materialise

innovators you can count on

Materialise Magics21

What’s new

Index

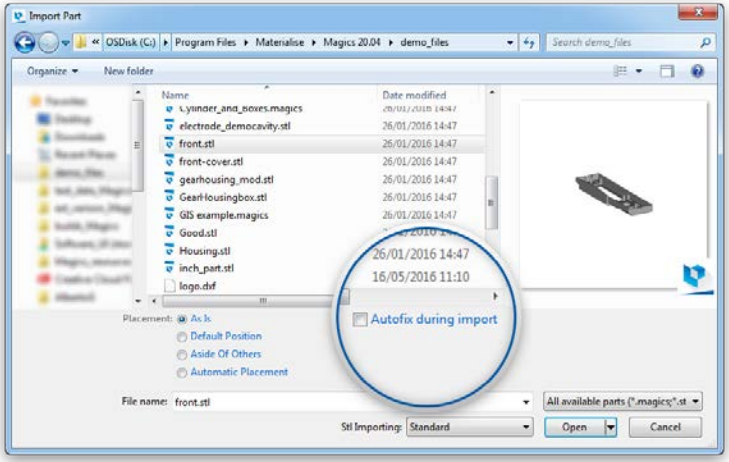
- Colors and Textures
  - Color per vertex
  - Part to texture
- Saving and Loading
  - Workflow improvements (1/2)
  - Workflow improvements (2/2)
  - Export to 3D PDF
  - MatConvert
- Support Generation (SG)
  - Orientation optimizer: support on marked
  - View all parts
  - Support preview
  - Slice distribution graph
  - Materialise e-Stage
- Metal Support Generation (SG+)
  - Assign selected as support
  - Automatic tree support
  - Hybrid support
  - Border thickness (block support)
- Sinter Module
  - Nest with smaller angles
  - Interlocking analysis
  - View rotation circle (3D nester)
  - Slice distribution graph
- Streamics
  - Save platform to Streamics
  - Batch duplicate
  - New options

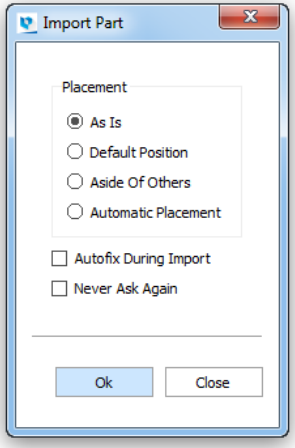
materialise
innovators you can count on

Magics 21.1

Part import

materialise
innovators you can count on

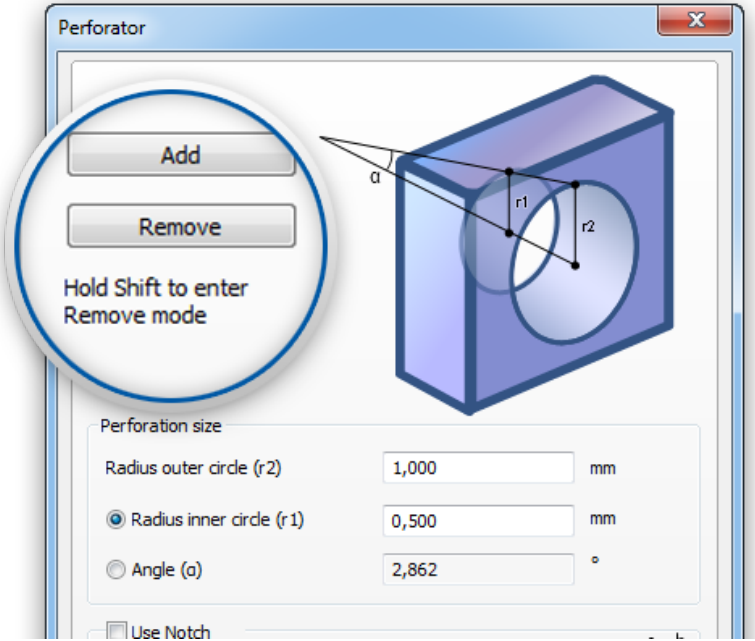


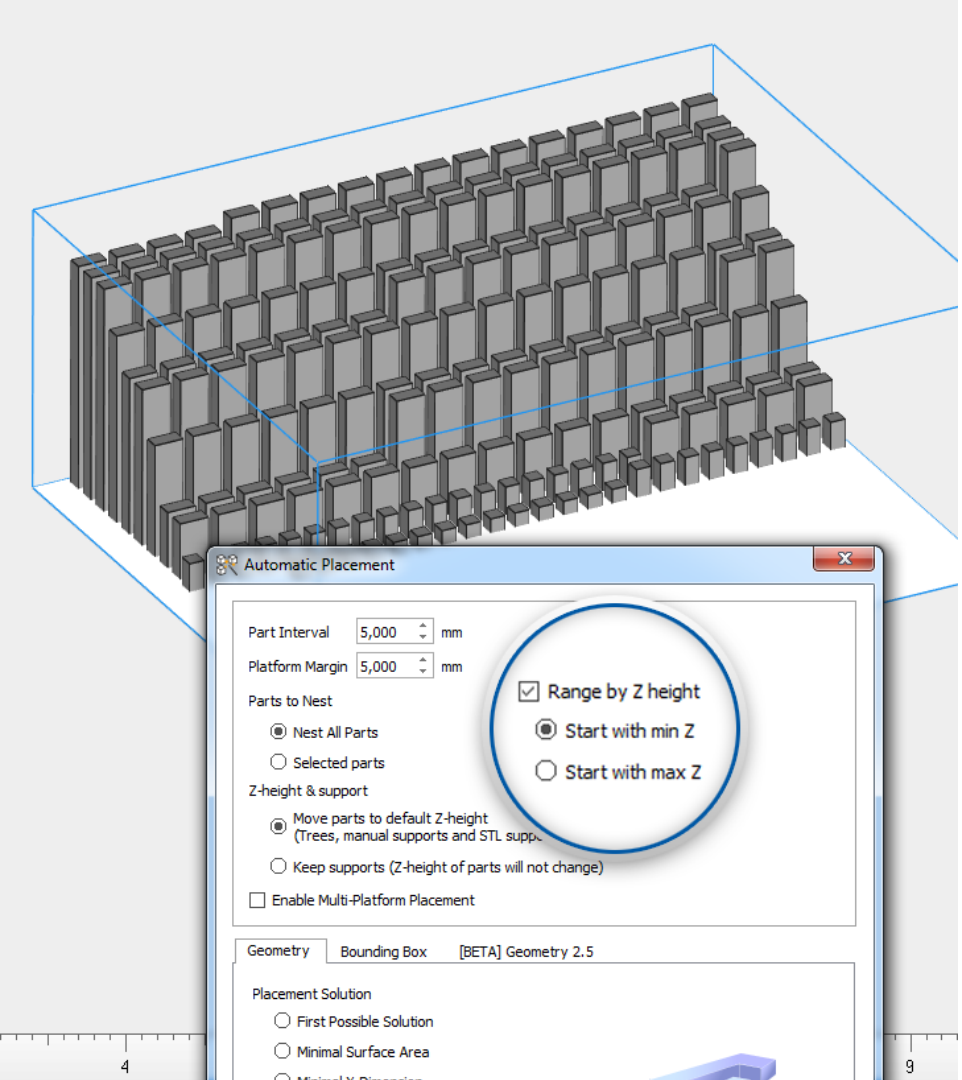


- Automatically fix parts when importing them in Magics
- Choose the placement method and autofix parts when drag and dropping part files in Magics scene

Perforator & label tags

- Directly add a perforation or a tag to a part when opening the dialog
  - Just click on the point where you want to apply it
- Easily remove perforations or tags
  - Click on the perforation/tag you want to delete while holding shift command





materialise
innovators you can count on

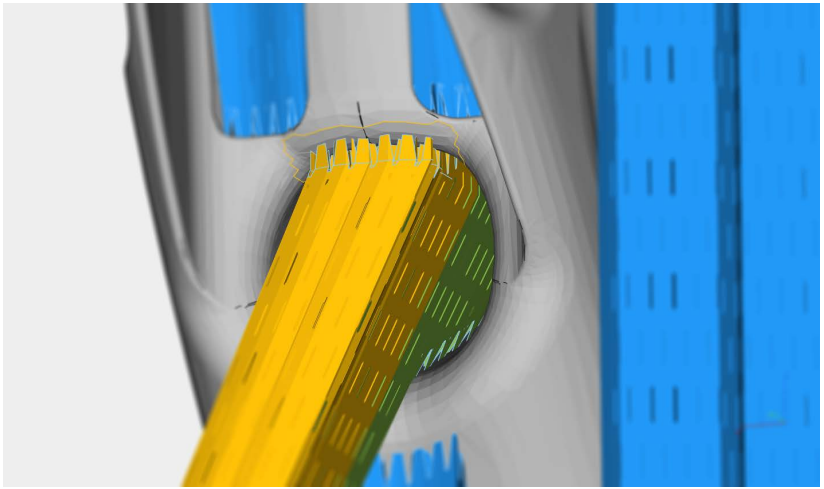
Automatic placement

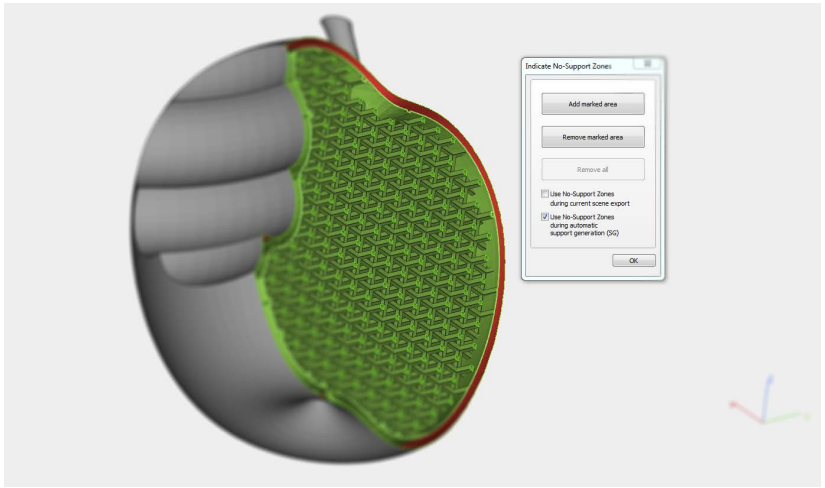
- Automatically place parts on the platform taking into account their height
  - Reduce the recoating time and the total build time

General improvements

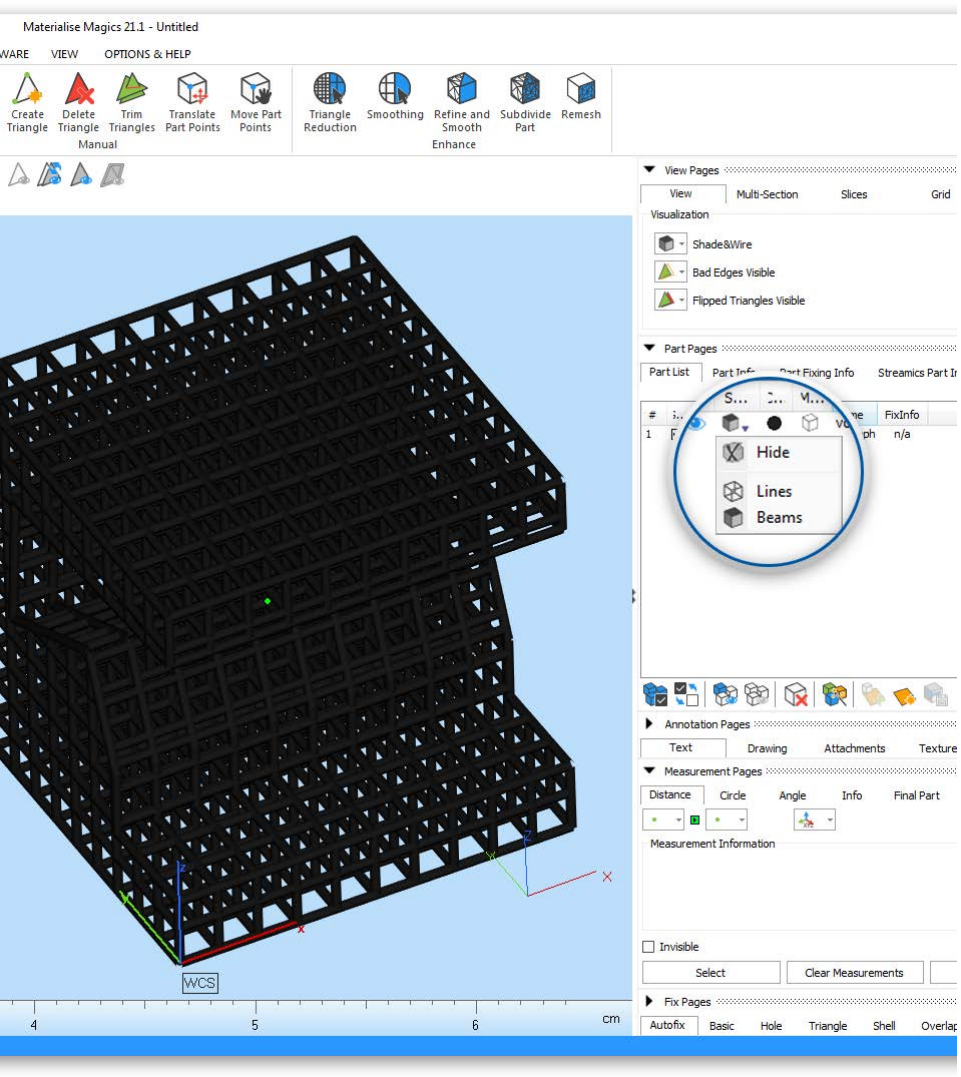
- Take advantage of the improved auto fixer
- Rename parts easily and fast directly from the scene
  - Assign shortcut to Rename Parts feature (default Shift+R)
- Create labels based on font size
- Set transparency to no-build zones
  - Settings/Visualization/Colors/Other Colors

Support Generation (SG)





- Select Part to Part Items
  - Automatically select only support surfaces that touch the part twice
- No-Support Zones
  - Easily define part surfaces where support will not be generated



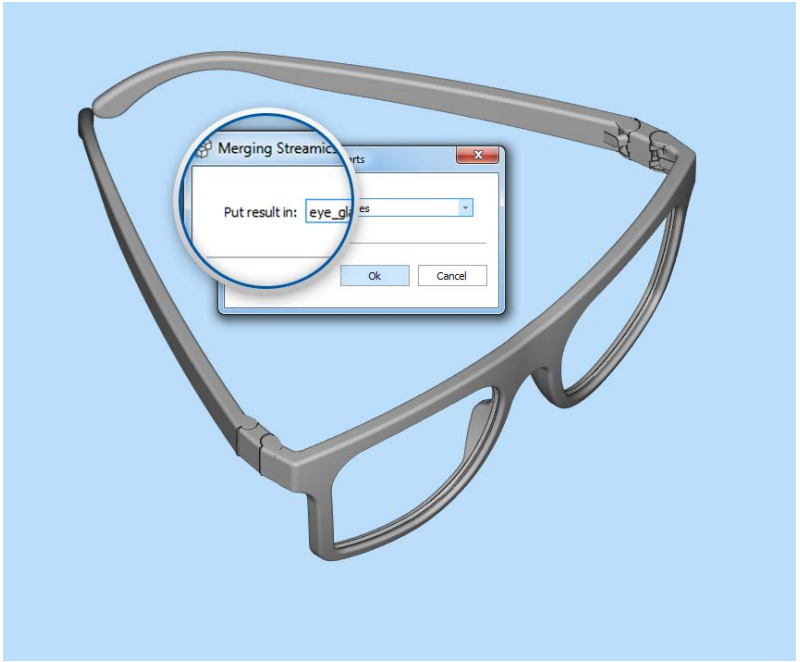
materialise
innovators you can count on

Lightweight structures

- Easily select how to visualize structures in Magics
  - Lines (no thickness)
  - Beams (thickness)
- Check your design directly in the scene

Streamics

- Manage revision trees in Streamics and assign merged parts in Magics to the desired tree
- Available for:
  - Merge Parts
  - Boolean

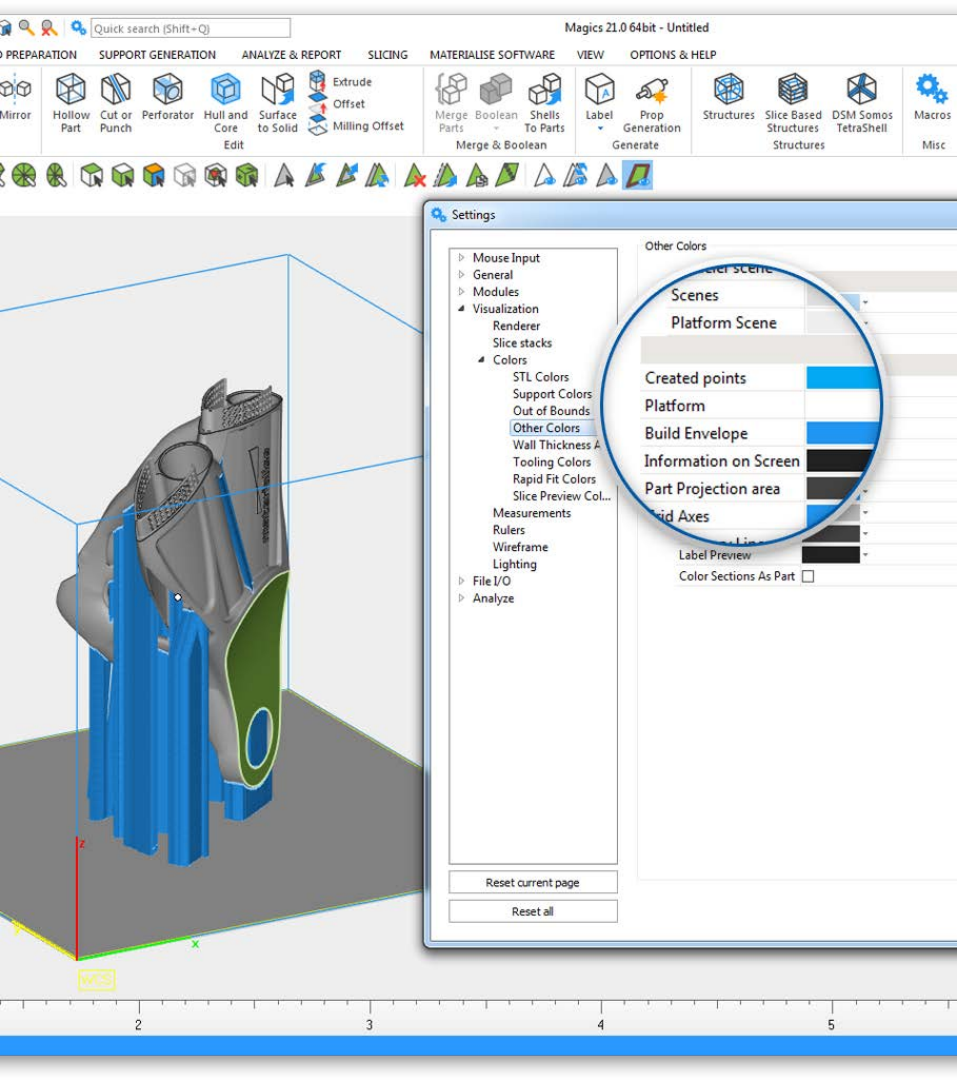


materialise
innovators you can count on

Magics 21.0

UX/UI Improvements

materialise
innovators you can count on



materialise
innovators you can count on

Customization

- New colors
- Change platform color
  - Via Settings/Other colors
- Change visual style
  - Via Customize UI/Visual Style

UX/UI Improvements - NEW

Right-click menus

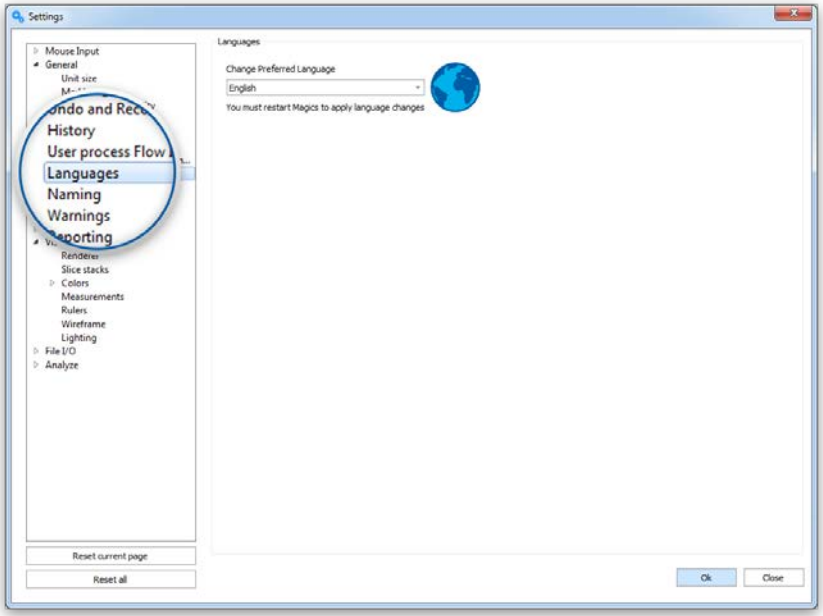
materialise
innovators you can count on

- Better default options
- Added menus for:
  - Editing (E + right-click)
  - Fixing (F + right-click)
  - Marking (M + right-click)
  - View options (V + right-click)
  - Analyze options (A + right-click)

UX/UI Improvements - IMPROVED

Languages

- Newly introduced:
  - French
  - Spanish
  - Italian



View ribbon

materialise
innovators you can count on

Home view

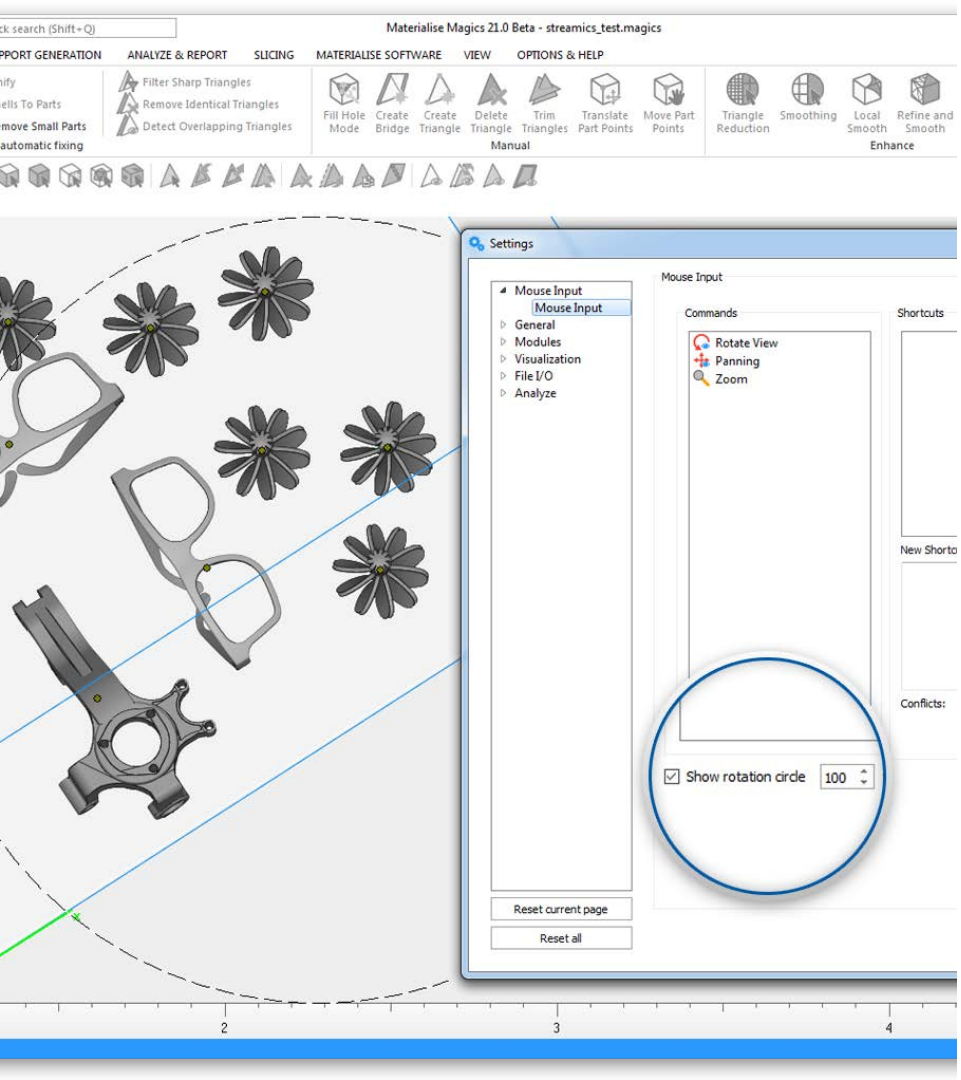
Clear overview of your workspace in one click (isometric view).

Selection points

Toggle the selection points of the parts.

Gravity center

Toggle the center of gravity for the selected part(s).



materialise
innovators you can count on

View rotation circle

- Customize the size of the view rotation circle
- Easier 3D view rotation

UX/UI Improvements - NEW

Performance improvements

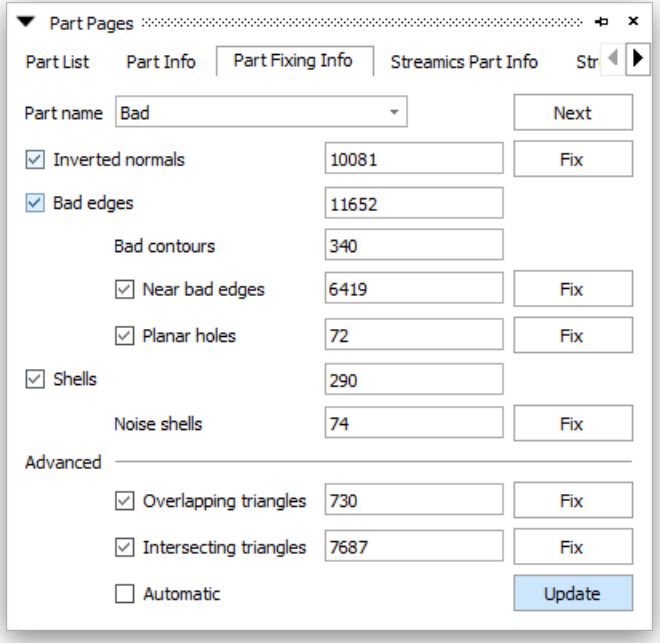
- Perforator
- Smarter undo/redo and autorecovery saving, which improves the performance of:
  - Fixing tools
  - Marking tools
  - Enter/exit SG mode

Fixing

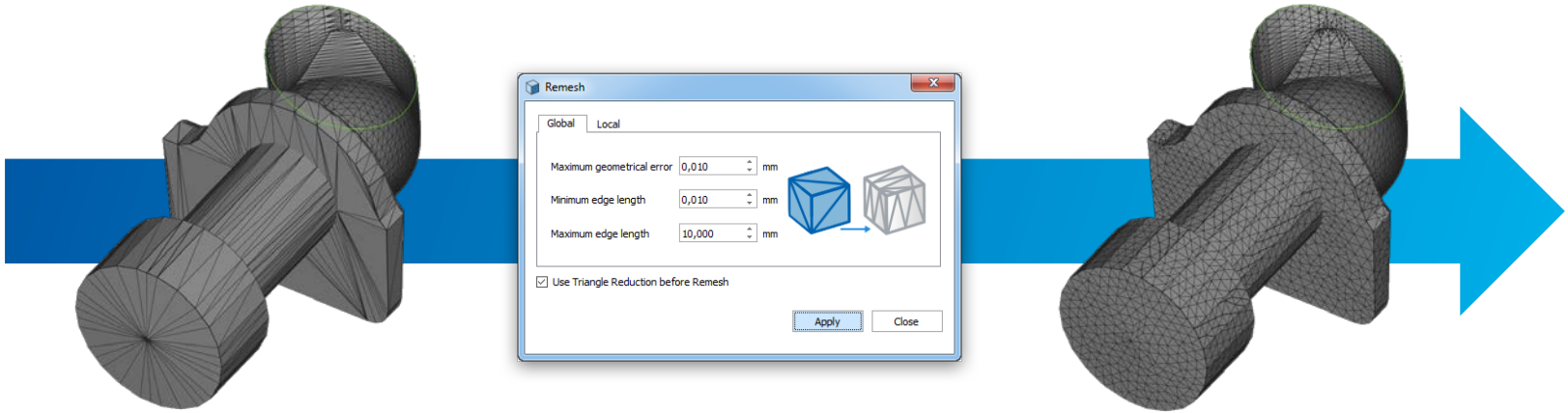
materialise
innovators you can count on

Part Fixing Info

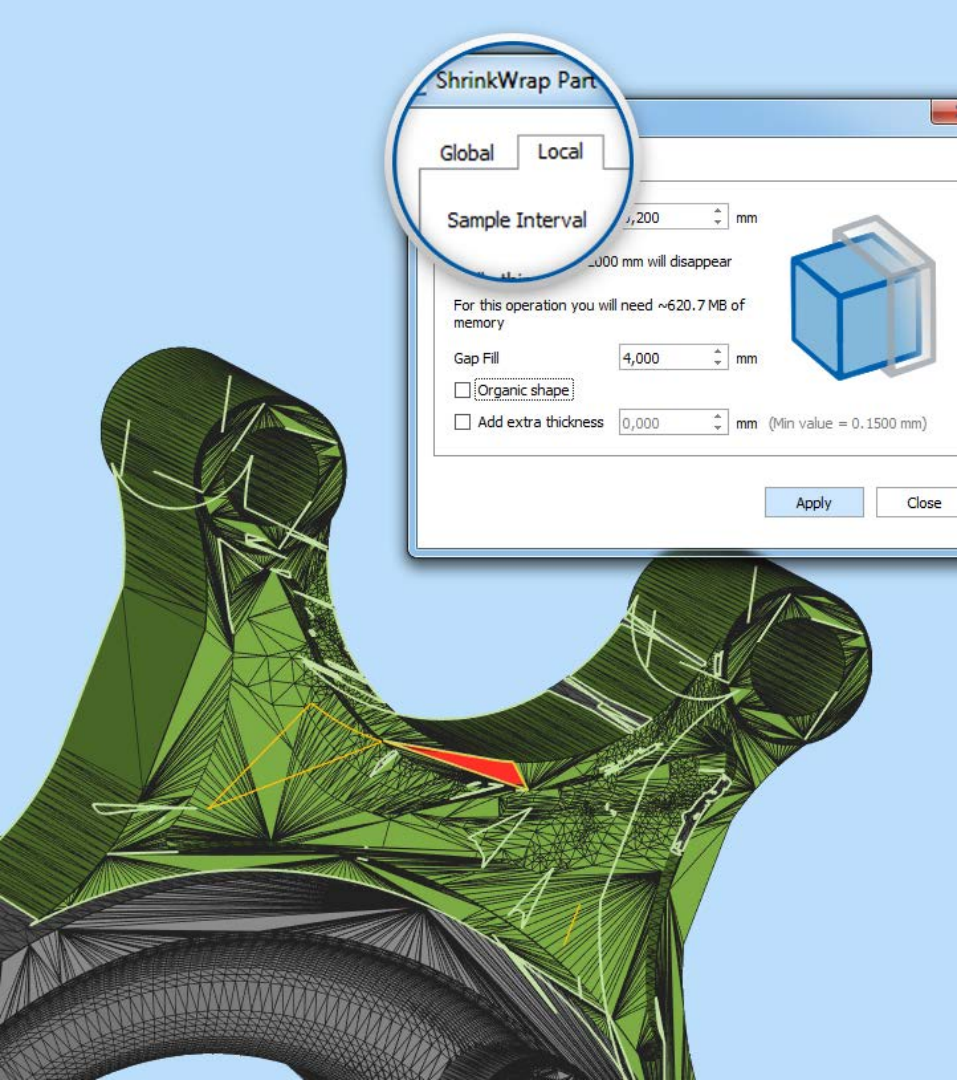
- Now fix a part directly from Part Fixing Info tab, in the Part Pages toolpage
- One-click process to automatically fix one category of errors



Remesh



- Create a more even distribution of triangles for easier fixing or better surface quality
- Apply globally or locally



materialise
innovators you can count on

ShrinkWrap

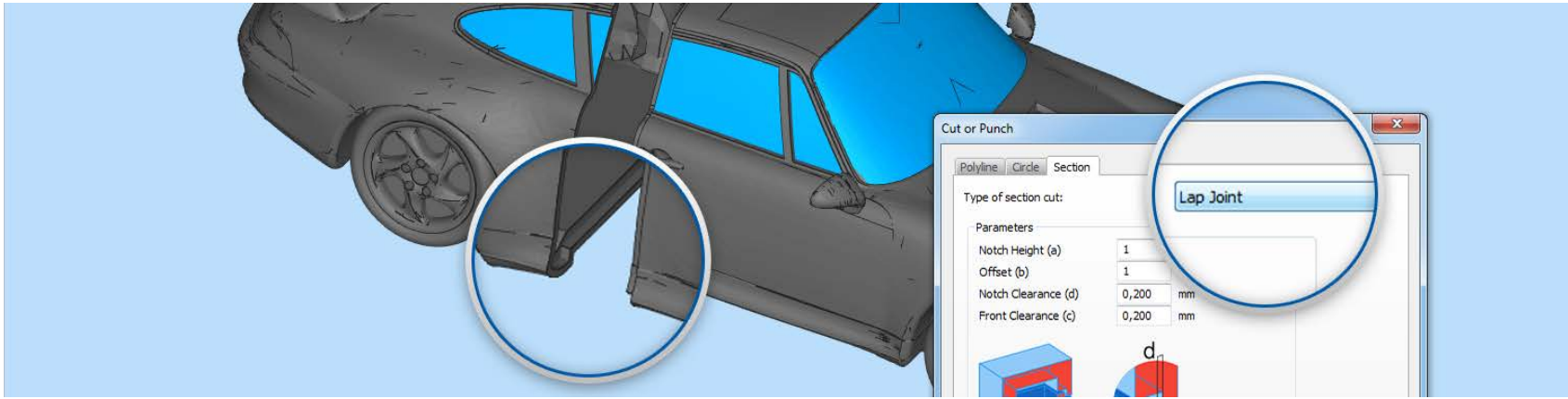
- New Local Shrinkwrap
  - Mark an area to Shrinkwrap it without affecting the rest of the part
- Better preservation of colors and textures for both Global and Local Shrinkwrap

Fixing - IMPROVED

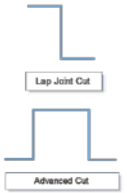
Editing

materialise
innovators you can count on

Lap joint cut

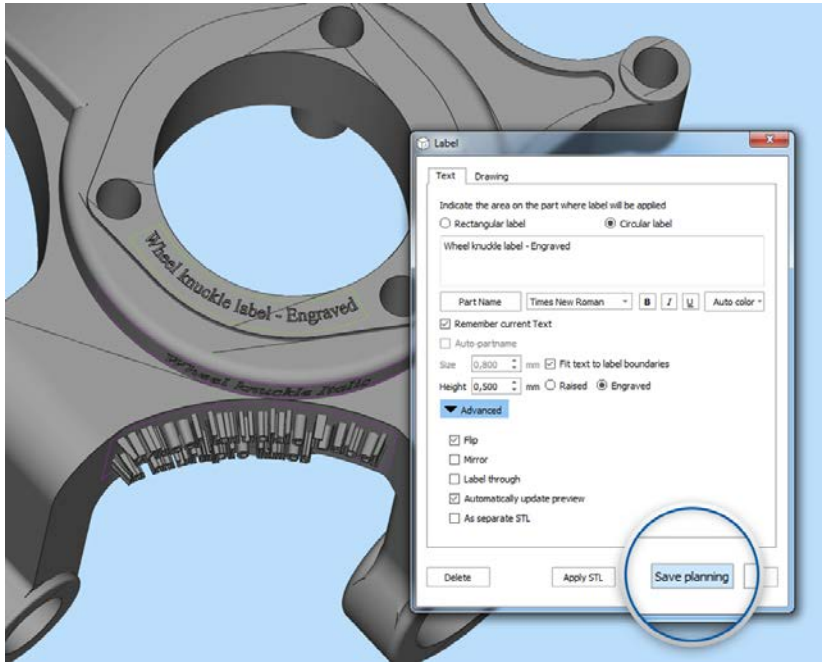


- Generate a step cut between two indicated contours
- Different cut shape between advanced cut and lap joint cut

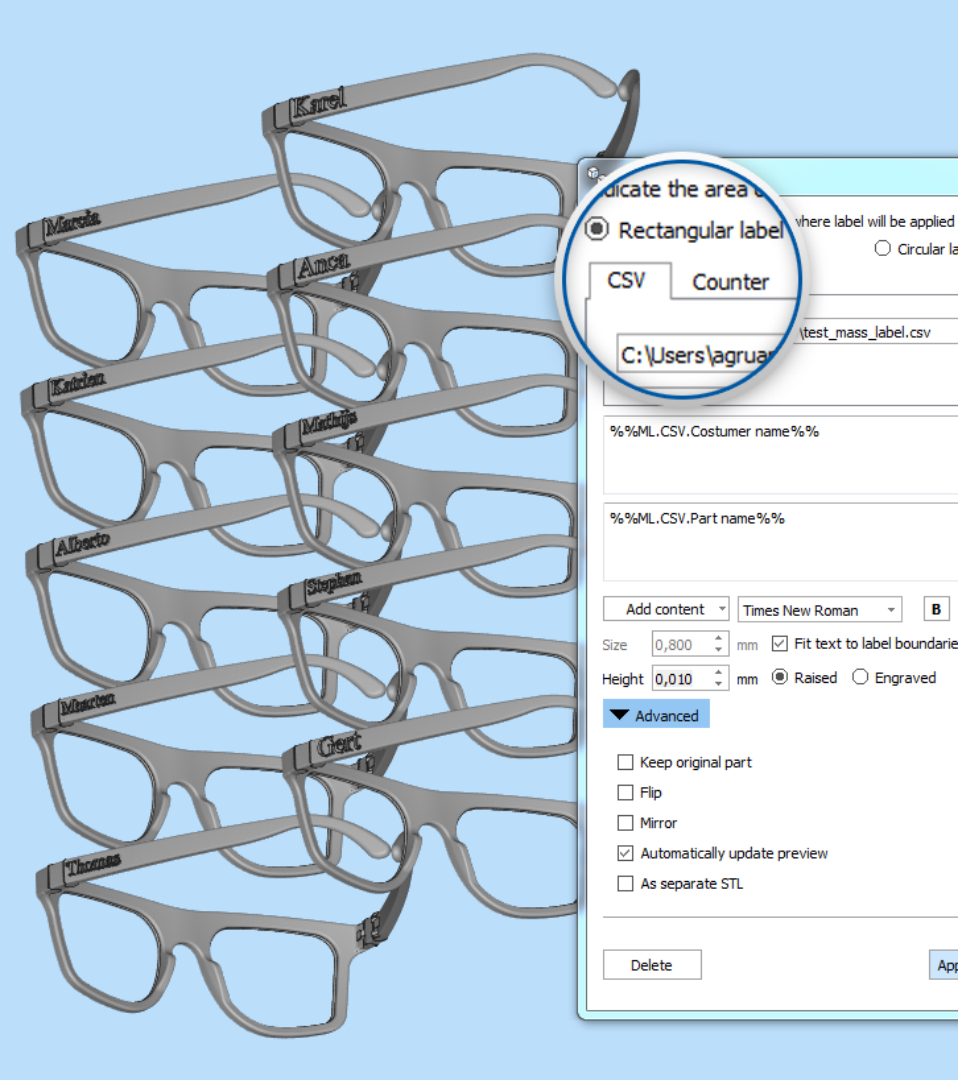


Label

- Create a label preview that can be edited before applying it as STL to the part
- The label is applied perpendicular to the surface
- Save the label as planning and edit it later
  - In the same Magics session
  - In a later Magics session



Editing – IMPROVED



materialise
innovators you can count on

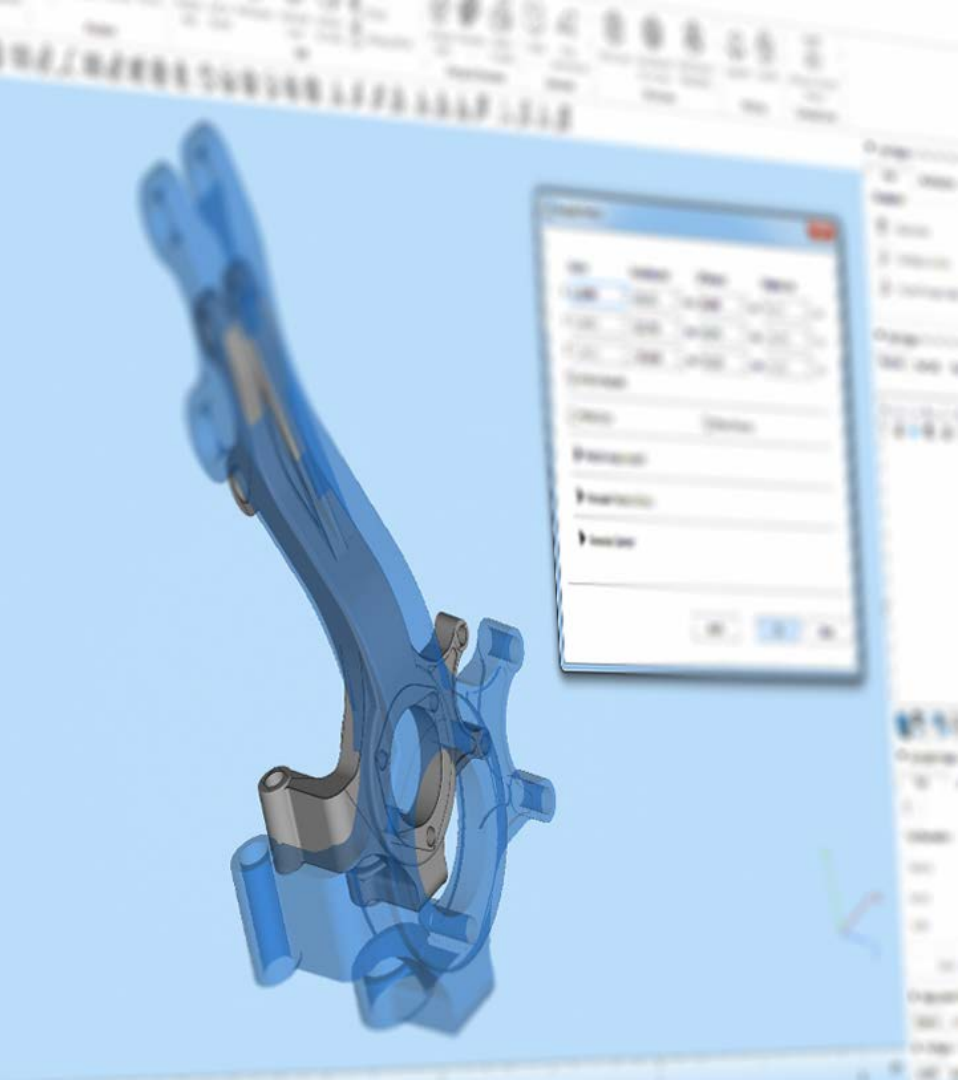
Mass label

- Apply a different label to copies of the same part
  - Content retrieved from a CSV file
  - Content defined by a counter
- Increased flexibility for mass production

Editing - NEW

Positioning tools

materialise
innovators you can count on



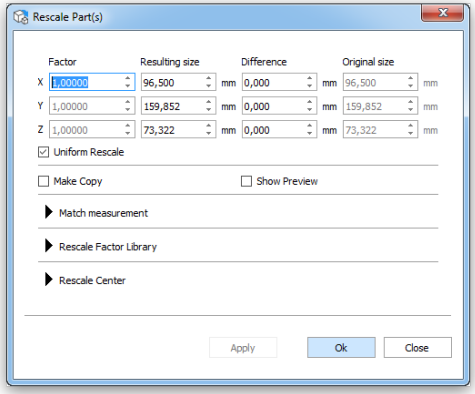
materialise
innovators you can count on

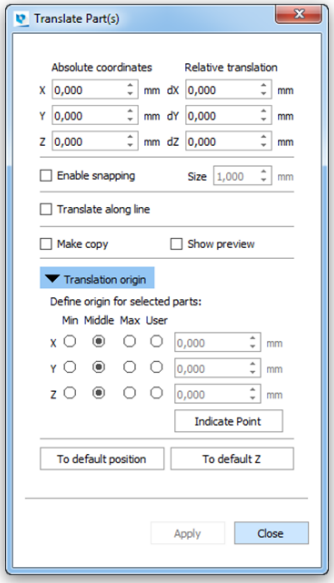
Show preview

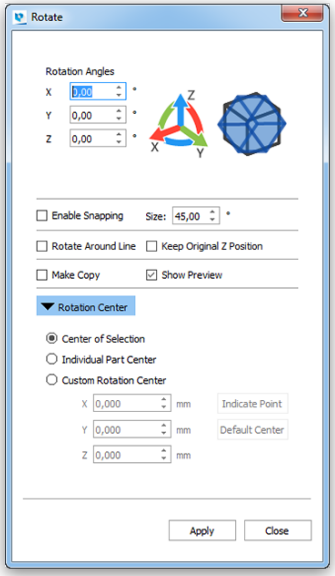
- Get instant feedback on your transformations for these functions:
  - Translate
  - Rotate
  - Rescale
  - Duplicate
  - Mirror

Translate, rotate, rescale

- New combined dialog boxes providing all functionalities at a glance
- More flexible, user-friendly and with better control



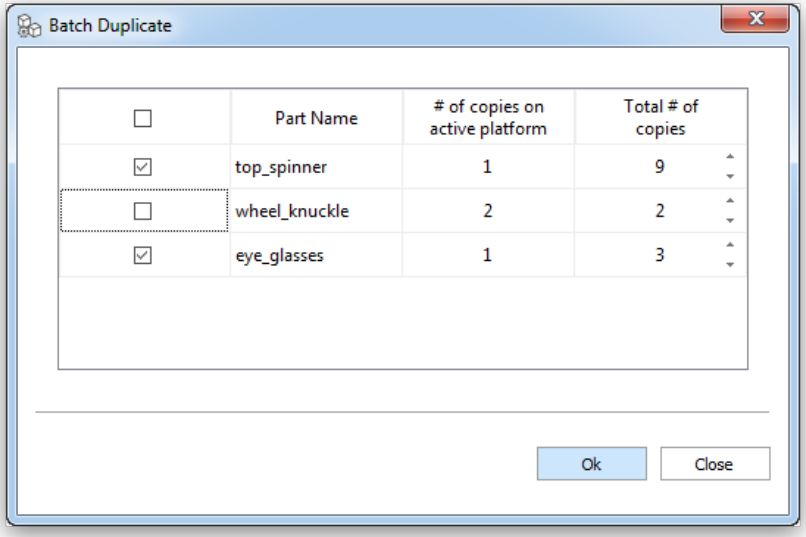




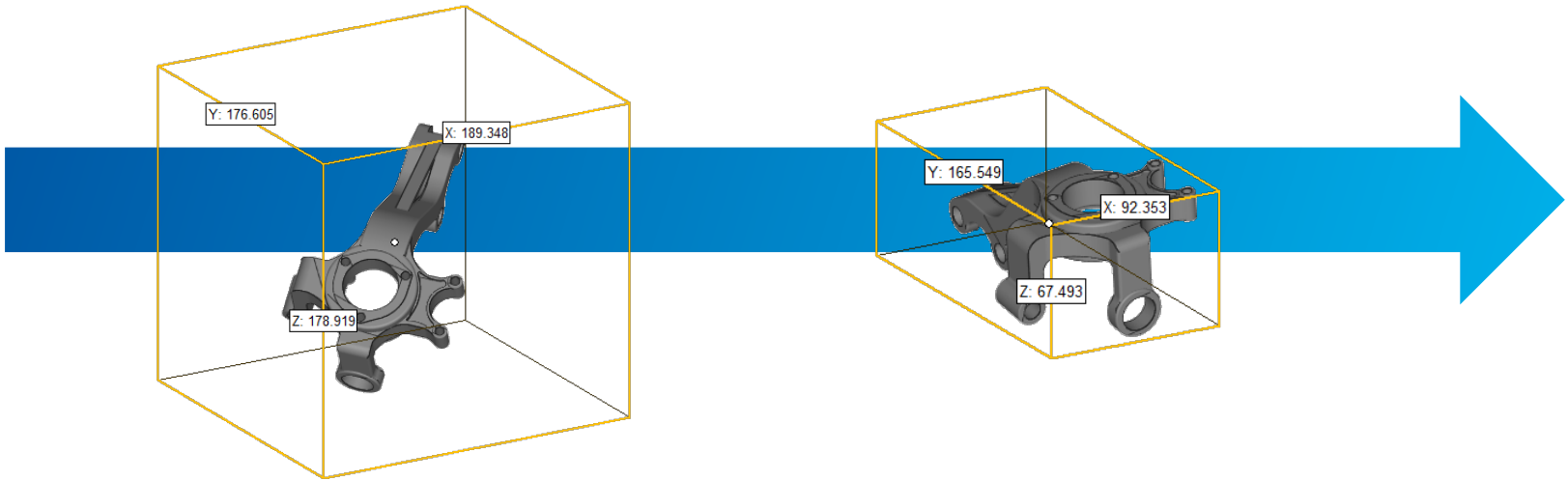
Positioning tools - IMPROVED

Batch duplicate

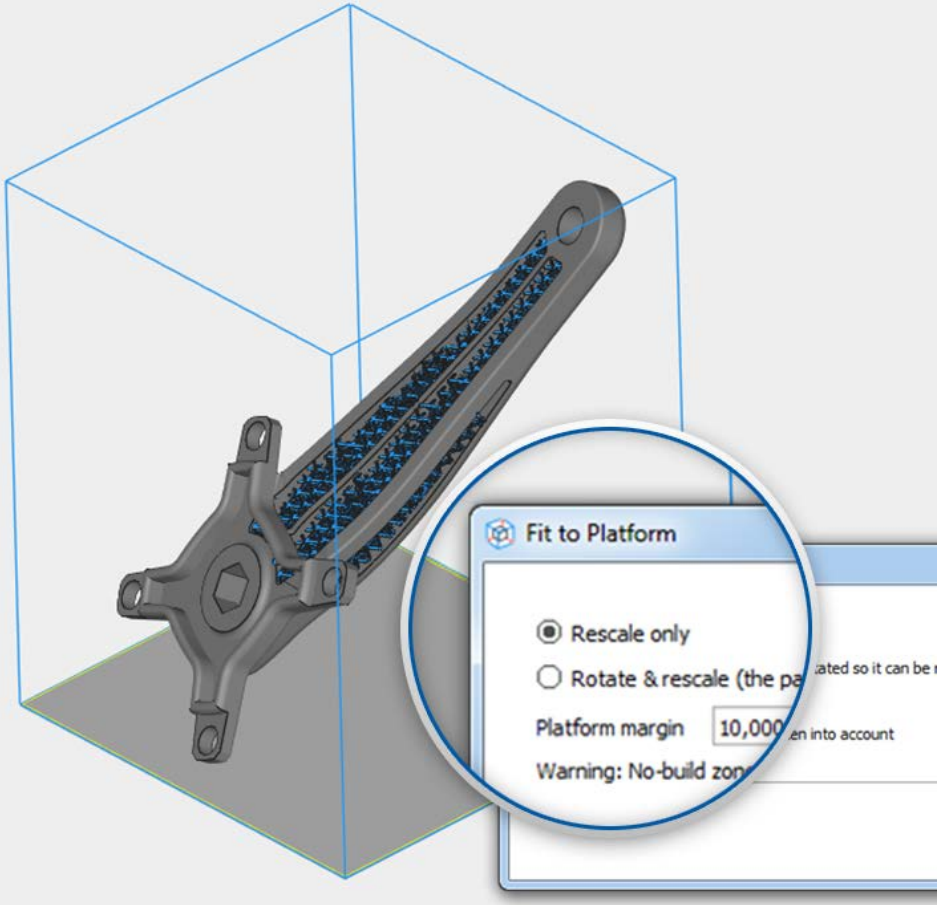
Set a different amount of copies per part on the active platform in only one operation



Minimize bounding box



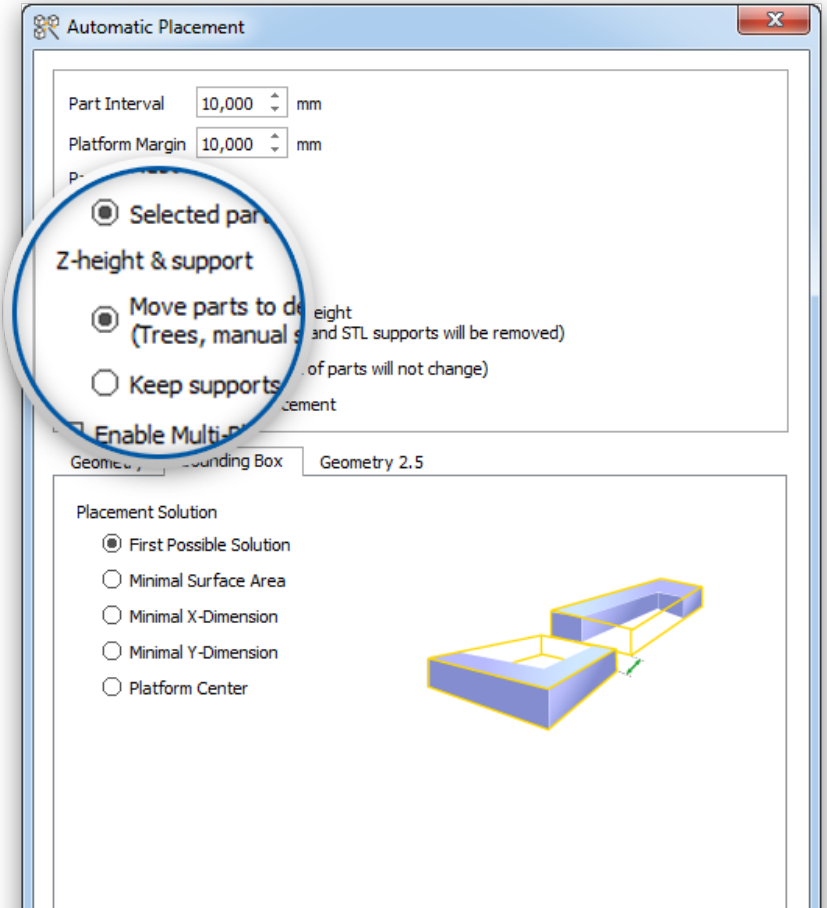
Automatically rotate your part to minimize the bounding box size on the platform.



materialise
innovators you can count on

Fit to platform

- Automatically rescale your part to fit the platform
- Option to automatically rotate the part to maximize the size



materialise
innovators you can count on

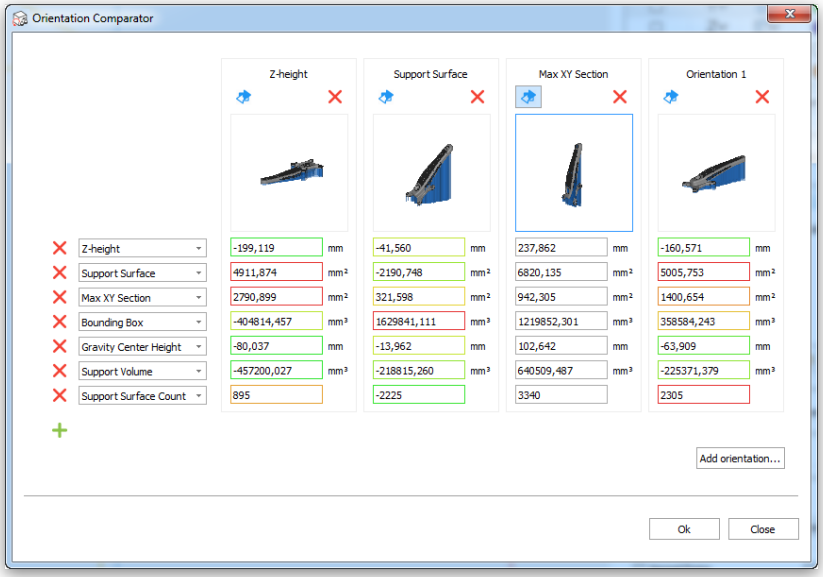
Automatic placement

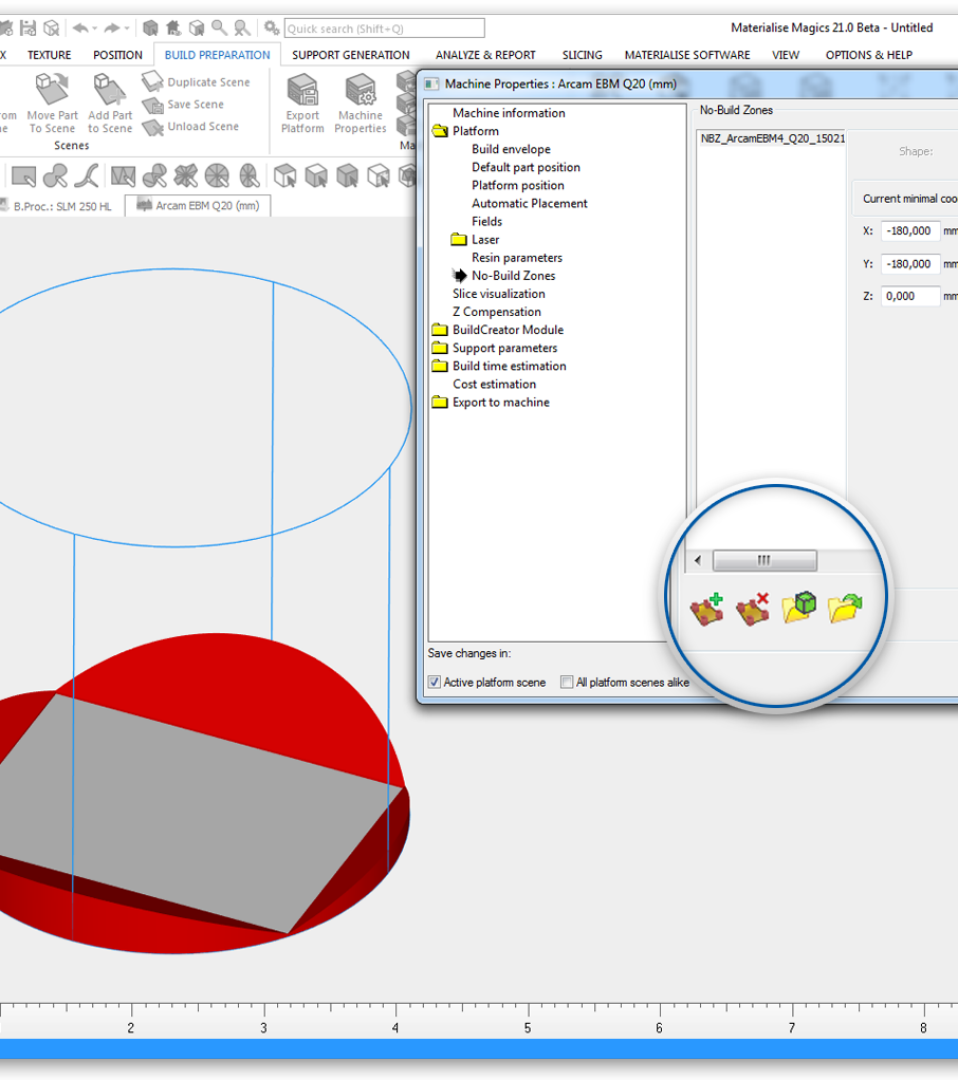
Option to preserve all support when auto-placing parts on the platform

Positioning tools - IMPROVED

Orientation comparator

- Compare statistics of interesting orientations
- Set up the parameters for comparison
- Find the orientation that best suits personal needs





materialise
innovators you can count on

STL's as No-Build Zone

Add STL files as custom No-Build Zones in the machine properties.

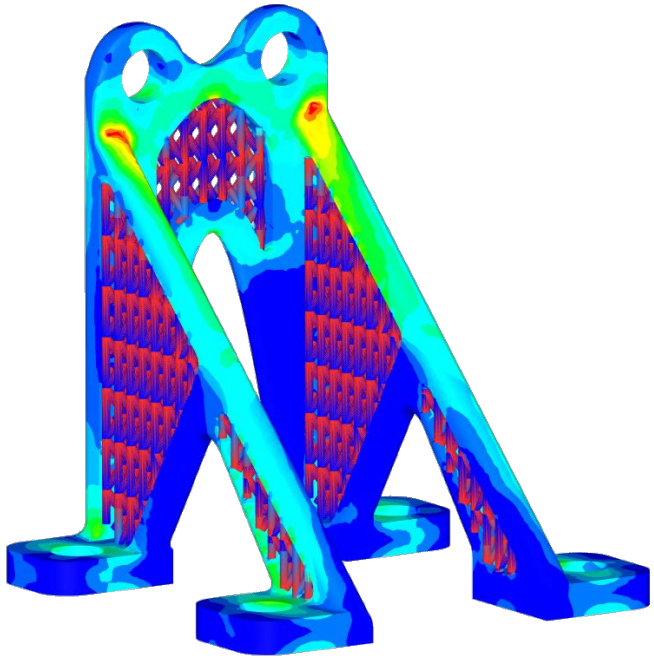
Positioning tools - NEW

Colors and Textures

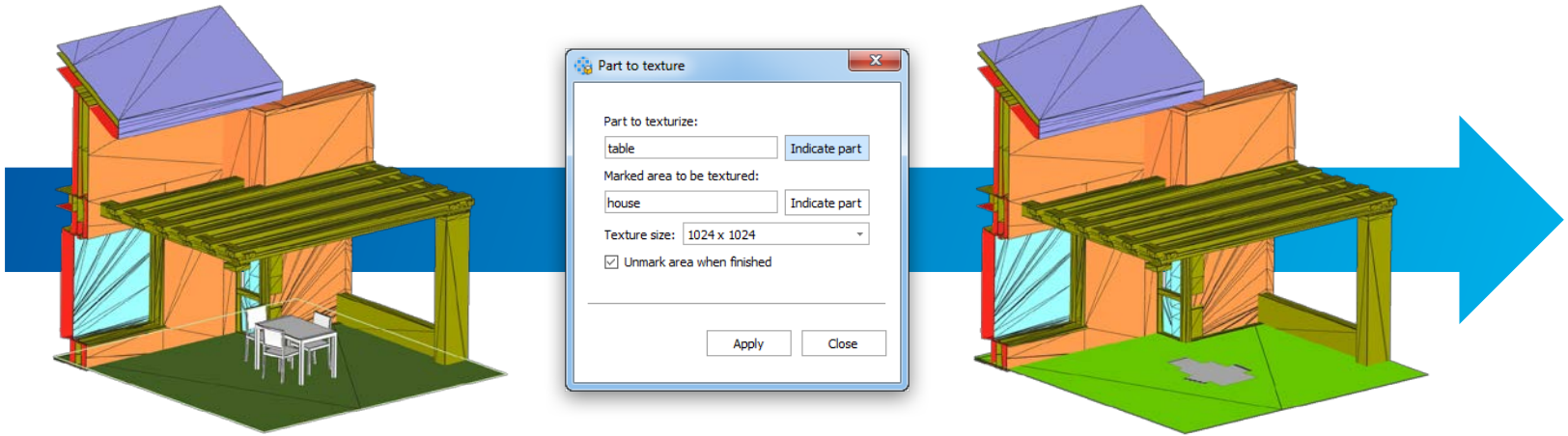
materialise
innovators you can count on

Color per vertex

- Import files with color per vertex
  - *.obj
  - *.vrml/*.wrl
- Correctly visualize the gradients



Part to texture



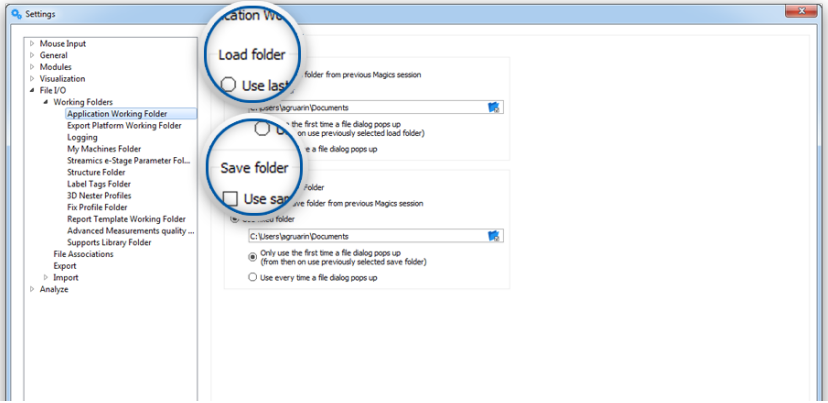
Turn a part into a texture to represent details that are too fragile to print.

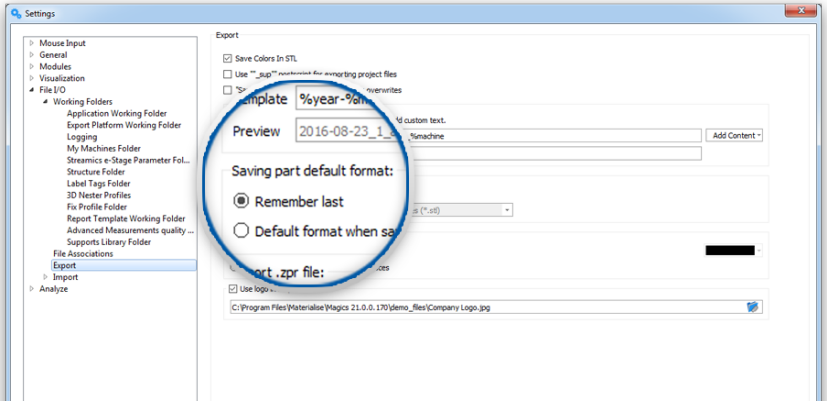
Saving and Loading

materialise
innovators you can count on

Workflow improvements (1/2)

materialise
innovators you can count on

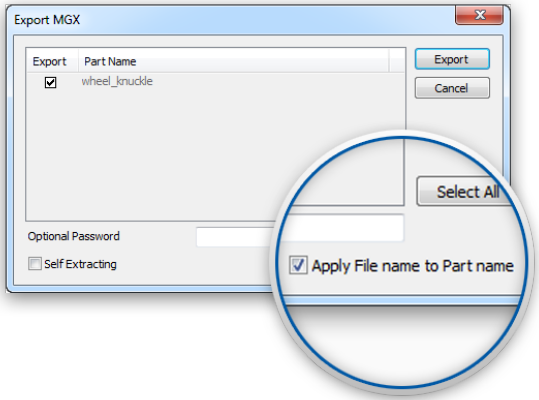


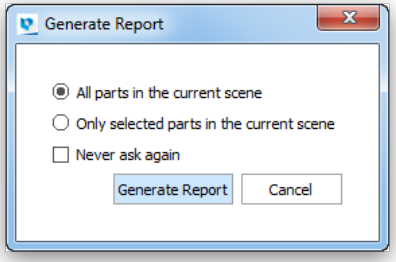


- Separate folders for loading and saving files
- Customize default save format

Saving and Loading - IMPROVED

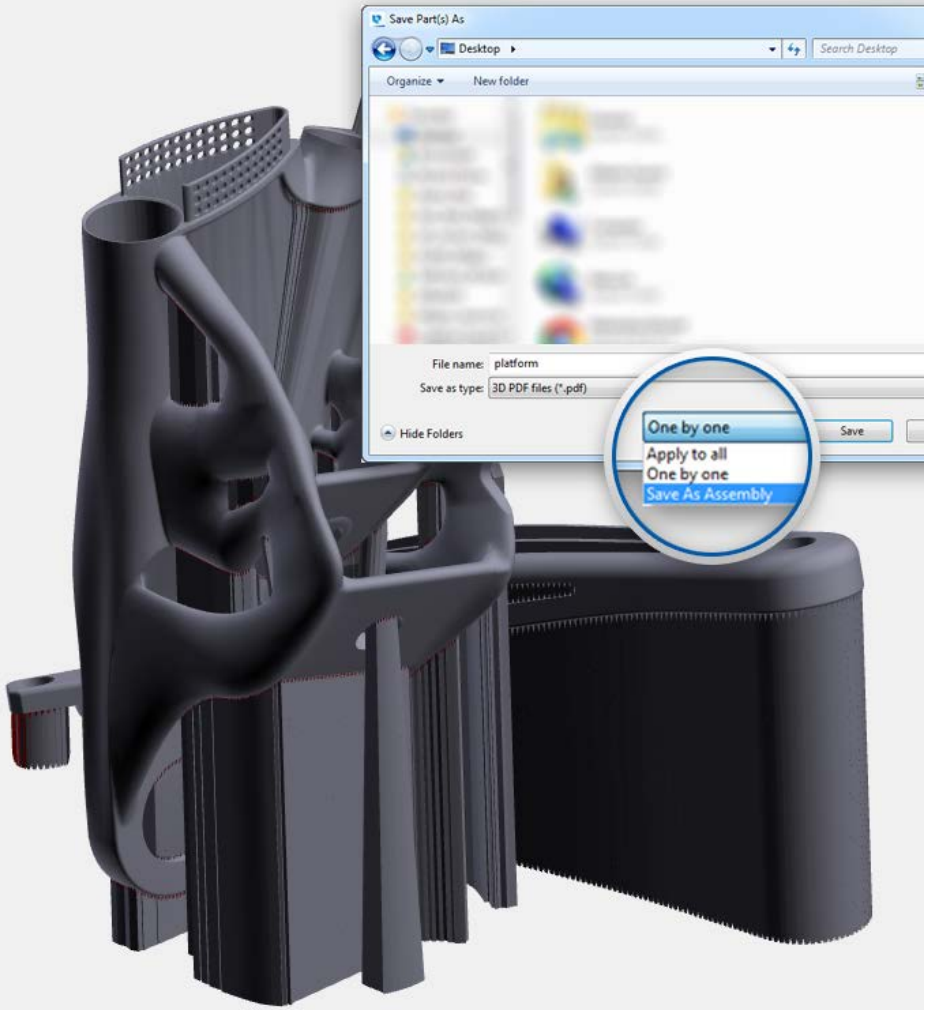
Workflow improvements (2/2)





- Apply selected file name as part name in Magics when saving to *.mgx file format
- Generate a report only for the selected parts in the scene

Saving and Loading - IMPROVED



materialise
innovators you can count on

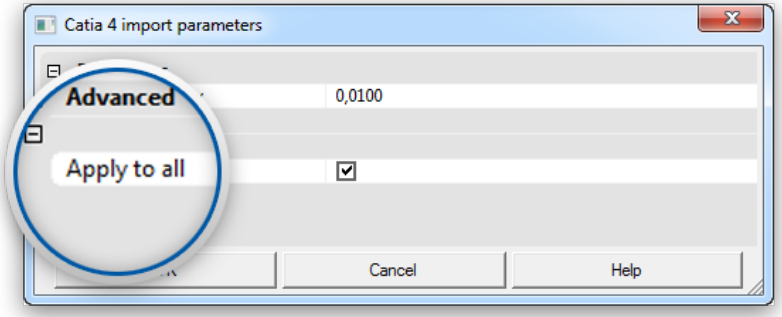
Export to 3D PDF

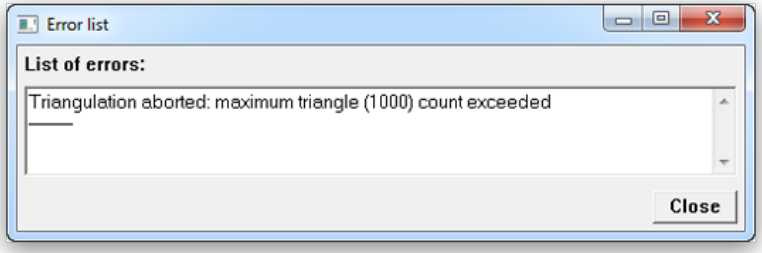
- Support is now automatically exported in the 3D PDF, together with the part
- Option to export multiple parts and their support in one 3D PDF file

Saving and Loading - IMPROVED

MatConvert

- “Apply to all” option when importing
  - Automatically applies the same import parameters to files with the same extension
- View detailed error messages that explain causes for import failures



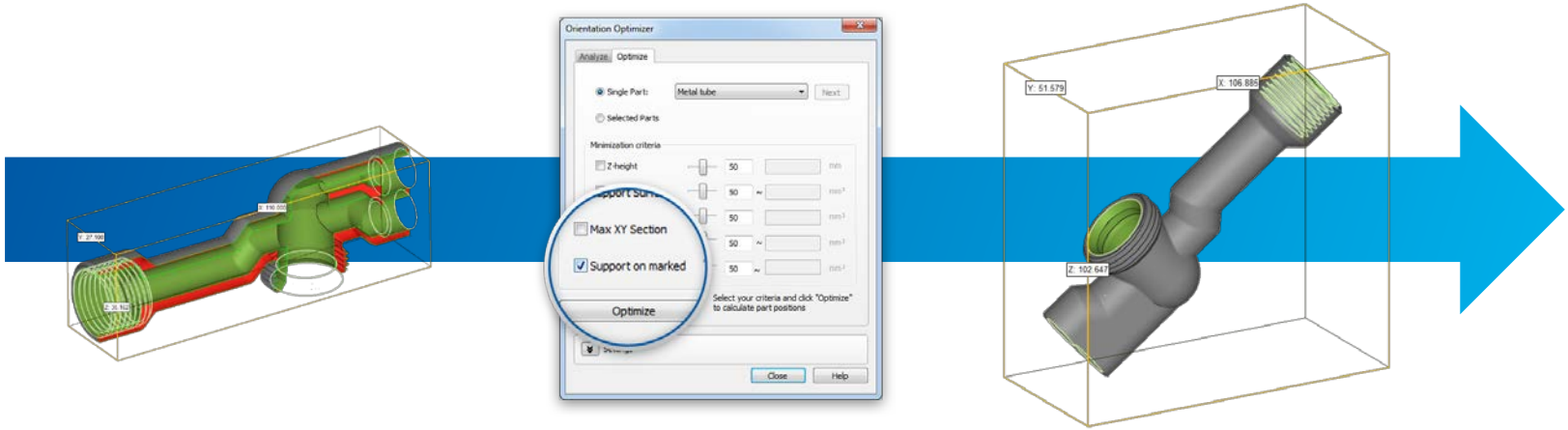


Support Generation (SG)

materialise
innovators you can count on

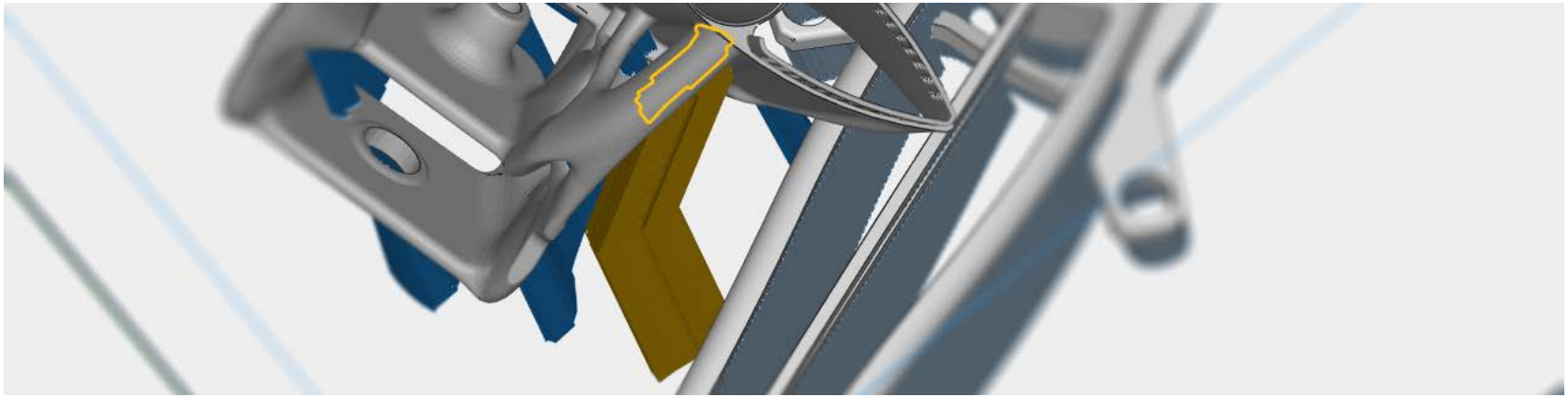
Orientation optimizer: support on marked

materialise
innovators you can count on



- Mark zones of the part where support is not desired
- Find an orientation in which the zones are self supporting

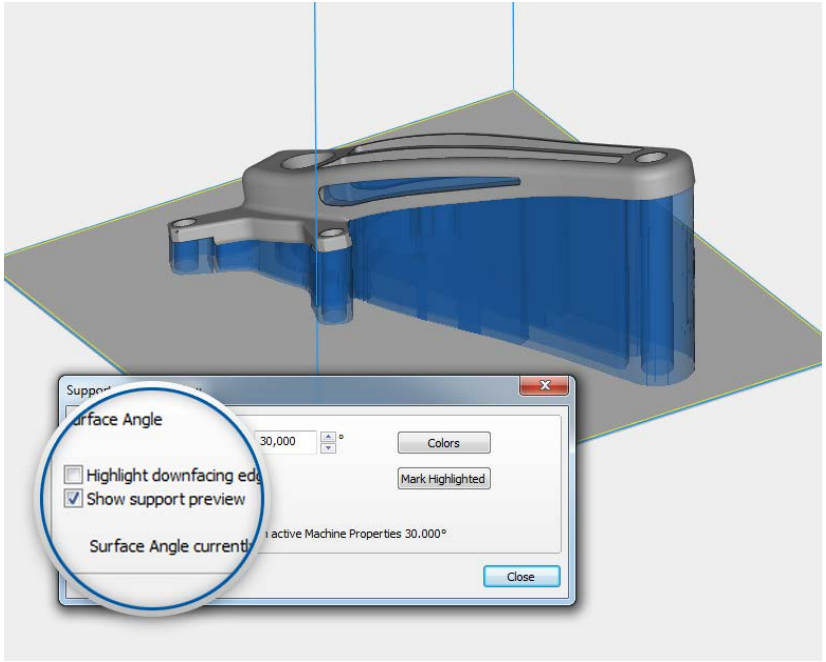
View all parts



- Place angled supports effortlessly
- Save time by switching selected part in SG mode

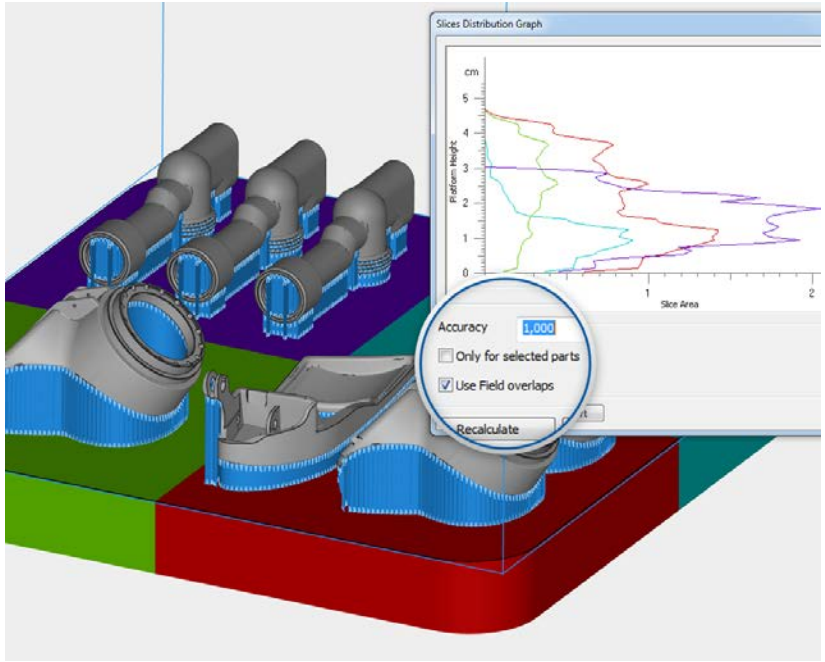
Support preview

- Interactive preview of how the support might look like once generated
- Cut down the amount of the orientation iterations

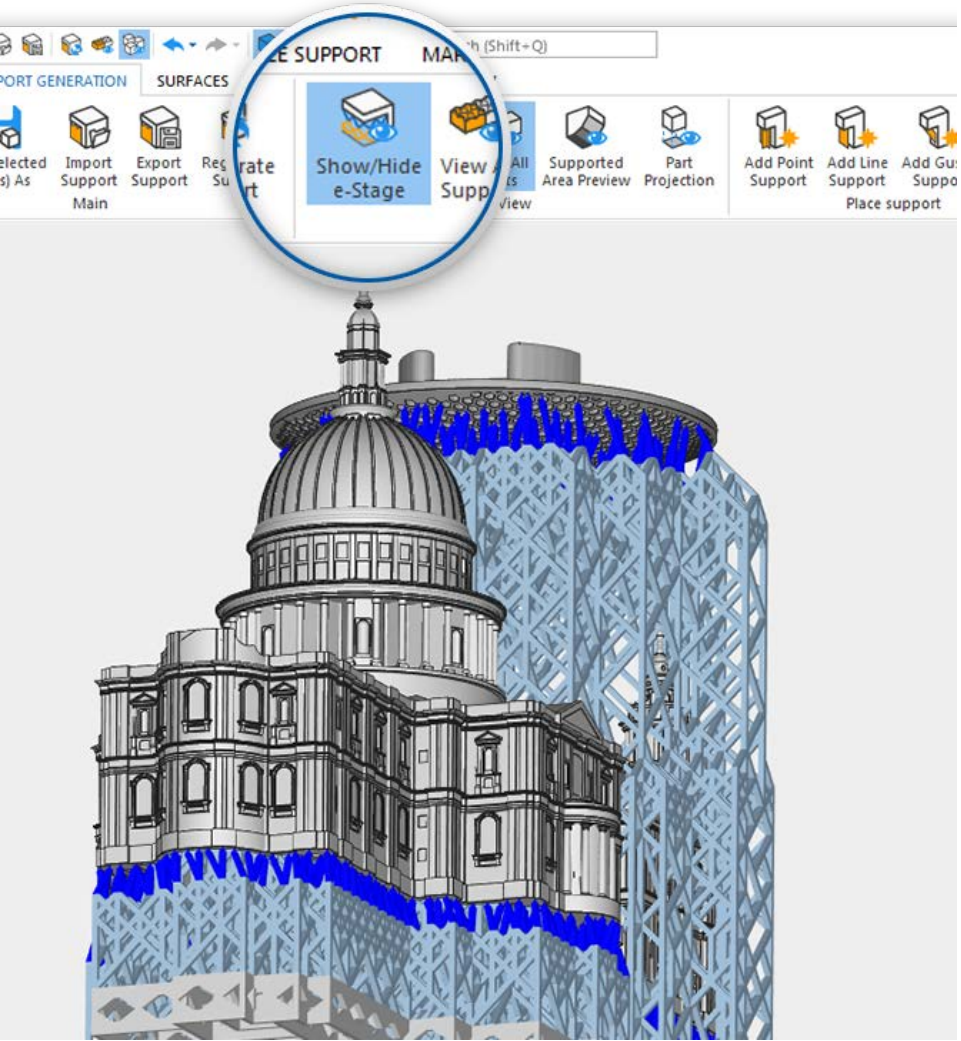


Slice distribution graph

- Quickly visualize the surface area per slice to improve part and build quality
  - For selected part(s) or entire platform
  - Take into account supports
- Use multi-optics to ensure an evenly distributed workload
- Export data to Excel
- Improved performance



Support Generation - NEW



materialise
innovators you can count on

Materialise e-Stage

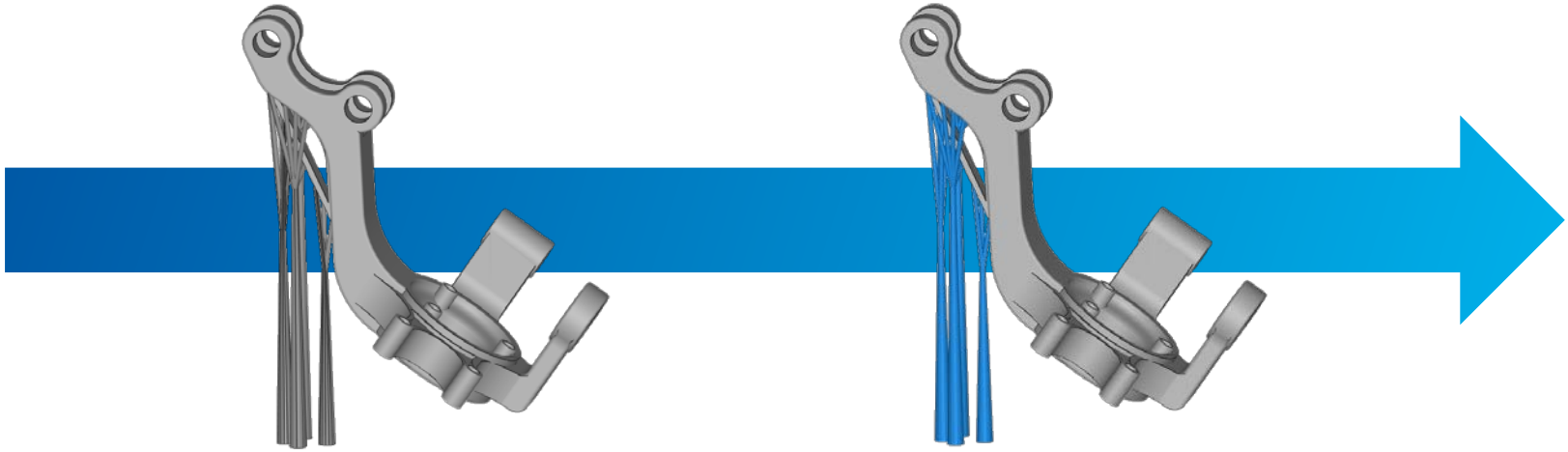
- Show or hide e-Stage support in SG mode in only one click
- Get a message when a newer version of e-Stage is detected and easily link it to Magics

Support Generation - NEW

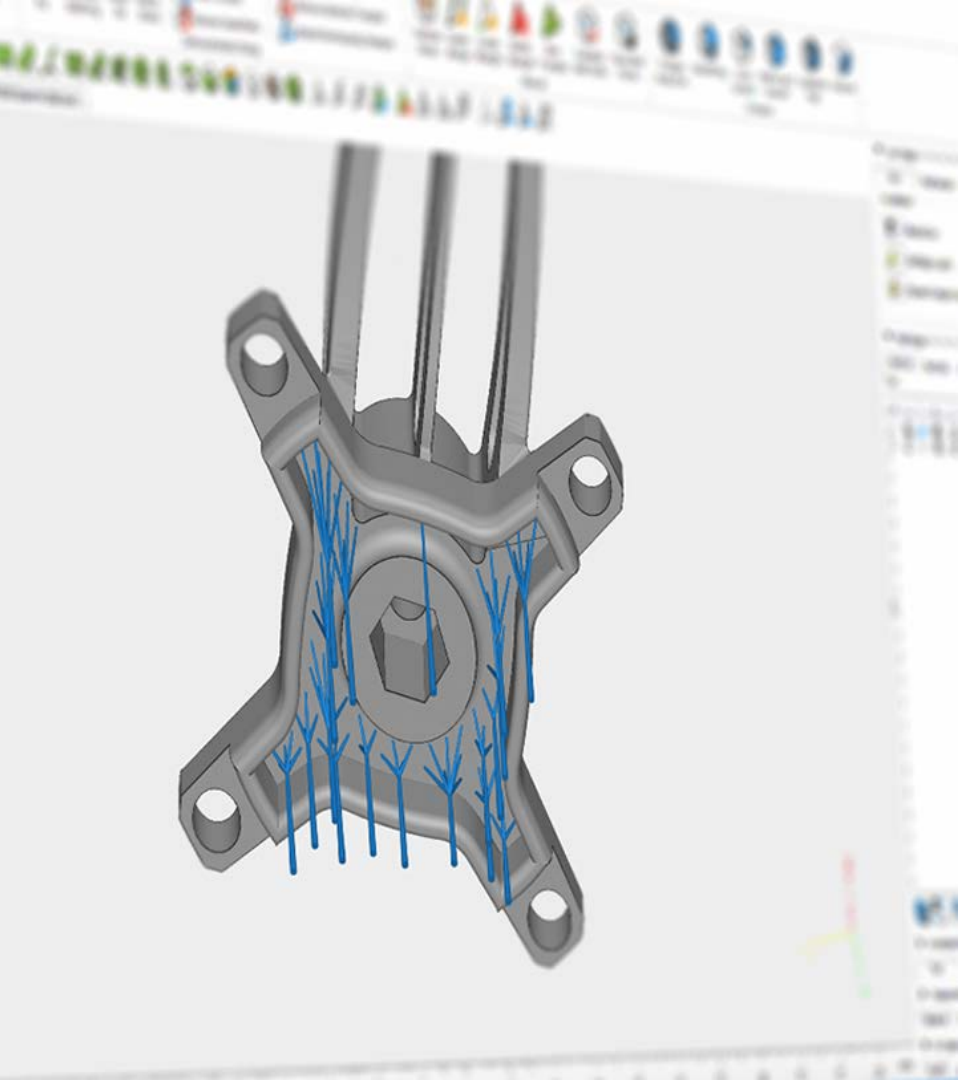
Metal Support Generation (SG+)

materialise
innovators you can count on

Assign selected as support



- Assign STL files as support
- No need to enter SG mode



materialise
innovators you can count on

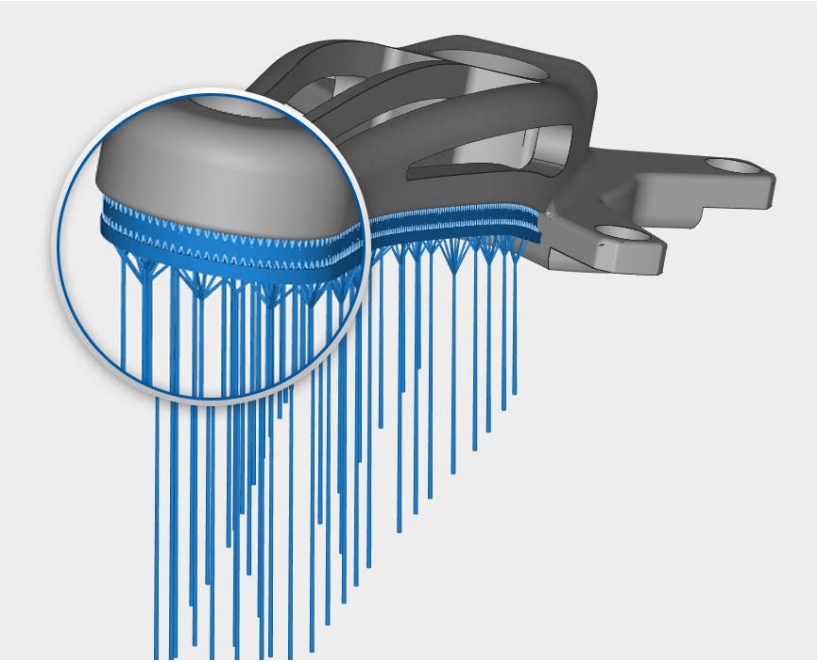
Automatic tree support

- Create tree support based on automated connection points
- Set personal parameters profile
- Fully editable with manual trees tools

Metal Support Generation - NEW

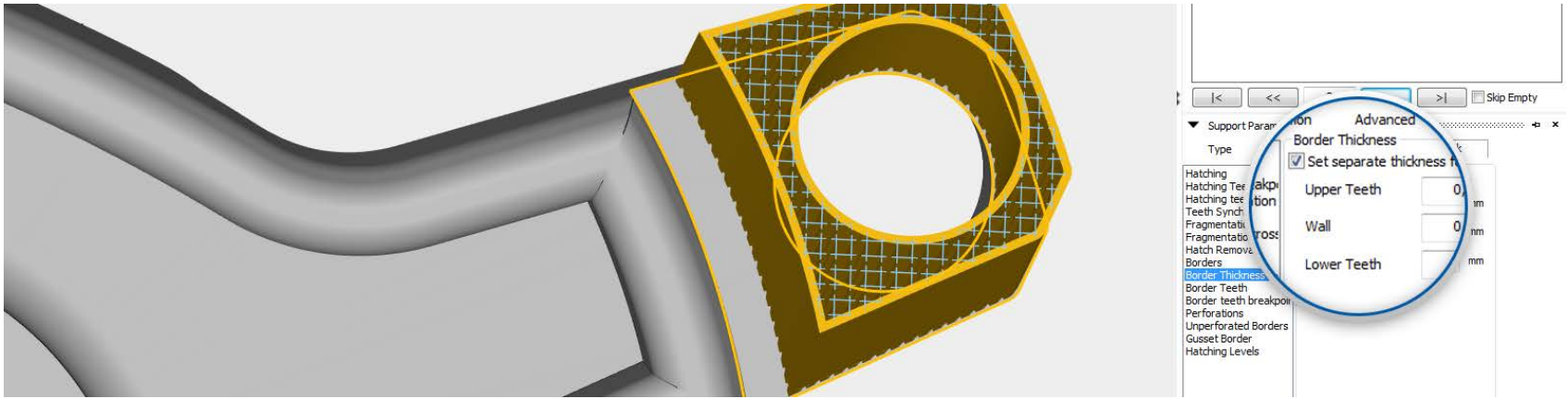
Hybrid support

- Brand new support type consisting of three different parts:
  - Upper support (block)
  - Middle plate (volume)
  - Lower support (tree or cone)



Metal Support Generation - NEW

Border thickness (block support)



- Add a thickness to the border of a block support
- Define different thickness for teeth and walls

Metal Support Generation - NEW

Sinter Module

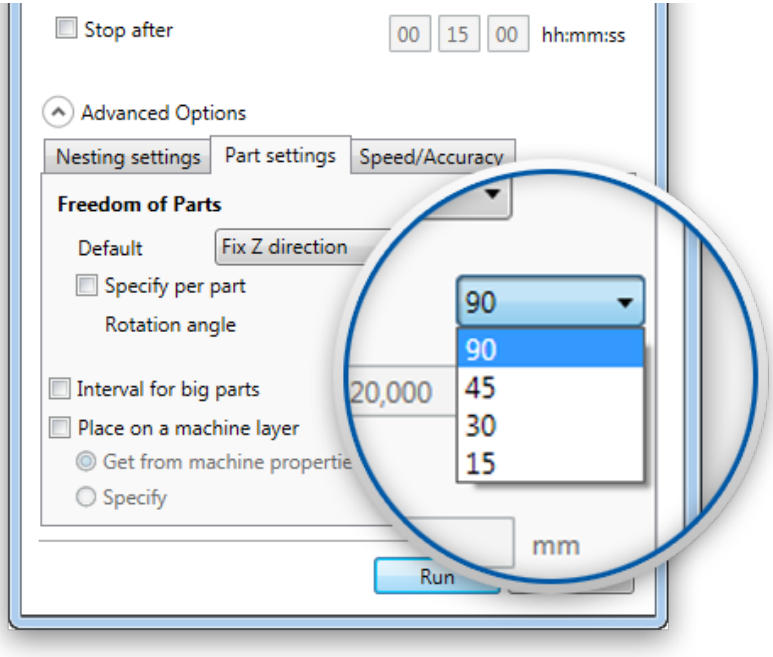
materialise
innovators you can count on

Nest with smaller angles

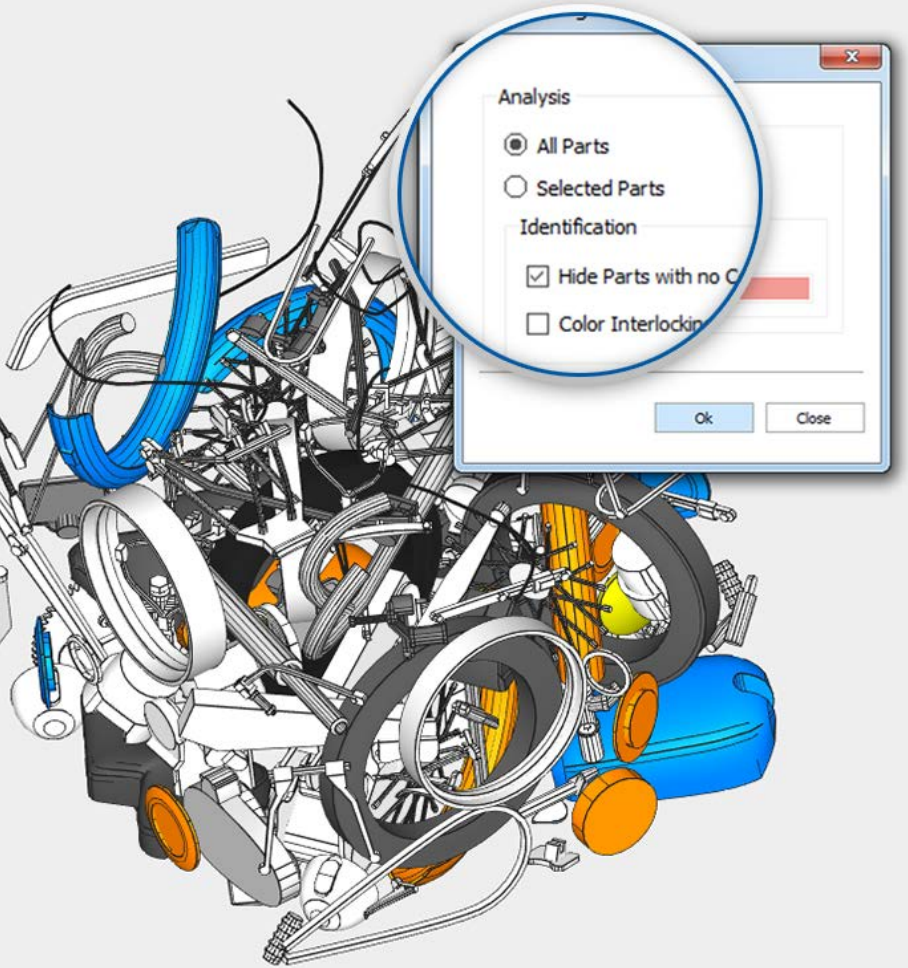
materialise
innovators you can count on

- Choose the rotation angle of nesting according to the content of the platform
  - Options for 15, 30, 45, 90 degrees
- Set the rotation angle for either all parts or per part

	Time (min)	Height (mm)	Density (%)
90°	34	270	15,28
45°	33	262	15,74
15°	33	247	16,69



Sinter Module - IMPROVED



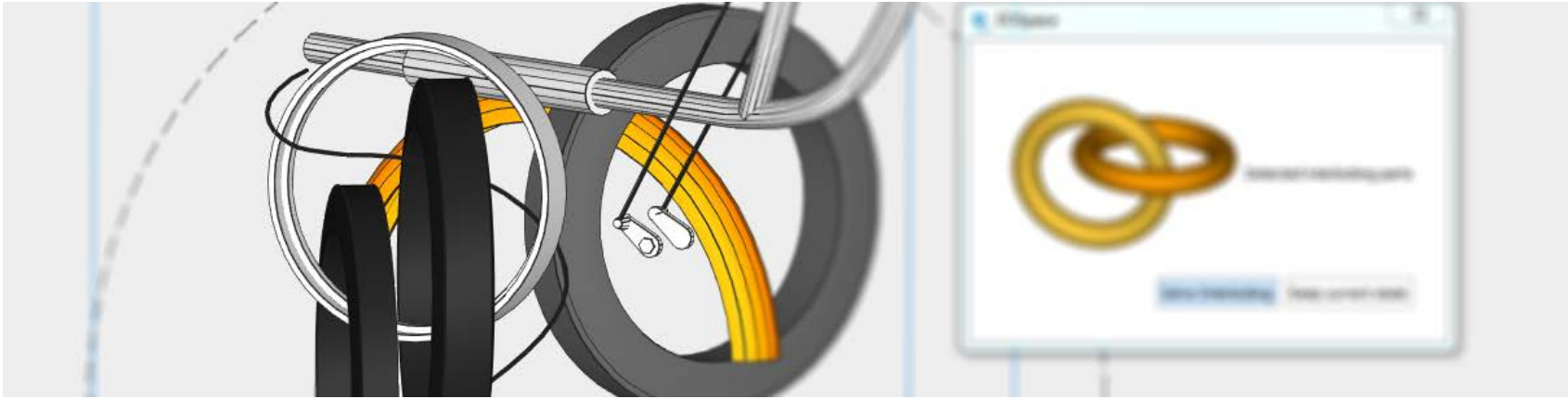
materialise
innovators you can count on

Interlocking analysis

- New standalone analysis tool
- Analyze the build and find any interlocking parts. Available for:
  - All parts
  - Selected parts

Sinter Module - NEW

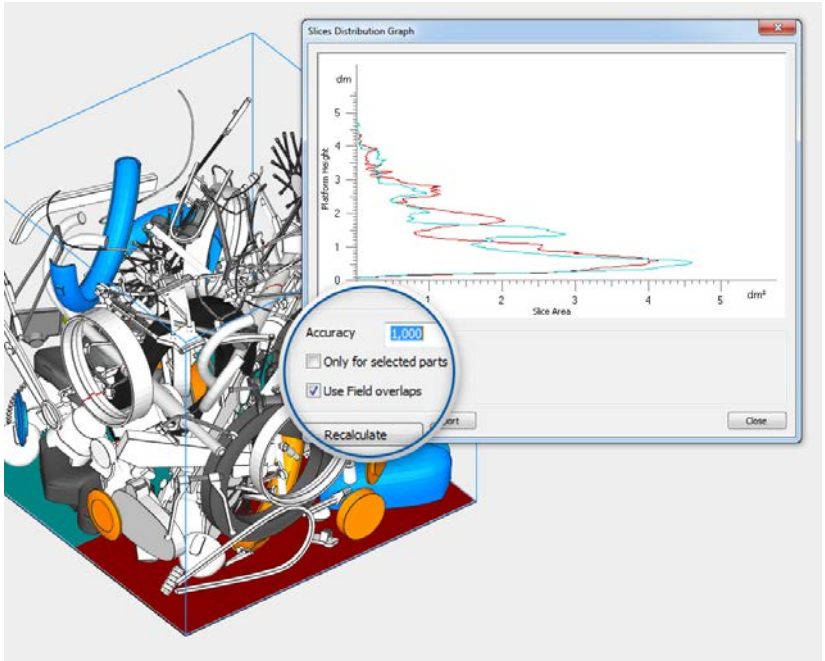
View rotation circle (3D Nester)



- The view rotation circle is now enabled when interlocking parts are detected
- View your parts from different angles and find solutions faster

Slice distribution graph

- Quickly visualize the graph for selected parts or for the entire platform
- Use field overlaps to ensure an evenly distributed workload in multi-optics machines
- Export data to Excel
- Improved performance

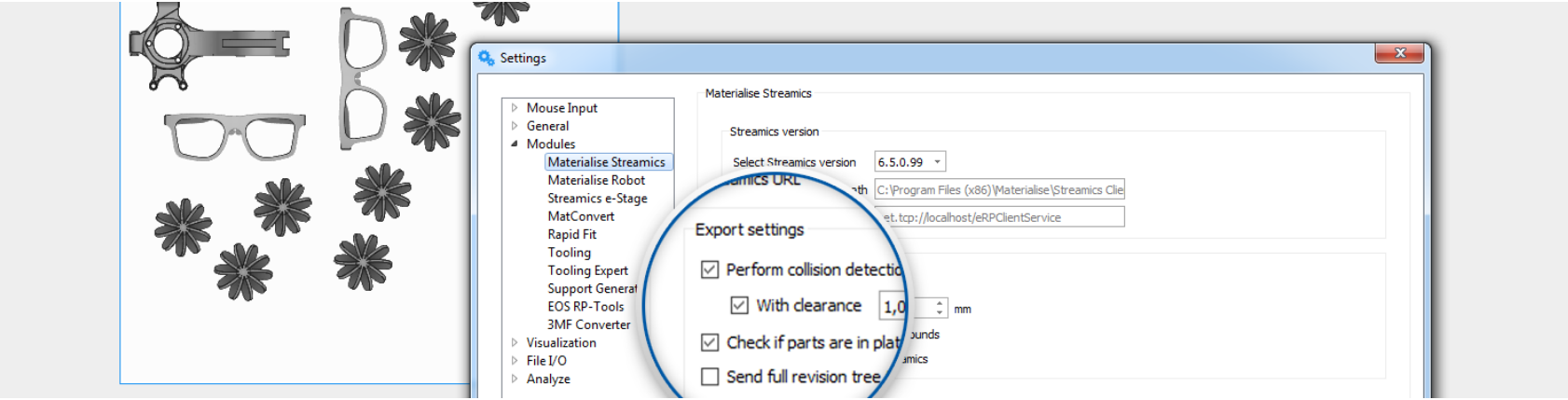


Sinter Module - IMPROVED

Streamics

materialise
innovators you can count on

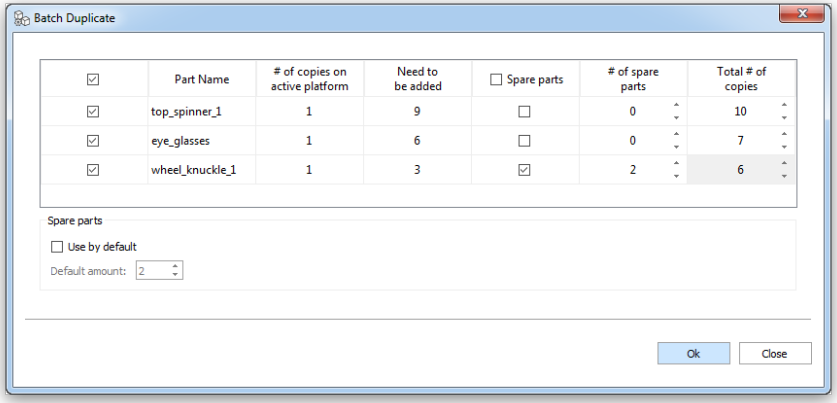
Save platform to Streamics



Run out of bounds and collision detection analysis tools before saving a build to Streamics.

Streamics - IMPROVED

Batch duplicate

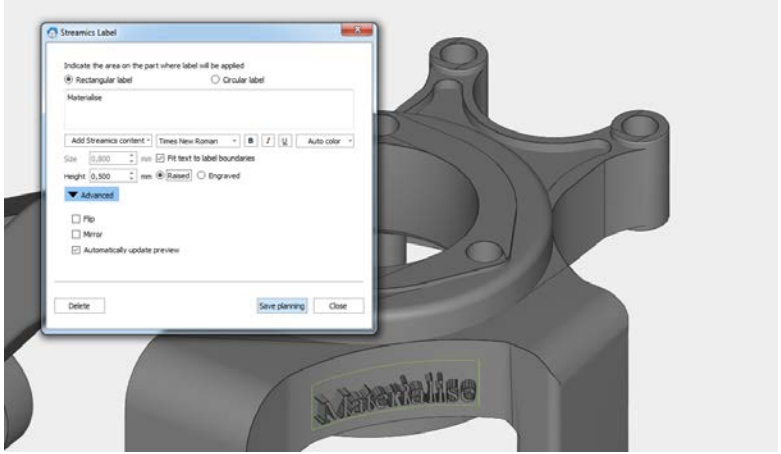


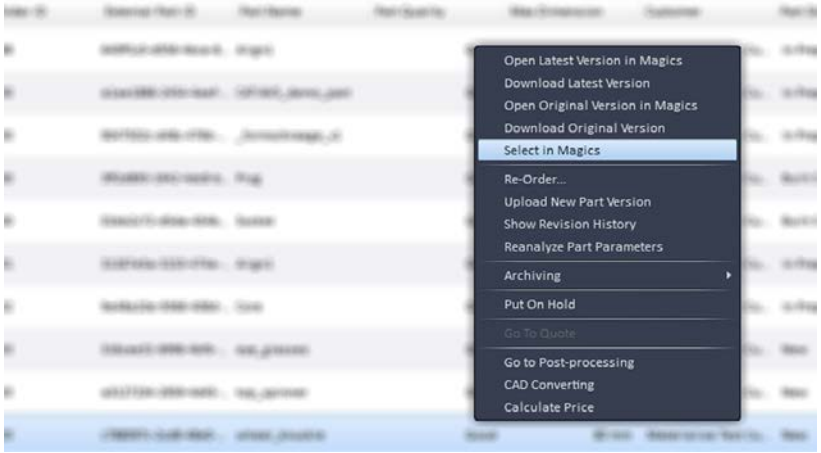
- Easily duplicate parts on the platform by seeing how many parts still need to be planned
- Directly add spare parts on the platform

Streamics - NEW

New options

materialise
innovators you can count on





- Extra options in the Streamics label:
  - Mirror and Color

- Sync part selection in Magics and Streamics in one click
  - Find the desired part more easily

For more information,
contact your local Materialise office.

materialise.com/contact-locations