RELEASE NOTES

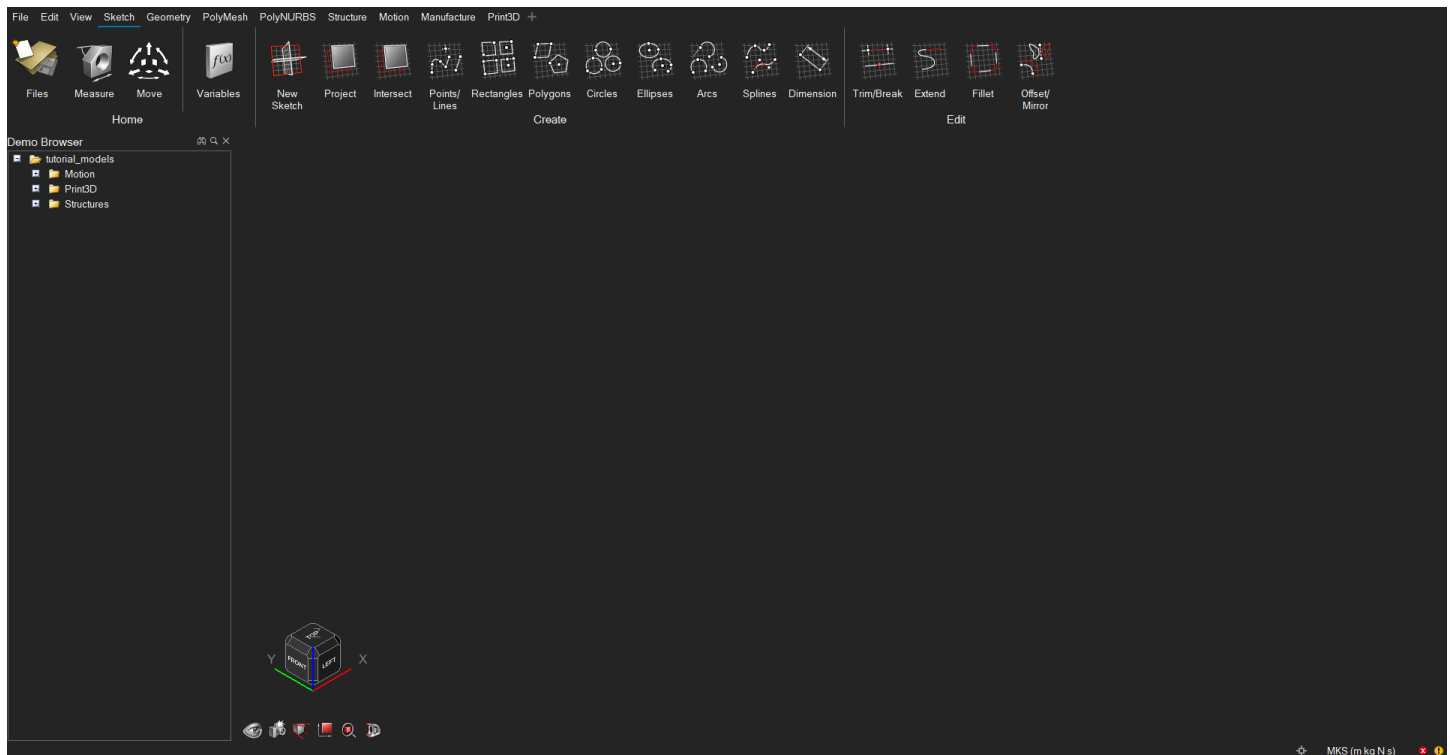# Altair® Inspire™ Cast 2022 and 2022.0.1

New Features and Enhancements 2022

Altair Inspire Cast 2022 includes the following new features and enhancements.
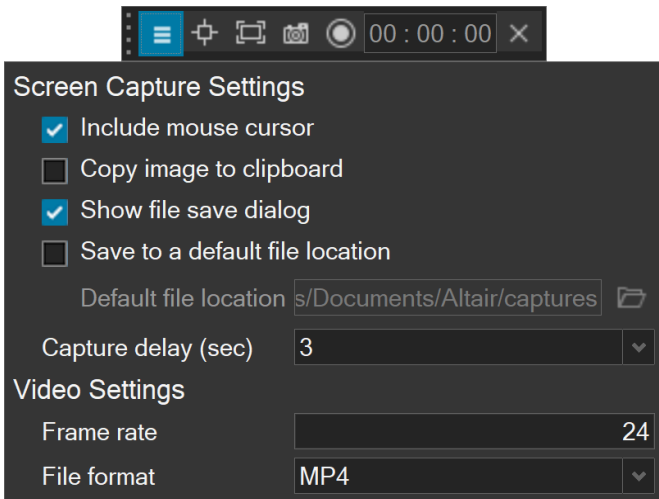
General

Dark Theme

Dark Theme is now supported throughout Inspire. You can change the theme in the **Preferences** under **Workspace > Theme**.
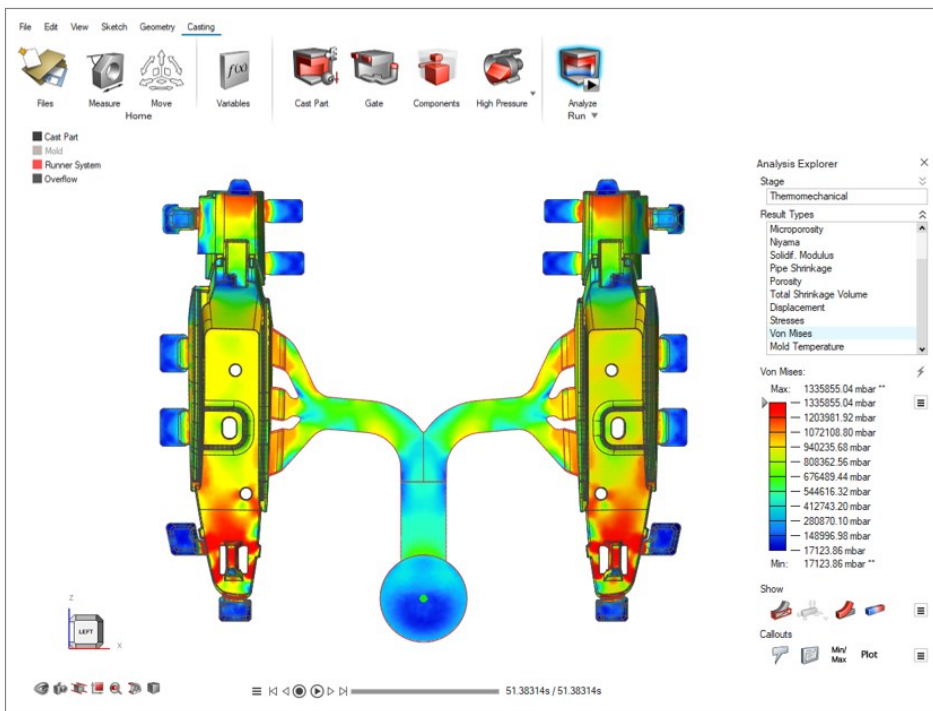

Advanced Screen Capture

Several new features have been added to the settings for the Advanced Screen Capture feature available in the File menu. These include the ability to copy an image to the clipboard, as well as options to either show a file save dialog or save files to a default location. These options can also be accessed from the Preferences.

Casting

Thermomechanical Analysis

A new thermo-mechanical analysis type has been added that can compute the effect of phase change transition on warpage and residual stresses.
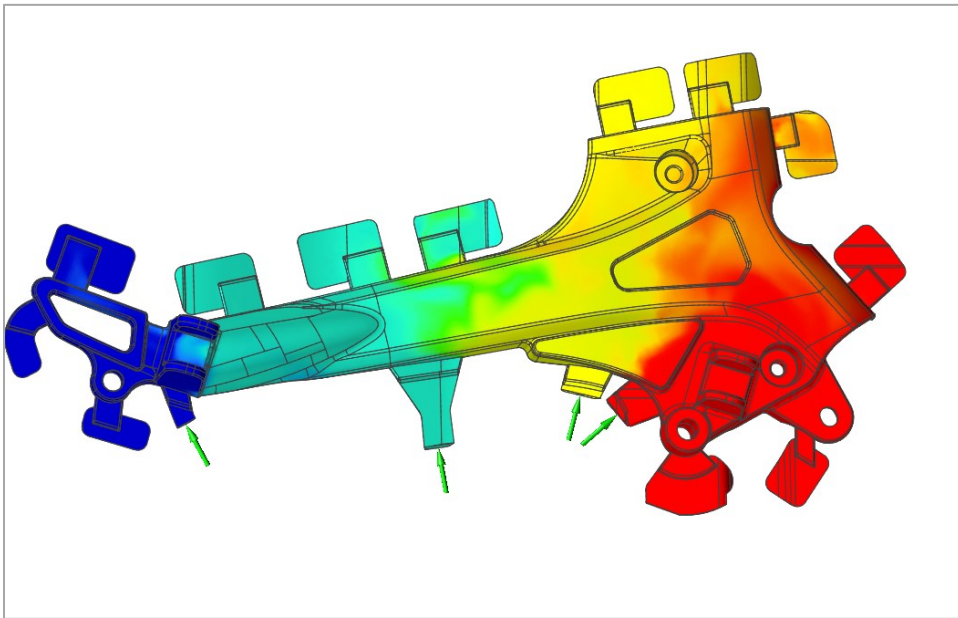
Clamping Forces

An option to compute clamping forces has been added to the high pressure die casting process parameters. This option can help determine the necessary machine clamping force to ensure the correct locking of the mold.

Sequential Gates

You can now add starting and ending conditions to inlets. This helps to simulate a double filling condition in gravity casting, filling system design in high pressure die casting, etc.
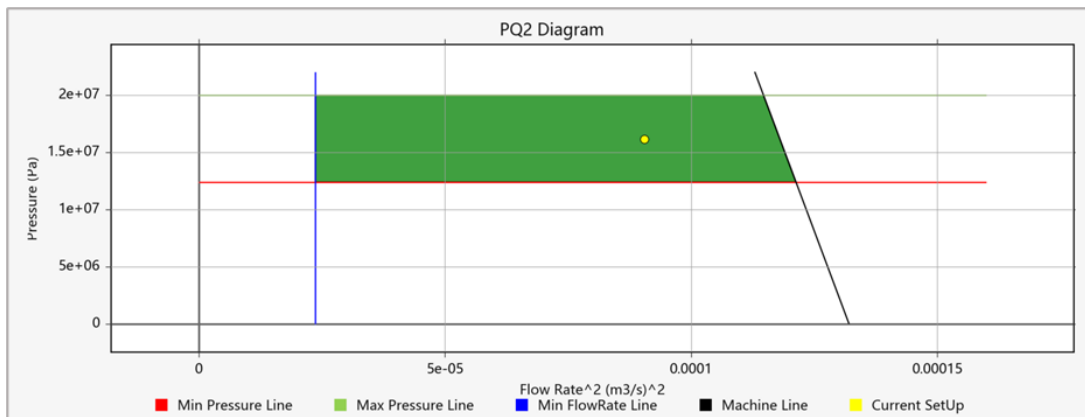
Gate Identification

This new feature allows you to identify from which gate a given region was filled. Each inlet gate is assigned an ID, and during postprocessing the contribution to filling from the different inlets is shown using a color scale.
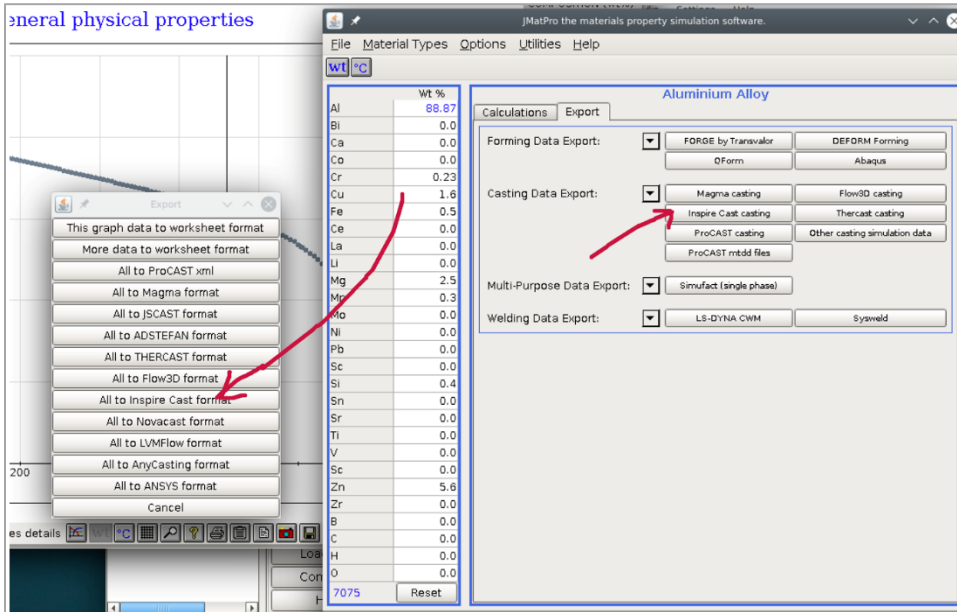

PQ2 Diagram

A PQ2 diagram has been added for high pressure die casting processes which shows the position and a safety region on a pressure vs flow rate graph. Using this tool can improve machine setup by adjusting the machine parameters to ensure they are inside the safety region.

Additional Changes and Enhancements for Casting

Added the ability to import materials from Jmat Pro.

Geometry

Keyboard Shortcuts for Sketching

When outside of sketch editing mode, you can now press the **S** key and select a face to create a new sketch. Once in sketch mode, you can quickly access the most commonly used sketch tools with the following shortcut keys:

Hotkey	Tool/Command
A	Arc by Center and End Points
B	Trim
C	Circle by Center and Point
D	Dimension
G	Turn Grid On/Off
K	Fillet
L	Polyline (press Shift to toggle between lines and arcs)
M	Mirror
O	Offset
R	Rectangle by Corners
S	Create New Sketch (when not in sketch mode)
	Spline Using Control Points (when in sketch mode)

Press **Esc** to exit any sketch tool.

New Pipe Tool

You can now turn lines and edges into a pipe. The pipe has a uniform cross section that can be circular, square, rectangular, or triangular.

New Slice Tool

In addition to slicing a part with a cutting plane, you can now slice a part with a surface. The surface must at least partially intersect the part.

New Intersect Surfaces Tool

You can now retain only the intersecting portions of one or more parts. This is a "smart" intersect tool that automatically deletes excess faces, edges, and vertices.

Extrude Tool Updates

The Extrude tool has been enhanced for this release. You can now extrude all types of profiles, as well as 2D surfaces in one or two directions, to create solids or 3D surfaces with optional end caps. In addition, you can now extrude in a custom direction by either (1) selecting a reference geometry to which you want to align the extruded shape or (2) freely orienting the extruded shape by dragging the curved arrow or entering an angle in the microdialog.

Pattern Tool Updates

The Pattern tool has been enhanced and now allows you to perform Boolean operations on the results, as well as merging with all or selected parts. In addition, the new Copies to Skip option allows you to select copies to exclude from the pattern. For linear patterns, selecting the Seed Only checkbox will restrict the pattern to the first row and column.

Draft Tool Updates

You can now add draft to one or more faces of a part when designing a product that is manufactured using injection molding.

Additional Changes and Enhancements for Geometry

- The workflow for the Boolean Combine tool has been updated.

- Performance improvements for import of CAD files.

- Inspire now supports the following file format versions for import:

Format	Versions
ACIS	All -> R27
Catia V4	All 4.xx
CatiaV5	R10 -> R31
IGES	5.2 & 5.3
Inventor	All -> 2021
JtOpen	All -> 11.0
NX	11.1 -> CR 2007
Parasolid	All -> 33.1
ProE	13 - Creo 8
Solidworks	99 -> 2022
STEP	203/214/242

Known Issues

- The Displacement result type appears under the Filling stage in the Analysis Explorer.

New Features and Enhancements 2022.0.1

Altair Inspire Cast 2022.0.1 includes the following new features, enhancements, or resolved issues.

New Features

- Users may now run a thermomechanical analysis without first creating a mold. [CCS-3045]
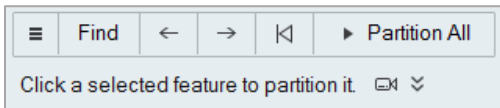
Resolved Issues

- Fixed an issue where the shock capturing solver was unable to provide thermomechanical results. [CCS-3042]

- Fixed an issue where some users were unable to use SimLab. [CCS-3051]
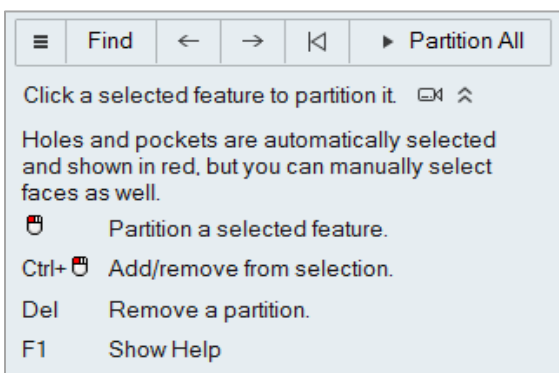
Learn More About Inspire

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

In-Application User Assistance

Workflow help appears when you select a tool that opens a guide bar or microdialog. The text prompts you what to do next.
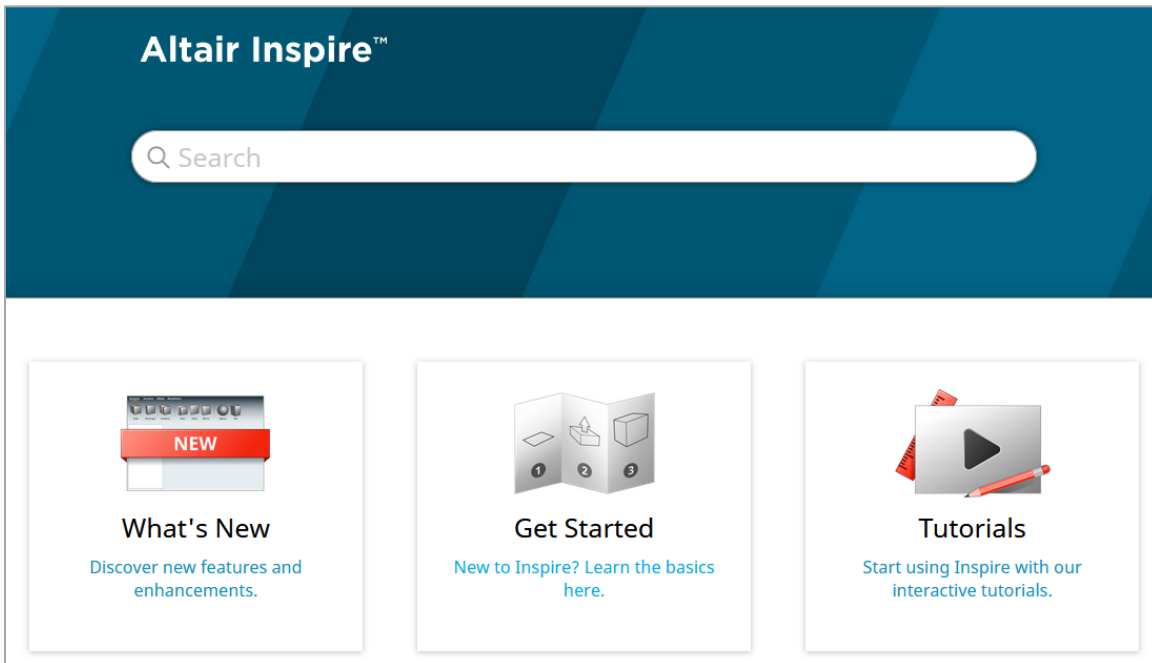

Click ⌄ to view additional tips and shortcuts. Some tools also include a video ▭◢ .
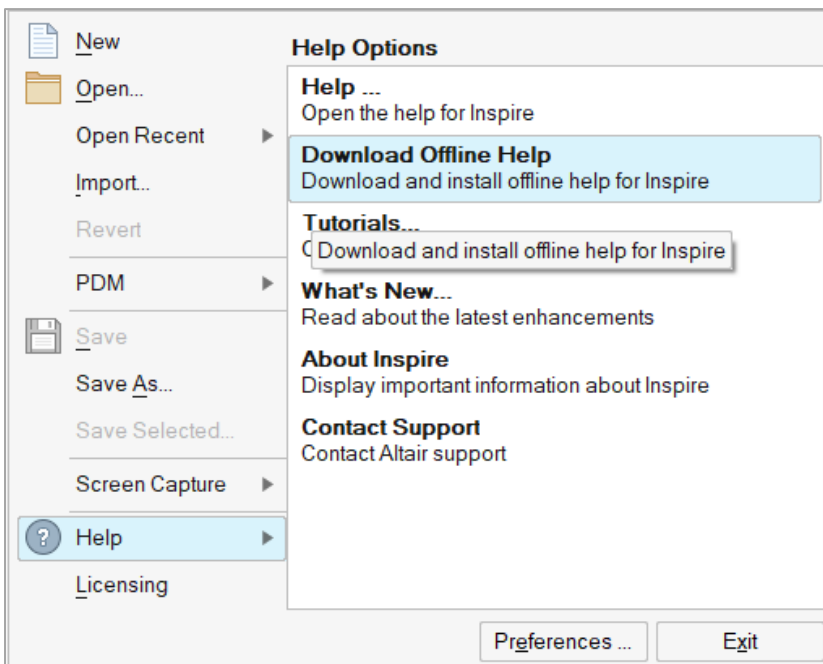

Online and Offline Help

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. 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.

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