Materialise Magics 27

What's new

(Latest) English Version
Deutsche Fassung
Versión en español
Versione italiana
Version française
日本語版
한국어 버전
中文版

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Materialise Magics 27 feature highlights

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The additive manufacturing industry recognizes Magics as the ideal software for part and build preparation. In this release of Magics, we're providing the following updates:

Quality of life

- We *addressed hurdles in your workflow* to improve your daily operations.
- In line with our *roadmap,* we continue to *expand BREP functionality.*

Connect & trace

- *Trace* the progress of your work through the *integration with CO-AM*.
- *Keep control* over your build files through the *integration with the Machine Manager*.

Automate

- *Automate your workflow* through our dedicated automation module.

Index

BREP enhancements

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BREP introduction

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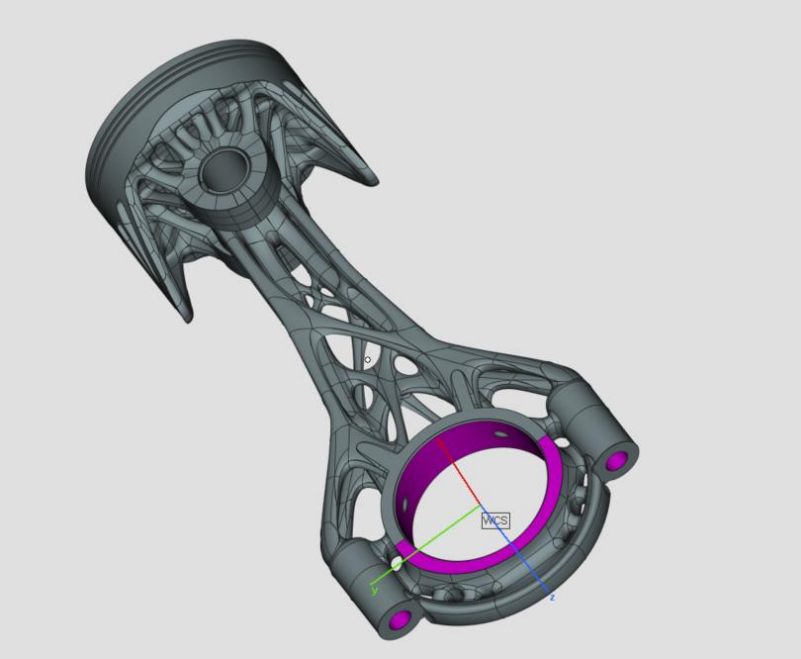
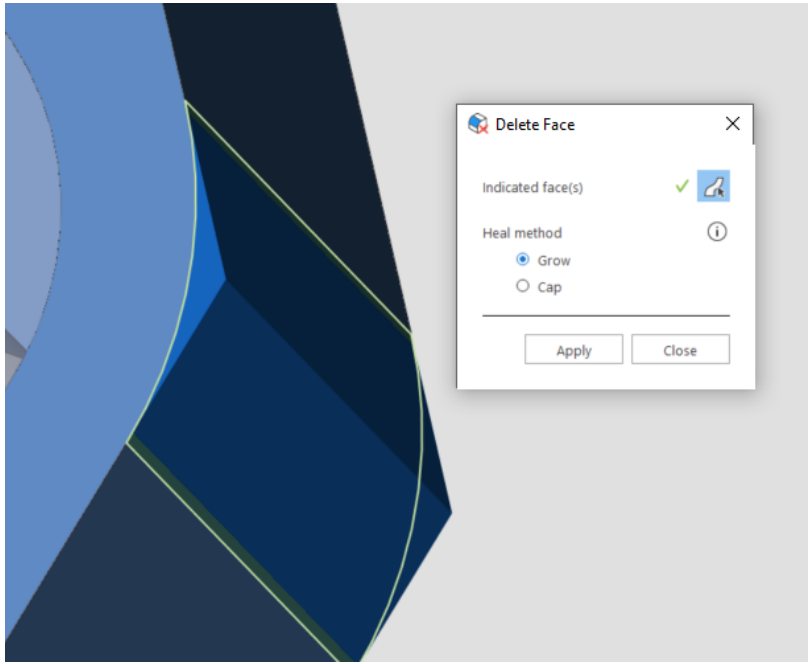


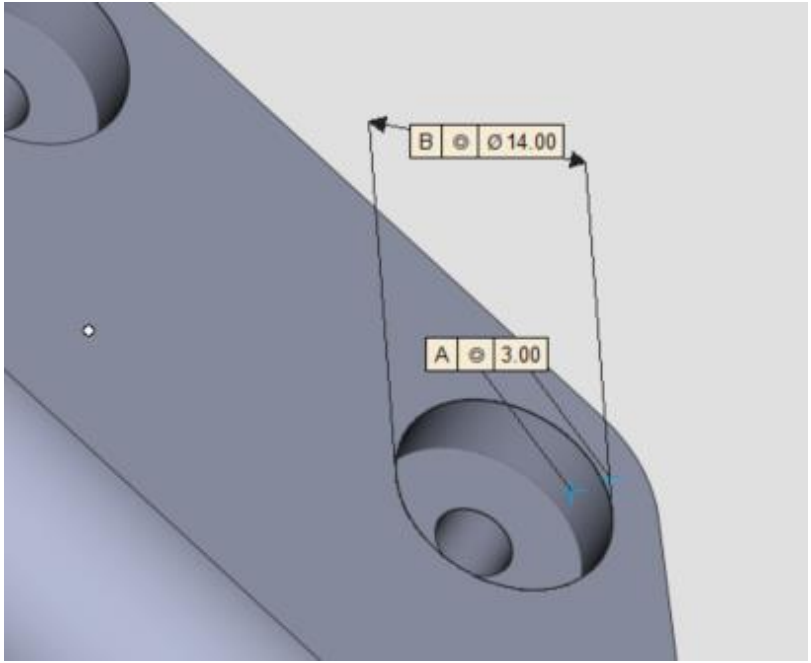
- **BREP**, or Boundary Representation, is a way of **representing 3D parts**. STEP and CAD native file formats are examples of BREP files.
- The end goal is to get an **end-to-end BREP workflow**, from loading to exporting, where conversion to mesh is never needed.
- **Architectural changes**, like those on part and platform scenes, have been implemented **to enable this future development**.

BREP operations

- **Delete Face** on a BREP to reconstruct the part without a certain face.
- **Taper Face** on a BREP to modify the faces to avoid support surfaces.
- **Cut or Punch** on a BREP to cut it in pieces along active or visible sections
- **Create Torus, Tube** and **Tensile bar** to enhance BREP primitive library
- **Mirror** BREP parts to produce symmetric copies.



BREP measurements



- Additional **BREP measurements** are now enabled.
  - Different types of entities — such as points, lines, planes, circles— can be selected to make **distance, circle, bounding box or angle measurements**.
- **Measure the local thickness** of BREP parts with the thickness measurement tool.

BREP utility improvements

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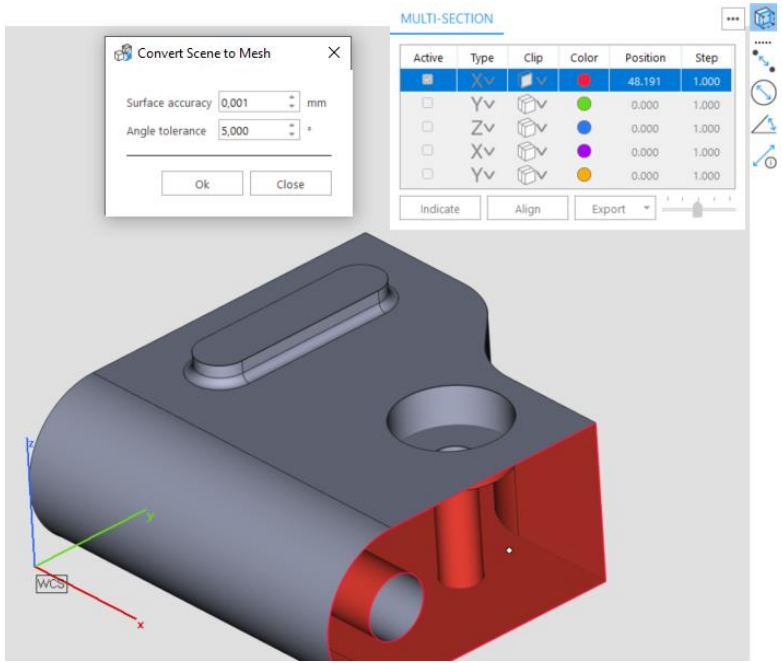
- Control your BREP-to-mesh **conversion parameters**.
- **Create** custom **multi-section views** with BREP parts.
- Set **custom translation, rotation, or rescale centers** by indicating a point or line on BREP parts.
- **Rescale** BREP parts to match specific measurement values
- Select **custom names** for parts after applying **Boolean** operation (both BREP and mesh)



Scene improvements

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Edit Mode within the platform scene

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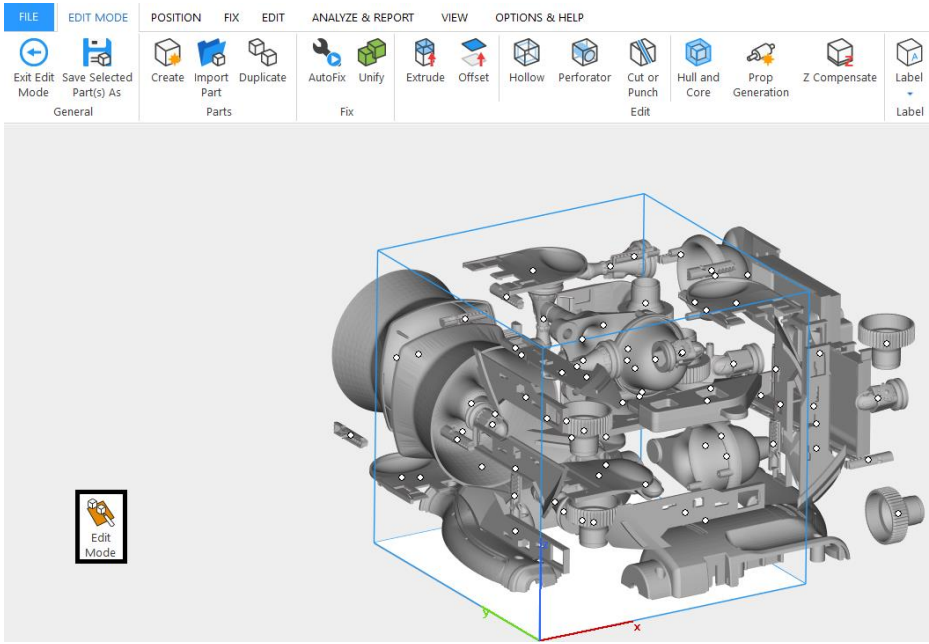
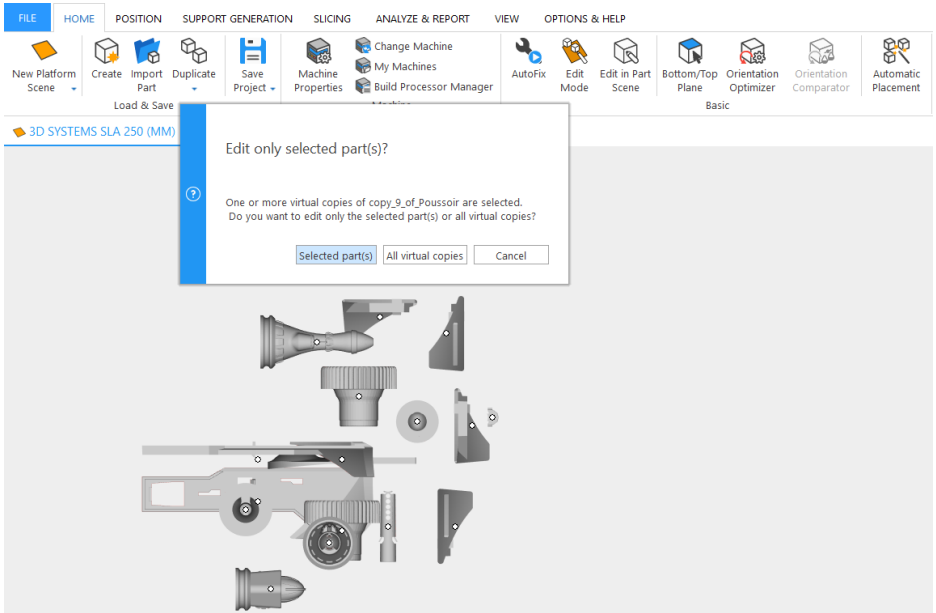
- Introducing the **Edit mode**.
  - Quickly **edit many parts** within the **platform scene**.
  - Access **tools** specifically required for **build preparation**.
  - The **part scene** still focuses on **in-depth editing** of parts.



Platform scene improvements



- **Preserve** the **orientation of parts** in the part scene and **handle virtual copies better** when using the **Edit in part scene** command.
  - **Double-click** on parts in the platform scene **to edit** them quickly.
- **Drag and drop files** from the part list to a platform scene tab to move parts **to another platform scene**.

Mesh part scene improvements

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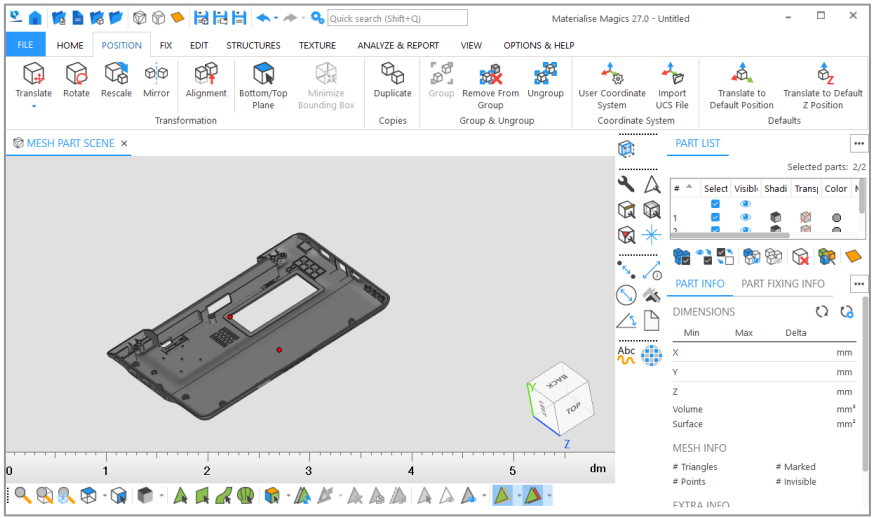
- **Group your parts** within mesh part scenes to handle parts together.
- **Create** and use a custom **user coordinate system** for advanced alignment and assembly workflows.
- Use additional **part position and orientation** commands in the mesh part scene to enhance editing workflows.
- **Unload virtual copies** from all active platforms along with the master part directly from the part scenes



Import/export

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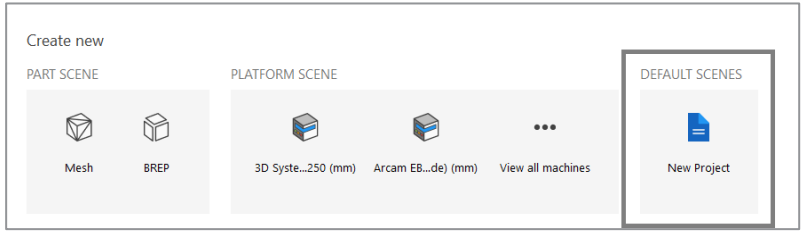
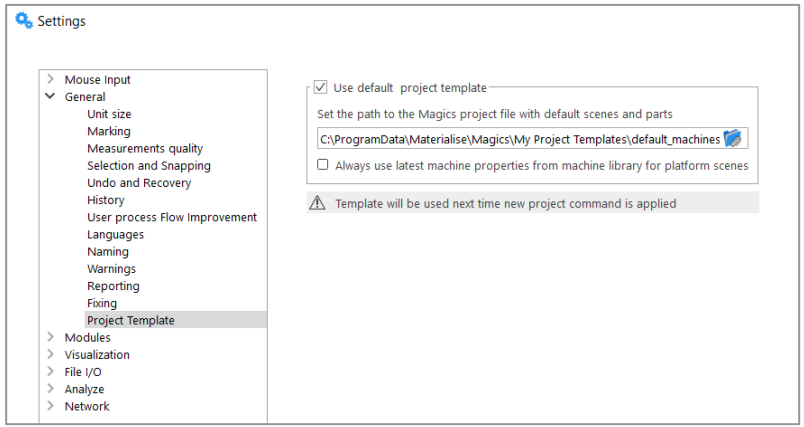
Magics project template

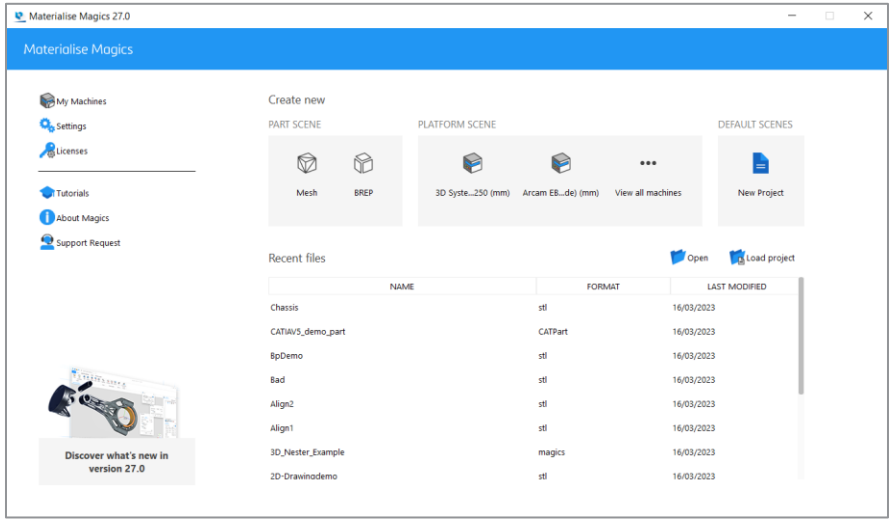




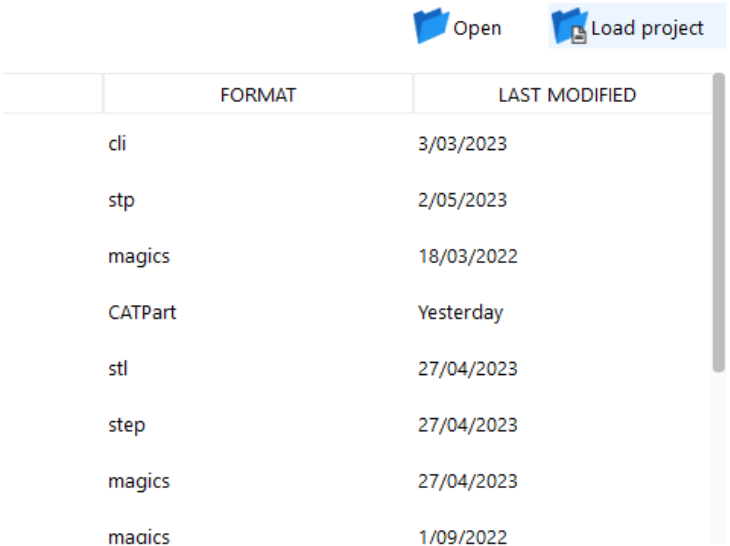
- Start a **New Project** with default scenes and parts based on a Magics project template file
- **Create** own **Magics project template** with latest local machine properties from machine library

File loading improvements

- **Load Magics files as projects** through the **Load Project** command on the home screen or in Magics scenes.
  - **Load Project** allows you to replace the content in Magics, while **Open** lets you add content to the current project.
  - Click on a Magics **project file** in the **recent list** to **load** the file as a project.



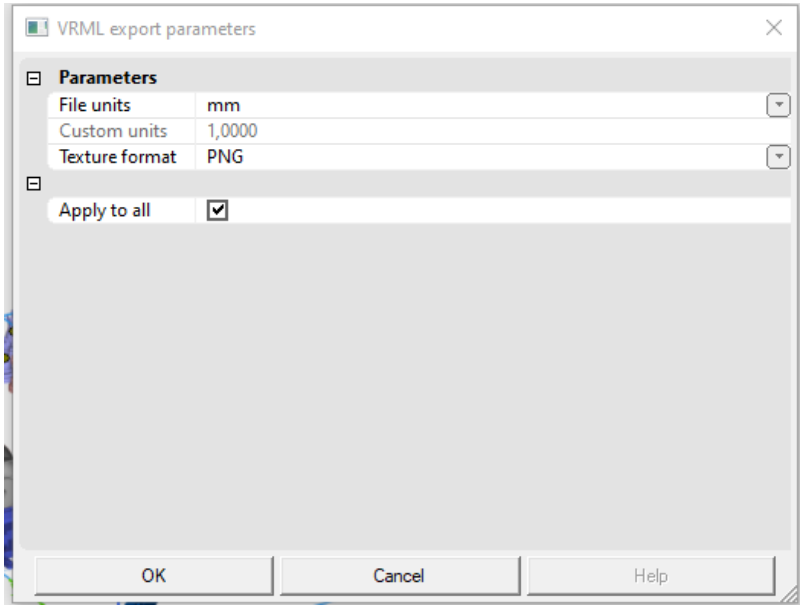
File loading improvements



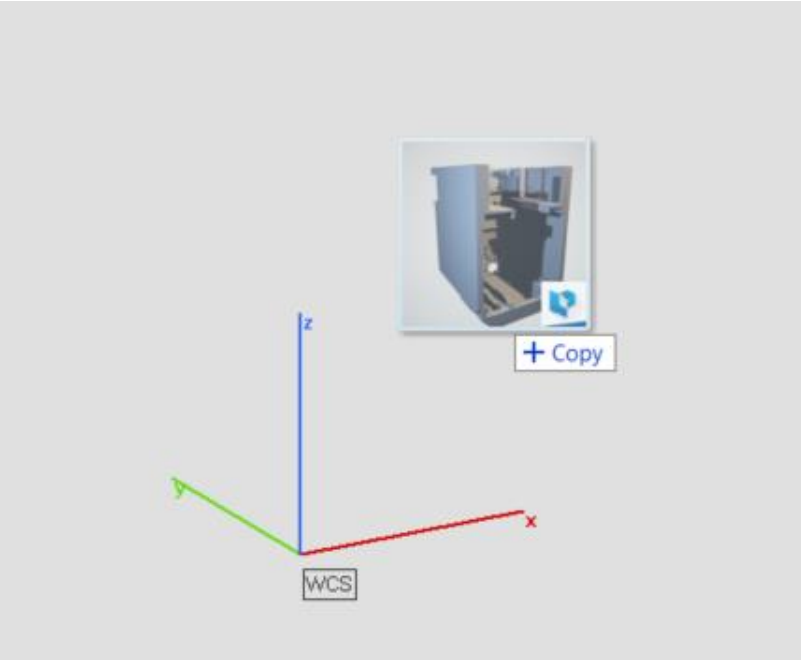
- **Open slice files** directly **from the home screen**.
- **Add virtual copies** from Magics, MatAMX, and 3mf files **directly to a platform scene through the Add Part** command, preserving their virtual copy properties.
- **Load** files from **long file paths** exceeding 256 characters.

File saving improvements

- **Save multiple parts in a single file** with the Save Selected Part(s) As dialog.
- **Save multiple VRML files** more quickly by **applying the export parameters only once**.
- Export **CLI slices** in a **higher resolution** with new CLI (float) slice format option.



Drag and drop improvements



- **Drag & drop all supported files** into an active **Part Scene** to **Import parts** to the part scene.
- **Drag & drop a single Magics file** directly into the home screen to **load the project**.
- **Drag & drop slice files** directly into the home screen to **open** them.

UI/UX improvements

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Easily work with scenes

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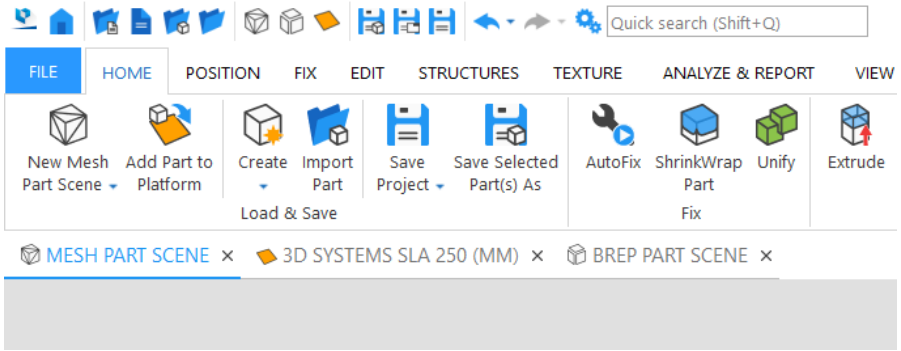
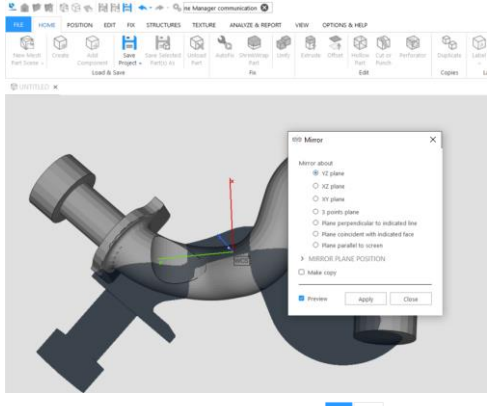
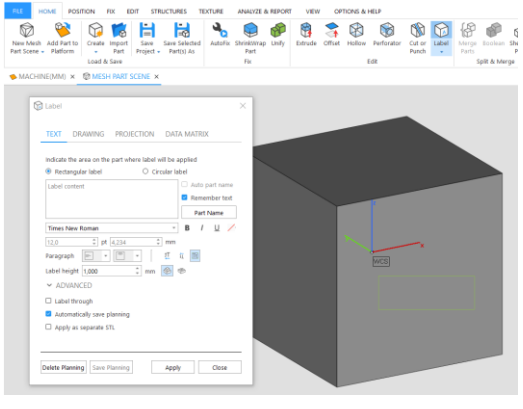
- Immediately **recognize a scene** tab by its **icon** and **meaningful name**
- Easily **close a scene** by clicking an **X** on the scene tab.
- **Keep an overview** of your project by **renaming part scenes**.



UI improvements

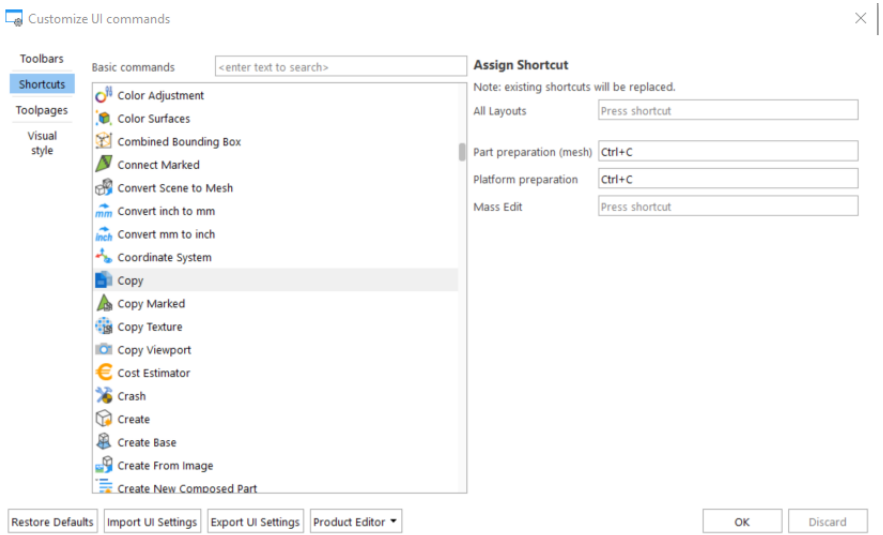




- **Find and use commands easily** with improved command names and a consistent ribbon design across the different scenes and modes of Magics.
  - **Default ribbons** are available for all scenes **with frequently used commands**.
- Get clearer input and feedback with the **new Mirror** and **Label dialogs**.

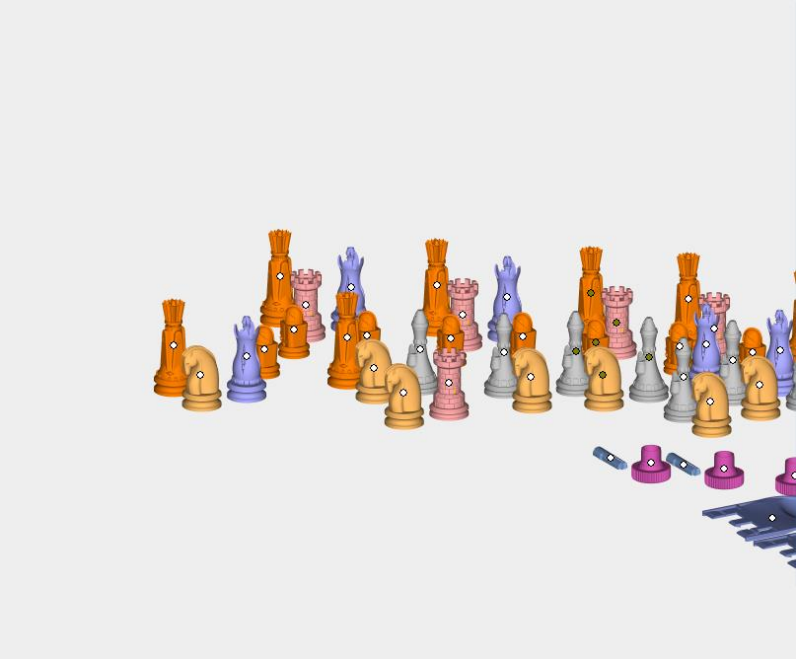
UI customization

- Smoothly **transition to Magics 27** by **importing your Magics 26 profile***.
- Quickly **assign shortcuts in all Magics modes** through the **new Shortcuts page** in Customize UI.



*Only UI profiles from Magics 26.0 or later can be imported into Magics 27

UX improvements



- Quickly **deselect** parts in the 3D view with **CTRL + left click** on selected parts.
- **Keep** the **part selection unchanged** when only **a single part** exists in the scene.

Lattice improvements

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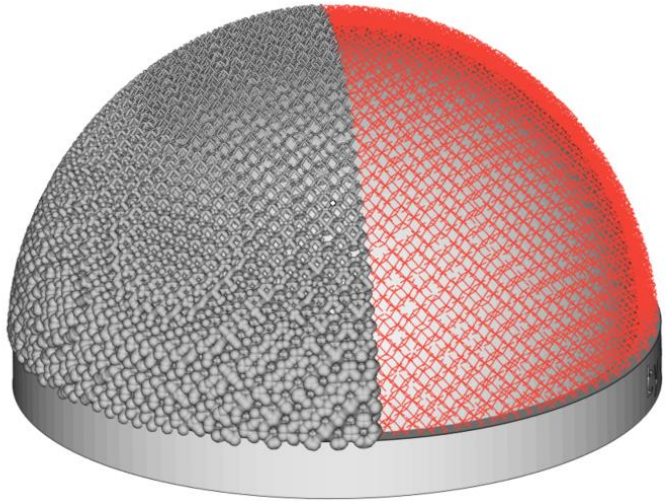
- **Visualize** the **actual thickness of lattice structures** as defined in 3-matic or the 3mf file.
- **Toggle** the lattice thickness rendering with a **Toggle Graph Rendering button** in the View ribbon.
- **Load complex graph set** types from 3-matic files directly into Magics.



CO-AM integration

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CO-AM Software Platform

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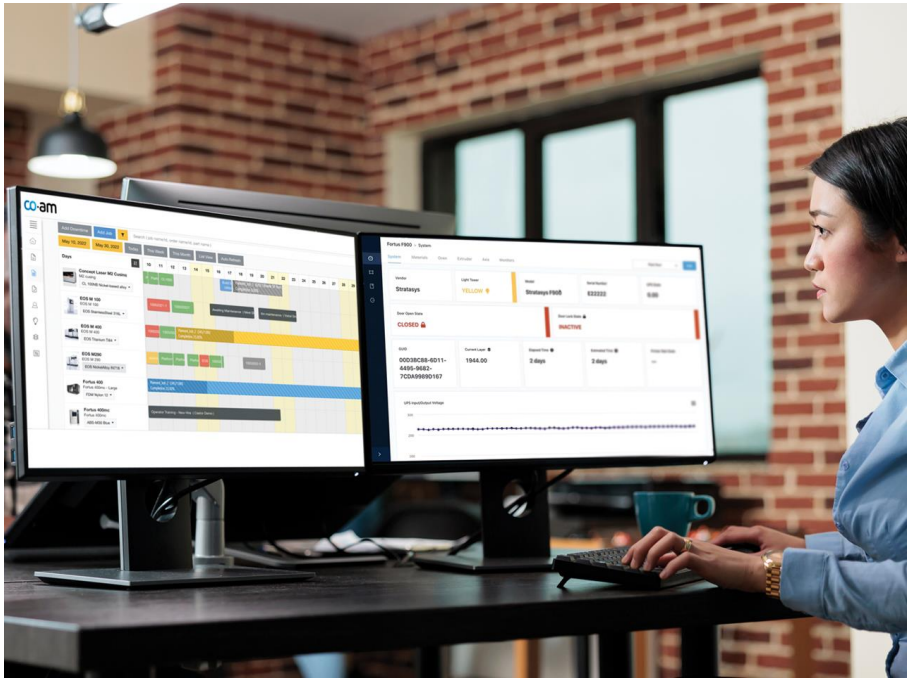
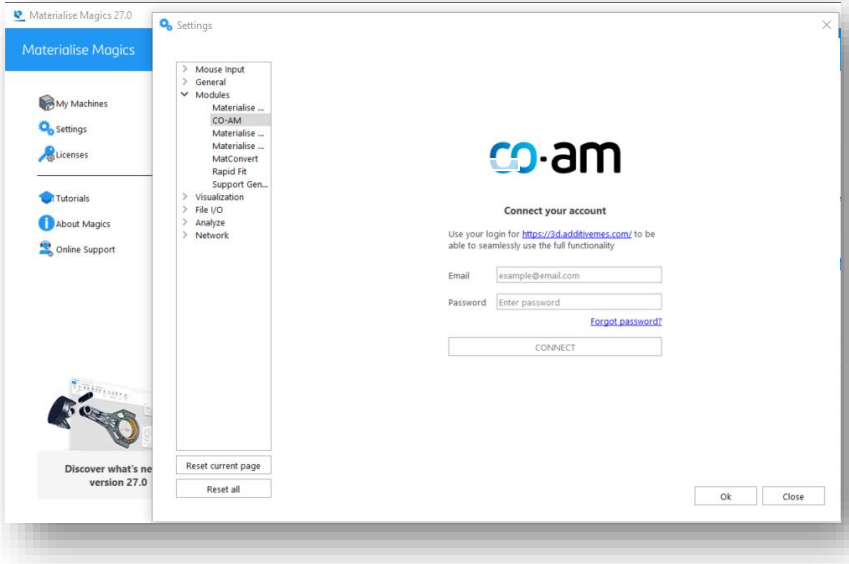
- The **CO-AM Software Platform** is a **cloud-based** solution that allows manufacturers to **scale their digital supply chain** with:
  - **Modular solutions** (e.g., order management, MES, quality module, Materialise apps)
  - **A partner ecosystem** of 3rd party software and hardware systems
- Improve **collaboration**, **manufacturing repeatability**, **quality compliance,** and **end-to-end data security**.



Connect to CO-AM

- **Log into** your CO-AM account **in the Settings** when opening your first part or platform from CO-AM.
- **Change to another CO-AM account** or use Magics with **multiple CO-AM accounts** at the same time if needed.



CO-AM part preparation with Magics

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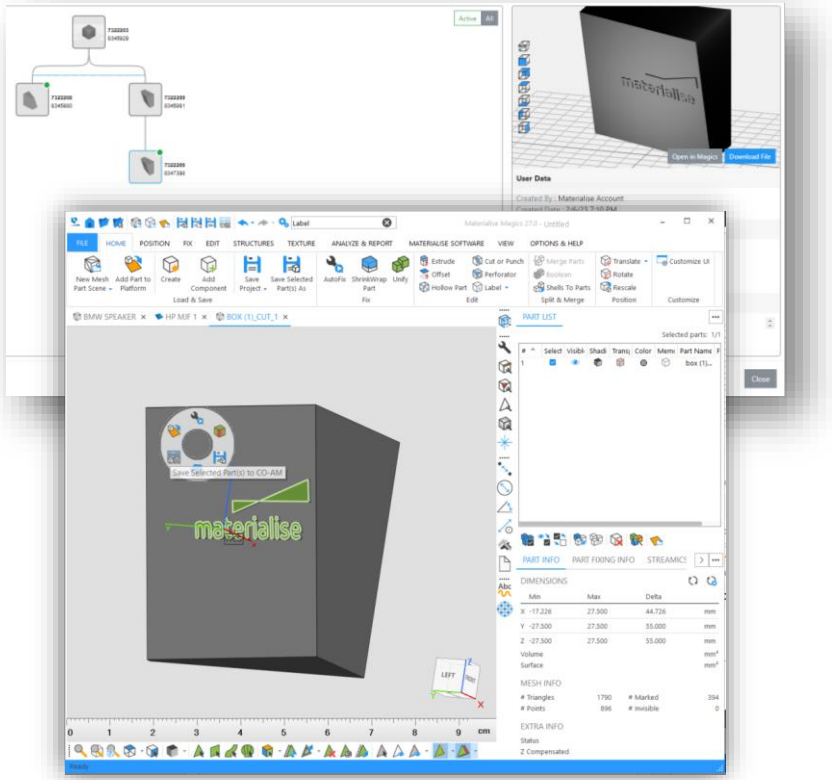

- **Open individual parts** from CO-AM orders for the **initial part preparation** or as needed.
- **Save the updated part** to CO-AM and **trace part changes** in the CO-AM part revision tree based on the Magics part history.

Opening multiple parts from CO-AM

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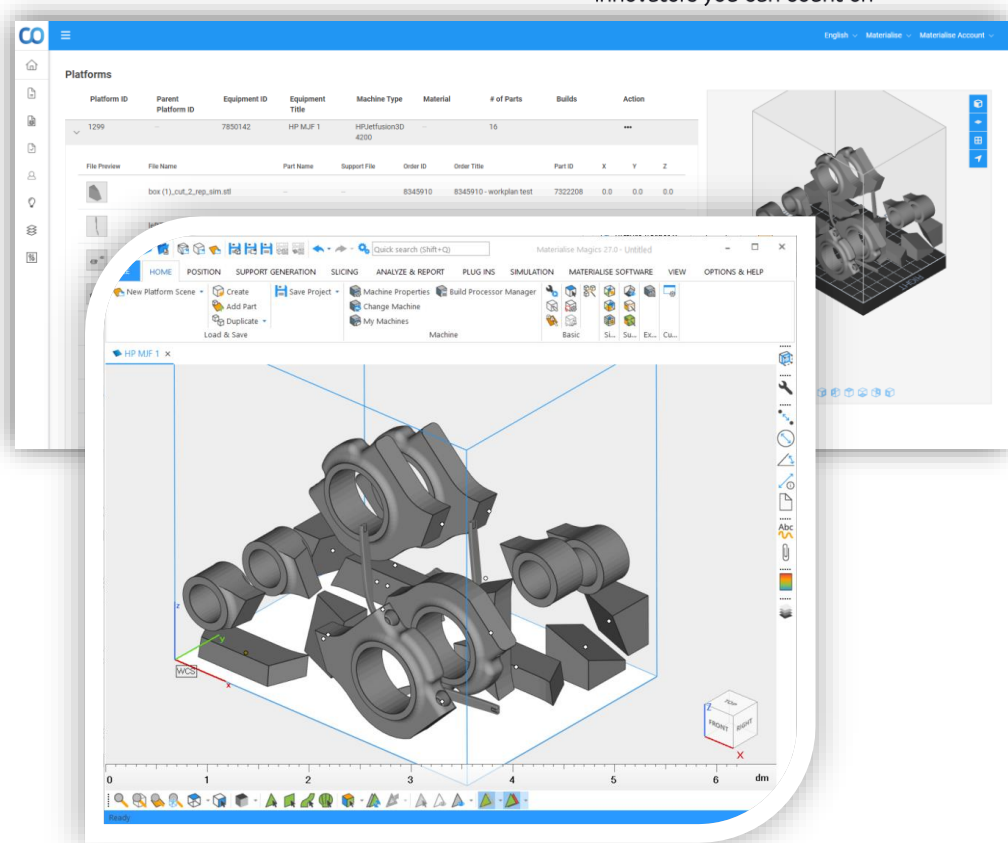
- Select and **open multiple parts** in separate Magics part scenes to complete part preparation faster.
- **Create a platform** with the machine parameters and parts that **you select on the CO-AM** production planning page.
- **Select a Magics instance** and scene when **opening** CO-AM parts and platforms.



Prepare and save a platform to CO-AM

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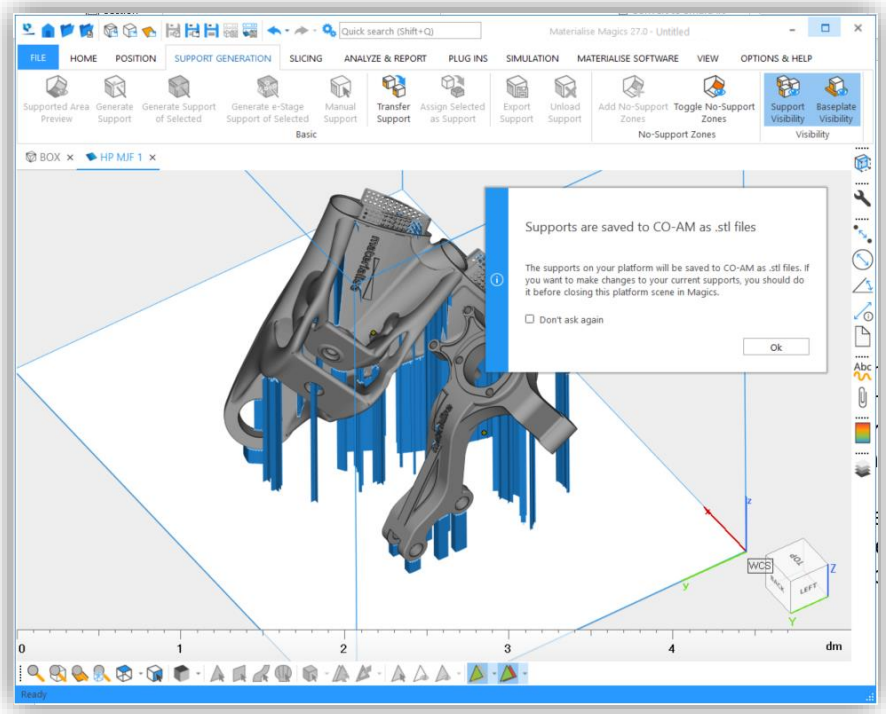

- Prepare a CO-AM platform by using Magics orientation, positioning, and support generation tools, and then **save your prepared platform to CO-AM** Machine Platforms.
- Automatically save any **changes to the parts** on the platform when you save the platform.

Open previously saved platforms

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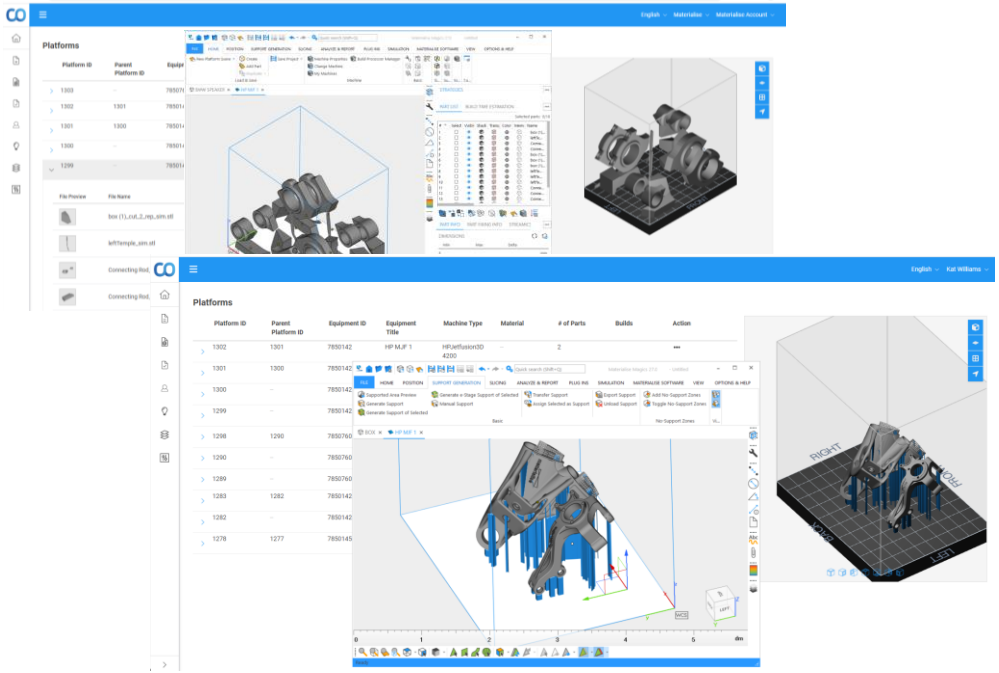
- **Reopen previously prepared platforms** from the CO-AM Machine Platforms.
- **Add more CO-AM parts to** your opened **CO-AM platforms** as needed.
- Save a **new revision of the updated platform** in CO-AM for traceability.



Working with export-controlled orders

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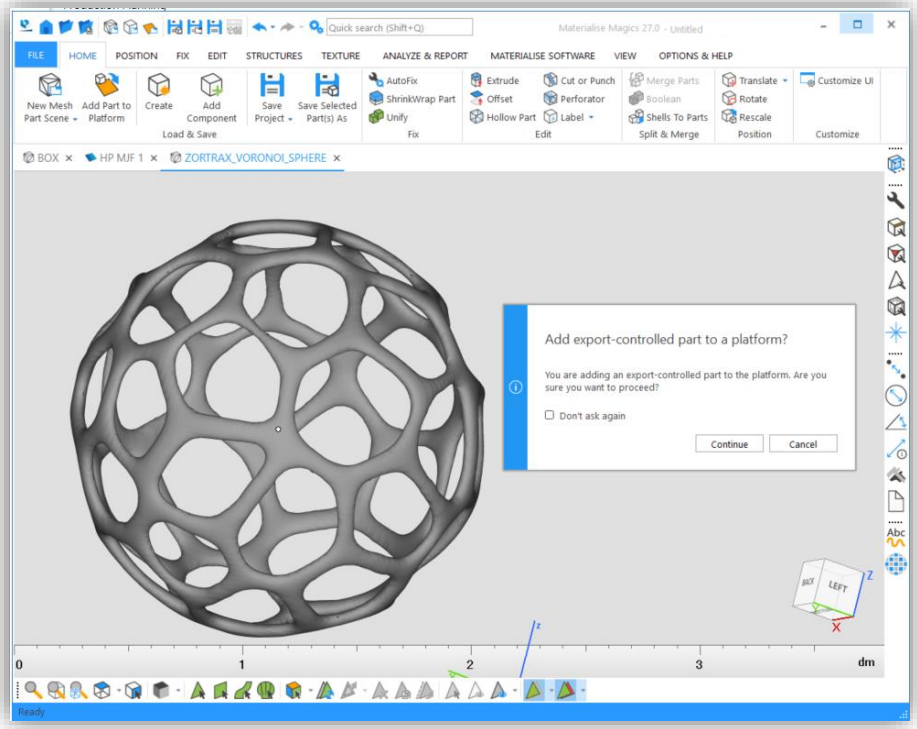

- **Get notified** in Magics when working with parts from **export-controlled** orders **to stay compliant**.

Save Machine Properties to CO-AM

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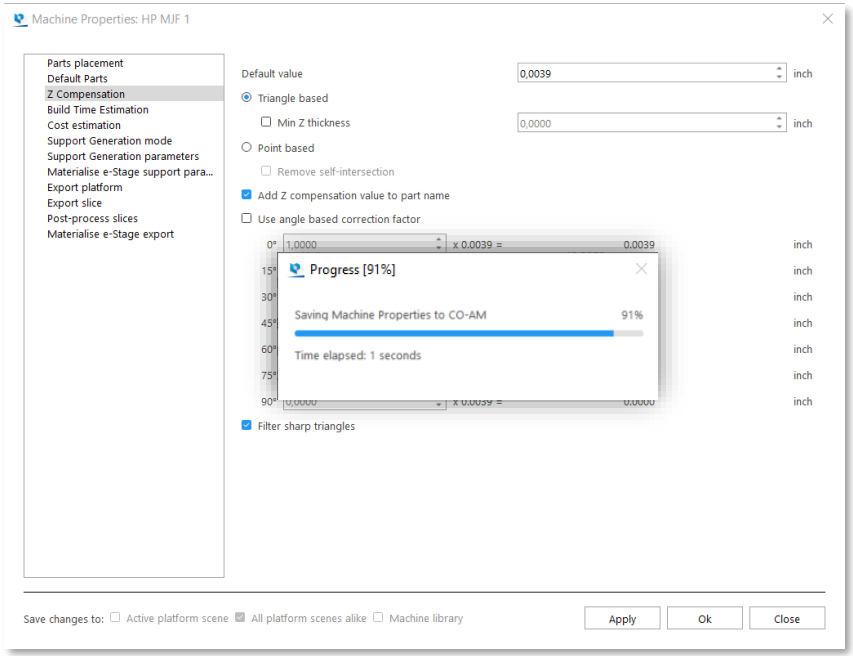
- Use **Machine Properties** in Magics to set up build preparation parameters and **save them to CO-AM.**
- Each time, **reopen** the machine from CO-AM **with latest saved properties**.



Workflow automation

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Workflow automation

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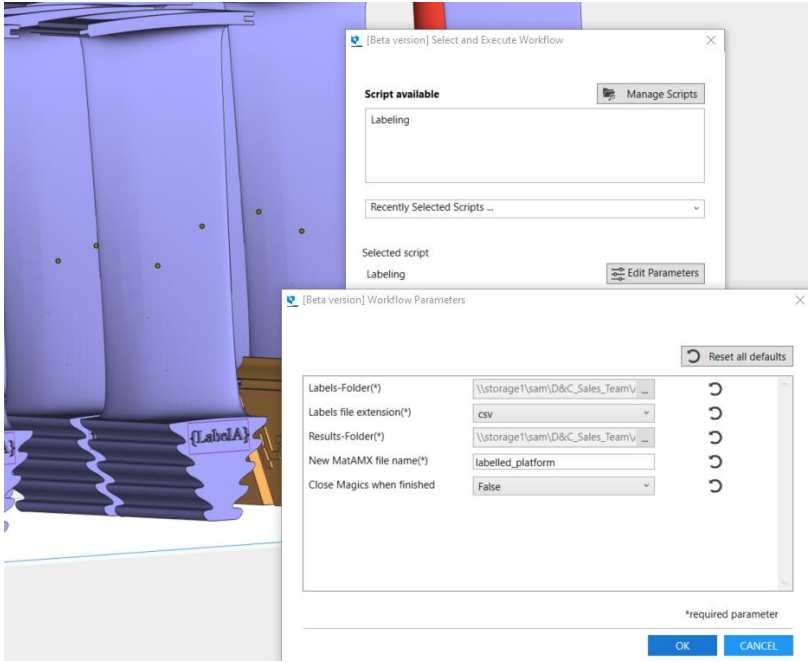
- **Decrease the time** spent by your highly skilled team **on manual, repetitive tasks**.
- **Spend less time on the data preparation** phase and **decrease the lead time**.
- Use of the shelf scripting to **reduce** the number of **manual errors**, **improving** the **quality** of parts and process.
- **Scale your production** with no or limited intervention in the processes.

Automation module



- Activate **automation scripts** directly **in Magics**.
- **Visualize** your results.
- **Keep an overview** of all your automation scripts.

CO-AM Machine Manager integration

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CO-AM Machine Manager

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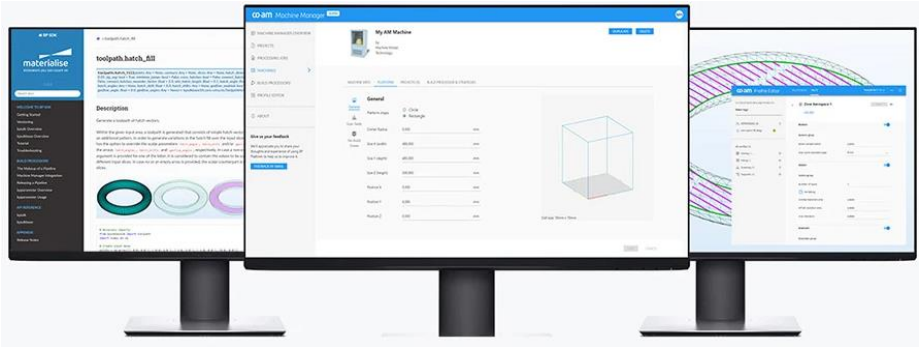
- The CO-AM Machine Manager is **the home** for the **next generation** of **Build Processors**.
- A **cloud-based** solution to **manage machines**, **process parameters**, and **build jobs**.
- **Increasing** the **versatility** and **scaleability** of your Build Processors and the **productivity** of your **applications**.



co-am
Machine Manager

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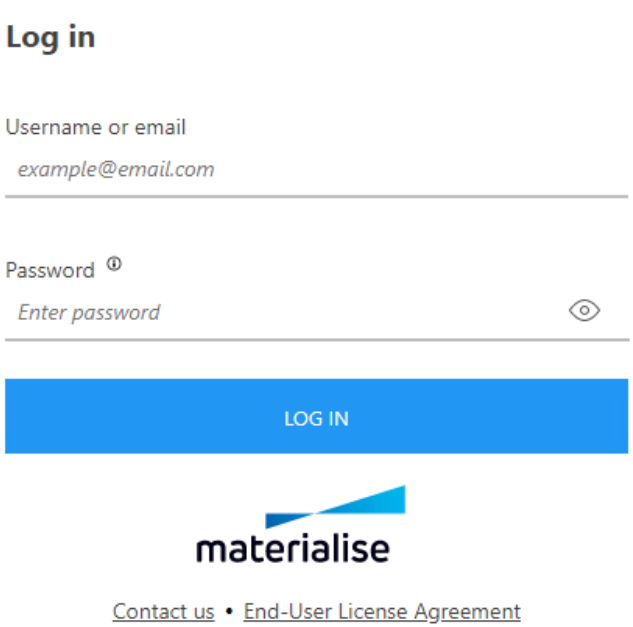
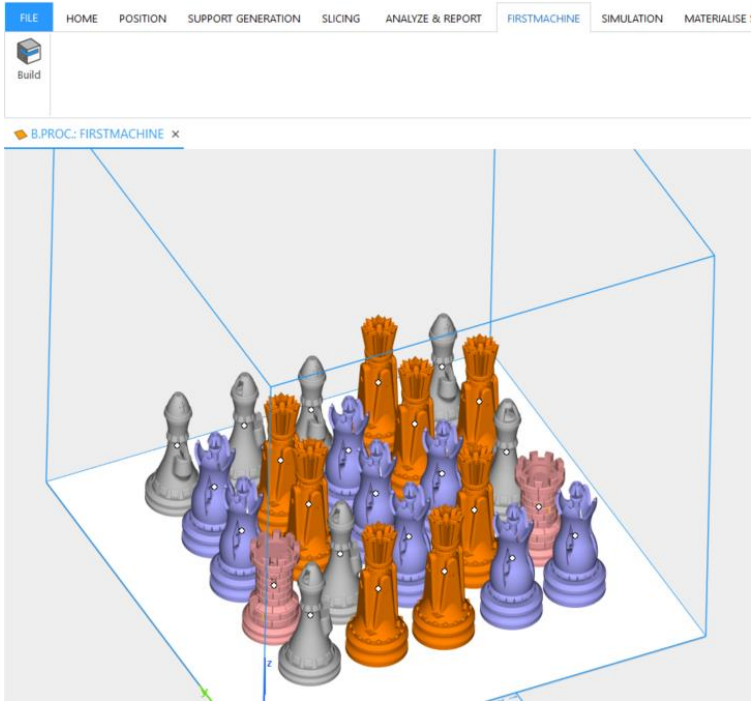


Connect to the CO-AM Machine Manager

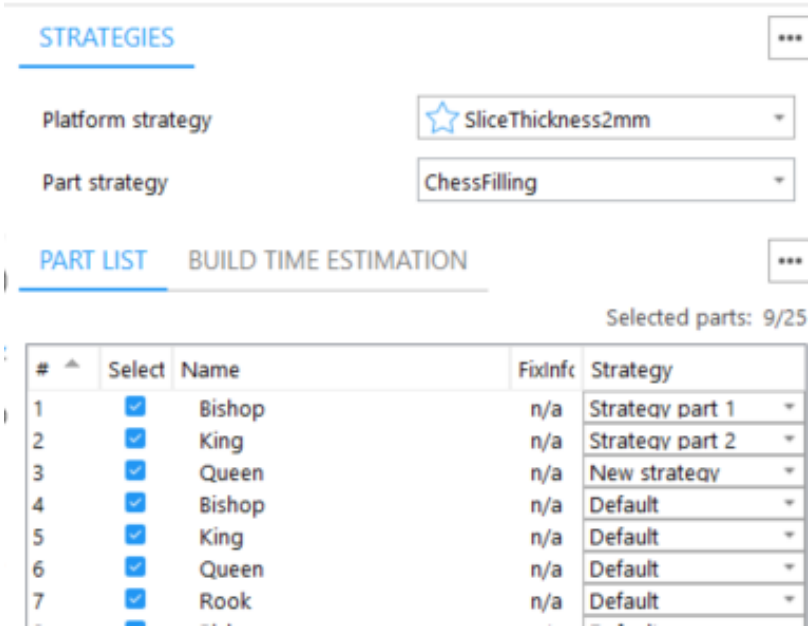
- **Log into** your Machine Manager account **through the Settings** to connect to the server.
- **Change** to **another Machine Manager server** if needed.

Select your machine

- **Select your machine** on the home screen or by adding a new platform scene.
- **Visualize your machine** and its attributes as configured in the machine manager.
- Manage **basic parameters** of your machine in the **Machine Manager.** Other **parameters,** such as those for **support,** are available in the **Magics Machine Properties**.



Assign your strategy



- **Assign** your **default build strategies** in the **Strategies toolpage**.
- **Assign specific strategies** to a part or support in the Strategy column **in the Part List**.
- **Send** the platform **for processing** with the **Build** function in the dedicated machine ribbon.

For more information,
contact your local Materialise office.

mtls.me/magics-contact