



materialise

innovators you can count on

Materialise Magics

27.0 – Release Notes

May 2023

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This document lists the main changes and fixes compared to the Magics 26.1 release.

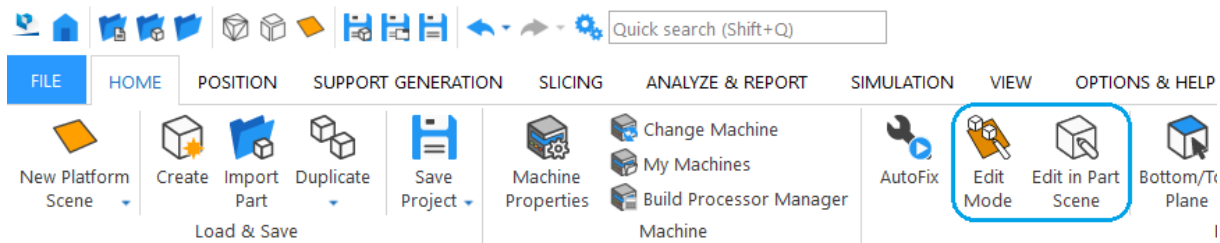
1 What's new – working with scenes

Since Magics 26, there are two main scene concepts:

1. **part scenes** (which include both mesh and BREP) are used for preparing, fixing and editing individual parts
2. **platform scenes** (currently only mesh) used for build preparation. Within the platform scene context, a new 'edit mode' has been introduced, next to the existing 'SG mode'.

1.1 Edit mode

This mode is designed to allow for limited editing and fixing of multiple parts or virtual copies within the platform context, while the 'Edit in Part Scene' (former 'Edit Part') operation remains available for in-depth data preparation focused on a single master part or assembly in a part scene with a full set of tools.



Edit in Part Scene versus Edit Mode

1.2 'Edit in Part Scene' (former Edit Part) enhancements

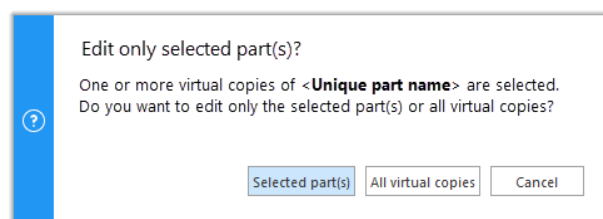
Orientation preservation

'Edit in Part Scene' command will now keep the part's platform orientation when launching the part scene.

Note: Orientation is only preserved once upon part scene creation. Any further change of orientation in the part scene itself is not supposed to be reflected back to the platform.

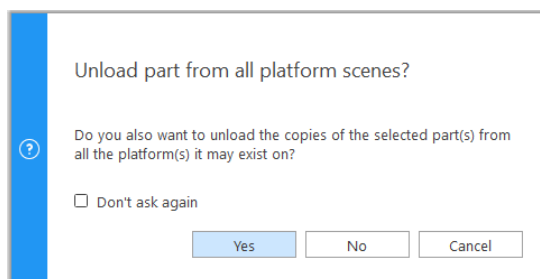
Virtual copies handling

For part(s) with multiple virtual copies on the same or different platform(s), the user will be asked about preferred way to handle virtual copies after launching 'Edit in Part Scene' command. If the intention is to edit all copies in one go, the user will enter part scene with existing master part. However, if only selected virtual copies should be affected, the new master part will be created for them and thus the link with other copies will be broken.



Unloading parts from Mesh Part Scene

When unloading parts that have virtual copies Magics allows to either unload them from the part scene only or from all scenes in one go by giving the warning message to the user:



Groups can be preserved when opening them in Part Scene

In the Platform scene of Magics, when one or more parts are grouped together and the "Edit in Part Scene" command is clicked, the entire group is added to the same Part scene as grouped parts. It is worth noting that if virtual copies are present in the grouped part, they will automatically be split into unique parts upon executing the "Edit in Part Scene" command while still part of the group.

1.3 General improvements on working with scenes and parts

Scene naming

Naming improvements have been applied to some of the commands and sections on the home screen with regards to scenes

Magics 27	Magics 26
Create new part scene	Create new part
Create new platform scene	Create new platform
New mesh part scene	New mesh part
New BREP part scene	New solid part
Edit in Part Scene	Edit Part
Import Part	Add Component/ Add Part

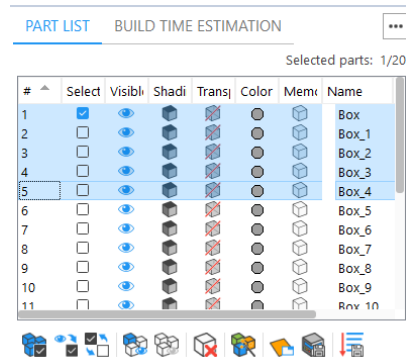
To better differentiate these 3 different types of scenes that come with Magics, icons have been added to the different scene tabs: mesh part scene, solid (BREP) part scene or platform scene. On top of that, an easy way to rename and close scenes is available now as well.

Drag&drop of files on part scenes

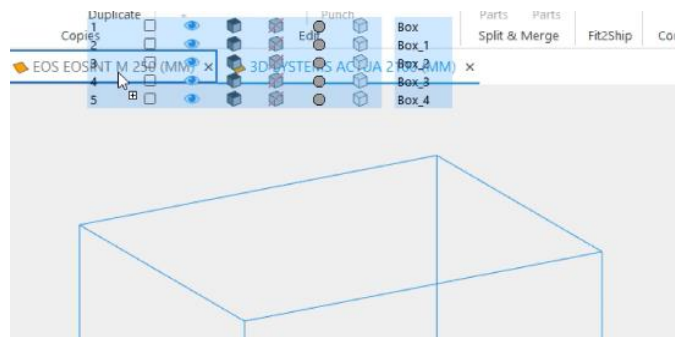
Beside the previously introduced options of dragging and dropping file on the home screen, platform scenes or on the tabs, Magics 27 now comes with the possibility to also drag and drop file(s) directly into BREP and mesh part scene(s). This new functionality behaves as the 'import part' function.

Drag&drop of parts among platform scenes.

Magics 27 introduces an easier way to move parts among the platform scenes with simply drag and drop highlighted parts to a platform scene tab.



Highlight the parts you want to move from the part list



Drag and drop to the platform scene you want to move them to

Grouping

From Magics 27 onwards, grouping functionality is also available inside mesh part scenes to enhance data preparation workflow. User(s) can group, ungroup or remove parts from already created groups.

2 What's new – working with BREP

In Magics 26 BREP functionality was introduced. BREP, or Boundary Representation, is a way of representing 3D parts. STEP and CAD native file formats are examples of BREP files. In Magics 27 the BREP functionality has been extensively expanded with new editing operations, measurements, primitives, ...

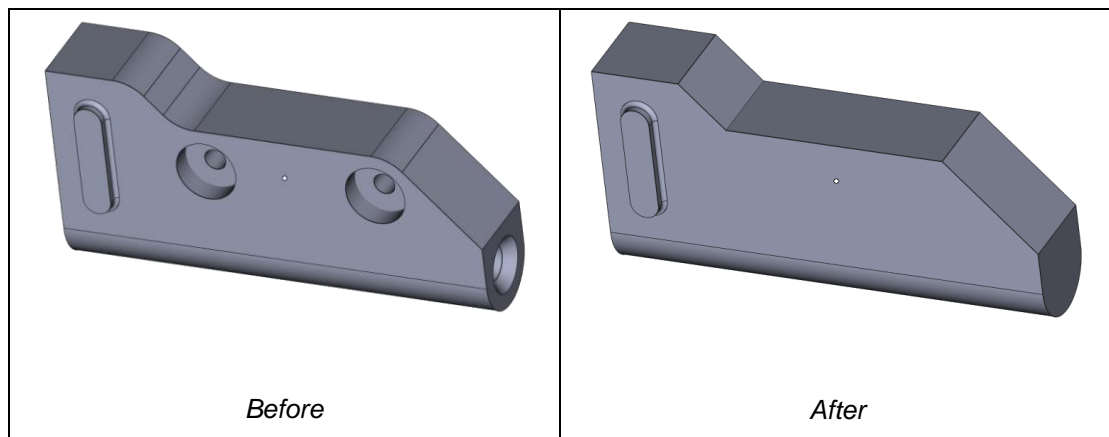
Working directly with BREPs can only be done in a BREP part scene, which can either be created from the home screen, or via import or drag&drop of a CAD part.

Note: when importing (or drag&drop) a CAD part into a mesh part scene or platform scene it will be automatically converted to a mesh representation.

2.1 New BREP functionality

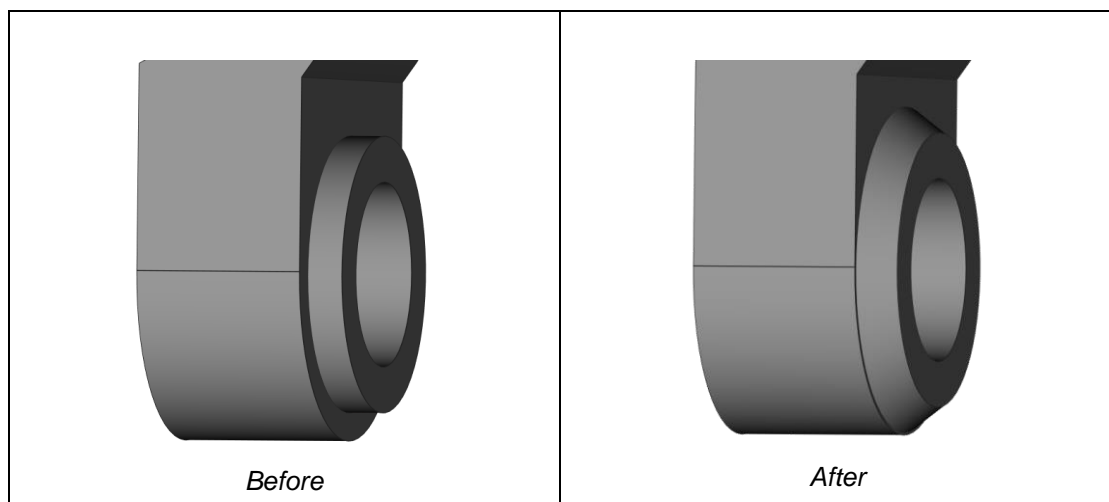
Delete face

Magics 27 introduces the 'Delete face' tool allowing users to further enhance BREP editing workflows by deleting & healing BREP faces undesired for printing process. The tool can help to quickly defeature unprintable holes, fillets, chamfer etc.



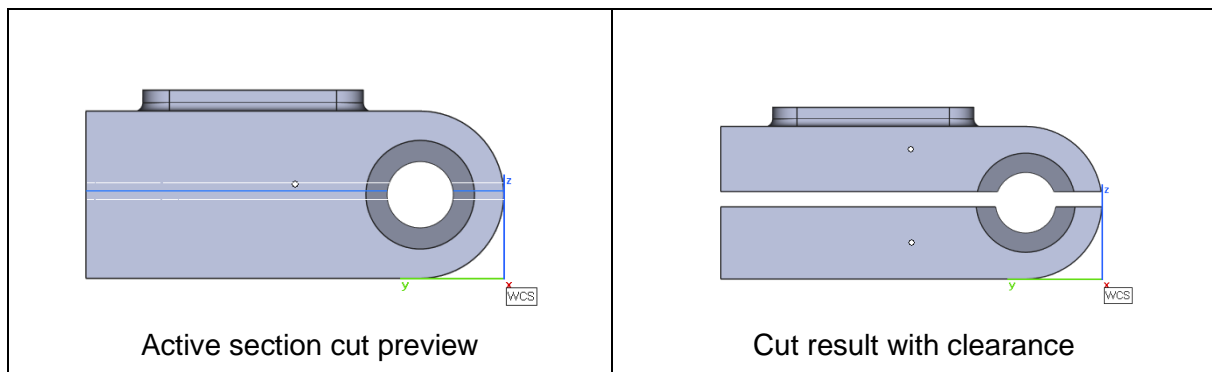
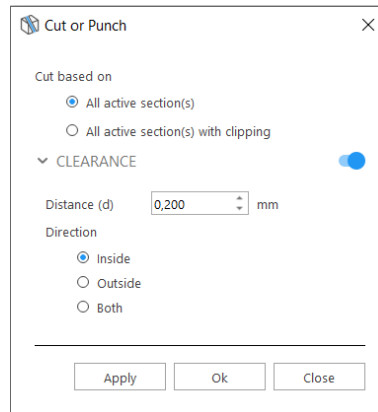
Taper face

Magics 27 comes with the 'Taper face' tool allowing users to taper a single or multiple faces of BREP model at a specific angle with respect to a reference plane. This powerful tool enhances flexibility of design optimization process and allows to reduce time of editing non-printable BREP faces.



Cut or Punch

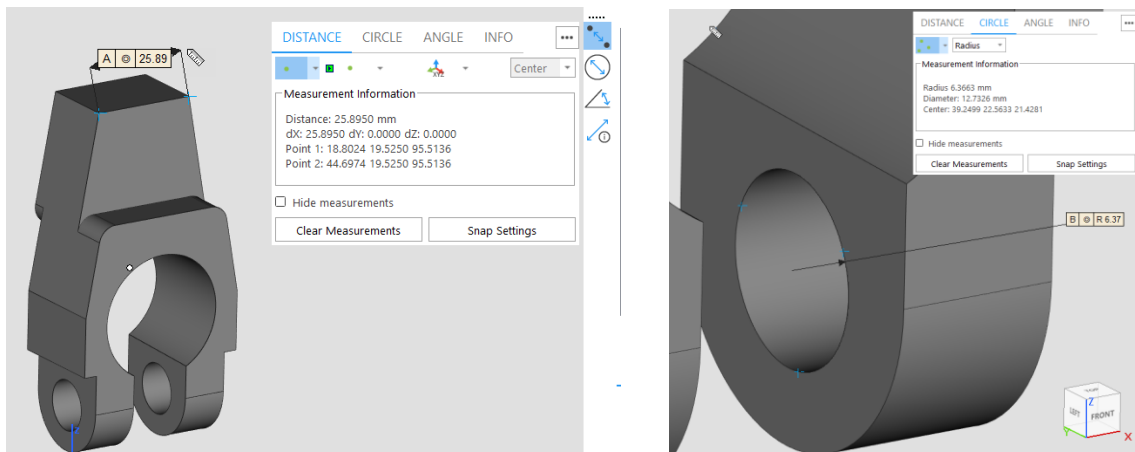
Magics 27 comes with possibility to perform basic cut operations on BREP part(s) along active sections.



Measurement thickness

Measurement toolpages have now been introduced in the BREP Part Preparation scene. With the introduction of the toolpages, now users will be able to perform different types of measurements on BREP entities such as Distance, Circle, Angle and thickness measurements. Through the toolpages as well, measurement stubs can be removed and set to hidden easily.

Note: Currently it is only possible to pick points(s), line(s), circle(s) and plane(s) on BREP parts and sections.



Real measurement

Add Real measurement function has now been enabled for BREP models. It works the same way as for Mesh parts.

Bounding box measurements and Section info

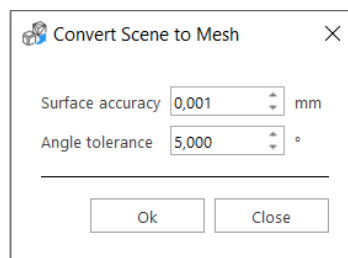
Bounding box measurement and section info are now also available in the BREP part scene.

2.2 Improved BREP functionality

Convert Scene to Mesh

Now, it is possible to set the main conversion parameters for the BREP to Mesh conversion when performing Convert Scene to Mesh. The plane tolerance is the tolerance between the BREP model to the triangle faces in the mesh model while the angle tolerance is the angle deviation between the triangle in the resultant mesh model.

Note: The default parameters are the default values used in Magics 26.0, hence for having similar outputs, you may use the default values.



Match measurement mode for Rescale

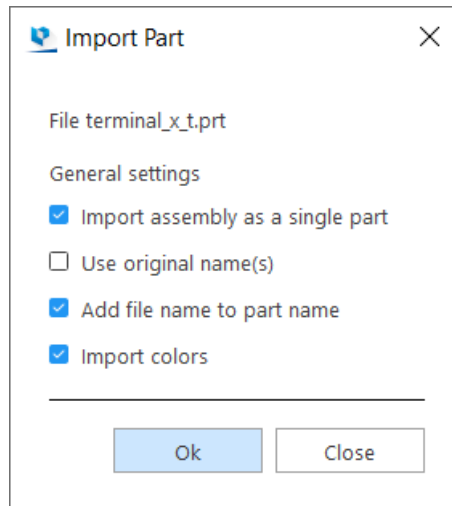
Match measurements mode in Rescale was enabled for BREP part(s) in Magics 27.

Point and Line picker for Translate and Rotate tools for BREP parts

'Translate along the line' and 'Indicate point' options are enabled for Translate and Rotate commands for BREP models.

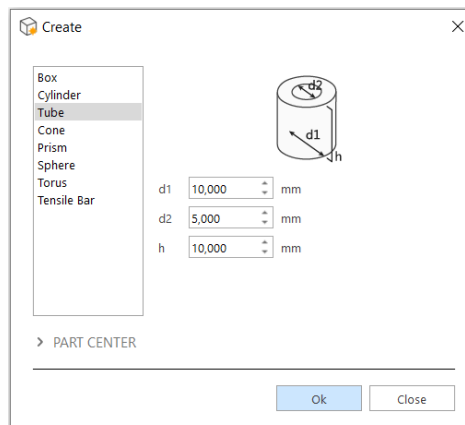
BREP import enhancements

1. Previously used parameters are now preserved in the BREP import dialog on subsequent executions.
2. “Add file name to part name” parameter is now independent from the “Use original name” parameter. Hence, it is now possible to keep only the file name as the part name after importing BREP parts by checking on only the file name parameter as shown below.



New BREP Primitives

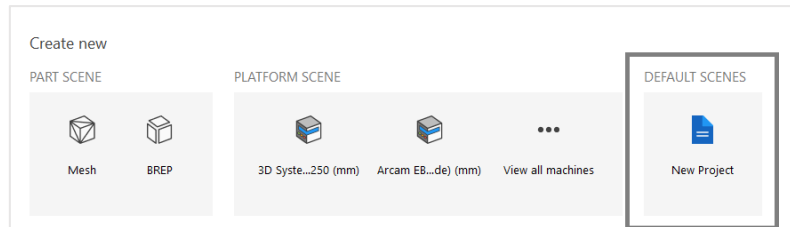
New primitive types such as torus, tube and tensile bar are added to the create BREP primitive dialog.



3 What's new – loading, import & export

3.1 New Project based on a Magics template file

Magics 27 comes with the possibility to start a new project with a default set of scenes and parts based on a Magics project template file.



For convenience, the default project template is pre-defined in settings and can be further customized according to user needs.

3.2 Loading/saving files improvements

Loading and saving project files

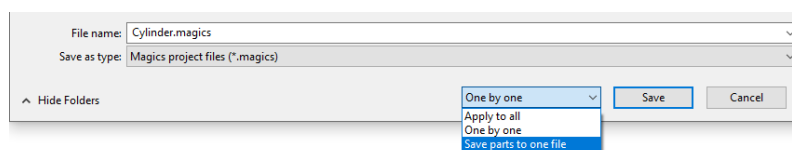
Compared to Magics 26, when existing content of the target Magics session always stayed unmodified after opening *.magics files, Magics 27 comes with the extra option to load project files replacing the content of the active session. 'Load project' command can be accessed from the home screen or from the File menu->Open->Load project or 'Ctrl+L' as default shortcut.

Note 1: If a single Magics file is drag and dropped into the Home Screen, then the file will be loaded as a project automatically.

Note 2: If a Magics file is listed in the Recent files list of the Home Screen, then clicking on the file will automatically load the file as a project while all other file formats will be opened automatically.

Saving multiple parts in single file

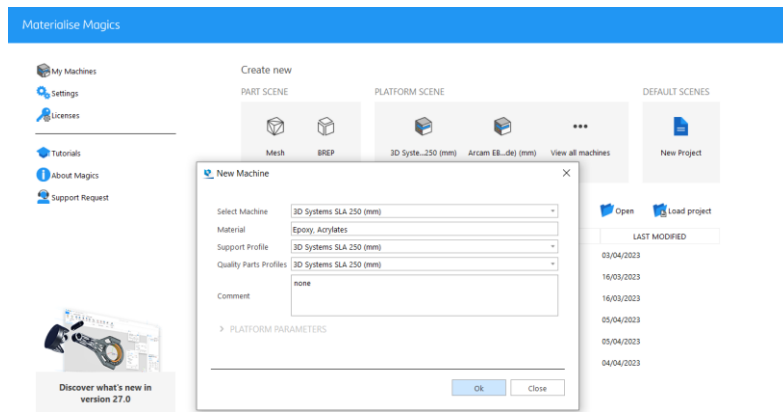
From Magics 27 onwards, the user can save multiple selected parts to one file. This option is available for *.magics, *.mgx, *.matamx, *.3mf, *.3D PDF and *.amf formats. Saving multiple virtual copies on the platform scene to a single file, will result in each part being split to an individual unique part before being saved to the file.



Note: for 3D PDF format the option 'save parts to one file' replaced the former 'As Assembly' option. No changes in saving behavior were made compared to Magics 26.

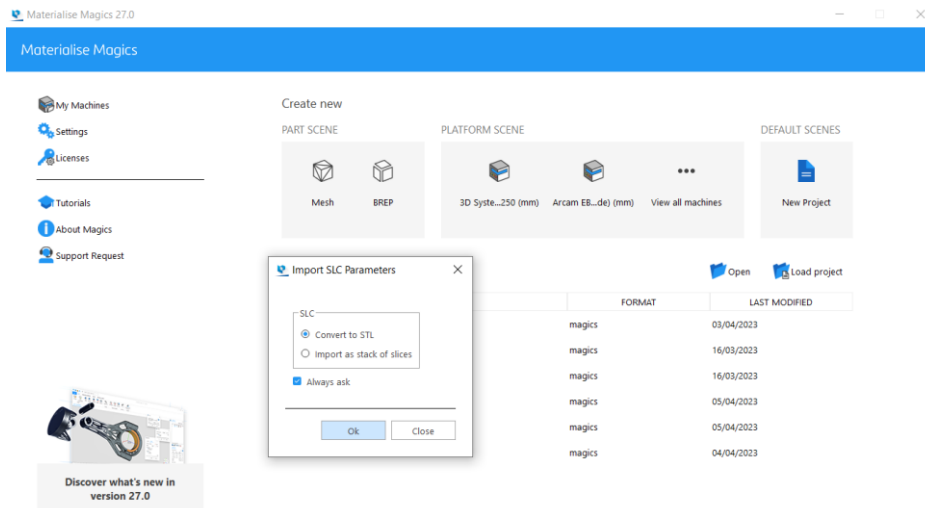
Loading Slice file formats through the Open command/flow

It is now possible to open files with slices directly from the home screen or through the open command. If the file does not contain any platform information for the slices, then a New Platform dialog is shown the user so that the user can specify the desired platform to place the slices on.



Note: It is still possible to load slice files directly to an active platform through the Import command.

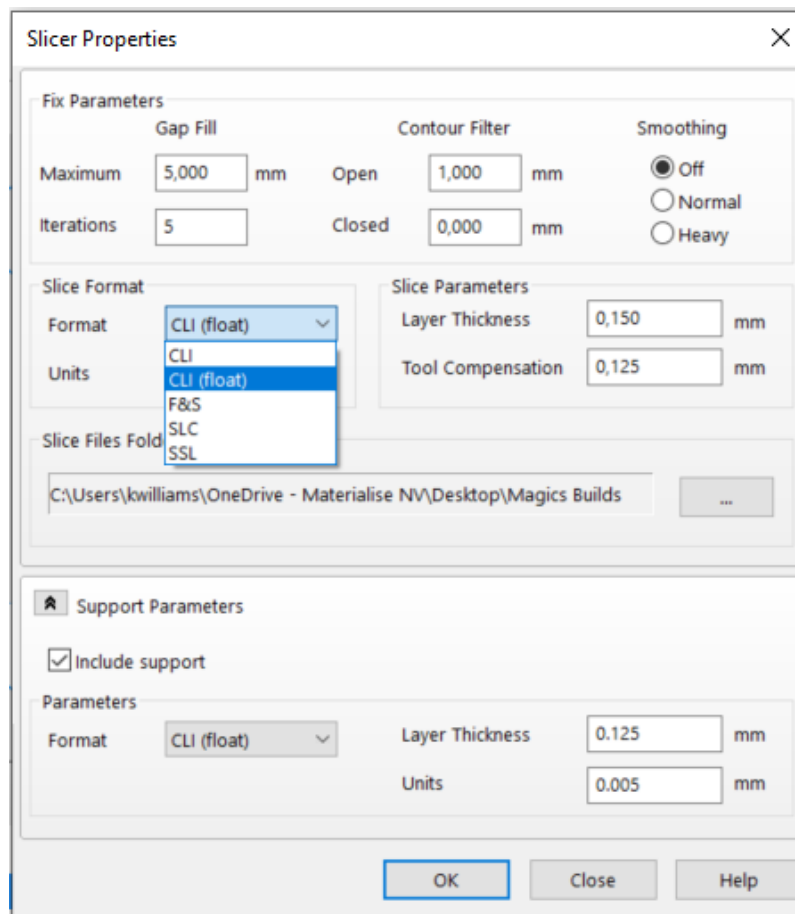
For some formats such as SLC (“slc”) file format, if the necessary SLC to STL conversion license is available, then when loading these files the dialog to allow user to convert the slices to STL are also shown.



Note: If the SLC to STL conversion license is available, it is also possible to add parts that are converted to STL directly from the Mesh part scene.

New format for slicing: CLI (float)

CLI (float) is a new slicing format option. It is possible to select the CLI (float) slicing format in the Slicer properties and on the “Export slice page of the Machine Properties. The option is available for both parts and supports.



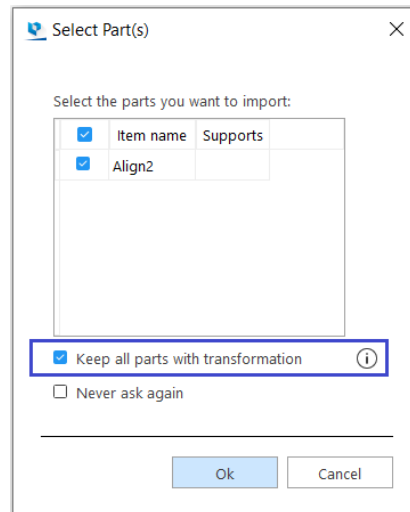
The differences between the regular CLI format and CLI (float):

- Regular CLI has a fixed precision with 16bit numbers with a resolution defined ($2^{16} = 65536$ px). It means that the maximum size of the platform that can be sliced using CLI can be calculated as follows: $\text{max_dimension} = 65536 / \text{resolution}$. Any higher value cannot be represented.
- CLI (float) format uses 32bit floating numbers. For practical purposes, there is no resolution limitation. For higher numbers the precision of the numbers decreases. Theoretical resolution limit is 10^{38} px.
- as CLI (float) uses 4 bytes per number compared to 2 for cli short, the resulting sliced **files are about 2 times bigger**.
- Based on the differences, CLI or CLI (float) format option may suit the user's needs better depending on the platform size, expected precision, or resulting file size requirements.
- If a circular platform has coordinates starting in the middle of the platform, then parts with negative coordinates can't be sliced with CLI format. CLI (float) can be used for slicing instead.

Importing Part to the scene optionally preserves transformation

When importing parts from Materialise file formats such as .magics or .matamx, you can now specify if you want to load all copies with the individual transformation preserved to the current

scene. Since these advanced file formats can contain multiple copies of the same part, each with unique transformation, this option will allow you to load them into your current active scene if necessary. Even if your file only contains 1 part, you are advised to keep this parameter set to True, to ensure all transformation information is loaded correctly.



4 What's new – UI/UX improvements

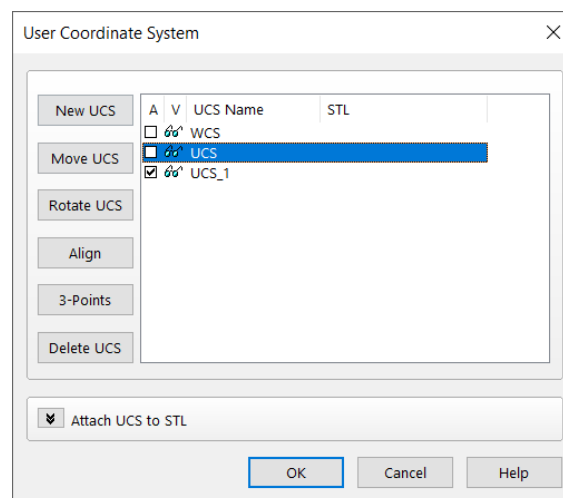
4.1 Working with Coordinate Systems

WCS visualisation

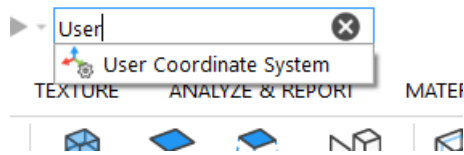
The World Coordinate System indicator can be visualized independently from a part presence in the scene.

User Coordinate System in Mesh Part Scene

It is now possible to create, modify and save custom user coordinate systems again in Magics, specifically in the Mesh part scenes. Each separate mesh part scene can have its own separate unique list of custom coordinate systems that can be activated and deactivated.



Note: The command is only available through the search bar currently.



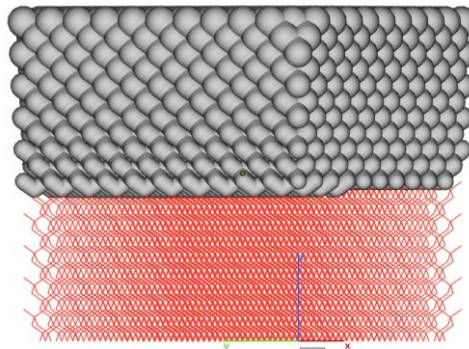
It is also now possible to load custom user coordinate systems from files with the extension “.ucs” into mesh part scenes to be able to add them to the list of custom coordinate systems.

Several operations have been revalidated to work as expected for the custom coordinate systems.

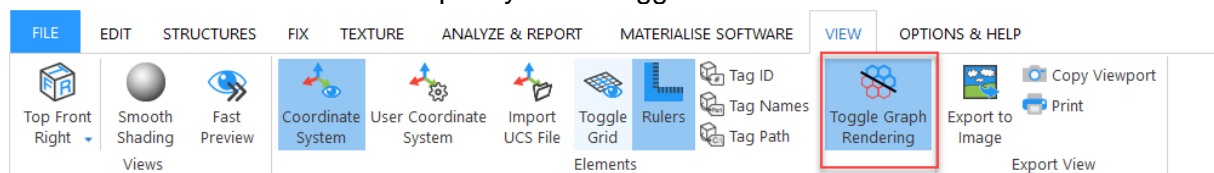
- Part(s) Import & Export
- General transformations (Translate, Rotate, Rescale, Mirror)
- Measurements
- Primitive Creations
- Section Views

4.2 Lattice structures improvements

3D representation of parametric lattice structures was improved in Magics 27 and from now onwards represents real thickness assigned to lattice beams accordingly. Pre-set color for lattices with non-positive thickness was set to red and can be changed anytime later in preferences manually.



It is also now possible to toggle the thickness rendering of lattices between rendering with thickness and without thickness quickly with a toggle button in the View tab in the ribbon bar.

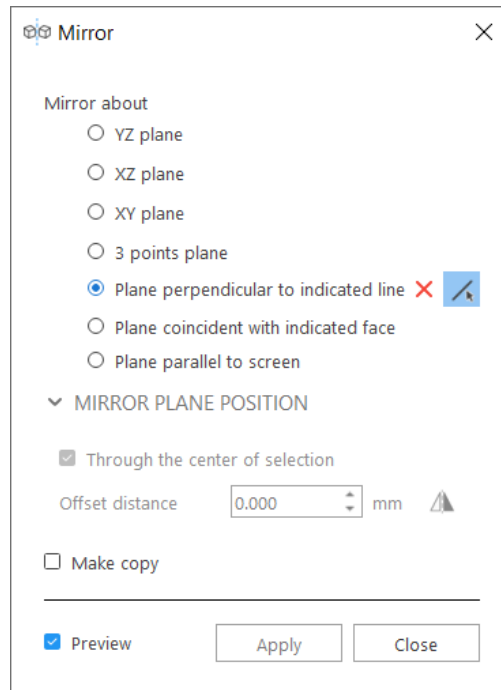


4.3 New Mirror dialog with support for BREP part(s)

A new Mirror dialog has been introduced to modernize the operation to improve the user experience for the operation. With this new dialog, the different methods to perform the Mirror operation are much more evident and self-explanatory.

With this new dialog, the mouse picking modes is much easier to work with clear feedback to the user of their picking action.

Note: Unlike previously the new mirror dialog is also updated to a non-modal dialog to keep in line with the general UI consistency.

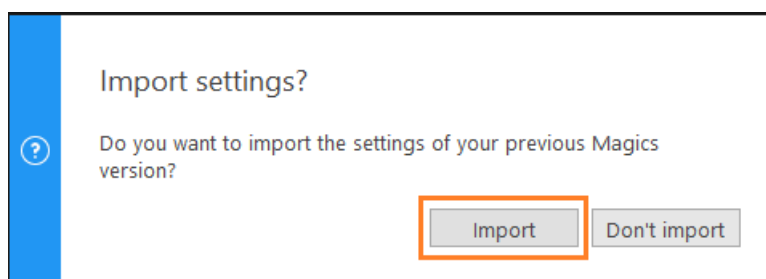


Along with the new dialog, now it is possible to perform Mirror on BREP parts as well. It is also possible to pick entities such as line(s) and planar faces on BREP parts also.

4.4 Other

Import Magics UI profile

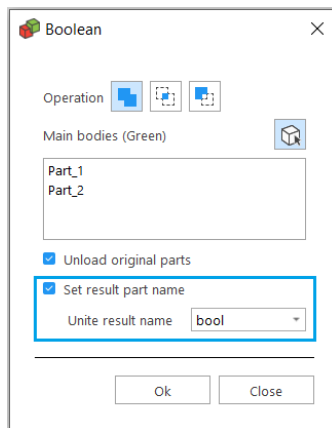
After installation, user can import both Magics Preferences and UI profile by pressing “Import” button when the below dialog pops up.



Note: Only UI profiles from magics 26.0 or later can be imported into Magics 27.0

Boolean naming improvements

Possibility to assign custom names for Boolean result is added back. It's now enabled for BREP and Mesh Parts.



Preserve English naming

Naming for 'Create'

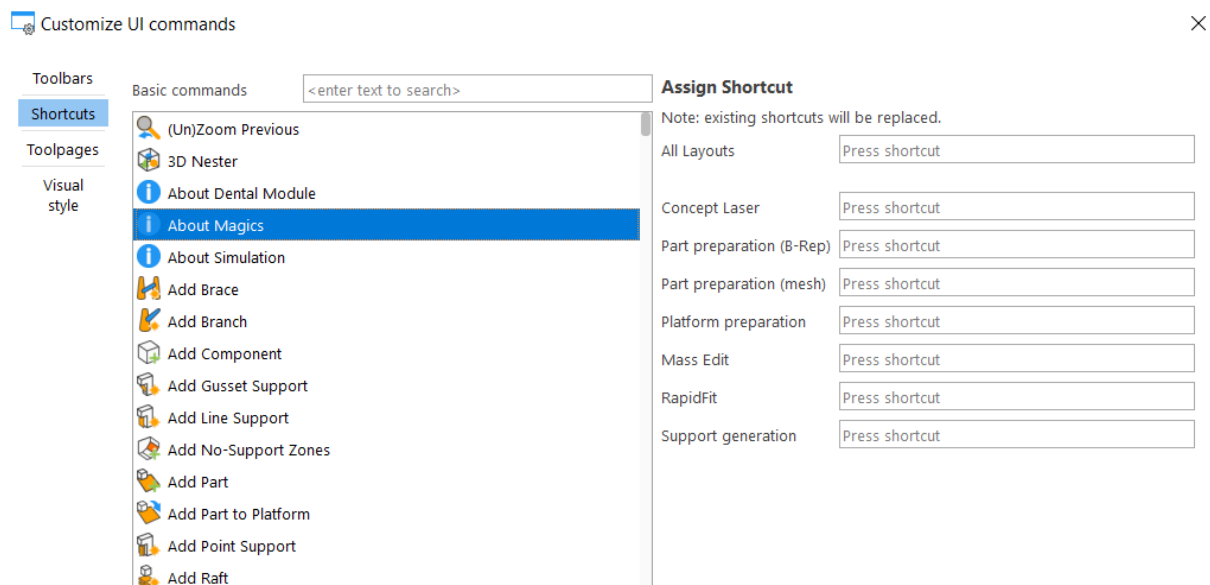
Magics 27 comes with possibility to always use English names when creating primitives regardless Magics localization setting.

Naming for Build Jobs

It is possible to set the default Build Job name to always be shown in English regardless of the Magics localization setting.

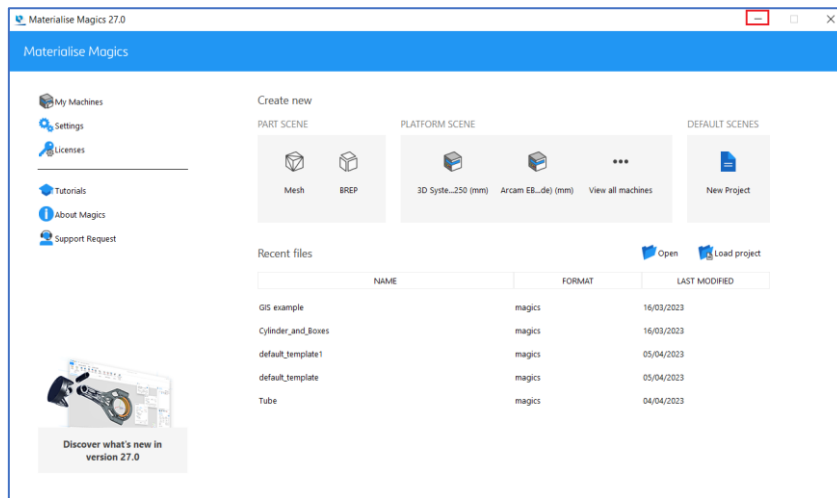
Customize shortcuts

Now users are allowed to assign shortcuts in a more efficient way on its own specific page in the Customize UI dialog. The shortcuts for different layouts can be easily assigned and aligned in this page.



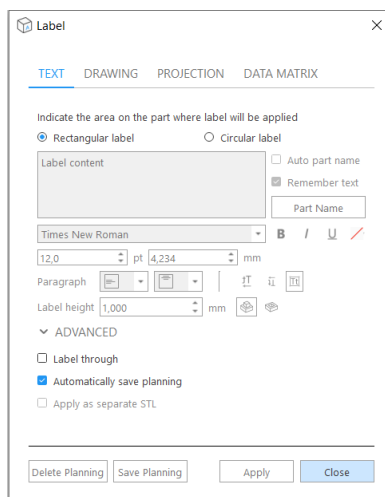
Minimize Magics Home Screen

It is now possible to minimize the home screen with the minimize button in the title bar or the application item in the task bar quickly.



Modern Label Dialog

Label dialog became more user-friendly with improved UI.



Part context menu in scenes

Part context menus are enhanced with 'Translate' and 'Rotate' commands in all available scenes.

Part Fixing Info

The 'Autorefresh' of part fixing info is by default OFF, to improve the performance when working within scenes, especially if there are lots of parts or large parts present. A user can switch this ON again if desired.

Top/Bottom plane

'Indicate Plane' mouse mode becomes a toggleable option and is activated upon launch of the command by default. If part selection needs to be changed, mode deactivation can also be done without re-opening the dialog.

Part selection improvements in active scenes

To reduce the number of accidental part deselection when working on a single part, it no longer is getting deselected when clicking on the empty space.

Also, it's possible to change selection state of a specific part quickly with CTRL+LMB click without affecting selection state of other parts.

Remembering of fixing profile

From Magics 27 onwards, selected Fixing Profile will be remembered across different Magics sessions.

Improved default values for Triangle Reduction

Default values for Triangle Reduction are updated to be less aggressive and better suitable for most data preparation cases. The new values are:

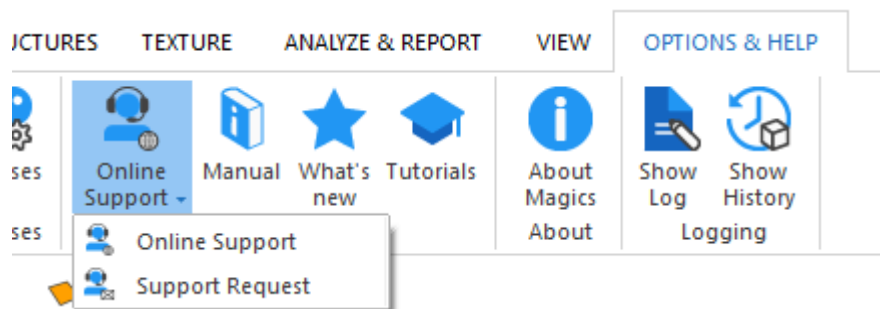
Tolerance: 0.01mm

Max angle: 1 degree

Iteration: 5

Open online support

Next to contacting support directly through a support request, it is now also possible to first look for online support.

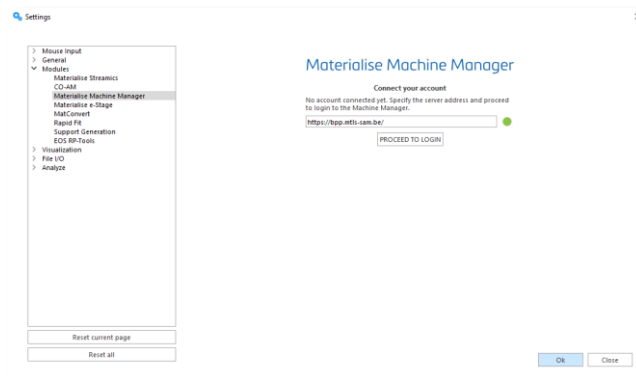


5 What's new - Materialise Machine Manager integration

Magics 27 offers the possibility to connect to the Materialise Machine Manager (MMM). This will allow users to create platforms for machines that are available on MMM, assign strategies that are defined on MMM and send the platform to MMM for processing with a build processor.

5.1 Connection to MMM

In the Magics settings, an entry is added where a user can establish the connection to MMM and provide credentials in order to get access to the machines and strategies as defined on MMM.



5.2 Machine selection and platform visualization

The different places in Magics where a machine can be selected (New Machine, Recently Used Machines, New Platform) will show an aggregated list that displays classical BPS machines, machine catalog machines, and machines available on MMM. Upon selection of an MMM machine, the platform will be visualized based on the machine properties as defined on MMM. Platforms of different types of machines (like BPS and machine catalog machines) can be opened next to each other. MMM is the central location where machine properties of machines that are available on MMM are managed. Modifying machine properties for these machines is no longer possible in the Machine Properties in Magics itself.

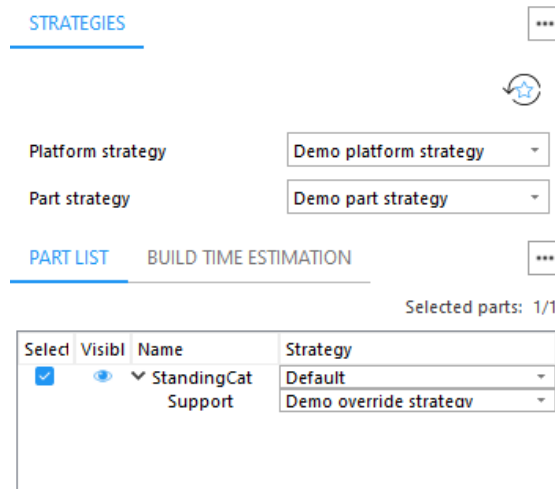
5.3 Support generation profiles and machine related parameters saved

Parameters available on the Part placement, Z compensation, Support generation mode, Support generation parameters, Materialise e-Stage support parameters, Export platform, Materialise e-Stage export pages in Machine properties will be saved to Machine Manager together with the machine.

Support generation profiles are saved with the machine instance on Machine Manager server. Multiple users will have access to the same support generation profiles saved centrally with the machine instance.

5.4 Strategy assignment

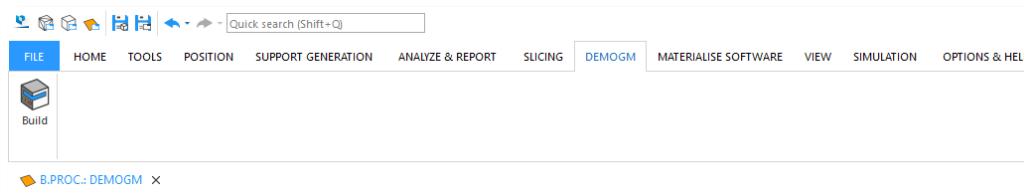
For machines that are available on MMM and for which a platform is opened in Magics, a new toolpage is shown for strategy assignment. This toolpage allows the user to set global strategies for the whole platform and to set overrides of part strategies for parts and supports. Default preferred strategies, as selected by the user in MMM, will be shown with a star in the list of global strategies in Magics.



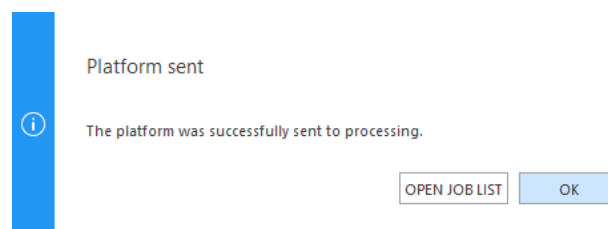
"Reset to defaults" button will reset selections of the strategies to the ones marked "Set as default preferred" on Machine Manager.

5.5 Sending for processing

When a platform is created for an MMM machine, a ribbon is displayed in Magics for that machine. On this ribbon a build button is present that will enable the user to send the created platform with the parts, including the assigned strategies, to MMM for processing with a build processor. The results of the processing can be accessed from MMM.



With a successful upload and creation of a processing job on the Machine Manager, a confirmation message will be prompted in Magics:



"Open job list" button will redirect to the Job list page on Machine Manager portal, where progress of the processing can be checked.

6 What's new - CO-AM Integration

Magics 26.1 already introduced brand new capabilities of using Magics with the CO-AM software platform. Users can open ordered parts from CO-AM, use the full part preparation capabilities of Magics and then save ready parts back to CO-AM order to maintain traceability and auditability.

In Magics 27, machine level integration with CO-AM is introduced. Users can load a platform with the machine parameters and parts taken from their CO-AM environment, use Magics build preparation tools, and then save the resulting platform back to CO-AM.

6.1 CO-AM integration on part level

Login with CO-AM account

To start working with CO-AM parts in Magics, user should go to CO-AM environment on the web, login, and initiate opening a part from CO-AM in Magics. Until then, the Magics instance will show a message in the Settings that it is not connected to any CO-AM accounts.

Using Magics with multiple CO-AM accounts

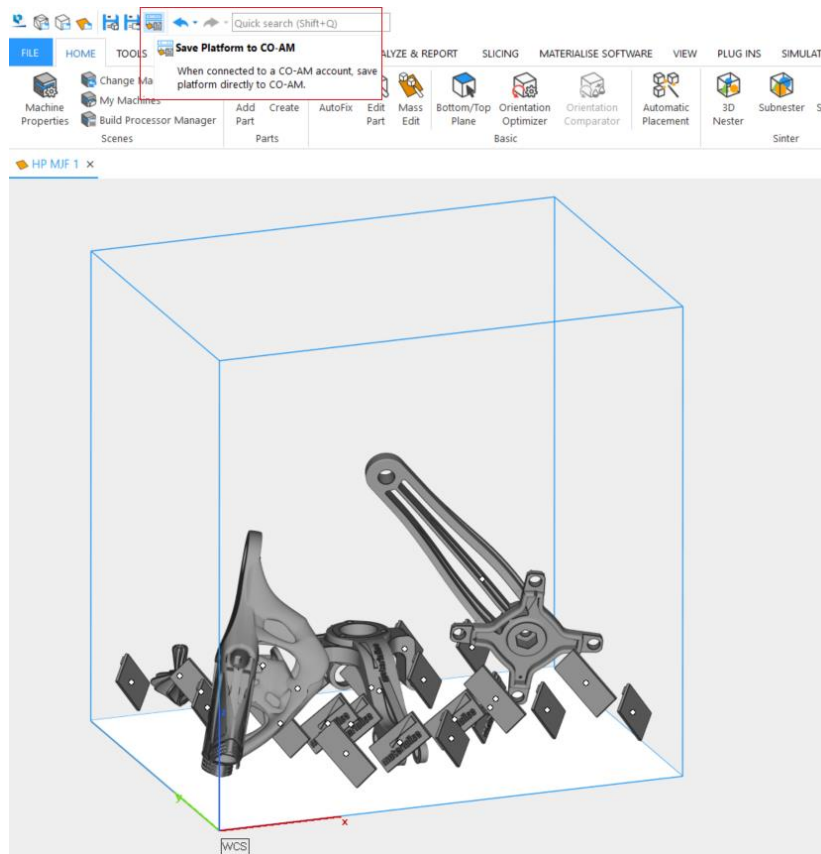
If the user is working with multiple CO-AM accounts on the same or different servers, when user opens parts from the different accounts, then Magics will open a new instance for each account. Magics will open parts from the same account in the same instance.

6.2 CO-AM Integration on machine level

In CO-AM interface there are multiple pages that give the option to open a platform in Magics.

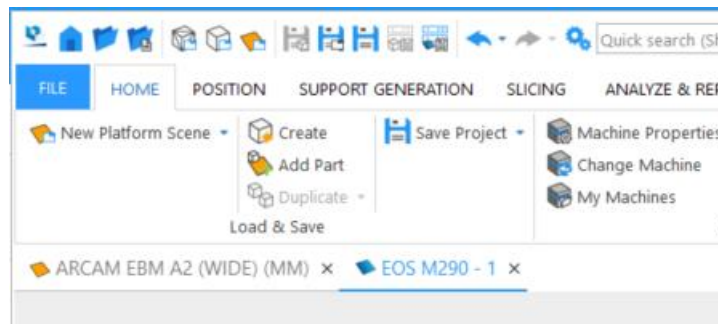
- Locate "Open in Magics" button in CO-AM for platforms on the Machine platforms list, in created jobs etc..
- Select the platform and click "Open in Magics".
- If there is one or more Magics instances already opened, then Magics will show a dialog for selecting an instance and scene for the platform opening.

The platform with the exact parameters selected in CO-AM will load in Magics together with the selected parts.



Users can view the saved platforms on the Machine platforms page.

CO-AM platforms can be distinguished from other platforms in the same instance of Magics by the blue color of the icon in the platform scene tabs (i.e. "EOS M290 -1" on the picture below).



6.3 Saving parts and platforms to CO-AM

When Magics is connected to a CO-AM account, then **Save selected part(s) to CO-AM** and **Save Platform to CO-AM** buttons appear in Magics interface:

- in the quick access bar
- in the part context menu (only for parts)
- under File -> Save menu

6.4 Supports on CO-AM platforms

Platforms with supports can be saved to CO-AM as usual, but in the current version of Magics supports will be converted to stl supports during saving, so after reopening a saved platform with supports from CO-AM the supports cannot be modified, and need to be regenerated again if necessary.

6.5 Export-controlled parts

CO-AM as a platform supports workflows with exported-controlled parts. Export-controlled parts are the parts production of which falls under the International Traffic in Arms Regulations (ITAR).

Magics is aware when ITAR parts are opened from CO-AM. If an ITAR part is being added to a CO-AM platform without any other ITAR parts, then Magics will notify the user about it in a message.

If a non-ITAR part is being added to a platform with ITAR parts, Magics will also notify about it.

6.6 CO-AM Machine Properties

Most Machine Properties for machines loaded from the CO-AM environment are saved to CO-AM and will be applied to the platforms using the machine each time a platform is opened. The first time a machine is opened from CO-AM in Magics, the default parameters will be applied.

If multiple platform scenes are opened with the same machine, when the parameters are changed for one of the platform scenes, then the same parameters will be applied to all platform scenes alike.

7 Bugfixes

- User interface and display fixes:
 - A bug that caused issues with the visualization of the Wall Thickness Analysis result, in case textures were present, has been resolved.
 - The border of the Magics application window was missing if Magics was not on full screen. This has been restored.
 - Previously if a part has textures, the textures will be blocking the Wall Thickness Analysis gradient mark, now the textures are automatically hidden while the gradient thickness is shown on the part.
 - Wall Thickness Analysis gradient color mask can also follow the Part shading mode to ensure the part wireframe can be shown along with the gradient coloring.
 - When parts are grouped in Magics, then the number of parts in the part list is correctly displayed and the grouped parts are counted
 - 'Range by part Z-height' option fixed to work with slice stacks when the 'Translate to default part Z position' is TRUE in "Automatic placement"
- Functionality fixes:
 - A bug where changes in Support Generation parameters were applied across all profiles instead of only in the profile where the changes were made, was fixed.
 - A bug that prevented creating platforms for SLM machines, was fixed.
 - Magics shortcut is now added for all local users after silent installation of Magics via administrator account.
 - A crash that prevented exporting parts that contained UNICODE characters to certain ASCII files has been resolved.
 - RapidFit info that is present in *.magics files will be loaded.
 - A crash when trying to transfer support on parts that are in compact mode (e.g. when coming from Streamics) has been fixed.
 - An issue where the 'A' key could not be used for customization of any commands has been resolved.
 - An issue where saving files to MGX file with self-extracting option was not working as intended is now fixed.
 - An issue with some DXF file not being able to be used to generate drawing-based labelling has been fixed. Magics should be able to ensure that separate polyline segments are interpreted properly to identify closed contours more accurately.
 - 3mf file saving now works in 64bit format, removing the former data size limit upon export
- Slicing-related fixes:
 - Fixed TYPE value in the .slc file for parts to be PART instead of WEB. This used to cause the issue of sliced parts to be recognized as supports by some printers (i.e. Stratasys Neo 450s and 800).

- Fixed the issue with CLI slices that could not be loaded on Digital Metal binder-jet machines
- An issue with the error "CLI format is NOT compatible with this resolution. Part will not be sliced" has been fixed
- Slicing speed improved compared to Magics 25 and 26.
- Streamics compatibility:
 - Parts are correctly opened in the Part scene instead of Modeler scene.
 - Quantity of parts in Batch Duplicate dialog matches the number in the Streamics order.
 - Fixed loading time of Materialise Software ribbon and Streamics commands after launching Magics.

8 Known Issues

8.1 Import & Export

- In certain cases, no warning is shown asking the user to save a BREP part/ BREP part scene
- Select orientation: when clicking close, all subsequent part loading is cancelled regardless of "Apply to all" state.
- Part selection can not be saved to matamx files
- Importing of files via MatConvert is not possible if the file path is longer than 256 characters. (MatConvert known issue)
- In rare cases, importing part on the platform can block 'Select Orientation' dialog resulting in an infinite Magics hang. As workaround, the 'Select Orientation' dialog should be disabled in Magics settings.

8.2 CAD-based workflow

- Import /Export
 - Unicode characters are not supported when exporting a BREP model to STEP
- CAD functions for BREPs
 - In specific cases, some edges causing failure of Fillet operation are not rendered in error state
- Concept of colours for BREP models is not fully supported yet, only face colours are being preserved upon import of a part.
- File preview of Magics files containing BREP models is not shown.
- In some cases, a BREP Tensile bar primitive might have wrong orientation upon creation that can be adjusted manually afterwards.
- In some cases, filleting a convergent body might result in error.

8.3 Handling color information

- Magics is not considering the concept of sRGB and assuming all color info to be linear RGB. The most noticeable issues with this are:
 - Magics is unable to display the full color depth as intended with sRGB. Color information will look a bit more 'faded', less rich in color
 - when importing a file with sRGB colors, Magics will display these RGB values as if they were linear RGB values
 - Magics does not convert from linear to sRGB, nor from sRGB to linear. Thus when importing a file with linear RGB and exporting to a file with sRGB, the export will contain the wrong RGB values (and vice versa, from sRGB to linear RGB).
 - in Magics it is possible to color parts and vertices, which is done in linear RGB. So when importing a file with sRGB colors, adding colors in Magics will result in having a part with partially sRGB and partially linear RGB colors.
 - As a work-around, to avoid conversion issue, it is advised to import and export colored parts using the same data format. As Magics is not changing the RGB values, this ensures no loss of data. In case of sRGB data format, it does mean

that the rendering in Magics will not be 100% accurate (color information will look a bit more 'faded', less rich in color)

8.4 Support Generation

- Disabling the showing of perforations in supports can lead to supports overlapping with a part.
- Situations where a part that has a surface that is (partially) closer than 1mm to the platform and that is supported by trees with angling applied, can lead to incorrect tree supports being generated.
- The 'Trim supports on other parts' functionality might not work as expected when:
 - used in combination with post-processing.
 - used with tree supports and a part intersecting the tree supports is moved.
 - moving the part on which support structures of another part rests.
- When the creation of manual tree support is interrupted before the tree support is generated, an empty support surface can remain. This support surface can be removed manually.
- In some cases where block support is used, the state of the parameter 'GENERAL > Critical points > Local minima support > Adjust hatching' can influence the state of the parameter 'Add point support > Align with hatching'.
- Modifying a support surface (e.g., adding or removing triangles) with Tree supports and using 'regenerate' button will not update the Tree supports with the modified surface. Changing to and from another support type or modifying a parameter will update the Tree supports with the modified surface.
- Gusset supports may not be properly trimmed in certain cases.
- In some cases, manually added supports are transferred with wrong position.
- Thickened non-solid support may intersect or detach from the part or create open contours.
- Manually created surfaces that contain overlapping projections may result in support structures being generated above the part.
- Applying 2D Cut on a Block support with thickened border may result in alteration of the geometry on the border corners.
- No-support zones on marked Structures (for some geometries of Structures) are ignored during e-stage generation.

8.5 Machine Manager integration

- Gas flow angle defined on Machine Manager portal will show correct direction of the Gas flow on platform scenes only for values: 0, 90, 180, 270 or 360 degrees.
- In rare cases, for rectangular platforms with rounded corners defined on Machine Manager - the platform won't be visualized in Magics.
- Field overlaps that aren't connected to two opposite sides of the platform won't be visualized on the platform scene in Magics.

8.6 CO-AM integration

- CO-AM part is considered as modified after Translate + Copy operation
- Undo/Redo operations don't change the state of "Save part to CO-AM" button
- Operations recorded for a specific part revision in CO-AM can include some positioning and supports changes from other parts

8.7 Other

- Installer
 - After uninstallation, the uninstalled Magics version is still available in the Windows 'open with' list
 - No desktop icon/shortcut is created in case Magics is not installed in the default destination folder
- Titles of items in History are all called Database.
- Some of the default shortcuts and context menu are still missing.
- Rapidfit command is not present in default UI profile however it can be launched from the quick search in the platform layout.
- In some cases, for Top/Bottom plane operation, 'Indicate plane' button should be re-activated to make it work after changing part selection.
- The name of original part is not restored after Undo of multiple operations.
- The zone legend is missing in the 'Check Slices Distribution' graph
- The point legend is missing in the 'Compare Points' graph under Simulation
- Upon importing preferences from a another Magics installation (either via import settings, or upon launching a newly installed Magics version), Magics will also update the MatConvert version settings. This could cause Magics to use an older MatConvert that does not contain the latest compatibility or functionality needed to fully use Magics. For Magics 27 it is recommended to use MatConvert 10.4 or higher. This can be set in Settings > Modules > MatConvert

9 Compatibility

9.1 Bundled components

Product	Versions
Magics	27.0.0.934
MatConvert	10.4.0.10
Build Process System	3.3.1 (*)
MatLicensing	7.4.4.0

9.2 Compatibility with other Materialise product releases (**)

Product	Versions
Streamics	8.3
Robot	8.3
3-matic	17.0
Simulation module	3.0.3
e-Stage	7.3
MatConvert	10.4
Build Processor System	3.3.1 (*)
CO-AM	release 100
CO-AM Machine Manager	1.1.69

For compatibility with specific Build Processors, please refer to the release notes of BPS and/or the specific Build Processor.

* Magics is fully compatible with older versions of the Build Process System (BPS) as well. The bundled BPS will only be installed/updated in case there is no installation yet of BPS, or in case the current BPS is not compatible with Magics 27 (BPS version lower than 1.7.16)

** Compatibility with newer versions of these products is expected unless explicitly mentioned in the respective release notes, and is nevertheless limited to existing functionality only. Any new functionality in these products cannot be guaranteed to be compatible with Magics 27.

9.3 Compatibility with other CAD packages

Magics 27.0 comes with MatConvert 10.4, which supports the below CAD formats. The **bold formats** have been updated compared to MatConvert 10.1 (which was bundled with Magics 26.02).

MatConvert is being released on a quarterly base, to ensure compatibility with the latest CAD formats, and can be downloaded and installed separately.

Please note that the 'all imports' license is needed for all these CAD formats, except for importing STEP files.

<i>Via 'Magics RP' base license</i>		
STEP	*.stp, *.step	AP203 (E1, E2), AP214 (up to E3), AP242 (E1,E2, E3)
VRML	*.wrl, *.vrmf, *.x3dv	1.0 and VRML 97, X3D 3.3
<i>Via 'all imports' module</i>		
IGES	*.igs, *.iges	Version 5.3
ACIS SAT	*.sat	Up to 2021 1.0
JT	*.jt	6.4 to 10.7
Rhino	*.3dm	Rhino 7.11
CATIA 5	*.CATPart, *.CATProduct	R10 to V5-6R2022 (R32)
CATIA 6	*.3dxml	R2010x to R2023x
Pro/Engineer	*.prt, *.asm	2000i to Creo 9.0
Siemens NX	*.prt	15 to NX 2206 Series
Parasolid	*.x_t, *.x_b	V7 to V35
SketchUp	*.skp	SketchUp 2022
Autodesk Inventor	*.ipt	9 to 2023
Revit	*.rvt	2011 to 2022
Solidworks	*.sldprt, *.sldasm	2006 to 2023
Solid Edge	*.par	10 to 2023

10 System Requirements

Hardware*	Software
<p>CPU</p> <ul style="list-style-type: none"> Intel Core i7 AMD Phenom II X4/ X6 at 3.0 GHz or higher with SSE2 technology 	<p>Materialise Magics 27 is only supported on Windows 64-bit**:</p> <ul style="list-style-type: none"> Windows 11 Windows 10 version 21H1 or later
<p>Memory</p> <ul style="list-style-type: none"> 16 GB RAM or higher 	<p>Materialise Magics 27 is recommended on:</p> <ul style="list-style-type: none"> Windows Pro edition Windows Enterprise edition
<p>Free Disk Space</p> <ul style="list-style-type: none"> Win 64-bit system 2GB of free disk space 	<p>Materialise Magics 27 is not supported on:</p> <ul style="list-style-type: none"> Windows 8.1 or earlier Windows Server Editions Virtualization systems such as VMWare
<p>Display</p> <ul style="list-style-type: none"> 1920 x 1080 resolution or higher 32-bit color depth (True color) 4K monitors are not actively supported 	<p>Materialise Magics does not run natively on Mac OS X, Linux, or any other operating system not listed above.</p>
<p>Video Card</p> <ul style="list-style-type: none"> NVIDIA GeForce GTX 1060' or AMD Radeon RX 480 or better DirectX 11 compatible video card At least 4 GB of memory At least a memory interface width of 192-bit (256-bit is recommended) 	<p>.NET 4.6 or later or a working internet connection during the installation is required.</p>

* These hardware requirements are considered minimal for professional usage, but depending on the expected use cases (mainly influenced by project size, amount of triangles and number of parts) it is recommended to invest in appropriate hardware (more memory, larger disk size, ...). More info can also be found on: <https://help.materialise.com/93151-tips-and-tricks/magics:-performance>

** Materialise Software will discontinue supporting an operating system, or a specific version of an operating system, from the moment that the OS vendor discontinues support.

11 Contact Information

For more information, check out our website: materialise.com/software/magics/

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