### Materialise Magics 28

**Magics Essentials** 

What's new



#### Materialise Magics Essentials 28 feature highlights

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

#### Usability

- Work comfortably during all working hours reserve your label planning when with the *dark theme*.
- Use Magics Essentials at any time offline.
- Enhance your experience with the *Import* red Get more out of your measurements with windows, as well as with the tool sheet minimization.

#### Productivity

- performing other operations.
- the additional freedom



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  - Added functionality
  - Removed functionality

## Part Scenes and Home Screen



#### materialise innovators you can count on

#### Home Screen

| Materialise Magics 28.0                |                       | - 0                     | Use the home scre |
|--|-----------------------|-------------------------|-------------------|
| Aaterialise Magics                     |                       |                         |                   |
| 🔍 Settings                             | Create new            |                         |                   |
| Ricenses                               | PART SCENE            | DEFAULT SCENES          | Create an en      |
| Manual                                 |                       | <b>b</b>                |                   |
| About                                  | Mesh                  | New Project             |                   |
| 😫 Online Support                       |                       |                         | Load Project      |
|  | Recent files          | 💕 Open 🛛 🔀 Load Project | your work an      |
|  | NAME                  | FORMAT LAST MODIFIED    | later             |
|  | 5. Metal<br>4. Nester | magics .                |                   |
|  | 3. Build Preparation  | magics                  | On an files in    |
| Transformers                           | 2. Part Preparation   | magics                  | Open files in     |
|  | Part Preparation      | magics                  |                   |
|  | Nester                | magics                  |                   |
| Discover what's new in<br>version 28.0 | 3D_Wheel_Knuckle      | magics                  | Click on a red    |
| 20.0                                   | Organic sinterbox     | maoics                  | and drop a f      |

- een to
  - mpty part scene
  - ct files, allowing you to store nd easily come back to it
  - in new part scenes
  - ecently opened file or drag file on the home screen to μ open it as a part or load the project.

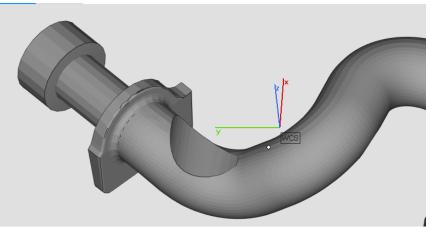


#### **Part Scenes**

- The Modeler Scene has been replaced with Part Scenes.
- With the new Part Scenes you can create separate scenes for different parts you are working on.
- Easily close a scene by clicking an X on the scene tab.
- Keep an overview of your project by renaming part scenes.

| 2 🔒 🏗                    |      | 8 📁 🖗             | •                 | <b>*</b> • / · ·            | 🕵 Quick s | search (Shift-     | +Q)     |         |        |        |            |    |
|--------------------------|------|-------------------|-------------------|-----------------------------|-----------|--------------------|---------|---------|--------|--------|------------|----|
| FILE HO                  | DME  | POSITION          | FIX               | EDIT LATTIC                 | ε τεχτι   | JRE AN             | ALYZE & | REPORT  | VIEW   | OPTIC  | ONS & HELP |    |
|                          |      | 1 🔽               | H                 | -                           | 40        |                    | P       |         |        |        |            | ĺ  |
| New Mesh<br>Part Scene 🗸 | Crea | te Import<br>Part | Save<br>Project 🗸 | Save Selected<br>Part(s) As | AutoFix   | ShrinkWrap<br>Part | Unify   | Extrude | Offset | Hollow | Perforator | Pc |
|                          |      | Load & Sa         | ave               |                             |           | Fix                |         |         |        |        | Edit       |    |

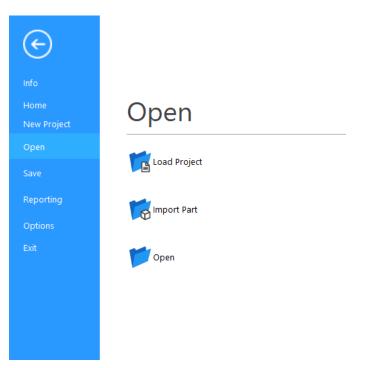
#### © CORE × ∅ BAD ×





#### **Project loading**

- Load Magics files as projects through the Load Project command on the home screen or in Magics scenes.
- Loading Magics files with platform scenes will let you import those platform scenes.
  - To move to the Part Scene from a Platform Scene, you can use the Edit in Part Scene function



## UI/UX



#### Dark theme

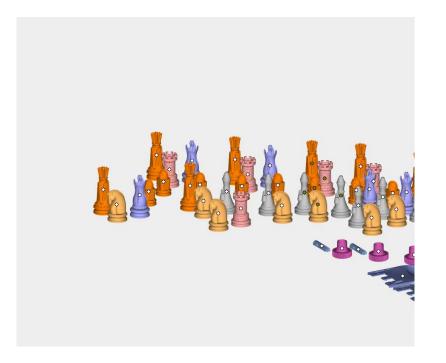


|     |  |   | Ī |
|-----|--|---|---|
| >   | Mouse Input<br>General<br>Modules<br>Visualization   | Assign theme<br>O Light theme<br>O Dark theme   |   |
|     | Themes<br>Colors<br>Colors<br>Supports<br>Graphs<br>Annotations and<br>Grid<br>Rulers<br>Wireframe<br>View cube<br>Frile I/O<br>Analyze<br>Network | All the customized colors will be saved in the currently applied theme. To restore the default system colors for the currently applied theme, dick the "Reset current theme colors" button. |   |
|     | Reset current page   |   |   |
| ese | et current theme colors  |   |   |
|     | Reset all  | Ok Close  |   |

- Introducing the heavily requested dark theme, giving you Magics with a darker background.
- Improve visibility in darker working places.
- Provide more comfort to your eyes when using Magics for a prolonged period.

#### UX improvements





- Access frequently used commands through the Home Ribbon.
  - Customize your UI for optimal usage.
- 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.



#### **UI** optimization

- Get a better overview of your import parameters with our updated import windows.
- Use a wider workspace by easily minimizing your tool sheets.
- Get a clearer input and feedback with the new Wall Thickness Analysis, Mirror and Label dialogs.

| Wall Thickness Analysis | ×     |   |
|-------------------------|-------|---|
| COLORING MARKING        |       |   |
| Minimum thickness 0,500 | t mm  |   |
| Maximum thickness 1,500 | t mm  |   |
| 0.500                   | 1.500 | > |
| > ADVANCED SETTINGS     |       |   |
| Analyze                 | Close |   |



#### **Removed limitations**

- For the **optimal experience** of our users two limitations were removed:
  - You can work offline. It is no longer required to have a working internet connection to use Magics Essentials.
  - You can now use multiple instances of Magics Essentials in parallel.

## Editing



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| Polyline Cut  | ×  |         |
|---|--|---------|
| Polyline type 🖳 🔿   | ن<br>۲۰ <b>۸ ۸ ×</b>   |         |
| Round polyline  | 1,000 <b>mm</b>  |         |
| Lock polyline to the zool   | Section Cut  | ×       |
| Set cutting depth  Cut only on visible triang  Autocolor result parts | BASIC LAP JOINT PINS & HOLES   | <br>(i) |
| > CLEARANCE   | <ul> <li>All active section(s)</li> </ul>                            | ×       |
| TEETH PARAMETERS  | All active section(s) with clipping     Indicated section contour(s) |         |
| Preview   | Autocolor result parts   |         |
| Apply   | > CLEARANCE  | •       |
|   | Apply Ok C   | lose    |

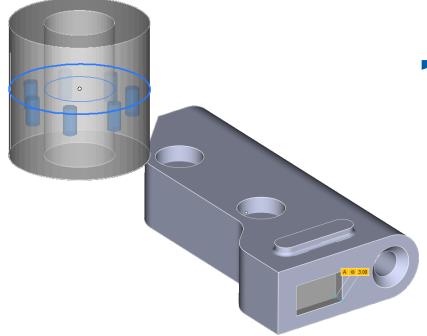
#### Cutting improvements (1)

#### UI/UX

- Modernized dialogs for Polyline and Section Cut with elaborate tooltips replace the Cut or Punch dialog.
- Constrain polyline direction and snap to mesh points for even more accurate cutting result
- Explore enhanced mouse modes for quick and easy polyline creation, editing, and deleting.



#### Cutting improvements (2)



Functionality

- Minimize the chance of cutting errors by previewing results for pins and holes.
- Have complete control over cutting depth parameters for the polyline cut type.



#### Label planning improvements (1)

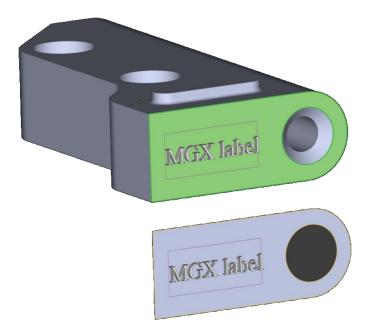
- Performance improvements\*
  - Reduced execution time of up to 90%
  - Reduced peak memory usage of up to 45%
  - More responsive rendering after label planning generation
- Improved operations:
  - Adding and resizing Magics' text label planning
  - Magics Data Matrix label preview

\* The observable improvements on large mesh parts >10 million triangles



#### Label planning improvements (2)

- Preserve label planning on the part to save time after:
  - Deleting triangles not directly related to label planning
  - Copying or separating marked triangles from a part with label planning



# Added & removed functionality





#### Added functionality (1)

Easily change the orientation your parts with the **Bottom/Top Plane** function

- Benefit from the added measurement functionalities
  - **Increased options** for measuring distances, e.g. line, plane, circle.
  - Compare your measurements in Magics to the measurements on your physical parts with the Real Measurements

Group your parts to keep them together while working on them



#### Added functionality (2)

- Use FormFit to create custom packaging for your parts.
- Use Prop Generation to avoid warping while printing.
- Use the Translate to Default (Z) Position functions to instantly move parts to a central location or the same height.

| Sector Prop Generation   | ×                |  |
|--|------------------|--|
| Prop shape<br>© Circle O sq  |                  |  |
| Strong-section width (a) 11,000<br>End-section width (b) 5,000<br>End-section length (c) 5,000 | ‡ mm             |  |
| Perform Boolean Unite Sh.<br>Note: Hold SHIFT for 90 degree 9<br>Hold CTRL to enter Remov      | snapping by axis |  |
| Apply Ok   | Close            |  |



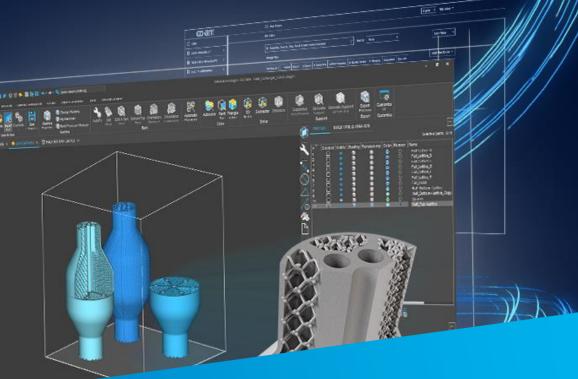
#### **Removed functionality**

A few functions were removed to align Magics Essentials more with its intended use.

Batch Duplicate

Save Part(s) as 3DPdf

**Gravity Center** 



## For more information, contact your local Materialise office.

mtls.me/magics-contact