



**materialise**

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# Materialise 3-matic Medical

Version 16.0 – Release notes

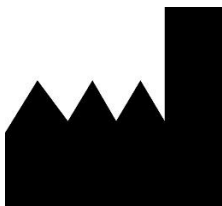
## Regulatory Information

The Medical edition of Mimics Innovation Suite version 24.0 currently consists of the following software components: Materialise Mimics Medical version 24.0 and Materialise 3-matic Medical version 16.0.

**Materialise Mimics Medical** is intended for use as a software interface and image segmentation system for the transfer of imaging information from a medical scanner such as a CT scanner or a Magnetic Resonance Imaging scanner to an output file. It is also used as pre-operative software for simulating/evaluating surgical treatment options. Mimics is not intended to be used for mammography imaging.

**Materialise 3-matic Medical** is intended for use as a software for computer assisted design and manufacturing of medical exo- and endo-prostheses, patient specific medical and dental/orthodontic accessories and dental restorations.

Usage of the software signifies your acceptance of the above. Please refer to the 'Instructions For Use' for more information.



**Manufactured in May 2021 by**

Materialise NV

Technologielaan 15

3001 Leuven, Belgium

Phone: +32 16 39 66 11

[www.materialise.com](http://www.materialise.com)

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## What's New

### 1.1. General

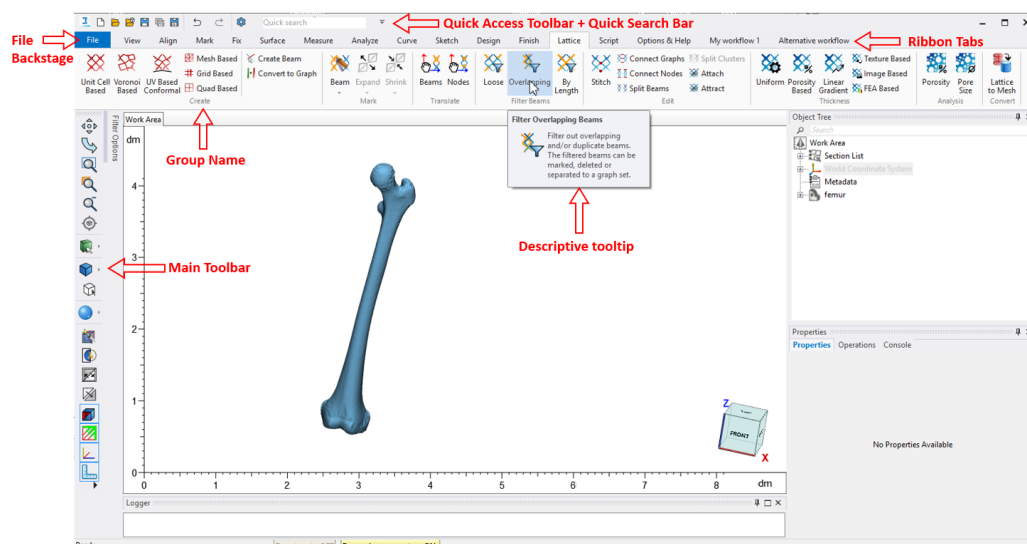
This Release Notes document is intended for customers who were previously using 3-matic software. All the new features, as well as minor changes and known issues of Materialise 3-matic Medical 16.0 version, are described in this document.

### 1.2. Installation

After installation and license set-up, it is recommended to first choose **Options & Help → Reset Defaults → User Interface** to visualize the new features that have been added.

### 1.3. New ribbon user interface

Materialise 3-matic Medical 16.0 introduces a new *Ribbons* menu structure in the user interface. The next illustration shows how the new interface looks like and indicates which elements have changed.



Overview of the new ribbon UI.

#### Tabs with group names and tooltips

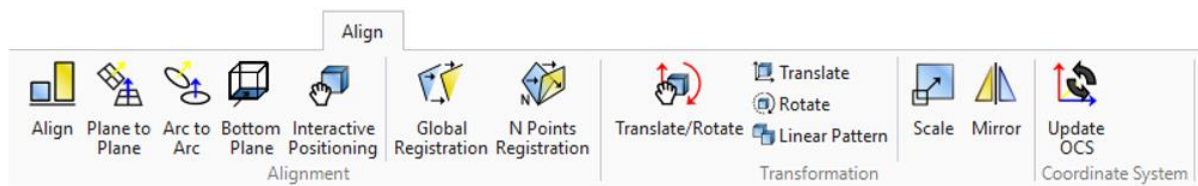
In 16.0, the menus and tabbed toolbars have been replaced with ribbons to provide a nicer and cleaner interface. The tools in each ribbon are divided in functional groups with their own unique group name. To further increase the usability, intuitive and consistent button names are used that can differ from the operation name.

#### New button controls

The new Ribbon Interface allows for smarter structuring of the tools in the tabs. A set of button types are introduced within the tabs to improve the user experience.

#### Standard button

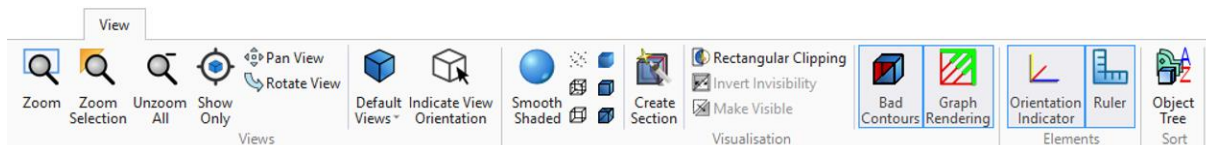
The standard buttons launch a tool. This button type was extensively used in 3-matic 15.0 already. An example can be found in the Align tab where all the tools are standard buttons.



Example of standard buttons in the Align tab.

## Toggle button

The toggle button is used to switch between two states. An example can be found in the View tab:

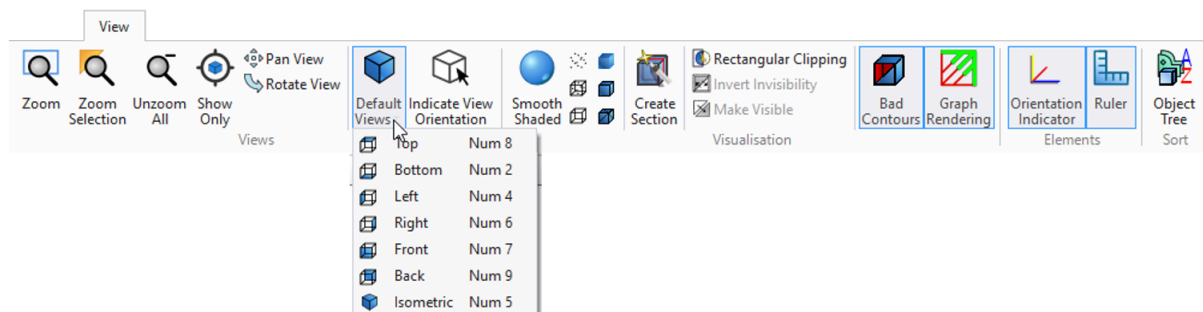


Example of toggle buttons in the View tab. Bad Contours, Graph Rendering, Orientation Indicated and Ruler are toggle buttons.

The Bad Contours, Graph Rendering, Orientation Indicator and Ruler are toggle buttons. In above example, the Bad Contours and Orientation Indicator are ON as indicated by the blue highlight.

## Dropdown button

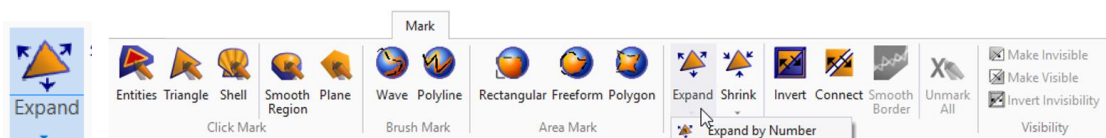
Clicking a dropdown button opens a list of tool options. The Default Views button in the View tab is an example. Clicking on the Default Views button will open a list of view options. The Default Views button doesn't launch any operation.



Example of a dropdown button in the View tab. The Default Views button is a dropdown button.

## Split Button

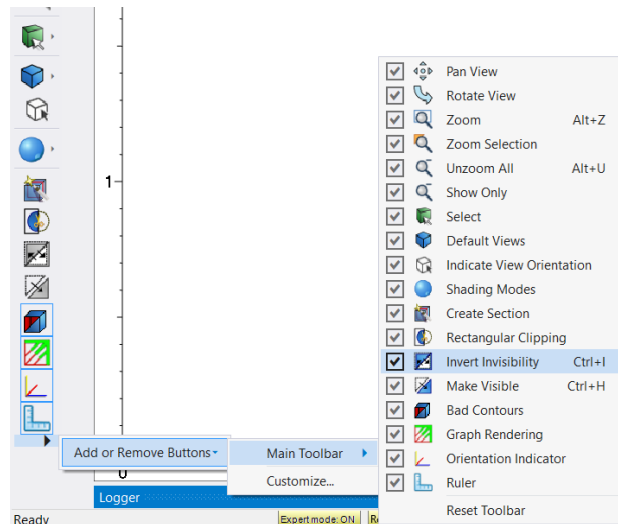
A split button is a combination of the standard button and the dropdown button. Clicking the main button will launch an operation without opening the menu. Clicking on the bottom of the button opens a list of related tool options. The Expand and Shrink buttons in the Mark tab are an example of split buttons.



Left: Expand button: the double functionality is split by a horizontal line. Right: Example of split buttons in the Mark tab. The Expand and Shrink buttons are split buttons.

## Quick Access and Main toolbar

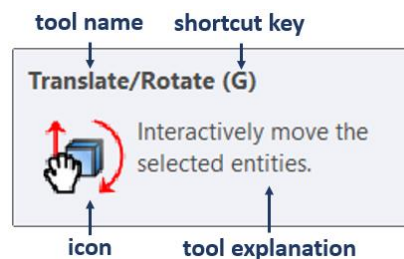
The new ribbon interface comes with a new Quick Access toolbar which allows easy access to a set of commonly used tools. Furthermore, the Main toolbar in 3-matic Medical 16.0 has been revamped by reordering the tools and removing duplicates available in the Quick Access toolbar. It is possible to customize the Main toolbar and/or Quick Access using the arrow on the bottom/side.



*Customization of the Main toolbar.*

## Descriptive Tooltips

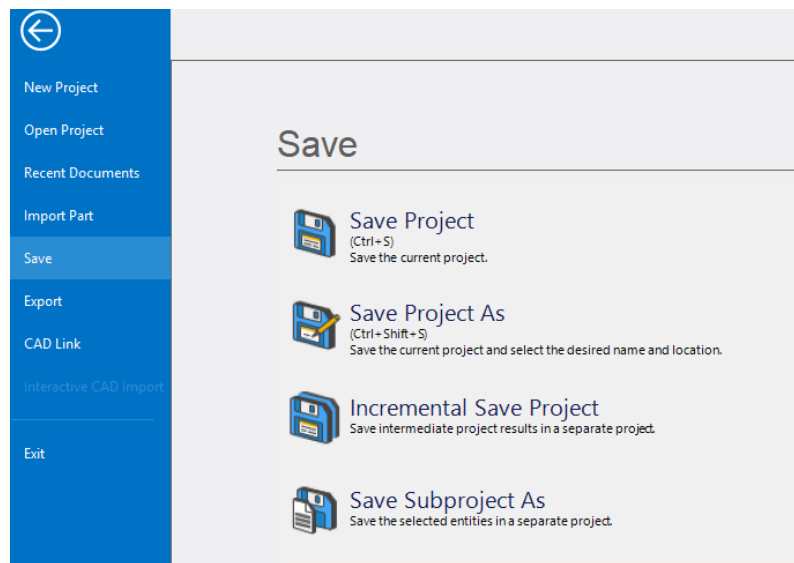
Hovering over a button in a ribbon or toolbar will now display the descriptive tooltips. The tooltips consist of operation name, shortcut key (if applicable), icon and a short description of the tool.



*Tooltip for the Translate/Rotate tool.*

## File Backstage

Clicking the File tab will open a backstage menu that allows easy access to all desired import, export and save options. It also contains a full overview of recently opened projects and the possibility to pin them. Like the tooltips, the file backstage contains a short tool explanation for each available tool.



*Save options in the file backstage menu.*

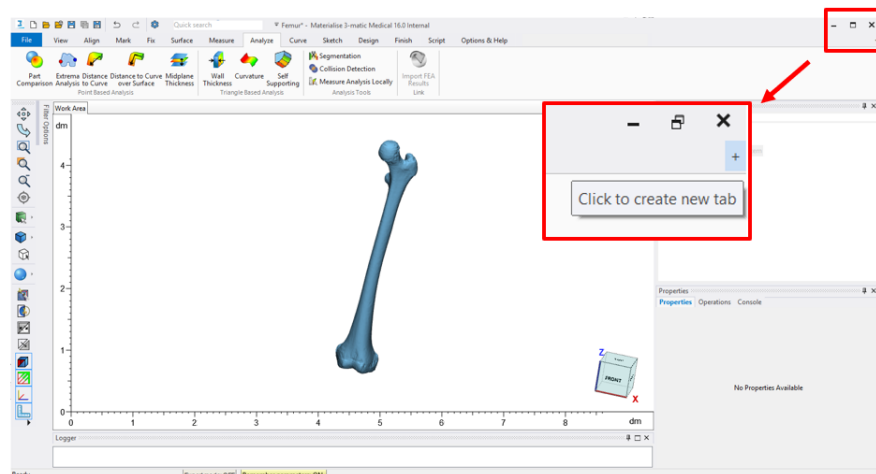
### Other small ribbon user interface changes

- The **Edit** menu has been removed and the associated functionalities are accessible either via the *Quick Access Toolbar* at the top or via the *Main toolbar*.
- The **Options** and **Help** menus have been merged into a single tab with the name **Options & Help**.
- The **Plate** menu tools are added to the **Design** tab in a dedicated group *Plate*.
- The *Quick Search Bar* has been moved to the left. The search result will now display:  
 <Tool icon> <Tab Name> → <Group Name> → <Button Name> or  
 <Tool icon> <Tab Name> → <Group Name> → <Tool Name>

## 1.4. Usability updates

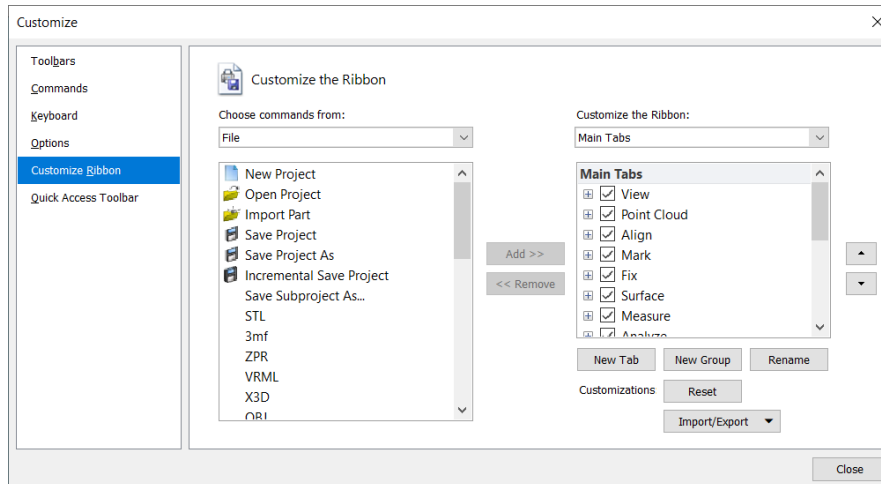
### Customize User Profile

The customization options are improved and adopted to the new ribbon interface. The option is still available via *Options & Help* → *Customization* → *Customize User Profile*. New ribbon tabs can also be created via the plus button in the user interface.



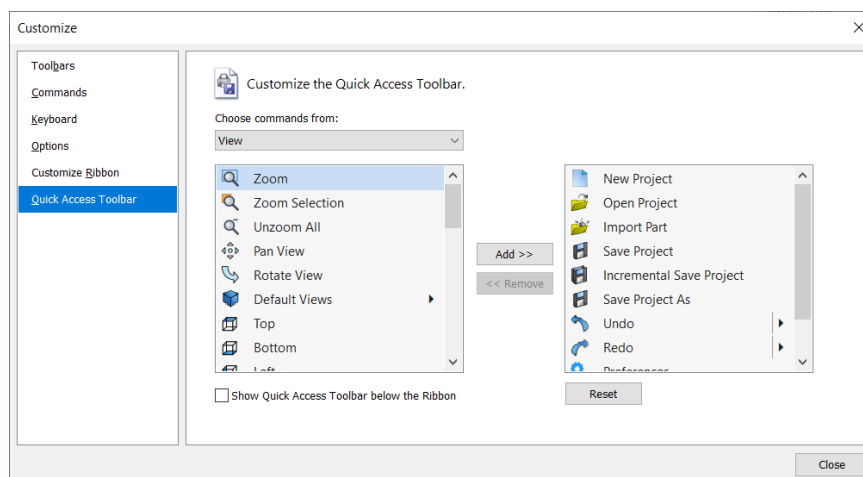
*Create custom tabs via the plus button*

It is possible to create new ribbon tabs and new groups in the ribbon tabs in the Customize Ribbon page in Customize dialog box. Besides that, this page also offer functionalities to reorder the ribbons and tools, to hide or show the ribbons, to add and remove tools in the ribbons.



*The Customization dialog provides the possibility to create, rename and reorder tabs and groups, and hide and show tabs.*

The new Quick Access menu is also fully customizable. Select a tool in the commands list and use the Add button in the middle of the Customize dialog to add the tool to the Quick Access menu.



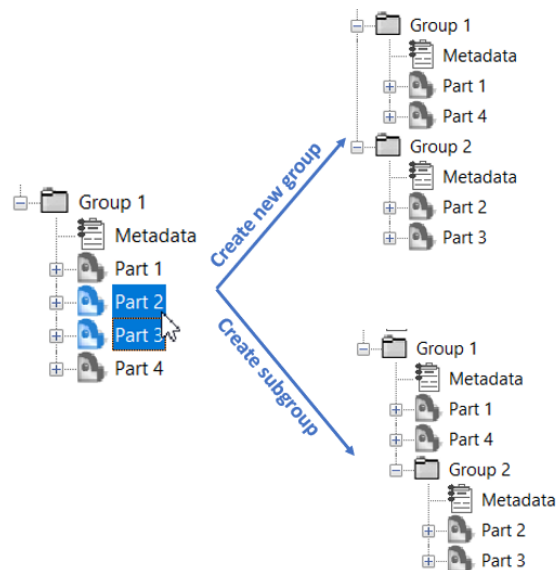
*Customize the Quick Access menu*

When the Customization mode is active, it is possible to drag and drop tools from one location to another in the user interface itself. A tool can be moved within the same ribbon tab or dragged out to another ribbon tab or the Main toolbar.

## Groups

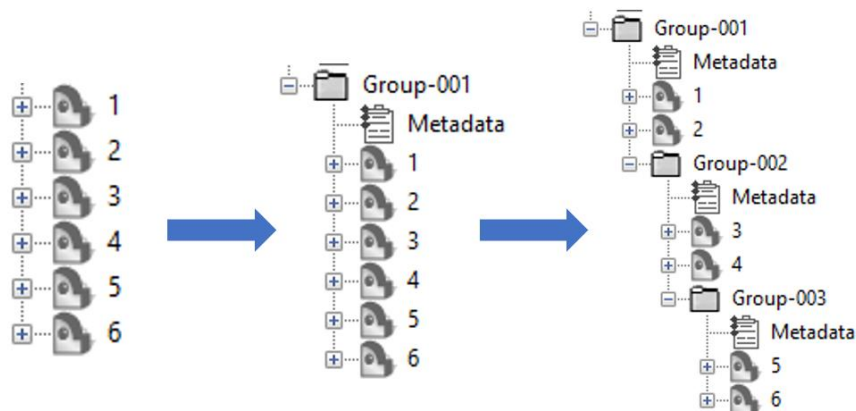
The *Group* functionality and usability has been significantly improved. It is now possible to recursively create multiple layers of groups. Use the right mouse context menu and select *Group* → *Create Subgroup* or drag one *Group* into another to achieve a multilayered *Group* structure.





Top: Output of creating a new group containing Part 2 and Part 3.  
 Bottom: Output of creating a subgroup containing Part 2 and Part 3.

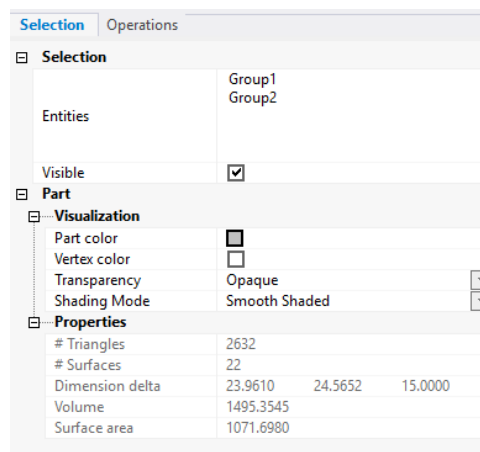
When creating a new *Group*, it will now be added to the bottom of the object tree to retain the chronological structure in a project. When creating *Subgroups*, they will be added to the bottom of the parent *Group*. The same logic applies to ungrouping of *Groups*.



Create multiple layers of groups while retaining the object order.

The next group functionalities have been added or improved as well:

- Object order is retained when grouping entities
- **Show All** is available in the context menu of *Groups*
- Each *Group* has its own metadata item
- Copy/Paste or **Duplicate Groups** is now available
- *Groups* can now be merged as well using the **Merge** option in the context menu of the *Groups*.
- *Groups* are sorted when sorting the object tree (View>Sort > Object Tree)
- The API has been updated and aligned with the *Group* behaviour in the User Interface
- When highlighting *Group(s)* in the object tree, the mass selection properties will show an overview of the child items that allows to modify a set of properties.



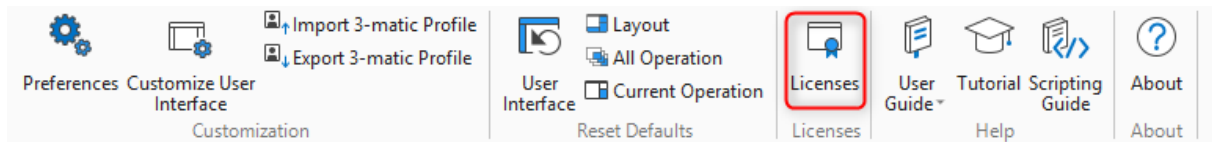
*Updated Group property page.*

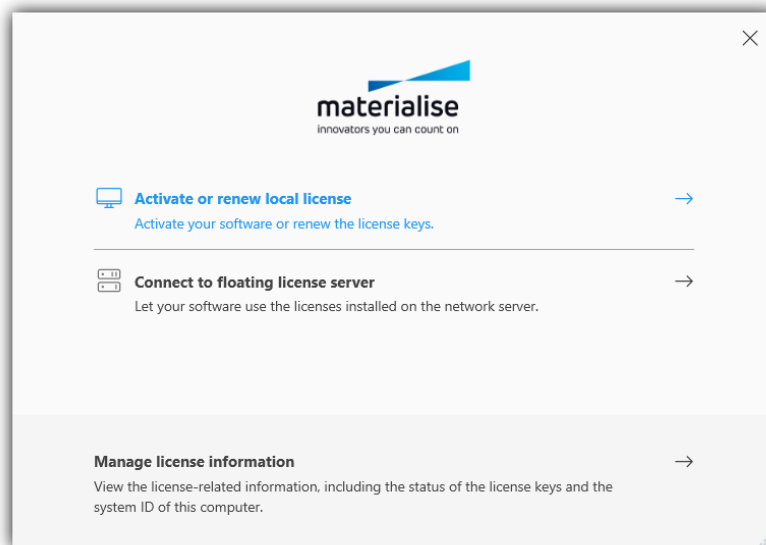
## Show Only

Materialise 3-matic Medical 16.0 introduces a new tool allowing to show only the selected parts and/or groups and hiding everything else. When applying the **Show Only** tool, the view will be zoomed to show all the selected parts and/or groups in the Work Area while hiding all the non-selected parts and/or groups. The new tool is accessible via the *View* tab. For quick access, the tool is also available via the *Main toolbar* on the left side of the Work Area or via the context menu of the objects in the Object Tree or the Work Area.

## License Wizard

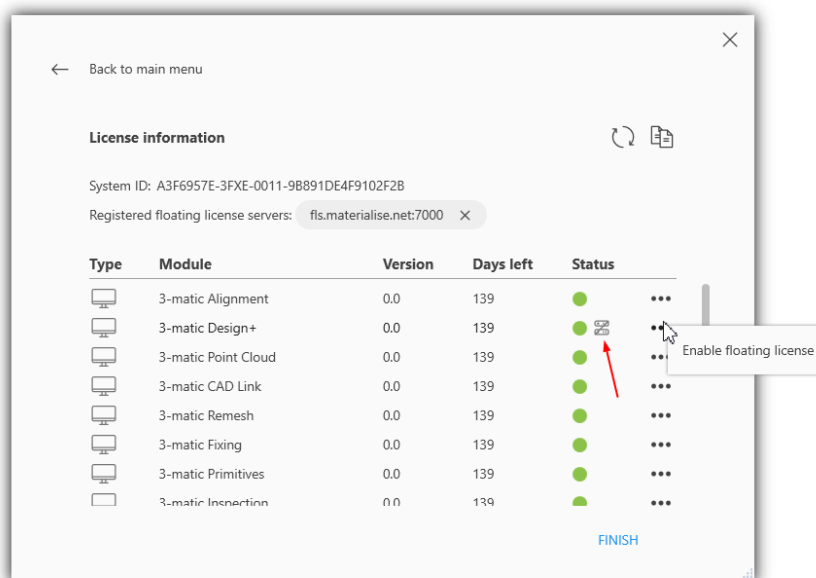
The way to manage licenses and modules has been completely revamped. The latter Register Licenses and Modules tools are merged to a single license wizard. Access the new wizard via **Options & Help → Licenses → Licenses**.





Top: Access to the new license wizard via the Licenses button in the Options and Help tab. Bottom: Start screen of the new license wizard with the available options.

Select manage license information to enable and disable license/modules. A green status icon indicates that the license for the module of interest is enabled. Use the 3 dots on the right to enable or disable a module. When disabling a license, a new icon will appear next to the green status icon indicating that the license is inactive/disabled.



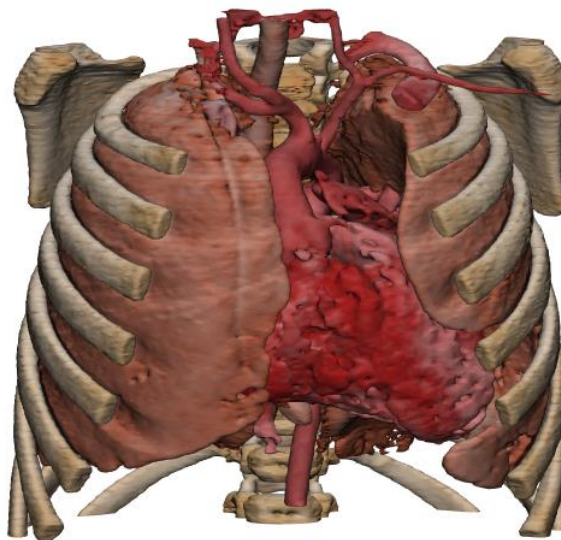
License information: System ID of the computer, status of license keys and overview of the available modules.

Select the local license option via the activate or renew local license menu to enable the automatic renew option.

*Local license: add a local license and/or enable automatic renewal*

## 1.5. Vertex Color

It is now possible to import and visualize vertex colors assigned in Mimics. When importing a Mimics project file with vertex color models, the property page of these models will have the *Vertex color* parameter checked. Toggle the *Vertex color* parameter to toggle the vertex color visibility.



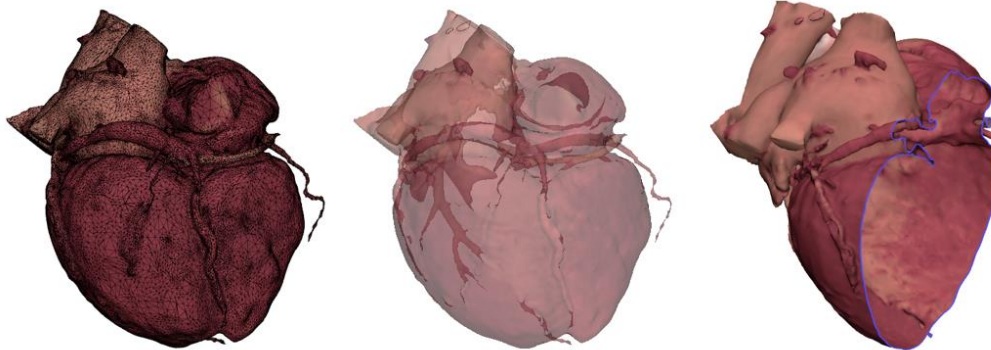
*Example of a vertex color model*

Visualization	
Part color	<input type="checkbox"/>
Vertex color	<input checked="" type="checkbox"/>
Transparency	Opaque <span>▼</span>
Shading Mode	Smooth Shaded <span>▼</span>

*Part property page. Enable the vertex color checkbox to show the colors assigned in Mimics*

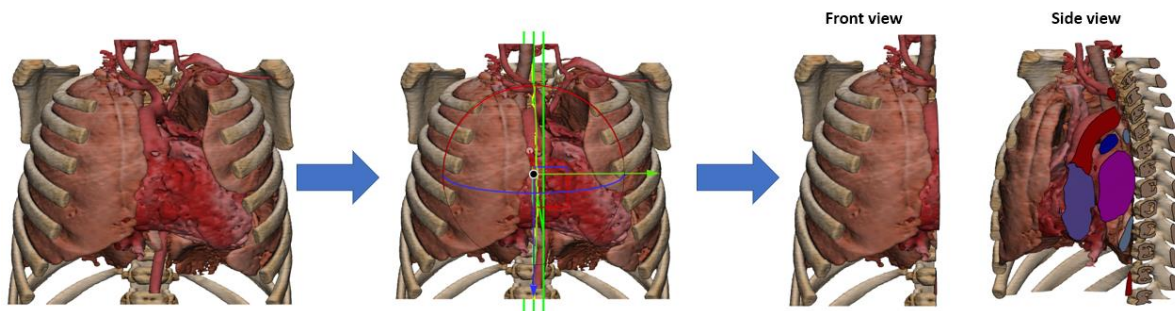
Vertex colors are retained when executing basic operations that don't modify the parts geometry. An overview of the supported functionality:

Change shading mode	Surface selection	Save/Load
Change transparency	Mark triangles	Duplicate & Copy/Paste
Clip part	Merge	Paste in Mimics



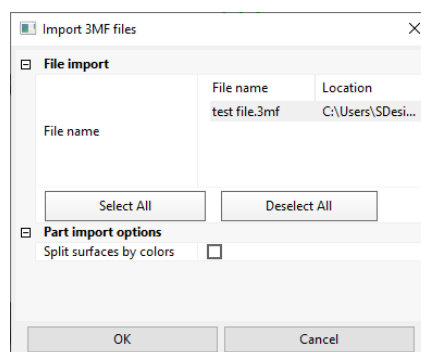
*Vertex colored model in 3-matic. Left: filled with triangle edges view. Middle: transparent vertex colored model. Right: section clip of vertex colored model.*

Materialise 3-matic Medical 16.0 supports the retention of vertex colors for the next major design operations: Cut, Interactive Plane Cut, Trim and Boolean Union/Intersection/Subtraction. When one of the before-mentioned design operations generates a new surface, no local vertex color information is available. The newly created surface will get the part color.



*Retention of vertex color when executing the interactive plane cut operation on a heart model.*

Vertex colors can also be imported from a 3mf or obj file. When importing a 3mf file, an import dialog appears with the option to *split surfaces by color*. Check this parameter to ignore the vertex colors and reverse to the behavior from 3-matic 15.0 where the part surfaces are segmented based on the color scheme in the file.



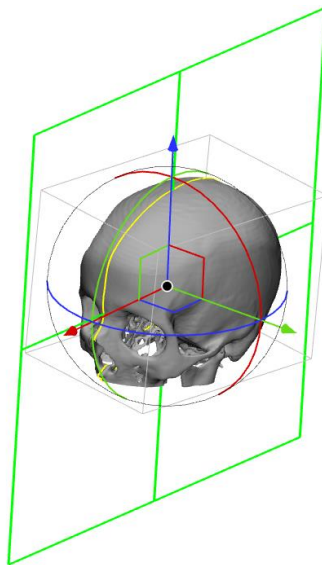
*The import dialog for 3mf files with the new “split surfaces by color” parameter.*

It is possible to export the vertex color models to 3mf, obj and vrml to allow smooth finalization or your workflow.

## 1.6. Design

### Interactive Plane Cut

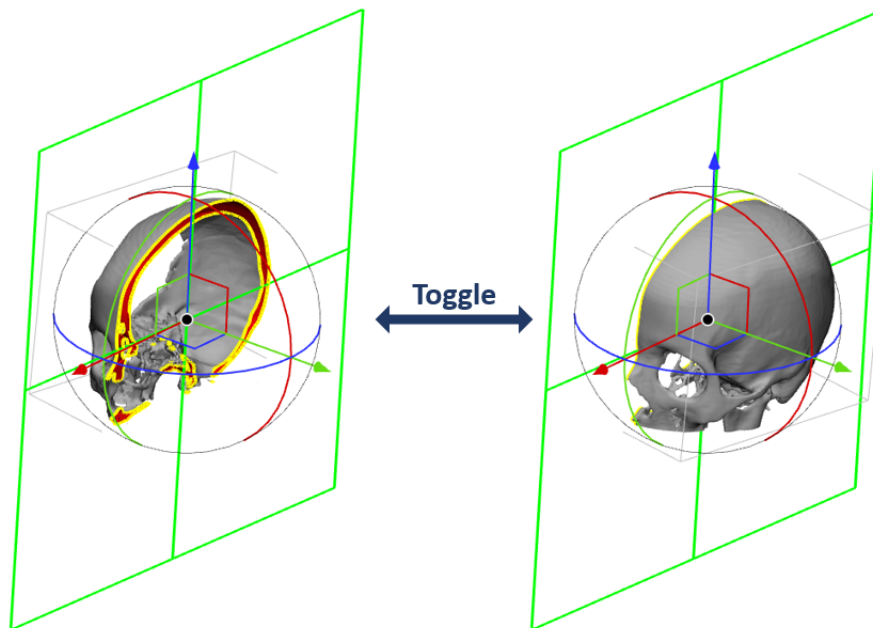
Materialise 3-matic Medical 16.0 introduces a new cutting tool to interactively cut parts with a finite or infinite plane. The Interactive Plane Cut tool is situated in the Design ribbon. The initial position of the cutting plane is based on the geometry of the input parts or adopted to the selected Datum Plane, Sketch or Fit Plane. The cutting plane is previewed as a green plane and the gumball widget can be used to interactively change the orientation of the cutting plane. Stepping parameters are available to precisely control the plane movement. The interactive cut comes with a section preview shown by a yellow intersection line.



*Cutting plane preview in green. Intersection line preview in yellow.*

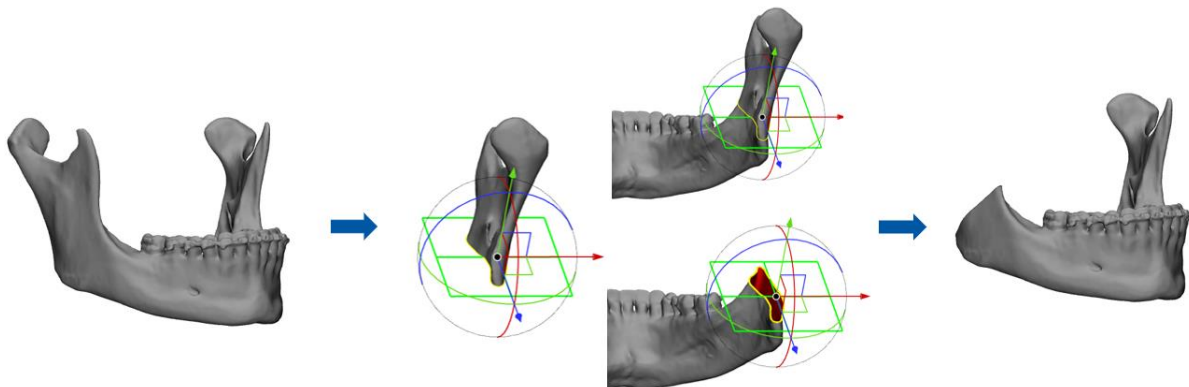
The new tool comes with the possibility to show a clipped preview to get the cut done right from the first try. Toggle between clipped previews to assure both sides of the cutting plane are according to expectations.





*Toggling between clipped previews.*

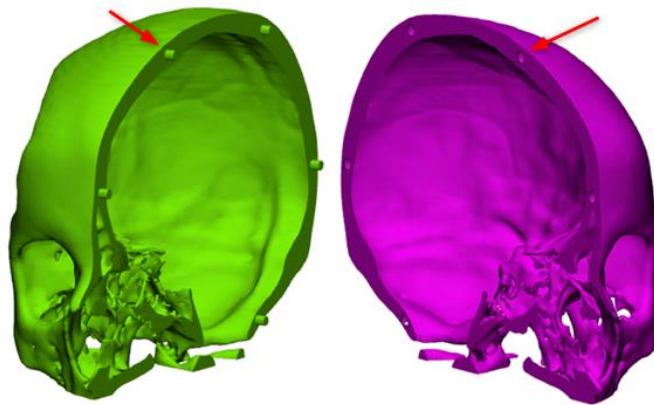
The new tool also provides the possibility to locally cut your input parts. Enable the *Finite plane cut* parameter in the operation page and resize the cutting plane. The clipped preview allows to locally check the expected output. The input parts are only cut at the intersection with the cutting plane.



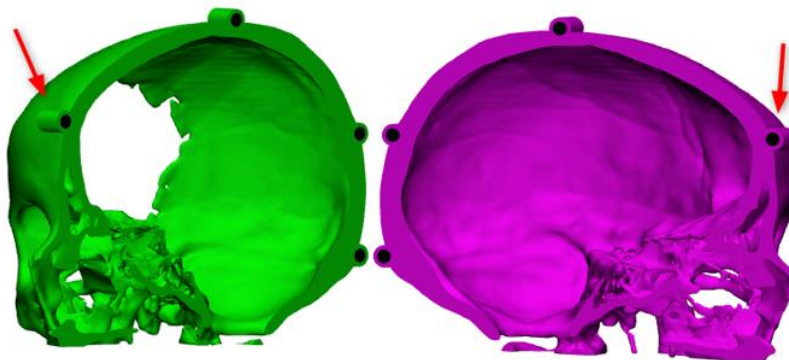
*Local interactive plane cut of a mandible.*

### Create Pins and holes

Materialise 3-matic Medical 16.0 comes with a completely new tool allowing you to speed up your workflow by easily creating multiple pin and holes connections. Depending on the design needs, it is possible to generate connections inside the part walls or holders on the outside.



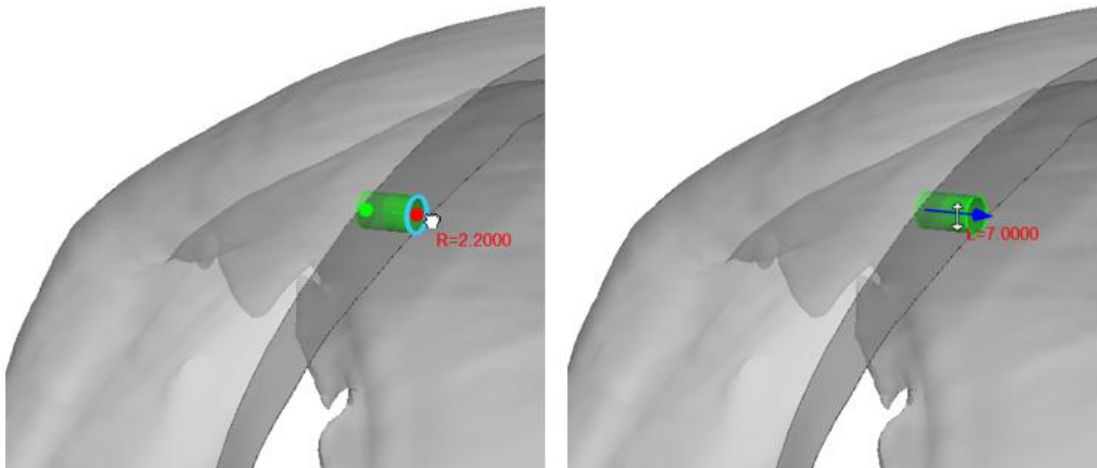
*Output of the Create Pins and Holes tool using the internal connection method. The Connector type in the Boolean parameters is set to Pins and Holes*



*Output of the Create Pins and Holes tool using the external connection method. The Connector type in the Boolean parameters is set to Holes*

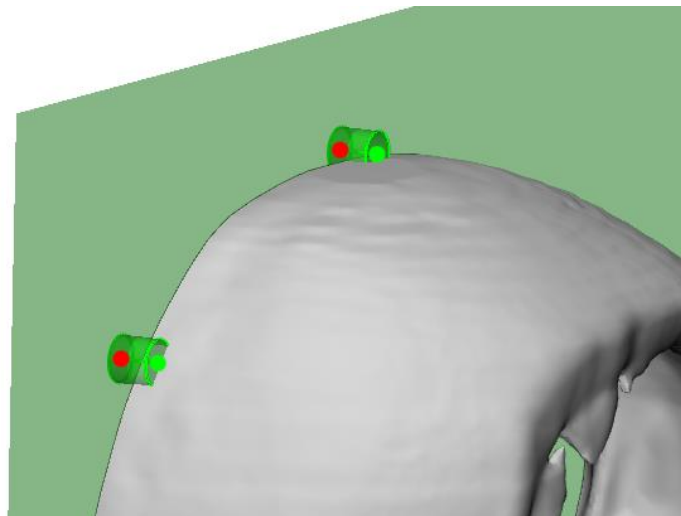
When the desired parameters are set for the internal connection method, start creating connections by clicking a free point on the cut surface in the Work Area. A preview of the connection appears. Interactively modify a connection in the work area by holding the Ctrl button. A grab mouse will appear when hovering over the radius or axis. Simply click on the property you want to change and start dragging the mouse to change it. When not satisfied with one of the created connections, double click one of the endpoints to remove the connection





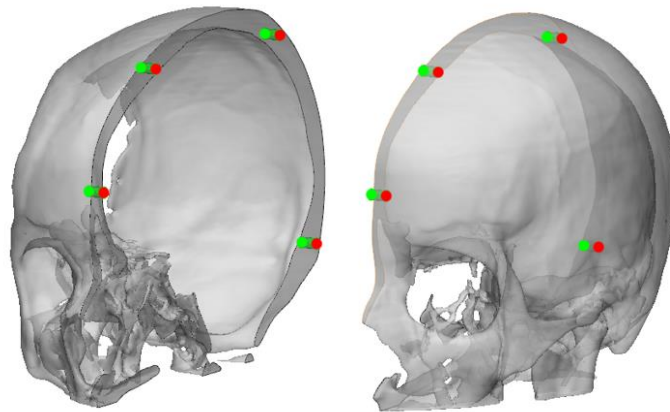
*Left: Interactively change the radius of the connection.  
Right: Interactively change the length of the connection*

When creating external connections, a guiding plane is previewed. Click anywhere on this guiding plane to start creating connections. This allows the creation of connections which have its center point outside of the cut surface. It is once again possible to interactively change the radius/ length of a connection and remove a connection by double clicking begin/end point.



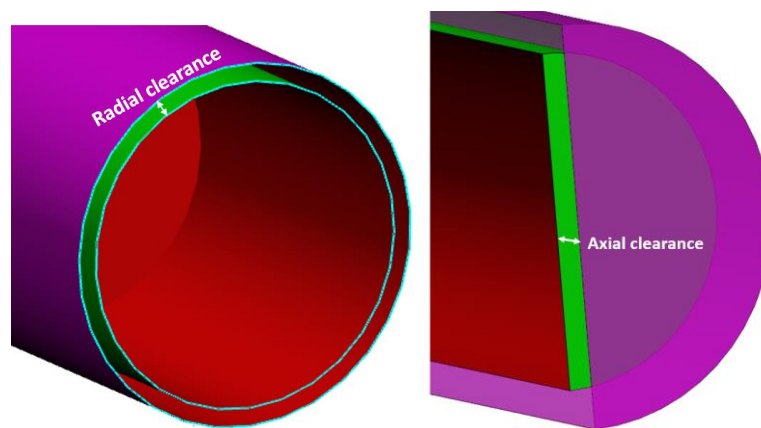
*A guiding plane is previewed when using the external connection method to allow the creation of connections outside of the cut surface.*

Enabling the Clip checkbox hides the source entity and change the transparency of the target entity to allow better visualization of the previewed connections. Clicking the Toggle Visibility button shifts the visibility between the target and source entity.



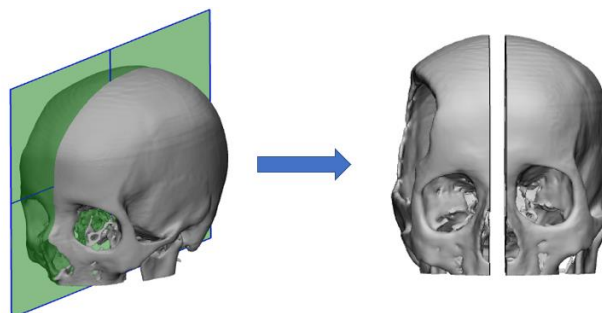
*Toggle the visibility of the source and target part to inspect the previewed connections*

The Boolean parameters provides control over the connection type, radial/axial clearance and the tolerance required to generate the desired output. When setting the Connector type to Pins and Holes, the pins are added to the source entity and the holes are created in the target entity. The radial and axial clearance are applied as follow:

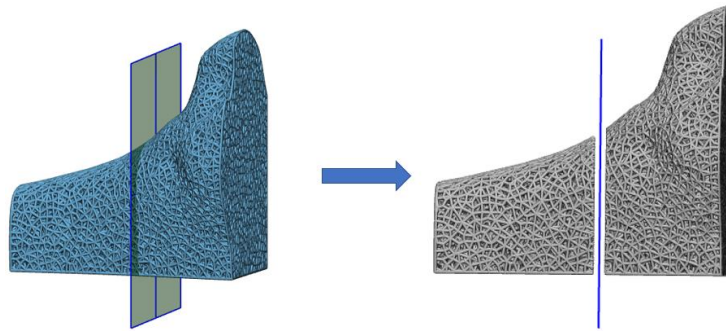


## Cut

The cut tool has been expanded with the possibility to create a clearance gap when cutting entities. Cutting with a plane will apply the clearance distance on both sides of the plane.



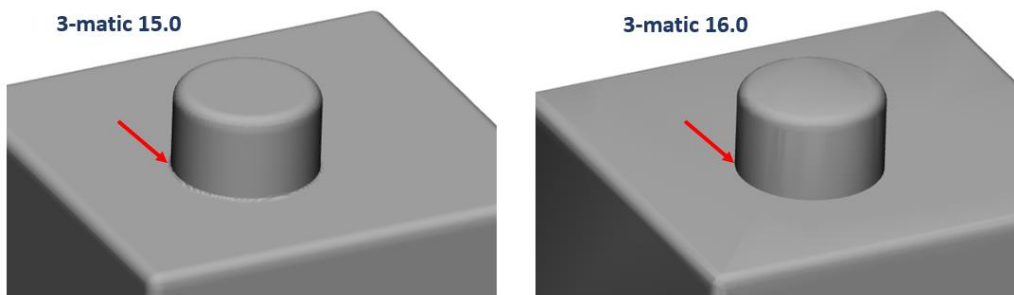
*Output of cutting with clearance on a meshed part.*



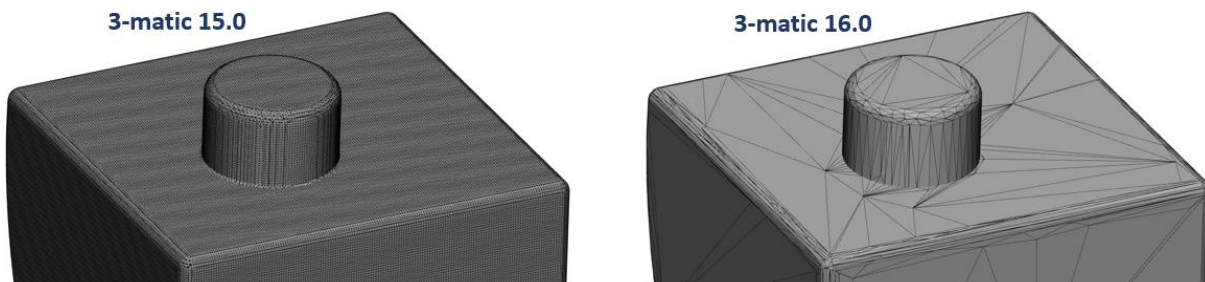
*Output of cutting with clearance on a graph structure.*

## Hollow

Materialise 3-matic Medical 16.0 comes with an improved Hollow tool. Sharp edges are much better retained, and the preservation of flat surfaces is improved. Use the smooth factor parameter in case the sharp edges in the output are not desired.



*Left: Hollow output generated in 3-matic 15.0. Right: Hollow output generated in 3-matic Medical 16.0. The sharp features indicated by the red arrow are better preserved in 3-matic Medical 16.0.*



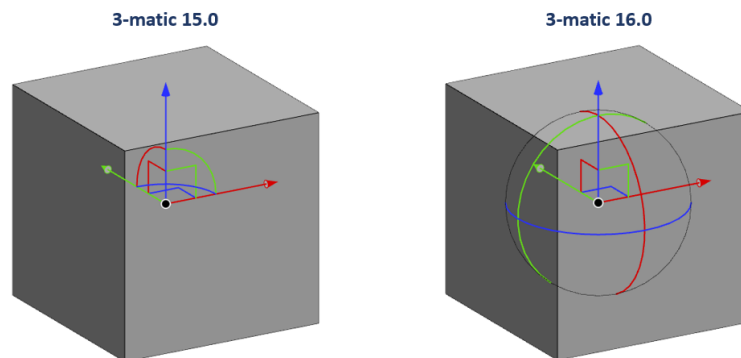
*Left: Hollow output generated in 3-matic 15.0. Right: Hollow output generated in 3-matic Medical 16.0. The flat surfaces are better preserved in 3-matic Medical 16.0.*

The Cleanup at border parameter has become redundant since the created output will be properly trimmed already. Therefore, this parameter has been removed from the operation page.

## 1.7. Align

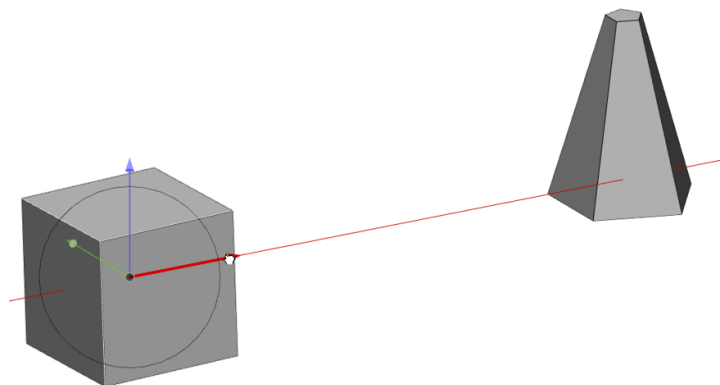
### Translate/Rotate

The standalone operations Interactive Rotate and Interactive Translate have been replaced by the improved Translate/Rotate tool for better user experience. The bigger rotation circles make it easier to pick up the rotation axis and gives more control to manage small rotation.



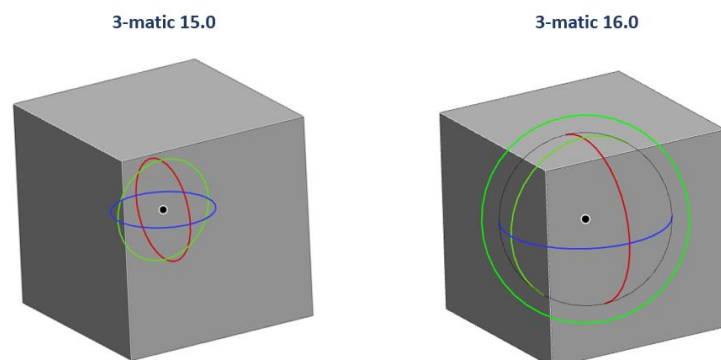
Left: Widget with small rotation circles as used in 3-matic 15.0.  
Right: Improved widget with big rotation circles as used in 3-matic Medical 16.0.

The new added pointer line provides 3D depth information when translating entities. Pick up one of the translation axes to activate the pointer line. It will give a good idea of where the input entity will end after translation.



Pointer line to provide 3D depth perception in red.

When setting the Transformation parameter to Rotation only, an extra green circle is available in the widget. Use the green circle to rotate your input entities in the screen coordinate system.



Left: Widget as used in 3-matic 15.0.  
Right: Improved widget with big rotation circles and green circle to rotate in the screen coordinate system as used in 3-matic Medical 16.0.

Other small improvements include:

- It is now also possible to pick up the origin of the widget and move it to any free point.

- The Transformation parameter selection method is updated from a dropdown menu to radio buttons for easy selection of the method.
- The *Preserve Alignment* parameter is only available when executing a rotation in the *World Coordinate System* or the *Screen Coordinate system*.

## 1.8. Scripting

Python scripts written for previous versions of Materialise 3-matic (until version 15.0) should be re-validated by the user before being run with Materialise 3-matic 16.0. Small updates can break a script in several ways.

3-matic Medical 16.0 now requires python 3.8.x. When adding extra packages to python, make sure `jedi 0.9.0` and `RPyC 4.0.2` are used. For other versions, the compatibility is not tested on Materialise 3-matic Medical 16.0.

### Full list of API improvements

The 3-matic Python APIs are extended in these primary areas:

#### Lattice module

For 3-matic 16, the API has been extended with several functions to allow further automation of lattice workflows via scripting. The following table lists the added API functions:

<code>trimatic.analyze_lattice_pore_size</code>	<code>trimatic.stitch_graphs</code>
<code>trimatic.create_uv_based_dual_conforma_lattice</code>	<code>trimatic.split_beams_at_intersection</code>

#### Other modules

The API has been extended with several functions in other modules as well. The following table lists the added API functions:

<code>trimatic.fit_centerline_curve</code>	<code>trimatic.unify</code>
<code>trimatic.create_procedural_leather_texture</code>	<code>trimatic.activate_local_smoothing</code>

#### Group functionality

The group functionality in 3-matic Medical 16.0 is improved.

- The `create_group` API function is expanded with the `parent_group` parameter to identify a parent group upon creation of a new group
- The `create_group` API function accepts now groups as input entities to generate subgroups
- The `entitites` parameter of the `create_group` API function is optional to allow creation of empty groups.
- The `add_items` function accepts group objects to allow easy creation of a multi-level group structure.

#### Other changes

- The `trimatic.cut` API function now has a `clearance` parameter available.
- The `trimatic.hollow_both` and `trimatic.hollow_inside_outside` API functions are merged to a single API function: `trimatic.hollow`
- The properties of a part are extended with the `vertex_color` property.
- The next API functions are renamed to align with the user interface updates

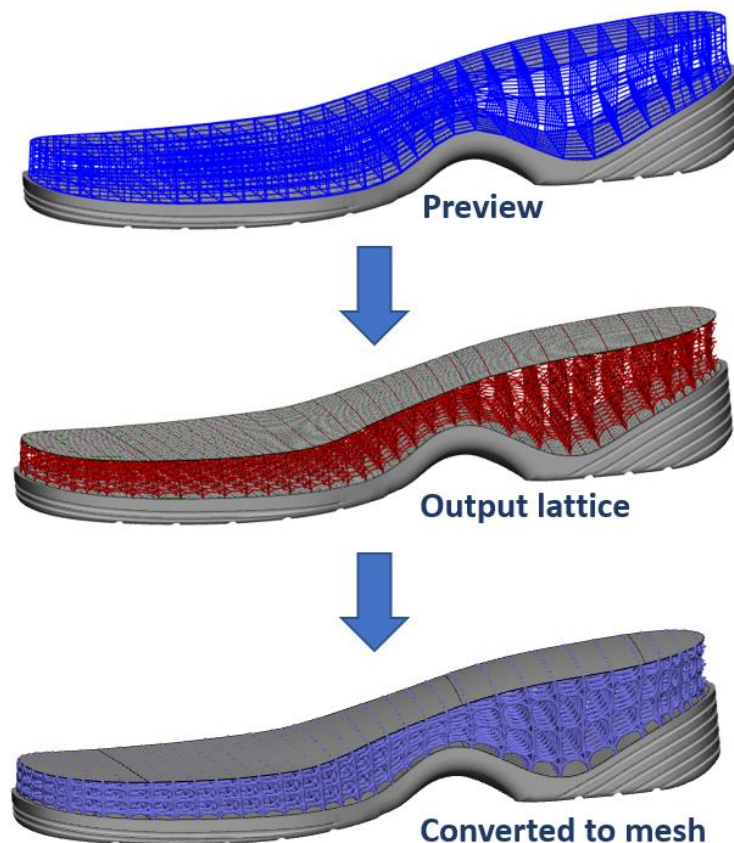


Old API name	New API name
convert_analytical_primitive_to_part	convert_analytical_to_mesh
activate_mark_lasso_area	activate_mark_freeform_area

## 1.9. Lattice

### UV Based Conformal Lattice

Materialise 3-matic Medical 16.0 introduces the creation of UV based lattice structures conforming to two surfaces. Access this new method by setting the Type parameter in the UV Based Conformal Lattice (Lattice tab → Create → UV Based Conformal) to Dual Surface Conformal. Depending on the design needs, the number of layers can be controlled, and different unit cells can be assigned to specific layers. In line with the single surface conformal lattice creation, the tool allows control over the conformal parameters and the possibility to define how the boundary unit cells are processed.



*Top: Preview of UV based dual surface conformal lattice structure. Each blue box represents a single unit cell.*

*Middle: Output of the UV based dual surface conformal lattice operation.*

*Bottom: Result when converting the output to a mesh structure.*

## 1.10. Texturing

### Procedural Leather Texture

The *Procedural Leather Texture* tool has been enhanced with the possibility to accept multiple parts and/or UV Maps. When selecting a single input part with multiple UV Maps, all

of them are textured. In contrast to 3-matic 15.0, the original UV Maps are now retained, and new Leather Texture entities are created in the object tree. This avoids the need to duplicate the UV Maps upfront in order to retain them. Lastly, a memory estimate is added to the operation page to evaluate whether the desired texture result can be achieved.

## 1.11. Minor changes

### Align

- The standalone operations **Interactive Rotate** and **Interactive Translate** have been removed. All the functionality of this individual tools can be accessed in the **Translate/Rotate** tool.

### CAD Link:

- The CAD Link operation has been removed as a dedicated menu from 3-matic and is now accessible through **File → CAD Link**.

### Curve

- The next operation names in the Curve tools have been changed:

Old operation name	New operation name
Blend Curve	Create Blend Curve
Create Center Line	Fit Centerline Curve

### Design

- The Create Connection tool now allows the creation of solid connections. Set the desired tolerance before applying the operation.
- The Clearance and Clearance factor parameter in the Boolean Subtraction are updated to a single Clearance parameter.
- The Extrude tool preview now includes the draft angle. Furthermore, several small behavior issues have been fixed as well.
- When creating a closed arc using the Create Arc tool, the value for begin and end point will now be the same.
- The next operation names in the Design tools have been changed:

Old operation name	New operation name
Convert Analytical Primitive to Part	Convert Analytical to Mesh

### Mark

- The next operation names in the Mark tools have been changed:

Old operation name	New operation name
Wave Brush Mark	Mark Wave Brush
Polyline Brush Mark	Mark Polyline Brush

Rectangular Mark	Mark Rectangular Area
Polygon Area Mark	Mark Polygon Area
Lasso Area Mark	Mark Freeform Area
Smooth Marking Border	Smooth Marked Border
Make All Visible	Make Visible

## Lattice

- The Voronoi Based Lattice tool now contains a memory estimate that is based on the pore radius and thickness value.
- The next operation names in the Lattice tools have been changed:

Old operation name	New operation name
Rectangular Mark	Mark Rectangular Area
Freeform Mark	Mark Freeform Area
Create Intersection Nodes	Split Beams at Intersection
Edit Graph Properties	Uniform Thickness

## Options & Help

- The Register License and Module operations are merged into a single tool named Licenses. It will open the improved license wizard.

## Surface

- The next operation names in the Surface tools have been changed:

Old operation name	New operation name
Surface Recovery	Recover Surface Structure
Filter Small Surfaces	Filter Surfaces
Surface Set Reduction	Reduce Surfaces
Uniform Surface Color	Use Part Color
Autocolor Surfaces	Color Surfaces

## UV Map

- The Enter UV Page and Exit UV Page tools have been merged into a single toggle button named Enter/Exit UV Page:

Old operation name	New operation name
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Enter UV Page	Enter/Exit UV Page
Exit UV Page	Enter/Exit UV Page

**View**

- The next operation names in the View tools have been changed:

Old operation name	New operation name
Sort	Sort Object Tree

## Known issues

### 1.1. General

- Visualization of menu icons may blur in certain cases, depending on the Windows display resolution. It is advised to set the Windows display settings i.e. scaling factor and resolution to the settings recommended by Windows.
- Depending on your resolution settings, pop up dialogs in 3-matic (e.g.: preferences, fix wizard, ...) can be too small to fit all available buttons. In this case, enlarge the window to assure all buttons can be accessed. The same issue appears for the filter options panel.
- For specific monitors if scaling is set to 125% in display settings, the progress bars might be cut off for certain operations.
- Under very specific conditions, there might be an incompatibility between 3-matic and Windows-specific add-ons that cause the file explorer window to malfunction, making it impossible to select files for import. A work-around is to drag and drop files into 3-matic. Do contact our support team in case you face this issue.
- The status bar on the left bottom doesn't show the status when (auto)-saving. It shows the tooltip description when hovering over a button in the user interface.
- In some very specific customization scenarios, the commandcache file to store customization settings may get corrupted. This may result in a crash upon launch of 3-matic. A work-around is to delete the temp file in AppData\Roaming\Materialise\3-matic. This work-around will also delete any customization done in 3-matic.
- When registering a new local license, it is possible that the ribbons related to the new license are not immediately shown in 3-matic. If this happens, it is advised to reset the user interface via **Options & Help → Reset Defaults → Reset user Interface**.

### 1.2. Import/Export

- Import \*.X3D does not have the "Import as one part" parameter. By default, the geometries are always imported as one part.
- Upon importing Fluent files, (sur)face names are not retained but renamed to surface-1, surface-2, ...
- Exported analyses to 3D pdf appear too bright in Adobe.

### 1.3. View

- When zooming in till the maximum in the Work area, the Orientation box changes its original position

### 1.4. Align

- When applying the 'interactive positioning' operation on a datum plane or sketch, this object might get corrupt if it was already selected prior to activating the operation. As a work around, first activate the 'interactive positioning' operation, then select the datum plane or sketch.

### 1.5. Measure

- Length measurements can give a different value when saving and reopening a project if the coordinate system of the original parts has been updated after the measurement was already executed.

## 1.6. Curve

- In specific cases, the 'Create Spiral Curve' does not take the user defined center point correctly into account.
- While the preview of the 'Create Isocurves' operation is not always correct or even missing, the actual resulting curves after applying are correct.

## 1.7. Design

- Metadata is not preserved when cutting a part with 'Create new part' ON, using the 'Cut' operation.
- The 'Anatomy Reconstruction' might fail/crash on specific (less realistic) input data.
- When interactive editing a datum plane, the point preview can be incorrect. The preview of the datum plane itself is correct as well as the output after pressing apply.
- When applying the Interactive Plane Cut with the "Finite cut" parameter checked, the clearance parameter is not properly considered. The clearance is not reflected in the clipped preview and will only be applied on 1 side of the cutting plane.

## 1.8. UV Map

- In case conflicting alignment constraints are given when performing the UV alignment operation, this may lead to an invalid UV Map.
- The XYZ to U and XYZ to V factors of a UV Map are not updated if the corresponding part has been rescaled (e.g. via the 'Scale' operation in the Align toolbar/menu)

## 1.9. Texturing

- When applying a square texture on a UV map that has (or had) a non-square texture initially, the aspect ratio of the square texture will be distorted.

## 1.10. Lattice

- A result of 'Convert Lattice to Mesh' operation with organic effect is not always smooth for graphs with different thicknesses if they have shared nodes.
- For certain interactive operations (e.g. Interactively Translate Graph Edges) the selection filter might get disabled, preventing you from making a graph selection in the 3D view. As a workaround the entity selection box should get focus again in the operation page.
- In very specific cases, picking and rotating a part with graphs in the Work area might result in short time 3-matic freezing.

## 1.11. Remesh

- The 'Analyze Mesh Quality' operation is marking only bad volume elements, instead of also marking the corresponding triangles of the surface.
- When applying the Uniform Remesh operation on parts containing invisible surfaces, it will make the invisible surfaces visible again. The output result is not influenced.
- Using the Remesh button in the FEA menu in Mimics opens 3-matic but the Remesh ribbon is not automatically activated.

## 1.12. CAD Link

- The CAD Link operation might crash on specific input data. It is recommended to fix parts upfront and to assign realistic parameters.
-

## 1.13. Compatibility

- 3-matic doesn't support triangle color information when loading \*.magics files.
- Parts imported with \*.magics file can have different orientations in 3-matic and Magics (Modeler scene).
- Groups created in older 3-matic versions can give rise to issues in 16.0 when using an object/operation specific view (e.g. UV Page, Inspection view, Sketch view, ...). When importing project files generated in an older version of 3-matic, it is advised to save and reload the file in 3-matic Medical 16.0.

## System Requirements

### 1.14. Minimum requirements

Software	Hardware
Windows® 10 version 1607 – 64bit	Third generation Intel® Core™ i5 or equivalent
Microsoft Edge® or equivalent	8 GB RAM
PDF viewer	DirectX® 11.0 compliant graphics card with 1GB RAM
.NET framework 4.6.1 (or higher)	15 GB free hard disk space
	Resolution of 1920x1080

Note: Mac® users can install the MIS using Boot Camp® in combination with a supported Windows OS.

### 1.15. Recommended requirements

Software	Hardware
Windows® 10 version 1909 – 64bit	Third generation Intel® Core™ i7 or equivalent
Microsoft Edge® or equivalent	16 GB RAM
PDF viewer	DirectX® 11.0 compliant AMD Radeon/NVIDIA® GeForce® card with 2GB RAM
.NET framework 4.6.1 (or higher)	20 GB free hard disk space
	Resolution of 1920x1080 or higher

It is recommended to use our software within a hardware and/or network environment in which cyber security controls have been implemented including anti-virus and use of firewall.

The following operating system versions were used to test Materialise 3-matic Medical 16.0:

- Windows 10 Pro/Enterprise version 1607, 1709, 1809, 1903, 1909 64-bit

Materialise 3-matic Medical 16.0 software and does not degrade in performance. Its lifetime is determined by commercial requirements, obsolescence of its techniques or obsolescence caused by changes in its host environment (refer to above requirements). Support can in any case not be guaranteed beyond 24 months after the release of this particular version of the software.

## Contact Information

For technical support, please contact our Customer Support team: [mimics@materialise.be](mailto:mimics@materialise.be).

For scripting related support, the MIS Scripting Forum can be consulted as well:

<https://community.materialise.com/>

For more information, please check our website: <http://medical.materialise.com> or the Materialise Academy <http://www.materialise.com/en/academy/medical/mimics-innovation-suite>.