



## Optimize Your Metal Production with Support Generation

In Metal Additive Manufacturing, support structures fulfill a larger purpose than supporting the part during the build process. They also minimize deformation, prevent build crashes and, when smartly designed, reduce post-processing work.

The Materialise Magics SG+ Module offers you all the tools needed to find the optimal orientation of your part, a wide range of support types to ensure good anchoring and heat transfer, and more.

“The Materialise  
Magics SG+ Module  
is a fascinating  
software that  
enables us to print  
beautiful, high-  
quality metal parts.

The support  
generated by the  
software really  
satisfies our needs.”

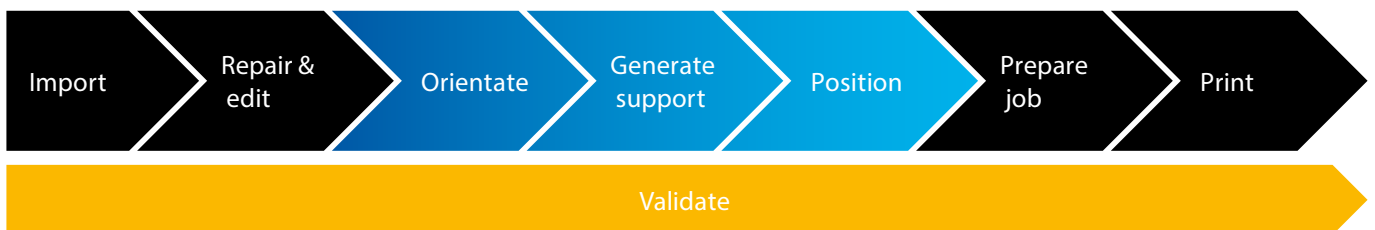
Sung Min Kang, Deputy General  
Manager at Research &  
Development, Daegun Tech

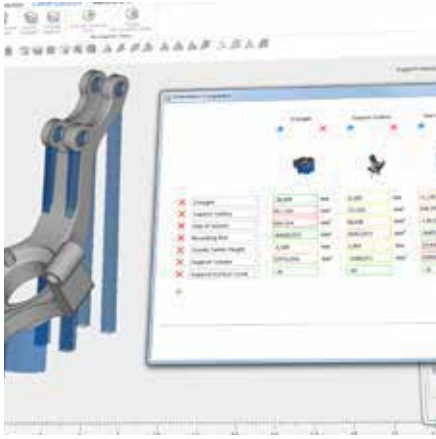


© Materialise, VTT and Nurmi Cylinders Oy.

## How the Metal Support Generation Module Can Help You Along the Metal AM Process

Data preparation software Materialise Magics is based on an in-depth understanding of the mechanisms behind the Metal AM. With the guidance of the Materialise Magics SG+ Module, printing metal parts becomes less of a challenge.





## The Right Orientation for Successful Builds

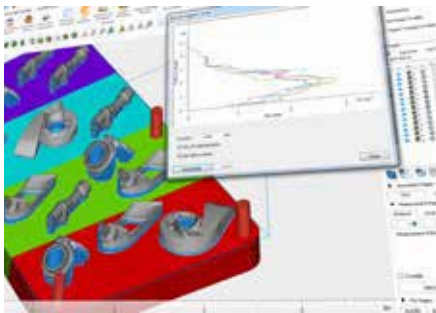
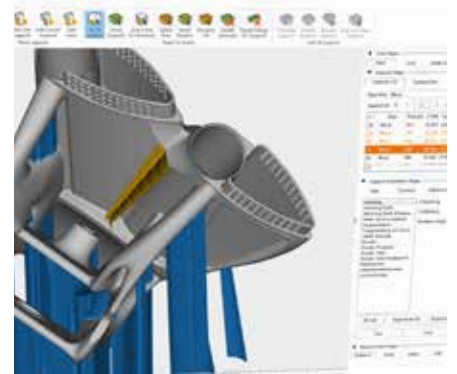
- Indicate no-support zones to avoid support generation on surfaces that require high aesthetic quality
- Compare different orientations to find the right balance between speed, quality, buildability, post-processing, and more
- Preview the supports and get real-time feedback while orienting the part
- Minimize support structures and decrease material usage

### Validation tools

- Analyze the build risk due to differences between surface areas of consecutive layers and visualize it directly on the part

## Optimal Support for Every Geometry

- Set custom parameter profiles and automatically create surfaces and support structures
- Fine-tune the proposal and optimize it to your needs while staying in control of all the parameters
- Choose the proper support type for any kind of geometry: combine the strength of solid supports with the flexibility of non-solids
- Take advantage of cone and tree supports for small and thin parts, as for example jewelry
- Export support as a separate STL file or slice it together with your parts



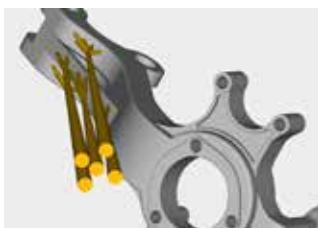
## Fast Build Platform Positioning

- Achieve the right position via autoplacement

### Validation Tools

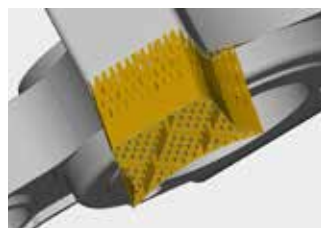
- Avoid warping and control the heat build-up of your platform by limiting the surface area of each layer, using the detailed analysis offered by the slice distribution graph
- Avoid collisions between parts, support structures and no-build zones

## Reasons to Choose the Metal Support Generation Module



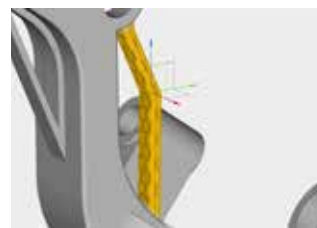
### Solid support

Ensure heat conduction to reduce deformation and internal stresses while creating a strong platform connection.



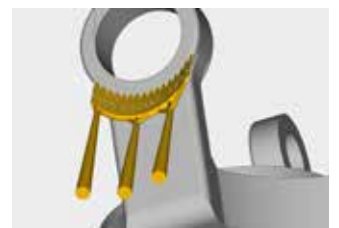
### Fragmentation and toothed break-off points

Remove support easily while maintaining surface quality.



### Angled support structures

Avoid unnecessary contact points and significantly reduce finishing time.



### Hybrid support

Combine the optimal surface quality offered by block support with the reduction of trapped powder offered by solid support.

DESIGN

ADDITIVE MANUFACTURING

METROLOGY