

# Voids in Binder-Jet 3D Printed 316L Steel Samples

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**Overall aim:** Can we from characterization of binder jet green parts predict how the final sintered components will be? (This is of great practical importance as the sintering is by far the most energy expensive part of the manufacturing process).

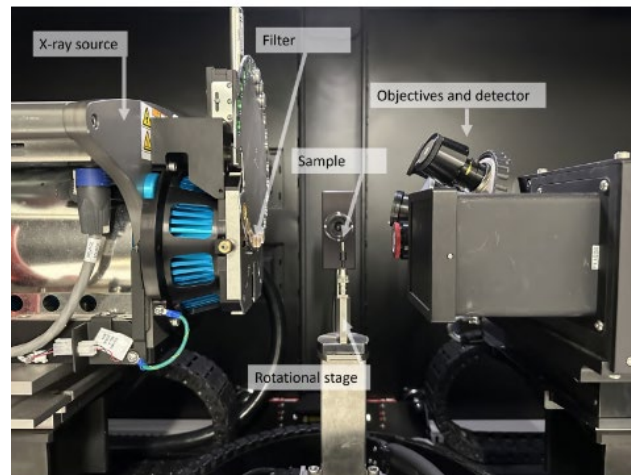
**Specific aims:** Understand the effects of printing parameters on the materials distribution in the green sample. Quantify pro/cons of the characterization techniques and advice method for industrial quality check. Understand effects of green part quality on sintered component



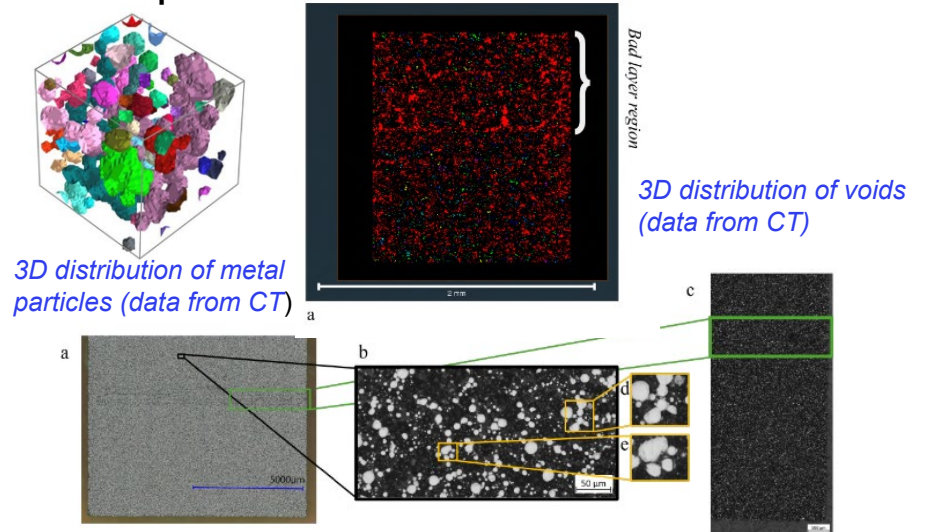
Grundfos pump



3D printed component of the pump



X-ray Computed Tomography Set-Up



LOM micrographs showing metal particles and voids in 2D

Work will include: Binder-Jet 3D Printing, X-ray Computed Tomography, Optical Microscopy, 3D Material Distribution Analysis, Microstructural Analysis, Sintering