CERIC

Central European
Research Infrastructure
Consortium

Open for
Industry

Textile

High tech solutions have become prominent in the textile sector over recent decades. New polymers with enhanced properties and nanomaterials are nowadays basic materials for the smart textile sector, and CERIC Partner Facilities can support research in this area.

- Polymers and smart materials
- Defects and damage
- Characterisation; damage and treatments

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Polymers and smart materials

CERIC offers high precision analyses to understand the composition, properties, behaviour and interactions of modern smart materials, which can have a nanoscale structure (composites, polymers with or without nanofillers, synthetic polymers, polyamides and other materials for high-quality applications).

Defects and damage

CERIC can provide support in defining aggregation and microstructural defects of materials for solving issues related to material characteristics and the reasons why problems related to their functioning occur. For example, CERIC can analyse radiation damage and compound deposition (down to sub-micrometric resolution) in textiles used in high-risk sites.

Characterisation; damage and treatments

CERIC offers a unique combination of complementary techniques for the easier interpretation of structures and materials. CERIC Partner Facilities can provide support for the definition of the provenance and appropriate treatment for cleaning and conservation through, for example, high-resolution characterisation of metal threads or inorganic/metal pigments from liturgical vestments, folk costumes and paintings or the composition of antique coins.
CERIC offers 3D tomographic imaging of objects with a resolution of a few to hundreds of microns, and 3-D imaging by thermal neutrons for bulky objects, in a non-destructive way, providing high-quality imaging inside objects.
CERIC can also provide monitoring of material damage caused by exposure to radiation.