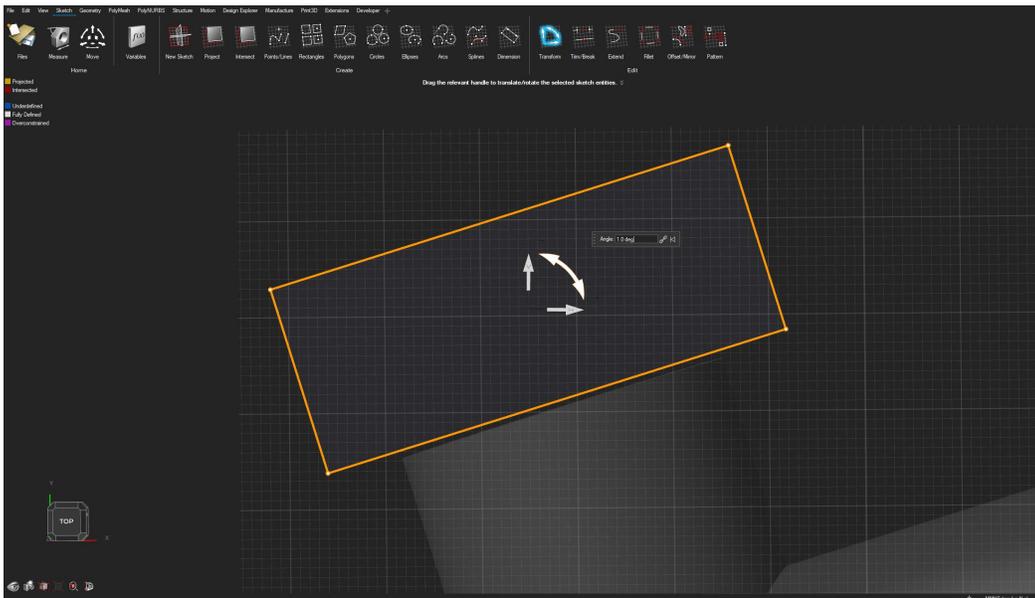
New CAD import formats

- Catia V5 R32

- Parasolid 35.0

- PTC Creo 9

Sketching

Transform Sketch Entities

- You can now translate/rotate sketch entities.

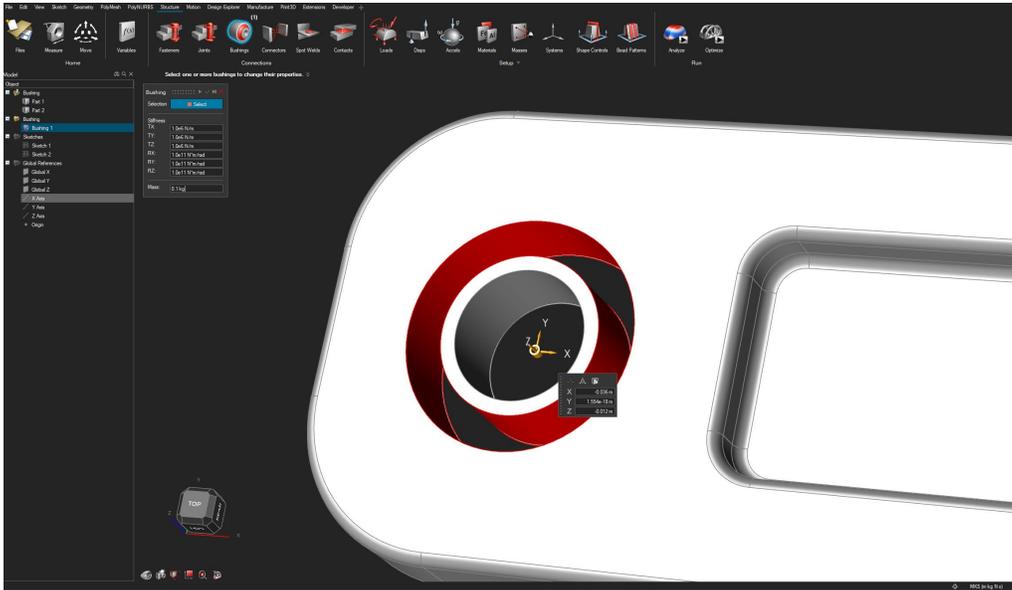## Spline Trimming

- You can now trim sketch splines.

Selection of Multiple Disconnected Sketch Entities for Linear & Circular Patterns

You can now select multiple disconnected sketch entities when creating linear and circular patterns.
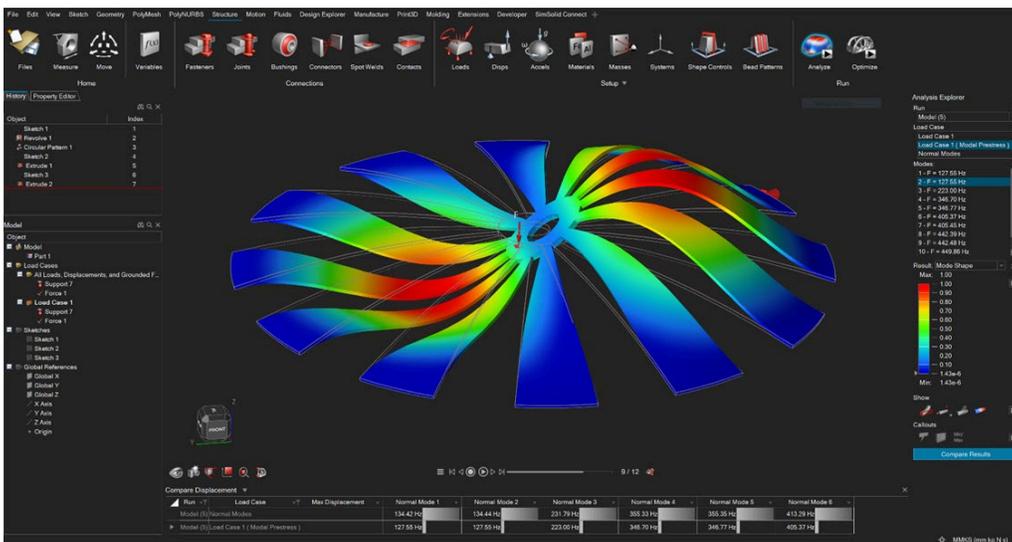
Structures

Bushings

- You can now create/analyze your model with bushings at connection locations.

Prestressed Modal

- You can now analyze for prestressed modal results.

Buckling with SimSolid Solver

- You can now analyze your model for buckling analysis using the SimSolid solver.

SimSolid Roller Support

- You can now define a support in a single direction (Roller Support) using the SimSolid solver.

SimSolid Force/Moment at same location

- You can now define a force and moment at the same location (cylindrical face or via connector) using the SimSolid solver.

Design Explorer

Buckling

- You can now define buckling responses in the Design Explorer.

Column Sorting

- You can now sort your columns in the Design Explorer Results tables.

Motion

Interference Detection

- You can now detect interferences and conditions of tangency between all parts or specific parts through their range of motion. There are options for specifying a search time range, stopping at the first interference occurrence in the model, calculating the interfering volume, and ignoring tangent or coincident faces. Results can be filtered based on the first detected interference of a pair of parts, first interference in the entire assembly, maximum interference, or all interferences. By selecting a time instance in the review window, the model will zoom to the interference area and highlight the corresponding interference volume in red.
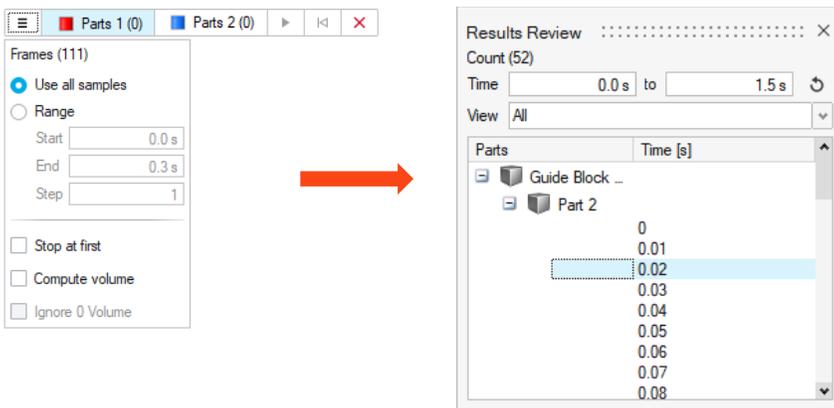

Viewpoints

- You can now lock the view to any part besides ground and view the animation results from the perspective of that part. Viewpoints can be saved and retrieved with the model.

Input and Output Signals

- You can now assign Input and Output signals for solving a State Space Eigen analysis or setting up a Co-Simulation with Activate. An interactive table helps to define signals quickly and easily by selecting from specific model entities and output types.
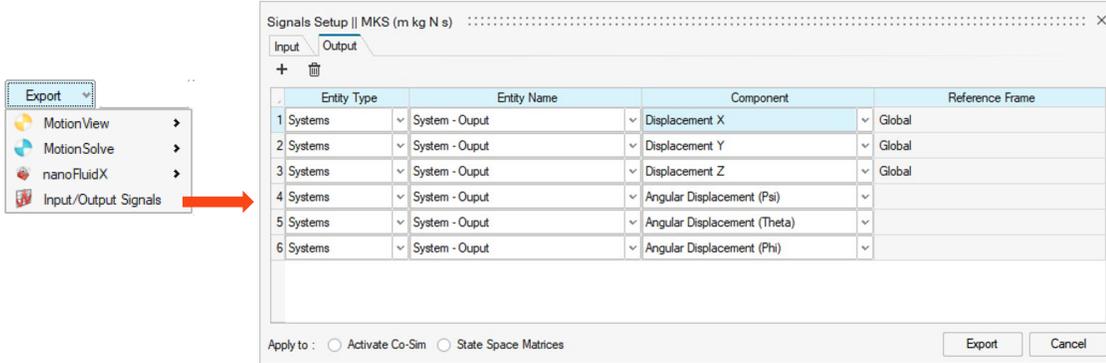

Motion Preferences

- There is a new section under Inspire Motion Preferences where you can organize Global-type options and settings under a single location, and plan for future expansion. The first item that appears here is the Run History folder.

User-Defined Run History Folder

- You can now specify a folder to save motion analysis (HyperWorks) files such as the plot files from under the new Inspire Motion Preferences section.

Run Settings Dialog Formatting

- The layout of the Advanced section in the Run Motion Analysis settings dialog is now organized side-to-side instead of top-to-bottom.
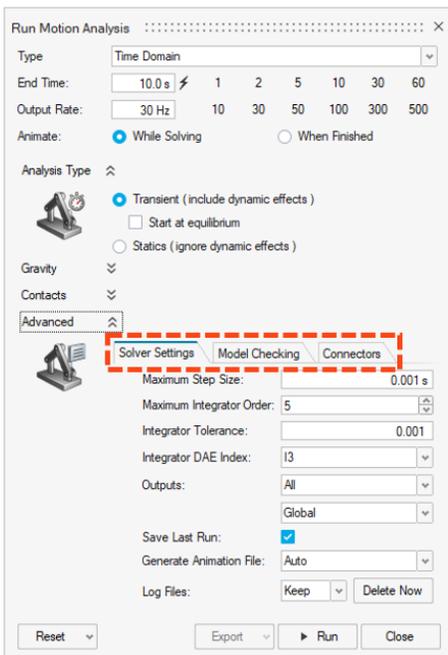
Show/Freeze Enhancements for Callout and Pop-Out Plots

- You no longer need to navigate to the Plot Manager to use the Show During analysis and Freeze options. You can choose to show a callout plot during analysis, and a pop-out plot provides the Freeze option. This change allows you to have a faster comparison of results for multiple runs.

Review Section on Motion Ribbon

- There is a new section on the Motion ribbon for results-related features, such as the Force Explorer, Tracers, Flexible Body simulation results, and Interference Detection.

Second-Order Elements for Flexible Bodies

- You can now choose to model Flexible bodies using second-order mesh elements. This facilitates more accurate stress and strain results. The Faster and More Accurate options in the FlexBody creation dialog allow you to choose first-order or second-order elements.
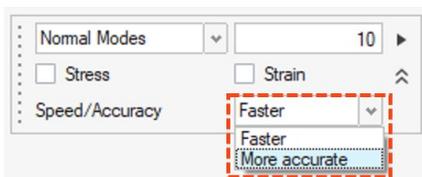
Print3D

SLM Process

Recoater Accident Result

- This new result will help you to identify possible collisions between the recoater and the printed layer due to deformations during the printing process.

Failure Index

- This will help you to identify regions where the part may break or crack. Regions colored in red represent failure areas, orange represents critical areas, and grey represents safe areas.

Layer Shifting

- A new nodal scalar result type, sometimes also referred to as "wall roughness" or "surface roughness," is now available.

Binder-Sinter Process

Grain Size

- This new result shows the final material grain size after a sintering analysis.

Warning for Part Toppling

- Inspire will now warn you when the part is likely to topple during the sintering process.

General

Model Information Table

- The Model Information Table provides information to quickly interrogate a model.

Number Format

- The Number Format allows users to set Mixed or Scientific formats and set precision.

Show/Hide Mode

- You can now show/hide faces in addition to parts.

Python API

Geometry

- Added sweep capabilities. Now you can sweep a solid or surface from a profile using path and guide curves.
- Added 3D NURBS curves API. Now they can be created and used for Sweeping or other operations.
- Added pattern along curve capabilities. Now you can create parts or faces along a seeded path.
- Enhanced the Project & Split capabilities with the new projection type, Surface Normal.

Structure

- Added API to create and modify bushings at connection locations.
- Added structural analysis API to analyze for pre-stressed modal results.
- Added API support for buckling mode analysis with the SimSolid solver.
- Enhanced the results API to query the min/max position from the analysis results.
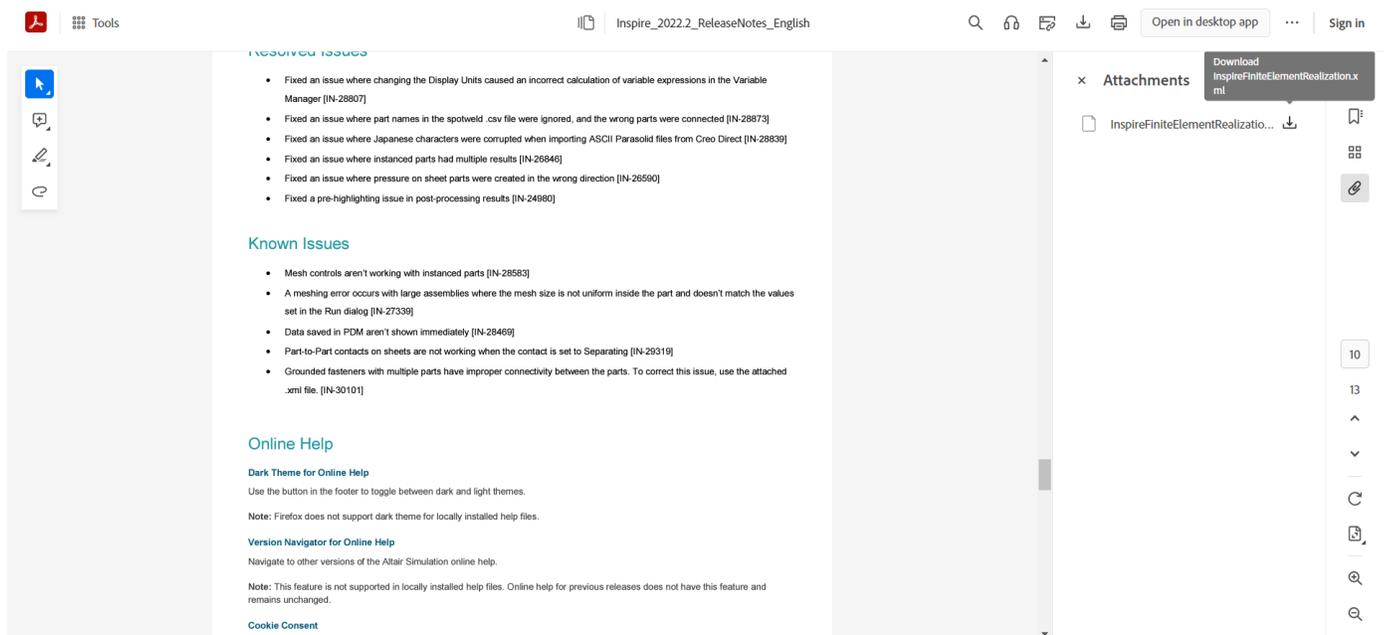- Added API to support remote jobs submission.

Enhancements

- You can now apply different support degrees of freedom on the same face across different load cases if the orientation of the support remains the same [IN-29293]
- A warning message now appears when you exit the application that allows you to Stop or Continue Solving [IN-28237]
- Improved the usability of Minimum Gap for topology optimization by reorganizing the property area [IN-20838]
- You can now set DISCRETE values in devPreferences.xml (outside of the UI) [IN-16668]

Resolved Issues

- Fixed an issue where changing the Display Units caused an incorrect calculation of variable expressions in the Variable Manager [IN-28807]

- Fixed an issue where part names in the spotweld .csv file were ignored, and the wrong parts were connected [IN-28873]

- Fixed an issue where Japanese characters were corrupted when importing ASCII Parasolid files from Creo Direct [IN-28839]

- Fixed an issue where instanced parts had multiple results [IN-26846]

- Fixed an issue where pressure on sheet parts were created in the wrong direction [IN-26590]

- Fixed a pre-highlighting issue in post-processing results [IN-24980]

Known Issues

- Mesh controls aren't working with instanced parts [IN-28583]

- A meshing error occurs with large assemblies where the mesh size is not uniform inside the part and doesn't match the values set in the Run dialog [IN-27339]

- Data saved in PDM aren't shown immediately [IN-28469]

- Part-to-Part contacts on sheets are not working when the contact is set to Separating [IN-29319]

- Grounded fasteners with multiple parts have improper connectivity between the parts. To correct this issue, use the attached .xml file. To download the attachment, select the paperclip icon, and then click the Download icon. [IN-30101]

Online Help

Dark Theme for Online Help

Use the button in the footer to toggle between dark and light themes.

Note: Firefox does not support dark theme for locally installed help files.

Version Navigator for Online Help

Navigate to other versions of the Altair Simulation online help.

Note: This feature is not supported in locally installed help files. Online help for previous releases does not have this feature and remains unchanged.

Cookie Consent

The help footer now contains a cookie consent option. Click the link to review and revise your settings.

New Features and Enhancements 2022.2.1

Enhancements

- A beta version of Inspire is now available on Linux.

- Improved the usability of Min Gap for optimization [IN-20838]

- Turned on Friction for SimSolid [IN-28404]

Resolved Issues

- Fixed a bug with the Fillet tool [IN-29548]

- Fixed mesh controls with instanced parts [IN-28583]

- Fixed an issue where FlexBody generation failed when two entities shared the same connection nodes on a part [IM-4441]

- Fixed an issue where results for state dependent inputs were incorrect when Included Angle and Included Angular Velocity were used as independent variables [IM-4544]

- Fixed an issue where velocity results for actuators were incorrect [IM-4533]

- Fixed a traceback error when using construction history and Trace Part [IM-4554]

- Fixed a traceback error that occurred when selecting a concentrated mass as the first and second part for a spring [IM-4543]

- Fixed an error in Viewpoints where the animation still played from the perspective of a deleted viewpoint [IM-4561]

- Fixed an error where the provisions that permit a user to override the Inspire Motion controllers in Activate were not working

- Fixed an issue where contact definitions were not being read in Activate when using the Input/Output Signals .py file [IM-4568]

- Fixed an issue where state dependent inputs were not interpreting the sign correctly for Actuator Travel [IM-4583]
- Fixed an issue where Show During Analysis was available for .csv-only plot [IM-4573]

Known Issues

- Linux-only issue where Inspire will not force the NVIDIA card when switchable graphics is available (laptops with Optimus). Workaround: In the BIOS settings, disable Optimus to force the GPU. [IN-26481]

- Optimizations using DDM are slower on Linux [IN-29674]

- A discrete graphics card is required in order to remotely connect to an Inspire session on Linux [IN-26475]

- Video recording is disabled on Linux [IN-29733]

- Design Explorer is disabled on Linux [IN-27259]

- SimSolid is disabled on Linux [IN-28631]

- PolyNURBS shape optimization disabled on Linux [IN-29422]

Learn More About Inspire

You can learn more about new and existing features in Inspire using the following resources:

In-Application User Assistance

Inspire provides two types of user assistance. **Enhanced tooltips** appear when you hover over icons and other features. They describe what the tool does.
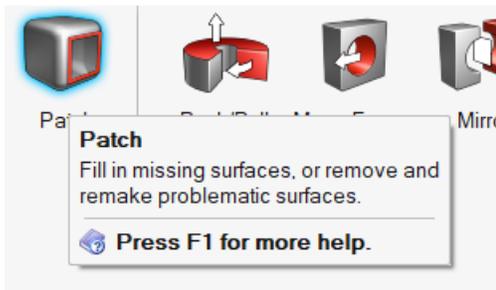
Workflow help appears when you select a tool that opens a guide bar or microdialog. The text prompts you what to do next.
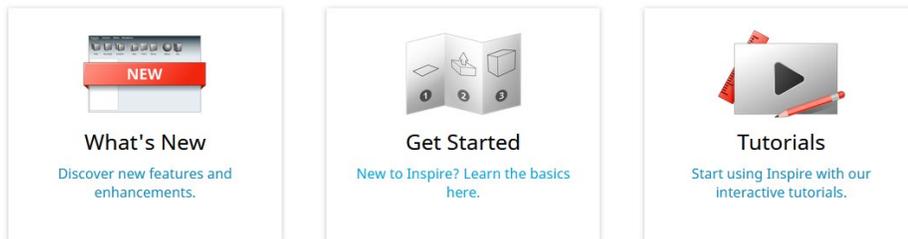

Click to view additional tips and shortcuts. Some tools also include a video .
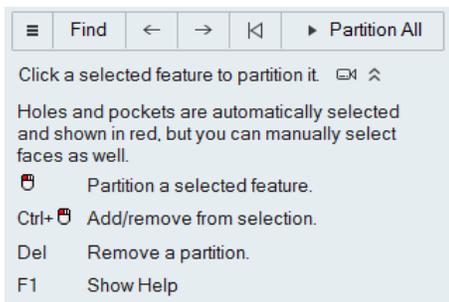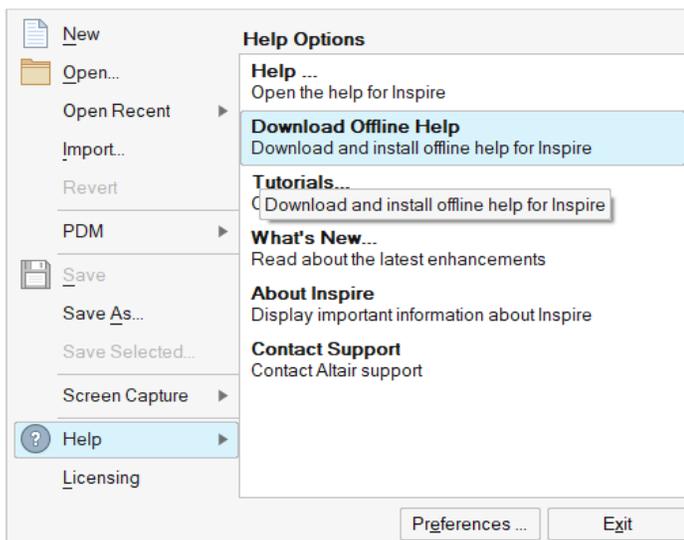
Online and Offline Help

Press **F1** or select **File > Help > Help** to view the online help.

You can download an offline version by selecting **File > Help > Download Offline Help**. An internet connection is required to download.

Supported Languages

The language for the user interface and online help can be changed in the Preferences under Workspace > Language. User interface text is available in English, Chinese, French, German, Italian, Japanese, Korean, Portuguese, and Spanish.

The online and offline help is available in English at the time of release, and in Chinese, Japanese, and Korean generally 1 to 2 months after release. If a language is selected in the Preferences that is supported for the user interface text but not for the help, the English help is shown. Similarly, if an unsupported language is selected in the Download Offline Help dialog, the English offline help will be downloaded instead.