BNC Budapest Neutron Center

SINE 2020

Neutrons for building a car

THE PROBLEM TO SOLVE

Neutron beams can help to solve life-time and quality management problems, reveal hidden defects, benchmark design models and characterise material properties for technological developments.

A STEP TOWARDS THE SOLUTION

Diverse neutron techniques provide endless opportunities for insight and understanding in all parts of the car.
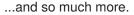
THE RESULTS

Neutrons could be the key to discovering:

- the best production methods
- the causes of stress in components
- the motion of internal fluids
- the nature of material decay

...and so much more.

SMALL ANGLE NEUTRON SCATTERING
Investigate surface roughness and polymer composites, characterise internal structures of materials

THERMAL NEUTRON & X-RAY IMAGING
Image internal engine components, visualise the flow of oil inside a hot engine

POWDER DIFFRACTION
Identify and study structures and micro-structures in alloy components.

REFLECTOMETRY
Analyse surfaces

PROMPT GAMMA ACTIVATION ANALYSIS
Analyse tyre composition

DIFFRACTION
Identify internal stresses and irregularities, measure residual stress

TOMOGRAPHY
Measure soot thickness or locate ash deposits in the exhaust

NEUTRONS FOR INDUSTRY
http://sine2020.eu/industry.html

NEUTRONS FOR INDUSTRY

industry@sine2020.eu

SINE2020 Industry Consultancy is now open for requests

Proof- of- concept experimental beam time is being offered to Industry!

RAPID ACCESS

Fast-stream processing for industrial applications, optimising result lead times.

CONFIDENTIALITY

Activity covered by non-disclosure agreements. Only company name and measurement type to be published.

FLEXIBLE SERVICES

In many cases industrial processes and conditions can be re-created in the test laboratory. Final data analysis and reporting are provided.

EXPERT CONSULTANCY

Industrial R&D professionals in collaboration with experienced specialists from European neutron centres.

PARTNERS

Czech Republic
France
Germany
Hungary
Netherlands
United Kingdom

BNC Budapest Neutron Center

GEMS German Engineering Materials Science Centre
Helmholtz-Zentrum Geesthacht
Zentrum für Material- und Küstenforschung

HZB Helmholtz Zentrum Berlin

ill NEUTRONS FOR SOCIETY

Science & Technology Facilities Council
ISIS

Orphée **LLB** Laboratoire Léon Brillouin

MLZ Heinz Maier-Leibnitz Zentrum

TUDelft Delft University of Technology