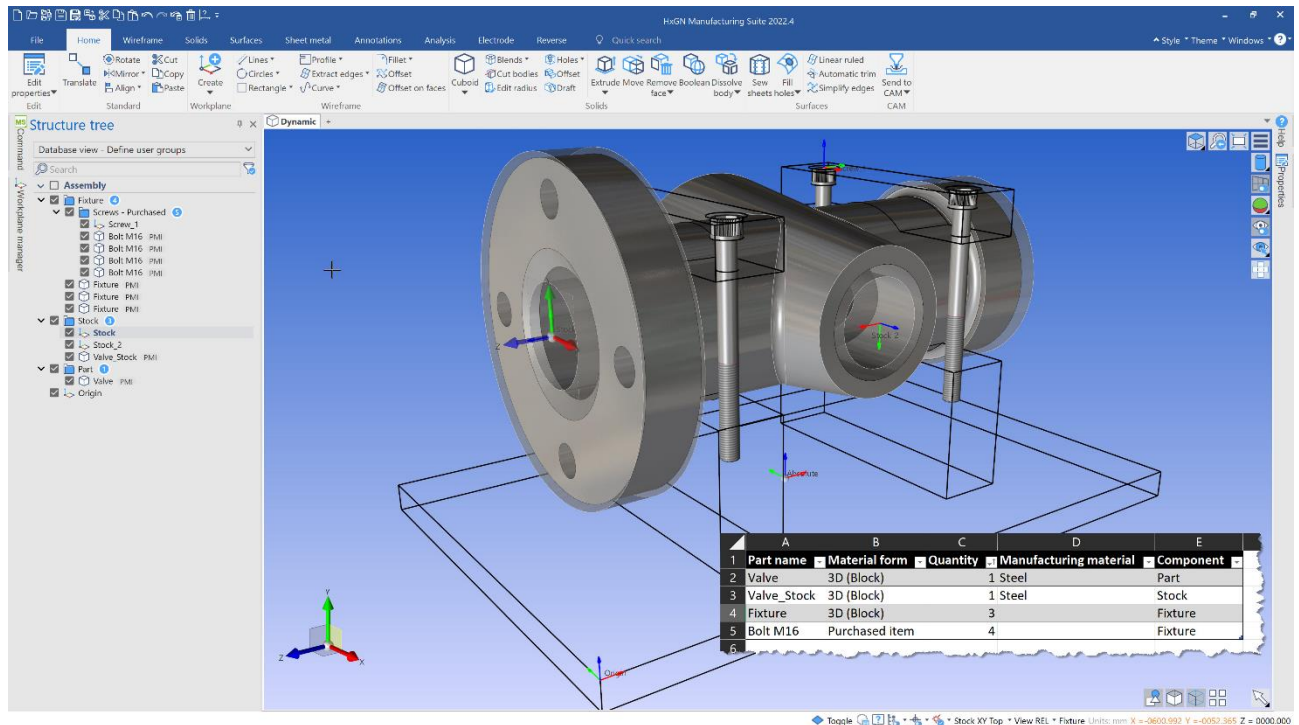




HEXAGON



What's New in DESIGNER 2022.4



This document highlights new product features and enhancements in DESIGNER 2022.4.

To run DESIGNER 2022.4, the maintenance expiry date in the license must be September 2022 or later.

13 December 2022

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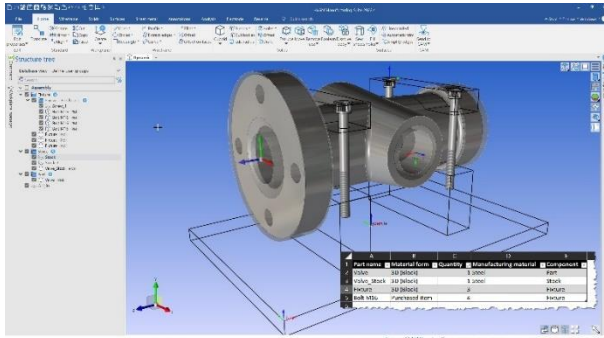
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Highlights

- Improved quality and more intuitive user interface and user experience.
- Powerful filtering capabilities available from the new Structure Tree:
 - Filter the tree and the graphics will also be filtered.
 - Activate workplanes and groups.
 - Top-level assembly.
 - Instance support and much more.
- Simplified and streamlined commands.
- Generate a Bill of Materials.
- Improved Send to CAM.
- More automatic solution for the Feature lines option in the REcreate One-click surface command.
- Support for asymmetric splits and automatic and interactive identification of circular and rectangular tubes.

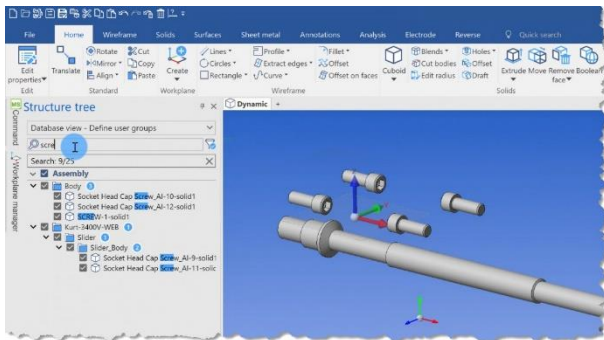
General Enhancements

Bill of Materials



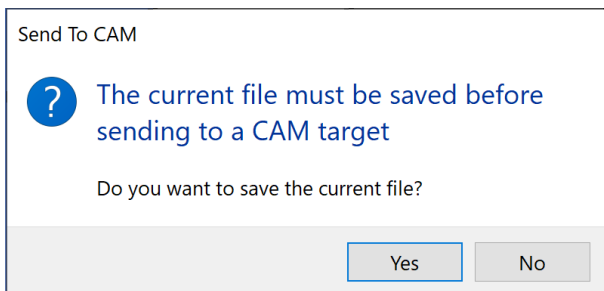
- Generate a Bill of Materials of all elements in the model, listing the quantity and any relevant manufacturing information such as material and component type.

Structure Tree



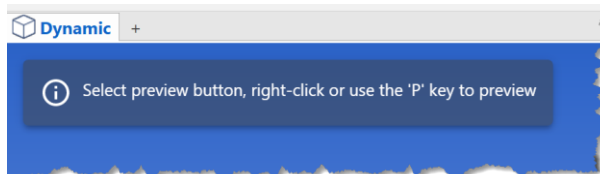
- A top-level Assembly item has been added. This makes it possible to:
 - Select or deselect all elements.
 - Show or hide all elements.
 - Collapse and expand all groups.
- Concept of active groups and workplanes:
 - In addition to activating workplanes, you can now also **Transform workplane** and **Look down Z** from the new structure tree.
 - Powerful dynamic filtering has been added.
 - When filtering the structure tree, the graphical area will now also be filtered which allows you to easily see the elements with which you are working.
 - Mesh management support.
- Instance management: Ability to unlink instances.

Send to CAM



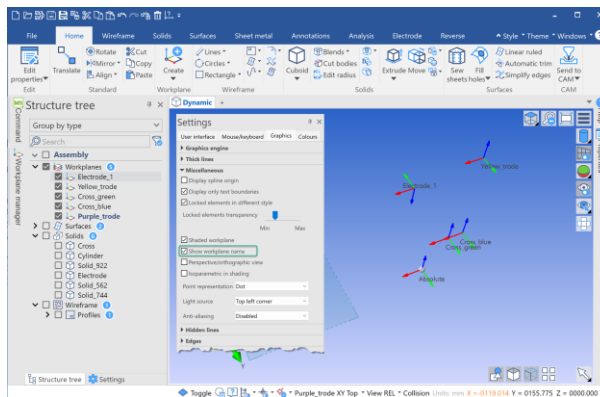
- We have improved the behaviour of the **Send to CAM** command to reduce the number of clicks required to send the model to the CAM package.
- The model must be saved in order to send to CAM and for the CAM to recognise the relevant updates. Therefore, if the model is not saved, you can now simply click **Yes** and the file will be saved automatically.

Improved Feedback when Automatic Preview is Disabled



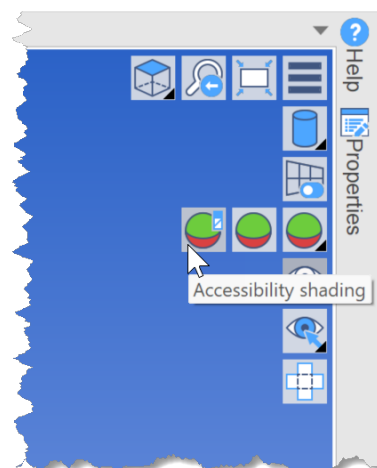
- When the automatic preview is disabled, it is necessary to either:
 - Right-click to preview.
 - Select the preview button to preview.
 - Press **P** on the keyboard to preview.
- This was not always obvious to the user. Now, if there has been a change in the dialog and the user can apply a preview, a message is displayed explaining the situation.

Show Workplane Names



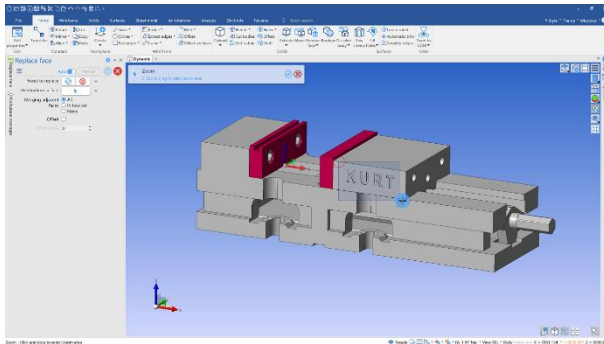
- The ability to show and hide the workplane names in the graphics area has been added for this release.
- This will make it easier to identify workplanes and work with them if there are multiple workplanes in the model.
- Located in **File > Settings > User settings > Graphics > Miscellaneous**.

Useful functions added to the HUD



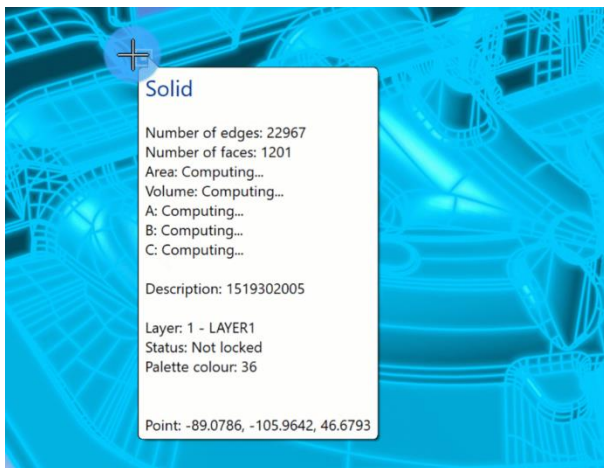
- For this release, we have added some useful analysis functions to the Head up Display toolbar (HUD).
- Functions added:
 - **Accessibility shading.**
 - **Undercut shading.**

Zoom Command improvements



- The **Zoom** function has been improved in this version.
- The default shortcut to activate **Zoom** is the **double left-click**.
- When working in or out of commands, double left-click will activate the **Zoom** function. You can then window select an area to zoom into and, when it is complete, the application will return to the previous state.

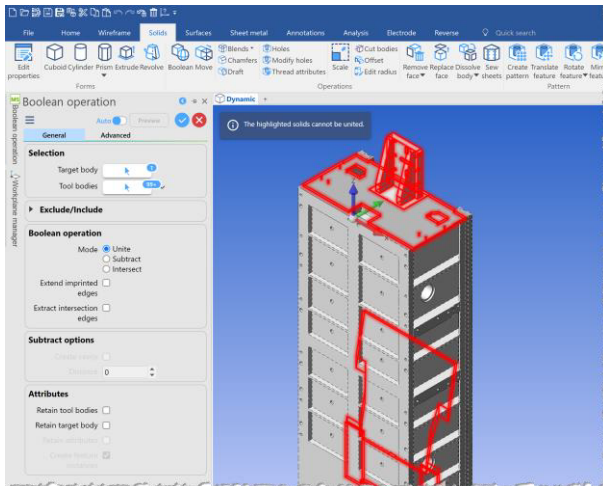
Dynamic Query Performance improvements



- Improved performance when working with models which have many faces or elements and the dynamic query is enabled.
- The computation of the **Periphery**, **Area**, **Volume** and **Bounding Box** parameters of the relevant bodies/sheets are performed in a separate dedicated thread in order to retain speed and performance. As soon as the results are available, the 'Computing...' string in the tooltip is replaced with the computed value.

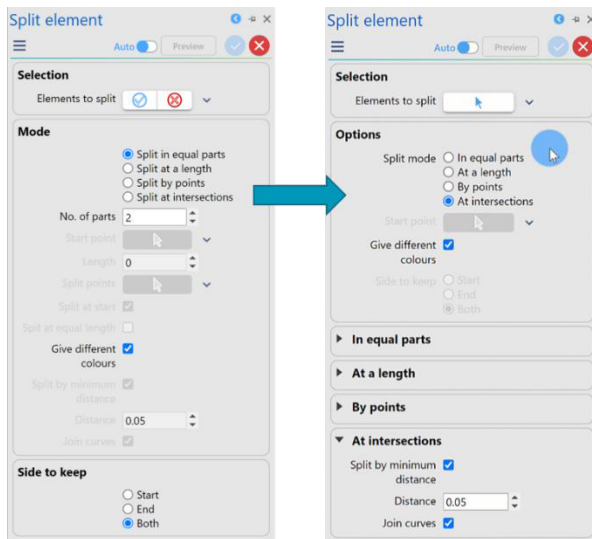
Modelling Enhancements

Boolean Enhancements



- Improved capabilities of the Boolean command.
- When uniting multiple complex bodies, the command will now unite any solids that can be united and provide feedback about those which cannot be united.

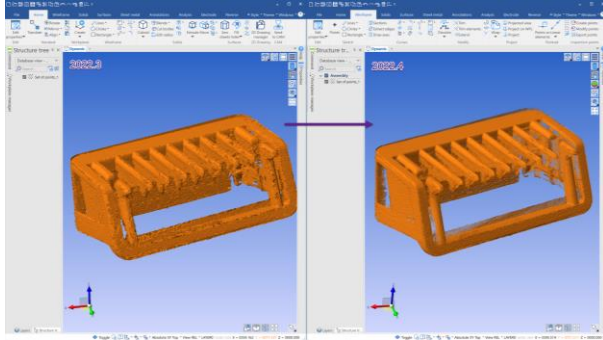
Split element interface improvements



- We have refined the interface of the **Split element** command to make it easier to use, less complex and more logical.

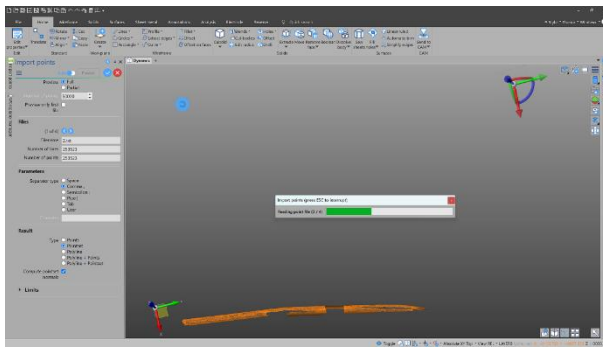
REcreate Enhancements

Improved graphical display for small clouds



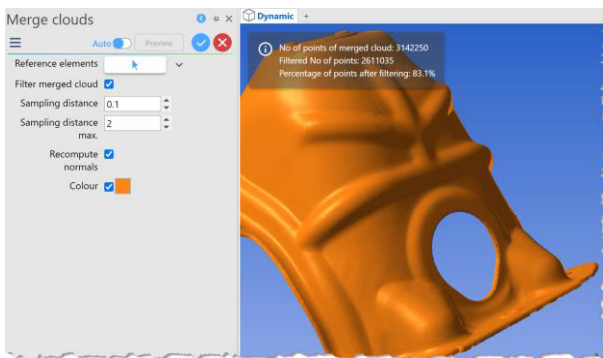
- We have improved the graphical display of very small clouds.
- The improvements will only apply to newly scanned and imported cloud data.

Import Multiple Point Clouds simultaneously



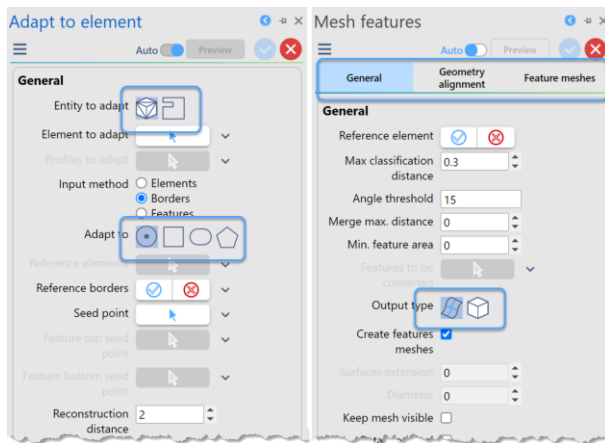
- We have improved the user experience when loading multiple point clouds:
 - When the first points are loaded, **Include all** is applied enabling any points that may be off the screen to be visible.
 - Progress bar displays which point file of the total is currently being imported providing more feedback to the user.

Merge Clouds – Display results



- In version 2022.3, we enhanced the **Merge clouds** command to include a filtering operation.
- For this release, we have enhanced it further to include feedback from the filtering operation to show how successful it was.

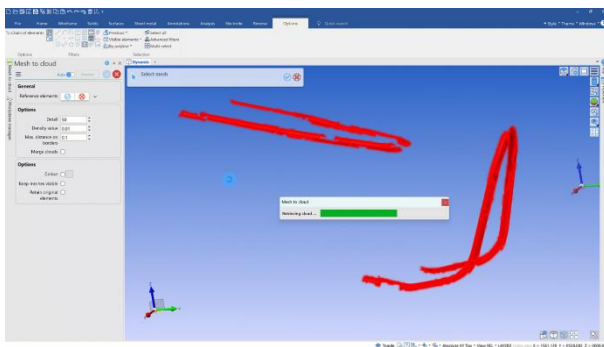
Images in Dialogs



- Images have been added to replace radio button text where it is appropriate.
- Creates less text heavy dialogs and more intuitive commands.
- Commands affected:

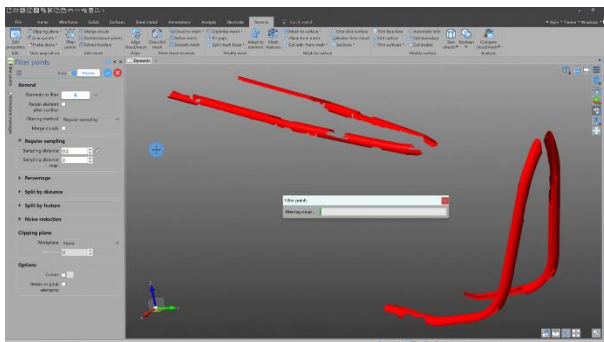
- **Adapt to element.**
- **Mesh features.**

Mesh to Cloud



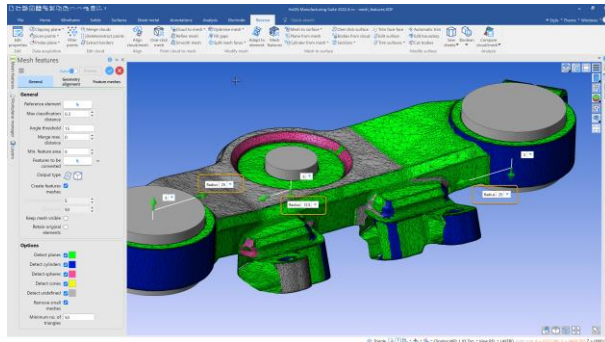
- We have enabled multiple meshes to be converted to clouds in a single operation.
- An option to merge clouds or to keep them separate has also been added.

Filter Multiple Clouds



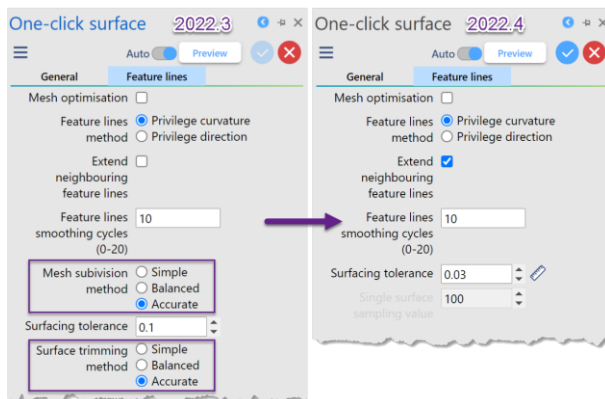
- Continuing the work in the previous release relating to fragmented cloud handling, the following functions have been added:
- The ability to filter multiple point clouds simultaneously.
- The ability to output individual clouds or merge them together.

Mesh Feature Enhancements



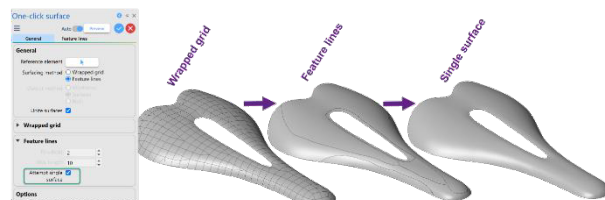
- The **Mesh features** command has been enhanced to provide more control to the user.
- When creating cylindrical elements using the **Mesh features** command, you can now view and edit each of the cylindrical parameters and apply changes to all.
- Global rounding is applied.

One-click Surface Enhancements

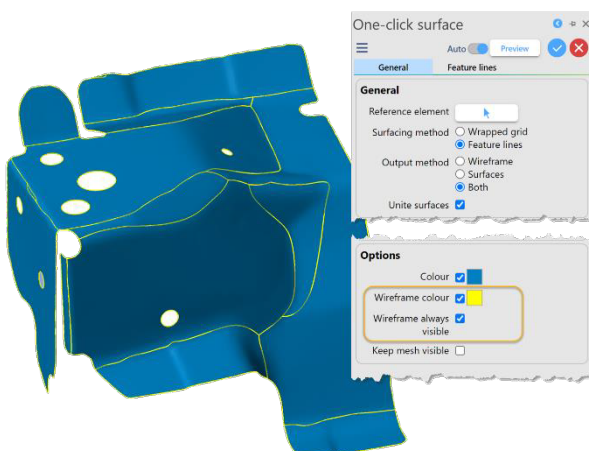


- The new **Feature lines** function has been refined and enhanced:

- The interface has been simplified with fewer modifiers to change.
- The application now calculates the best parameters to use in order to create the best output based on the mesh input.



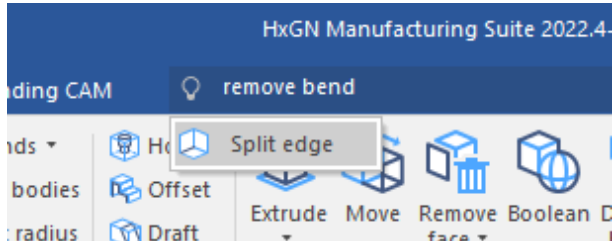
- Ability to output a single surface, if possible, resulting in better results, faster.



- We have also added some useful attribute options for setting the colour and attributes of the wireframe elements to make it easier to analyse the surface patch results.

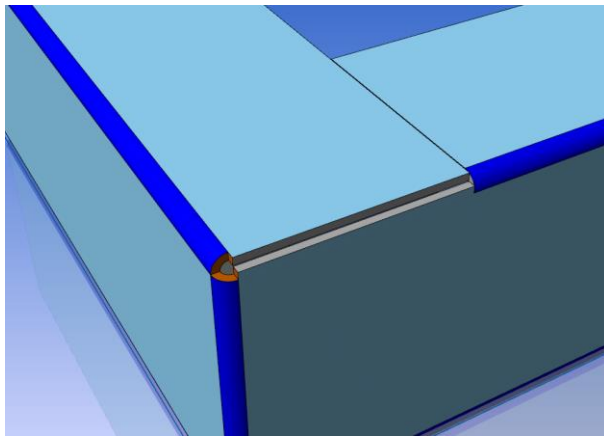
Sheet Metal Enhancements

Delete Bends

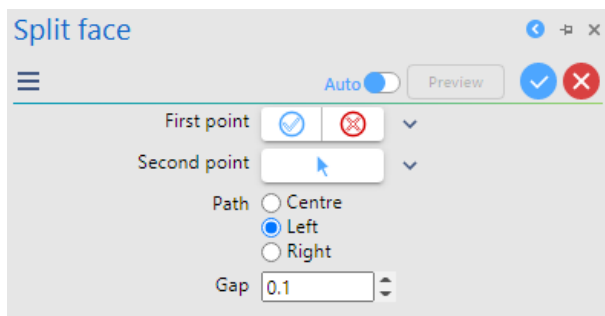


The **Split edge** command can also be used to remove a bend and replace it with a split edge. The **Quick search** recognises this and makes the **Split edge** command discoverable when searching for 'remove bend' or 'delete bend'.

Split Face



In certain cases, when using the **Split face** command, the split should be aligned off-centre, as shown in the image.



When adding a split to a face, the user can now specify the alignment.

Set 1D shape specification

Auto ☒ Preview

Selection

Bodies ☒ ☐

Shape type ☒ ☐ ☐

Hide defined parts ☒

Automatic

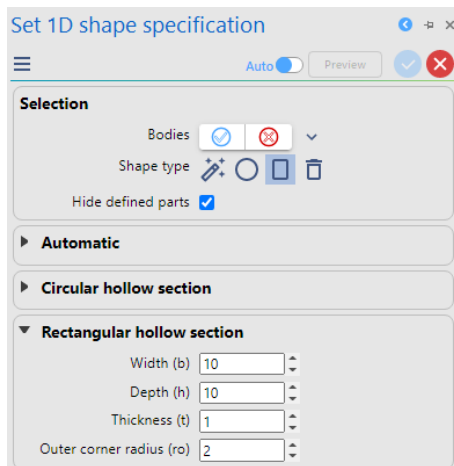
Circular hollow section

Outer diameter (d)

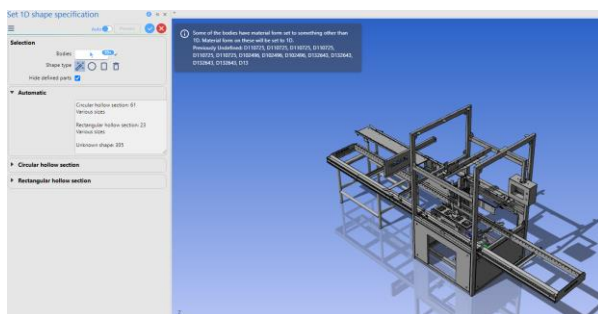
Thickness (t)

Rectangular hollow section

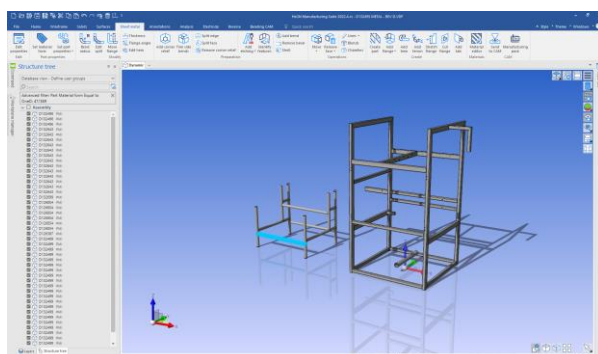
- Circular hollow sections.



- Rectangular hollow sections.



The user can use the **Automatic** option to automatically recognise and set the specifications on selected parts.



This means that the process of creating a Manufacturing Pack is very quick.