

National Composites Network Centre of Excellence

NDT Validation Centre

Port Talbot, South Wales

Independent, state-of-the-art R&D facility for assessing
the accuracy and consistency of non-destructive testing methods



A major technical resource
for the UK's composites industry



The NDT Validation Centre is an independent organisation that assesses the accuracy and consistency of non-destructive testing (NDT) methods used in the manufacturing and construction industries.

The aim of the validation process is to assess the acceptability of NDT techniques, procedures and equipment, training criteria and personnel for specific engineering components and inspection scenarios. The validation process should demonstrate that the entire inspection process accurately and consistently meets the requirements of relevant codes and standards, regulators, customers and users.

To increase confidence in NDT amongst manufacturers, regulators and users, the Centre addresses the need to verify and improve the accuracy of inspection techniques and flaw detection.

Housing a wide variety of state-of-the-art equipment, The NDT Validation Centre is well-placed to provide expertise in advanced inspection techniques, including:

- Digital radiography
- Laser shearography
- Phased array ultrasonics
- Thermography
- Tomography
- Long-range guided wave ultrasonics

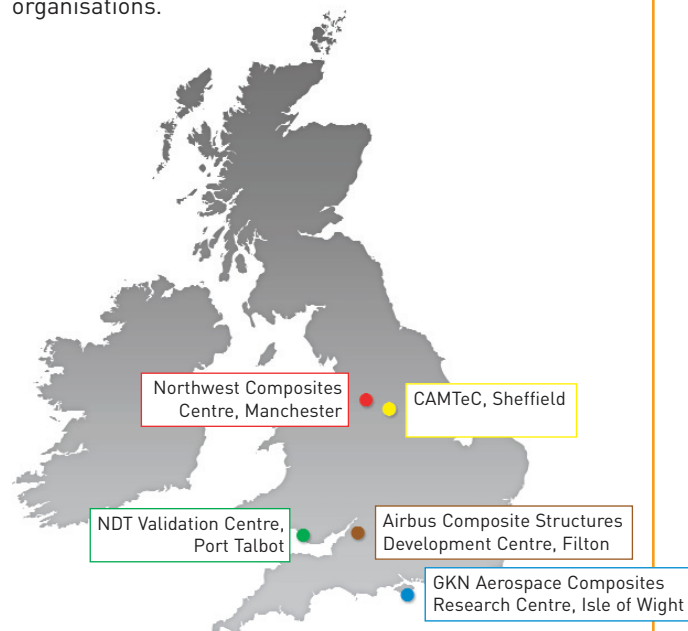


The National Composites Network (NCN) is facilitating access to the centre's resources. Technical support from the centre for UK companies is arranged through NCN Helpdesk.

The very nature of composite materials presents inspection challenges. Through the NCN Composites Validation Group, the Centre provides industry with specialist technical support by validating application-specific NDT methods.

The NDT Validation Centre is one of five NCN Centres of Excellence.

Complementing its own specialised resources, each Centre has strong links with key research facilities at universities and with leading research & technology organisations.





SWANSEA INSTITUTE
ATHROFA ABERTAWE

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Aelod o **Brifysgol Cymru**



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PRIFYSGOL CYMRU ABERTAWE
UNIVERSITY OF WALES SWANSEA

The NDT Validation Centre is run by TWI Ltd with academic partners - the Faculty of Applied Design and Engineering at Swansea Institute of Higher Education, and University of Wales Swansea. In addition to validation activities, the Centre is active in an NDT Technology Transfer Network, managed by Swansea Institute, to stimulate collaborative research activities between higher education establishments, research centres and industry.

The Technology Transfer Centre and Network projects are supported by the Knowledge Exploitation Fund, which is managed by the Welsh Assembly Government's Department for Enterprise, Innovation and Networks, and is financed by the Welsh Assembly Government and the European Union.



1. Milli-focus digital X-ray facility for components up to 1.5m x 2m.
2. Micro-focus (5µm) computed tomography.
3. Digital radiographic inspection (450kV) of aerospace components.
4. Validation of NDT test-piece using phased array ultrasonic inspection.
5. Immersion ultrasonic testing GRP pipes.
6. Infrared thermography of impact damage in carbon fibre composite panels.

National Composites Network
Centre of Excellence

NDT Validation Centre

How to access the Centre's expertise, technologies and facilities

Access is arranged through the NCN Helpdesk:

tel 01223 894 662

email info@ncn-uk.co.uk

fax 01223 891 284

The Helpdesk will discuss your requirements with you and determine the most effective route for assistance through the NCN's technical support services.

NCN technical support services

Operating in harmony with the Centres of Excellence and a wider network of NCN co-ordinated technical resources, NCN support services provide -

Information

- Helpdesk - for expert consultations call 01223 894 662 or email info@ncn-uk.co.uk
- www.ncn-uk.co.uk - 24/7 access to composites know-how
- Workshop technical events - covering key aspects of manufacture and use

Diagnostics

- Surgeries at events - on the spot practical advice on materials, design and production issues
- Technology audits - investigating problems and opportunities for improved products or manufacturing processes

Solutions

- Feasibility studies - solving problems, exploring use of more effective technologies
- Innovation support - stimulating evolution in products and manufacturing techniques
- Technology demonstrators - access to latest materials, processes and equipment to enhance capability

The National Composites Network

NCN embraces all facets of the UK composites industry and its associated business and technical communities, connecting all areas of composites expertise across all technologies and industry sectors.

The resources within this powerful network are made available through NCN technical support services for UK companies involved in or moving into any aspect of composite product manufacture or use.

NCN technical support is particularly geared to the needs of small and medium-sized companies (SMEs) which do not have the resources to exploit fully the technical and cost benefits of composite materials.

NCN focuses on polymer, ceramic and metal matrix composites and covers all related topics and technologies including -

- applications; design; materials development and selection
- manufacturing; assembly; joining; disassembly/recycling
- process modelling and economics; supply-chain issues
- testing and analysis of materials and products; non-destructive examination; repair
- standards; training; quality assurance; safety; environmental issues

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For further information please contact the NCN Helpdesk:

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Email: info@ncn-uk.co.uk

Fax: 01223 891 284

Website: www.ncn-uk.co.uk