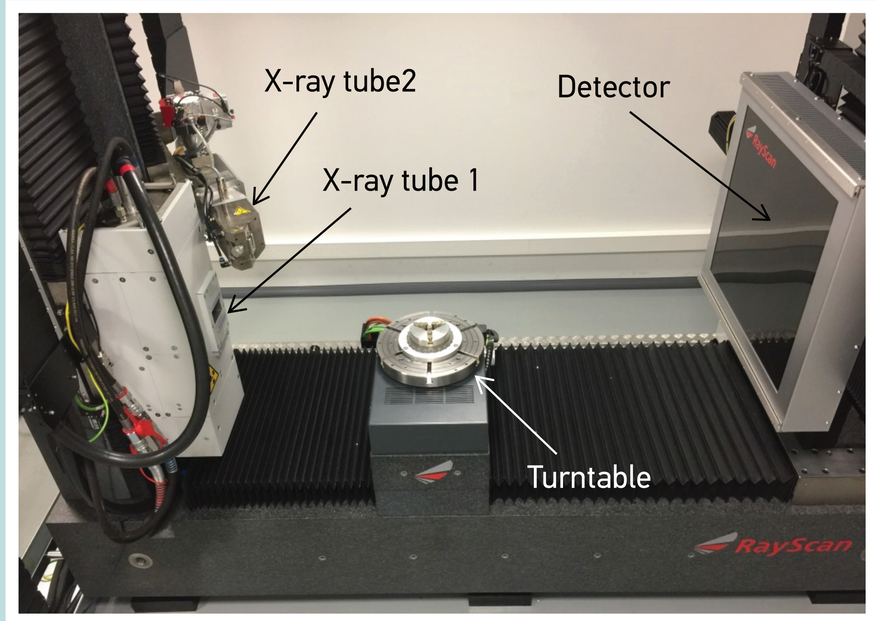
High resolution computed tomography (CT) scanning services

Computed tomography (CT) is an imaging procedure that uses X–ray source to irradiate the object placed on a turntable at different angles and 2D images at a flat panel detector are recorded. Then the 3D images of the density distribution inside the object are reconstructed.

The latest and most advanced software (FEI Avizo Inspect, VGStudio MAX) is used for visualization of volume data and analysis of computed tomography data. It allows reviewing the measured data slice by slice, highlighting important regions or manipulating 3D data which facilitate understanding of the measurement results.

CT is used in medicine, biology for an organic structure analysis, in industry for non-destructive testing (NDT), visualization of internal structures, dimensional measurements. It is widely used for material analysis, analysis of biological structures, fault detection, assembly inspection, reverse engineering, comparison with CAD data in science&research, metrology, aerospace, electronics, automotive, and other industries.



Technical parameters of Rayscan 250 E:

High resolution, micro-focus X–Ray tube 1:

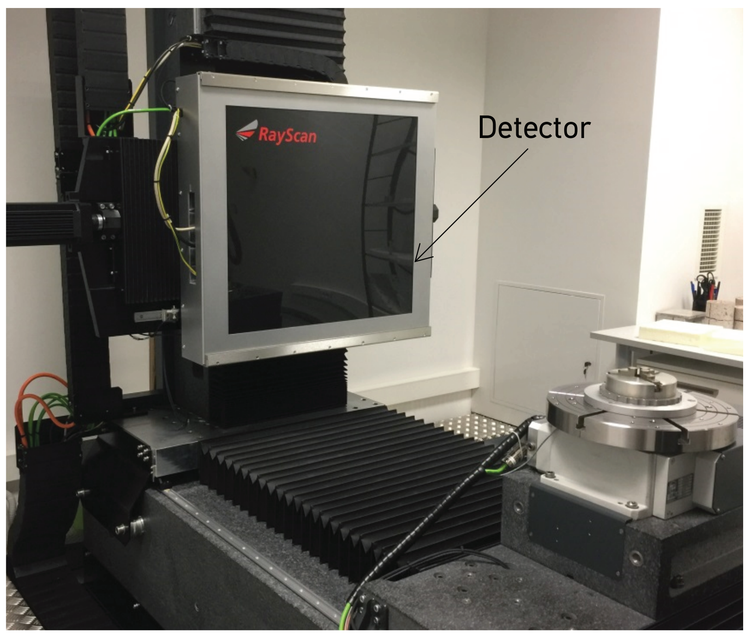
Voltage range: 10 – 230 kV
Max power: 320 W
Resolution: from 3 µm

High penetration, high power X–Ray tube 2:

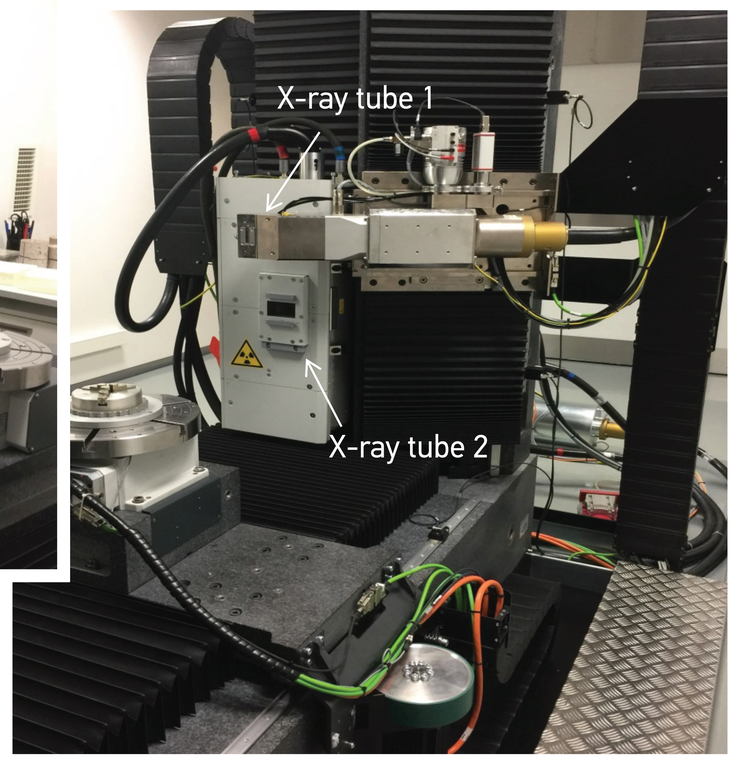
Voltage range: 50 – 450 kV
Max power: 700 W
Resolution: from 100 µm

Detector size: 410 × 410 mm², 2048 × 2048 pixels
Max object weight: 80 kg
Max size of object (ø/H): 600mm/1500mm

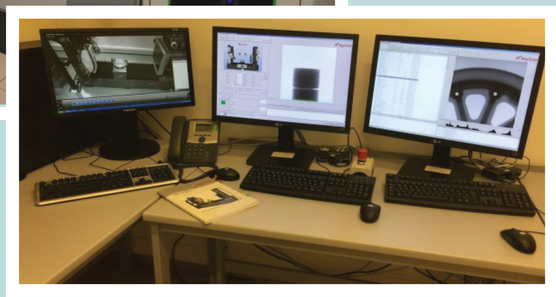
X-ray detector positioning system



X-ray sources positioning system

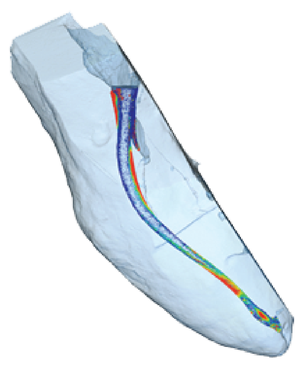


Control cabinet of manipulator, x-ray sources



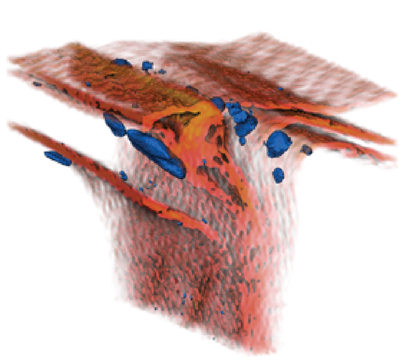
X-ray CT operator's room

Biomedical applications



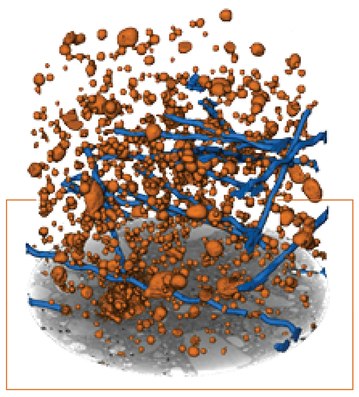
Measurement of tooth root canal properties
(Resolution 8 µm)

Composite / dissimilar joint analysis



Porosity in CFRP glider longeron
(Resolution 50 µm)

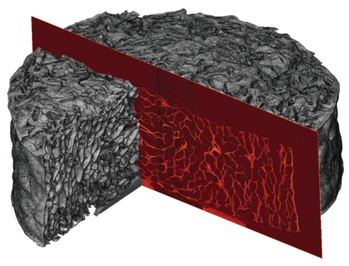
Concrete structure analysis



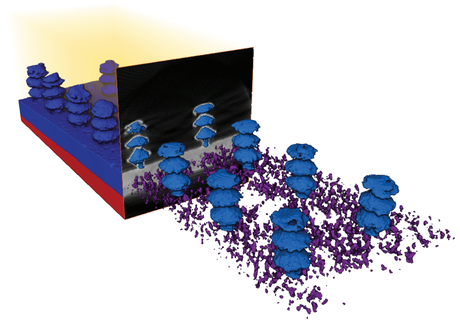
Detection of pores and fibres in concrete
(Resolution 30 µm)

What can be inspected:

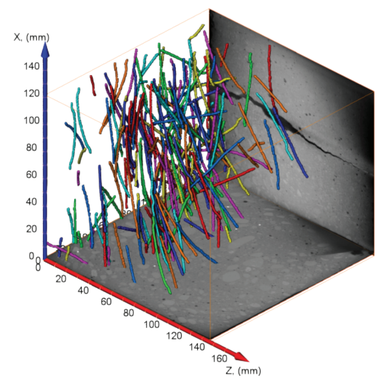
- electronic components;
- plastic parts;
- metal castings;
- complex composites;
- art and archaeological objects;
- geological samples;
- organic structures;
- food.



Investigation of scaffolds for bone regeneration
(Resolution 8 µm)



Detection of pores in printed
titanium / CFRP composite joint
(Resolution 54 µm)



Determination of fibre orientation in concrete
(Resolution 230 µm)

We encourage you to use this most powerful free access X–ray CT system in Baltic region for your investigations and research. Request for quote or more info ui@ktu.lt

ktu 1922 prof. kazimieras baršauskas ultrasound research institute