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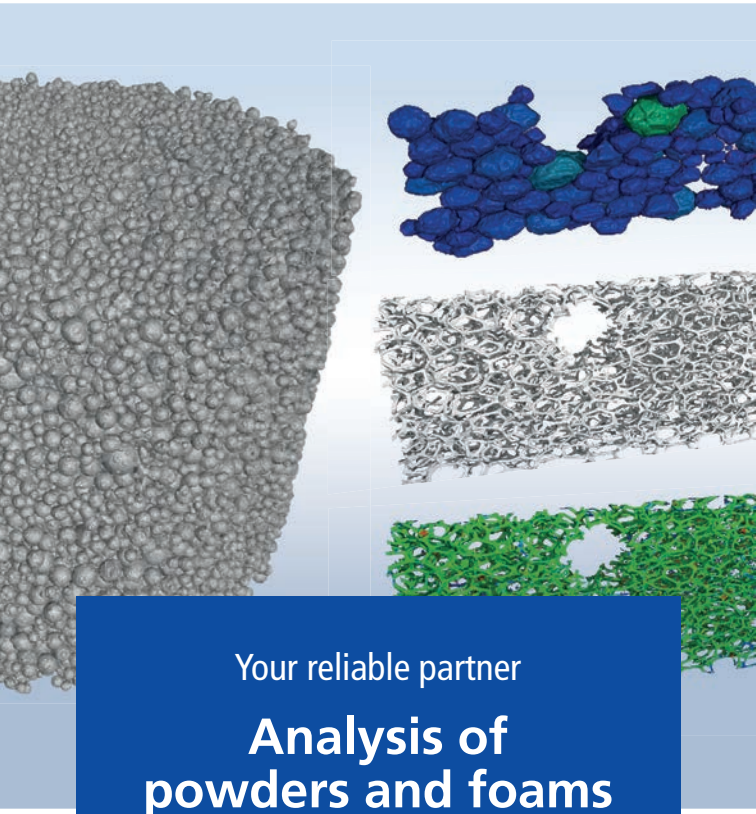

Your reliable partner

# Analysis of powders and foams

Statistical grain size distribution
Particle morphology
Pores and inclusions
Material thickness analysis

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Analysis of
powders and foams

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# CT analysis of powder samples

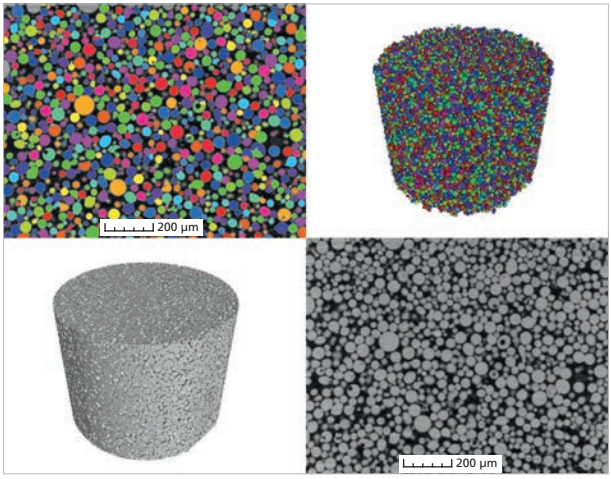
Inspection by high resolution CT.

For the field of additive manufacturing:

- Materials: e.g. AlSi10Mg, Inconel, 1.2709, 1.4404
- Spatial resolution < 1µm
- Sample size app. Ø 2 x 2 mm

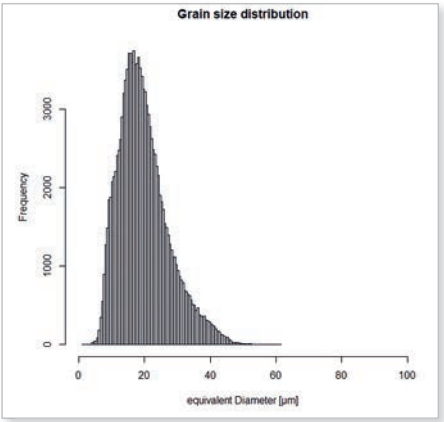
## **Automatic recognition** of grans within the sample volume

Depending on the grain size
up to 100.000 particles per sample.

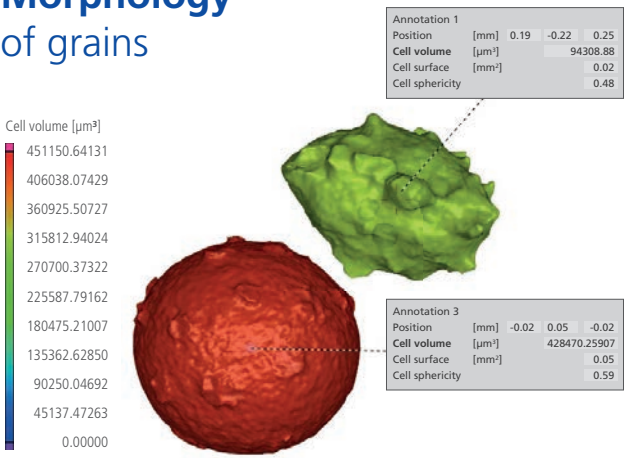


# Statistical
# **size distribution**

- Statistical analysis: e.g. determination of volume, surface area, sphericity, size distribution.
- Examination of individual grains respectively the full sample volume.

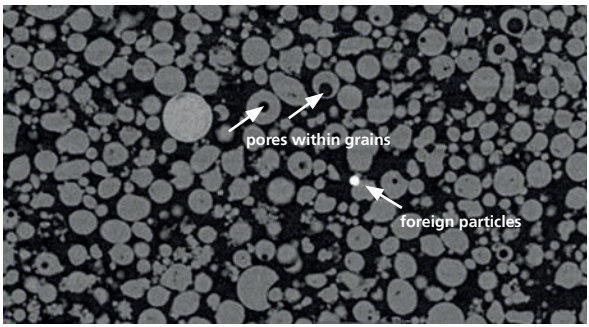



# **Morphology**
# of grains



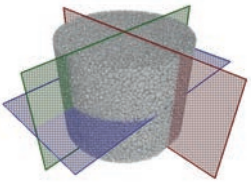
# **Pores** and **inclusions**

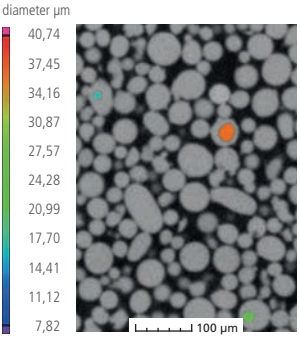
- Analysis of the powder sample e.g. to recognize pores within grains or contaminations by foreign particles.

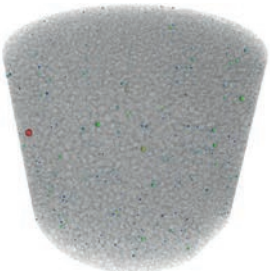



# Statistical **porosity evaluation**

Automated 3D analysis applied to the full sample volume, e.g. relative porosity of the sample, pore volume, overall porosity.





Analysis of
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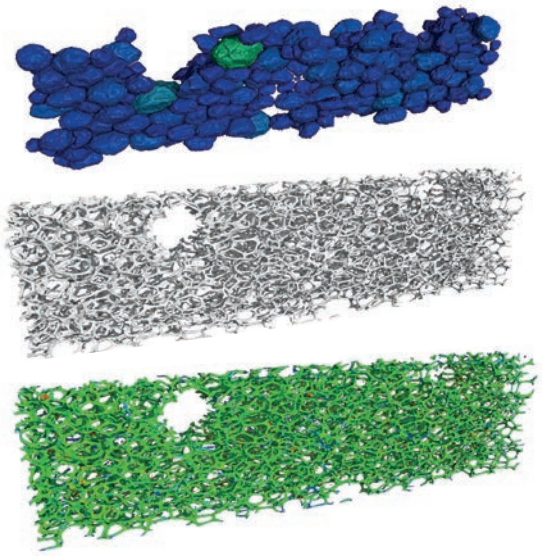
# Foam structure analysis

3D analysis of foam materials,
open pore spaces, and loose particles.

Quantitative analysis of

- Material thickness
- Porous spaces
- Pores vs. material ratio



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# TPW Prüfzentrum
## Your reliable partner for…

### Non-destructive testing

- Mobile metallographic examinations
- 3D computed tomography
- Radiographic testing
- Digital radiography
- Dye penetrant testing
- Magnetic particle testing
- Ultrasonic testing
- Visual inspections

### Destructive testing

incl. in house sample preparation

- Chemical analyses
- Hardness testing
- Impact testing (temperatures from -196°C)
- Corrosion testing
- Metallographic testing
- Heat treatments
- Technological testing
- Hot tensile testing up to 900°C
- Tensile testing

- **Welding engineering**
- **Failure analysis**

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