# X-RAY TOMOGRAPHY

- Radiographic **images**, tomographic **scans.**
- Use **stl-file** in 3D printing, or **compare** sample dimensions to CAD-file.
- Samples from **ant to basketball.**
- Penetration power as much as **3 cm steel** or 12 cm aluminum.

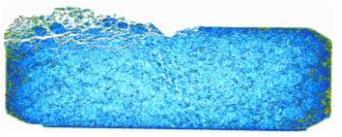
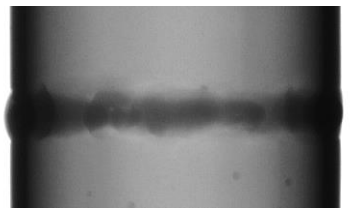
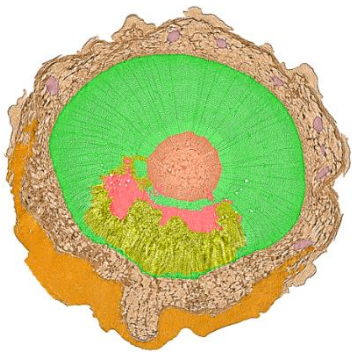
**Samples**

- Wood, seeds, bone, tooth, implants, tablets
- Geological samples, small electronics, weldings
- 3D printed materials, composites

Better resolution means smaller sample, starting from 3 mm diameter.

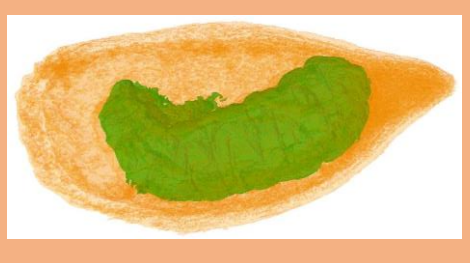
**Research questions**

- Structure? Different materials inside the sample? Pore location and distribution? Cracks, defects?

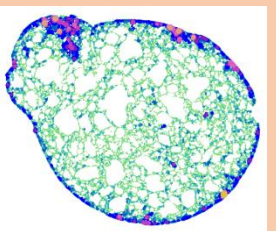
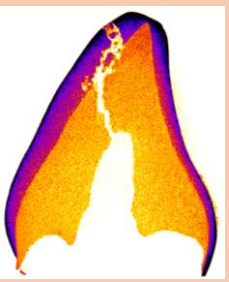
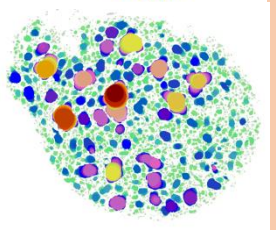
## WORKFLOW

1. Fasten the sample to the manipulator
2. Voltage, current and filter optimization
3. Imaging
4. Reconstruction with optimal settings
5. Surface and region of interest determinations
6. Analysis
7. Visualization with colours and transparency



## ANALYSIS

- Structures and structure defects
- Homogeneity
- Volume, surface area
- Pores, inclusions
- Fiber orientation


## SIB LABS INFRASTRUCTURE


**NIKON XT H 225**

225 kV, 225 W
Detector 43 x 43 cm
2880 x 2880 pixels
Resolution 3 µm

**SKYSCAN 1172**


100 kV, 10 W
Detector 34 x 18 mm, 4000 x 4000 pixels
Resolution 5 µm

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