



3D scanning and modelling → 3D digital decom support systems

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Technical data for decom

- Need to know the current/historical technical status of the nuclear site
 - Technical data includes f.eks.:
 - Radiation, contamination, sources
 - Design/As-built-status
 - As-built data may be based on
 - Drawings/blue prints (hopefully up to date... and in good state?!)
 - 3D models (also up to date?!)
 - Measurements taken on the site
 - Photos
 - Scanned 3D models – photogrammetry/laser scans
- + Technical descriptions/specifications etc.



To be used in CAD for creating new drawings/blue prints and/or 3D models

VR/AR's laser scanner

- The VR/AR department purchased in June a laser scanner
 - To be used for making data/3D models for test cases
 - In October-December 2018 also used for scanning the Halden reactor
- Leica BLK360
 - Small, portable laser scanner
 - Costs ca. NOK 170.000,- including 1 year license for Autodesk ReCap Pro software
 - An iPad Pro is used for controlling the scanning
- Output
 - 360 degree photos
 - Point cloud of the geometry with precision of ± 5 mm
 - 360 degree thermal image



Laser scanning

- Documenting the as-built-status (The one and only time in the sites lifetime?)
- Started with scanning the Halden reactor
 - 10-20 scans at each floor - each scanning takes 3-5 minutes
 - Used 1,5-2 hours for each floor
 - Some hours for postprocessing in Autodesk Recap
 - Needs to scan details beneath and above objects, f.ex. under tanks and pipes
- Output: A point cloud model with colours from photos overlaid + 360 degree photo model
 - Possible to do measurements, f.ex. length in the point cloud in Autodesk Recap
 - Can be converted into a 3D model/3D mesh for use in CAD
 - Or imported as a point cloud into CAD tools to be used as basis for 3D modelling
 - The point cloud/3D model can also be used in other software such as VRdose
- Workshop example: The VR lab