

# Structure & Mechanical Properties

## EXPERTISE

Structural and Mechanical Characterization:

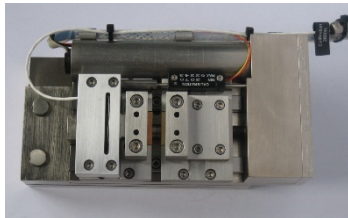
- Chemical and structural characterization of metals and alloys (XRD, SEM, EDX, EBSD)
- Mechanical characterization of crystalline and amorphous materials, composites (strength, fracture toughness, fatigue behaviour)
- Correlate processing-microstructure-property relationship in metals, glasses and ceramics
- Understand mechanical behaviour in aggressive environments (sub-zero temperatures to above 1000C; vacuum, inert gas, aqueous and biological conditions)

## Equipment

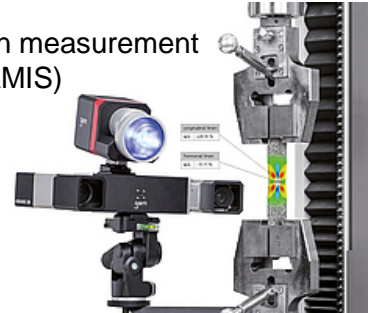
- Servohydraulic testing equipment for tests up to 500 kN (Instron 8872 & 8803)



- Electro-mechanic testing capabilities for loads < 1N



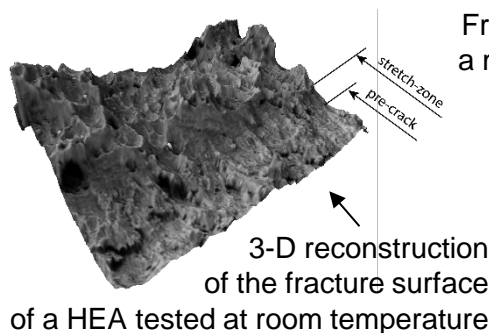
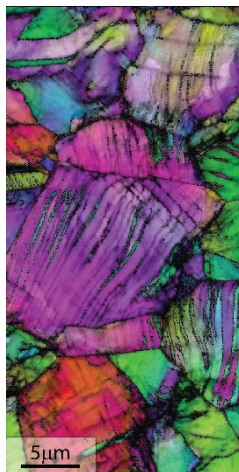
- 3D full field strain measurement equipment (ARAMIS)



- High energy and high velocity impact testing system
- Extensometers and clip gauges for stress-strain and fracture toughness characterization



## Structure and failure characterization of crystalline and amorphous materials



← EBSD-map of nano-twinned grains in a HEA fracture toughness sample tested at 77K

Fracture toughness test of a metallic glass in an SEM

