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HVM Technology and Innovation Centre news

Newsletter of the High Value Manufacturing Technology and Innovation Centre

Technology Strategy Board
Driving Innovation

SMEs – a Primary Source of Innovation

Investing in the future

Welcome to the fifth newsletter in the current series. In October 2010, the Prime Minister announced that over £200m will be invested in a network of elite technology and innovation centres, to be established and overseen by the Technology Strategy Board. These centres will be an important part of the UK's innovation system. They will allow businesses to access equipment and expertise that would otherwise be out of reach.

They will also help businesses access new funding streams and point them towards the potential of emerging technologies. The new investment will further bridge the gap between universities and businesses, helping to commercialise the outputs of Britain's world-class research base. This newsletter keeps you informed about the development of the first of these centres and provides details of one of its constituent members. This issue profiles the Nuclear Advanced Manufacturing Research Centre, based in Sheffield.

Innovative Small & Medium-Sized Enterprises (SMEs) are expected to play a very active part in the new Technology & Innovation Centre in High Value Manufacturing. SMEs will be important contributors to and beneficiaries of the TIC both in their own right as developers of new, ground-breaking technology and in their role in the integrated supply chains of larger Original Equipment Manufacturers (OEMs).

SMEs are already active participants in the programmes of the longer-established centres such as CPI, the Sheffield AMRC and the Warwick Manufacturing Group, with these three organisations supporting over 4000 SMEs between them. The centres have helped SMEs develop new technology, build management teams, raise finance and grow their business in addition to providing SMEs with access to leading-edge facilities. The Innovation Accelerator at CPI, for example, gives companies space and expertise to develop their technology with a full range of business support.

The Technology Strategy Board has also estimated that a significant proportion of its funding flows into SMEs, either directly or by cascading down from the larger OEMs.

The new TIC offers the opportunity to develop programmes to support SMEs in the form of:

- Awareness programmes
- Small “taster” projects
- Participation in larger demonstration projects
- Market access assistance
- Business creation support
- Training programmes, from apprenticeships through to board room

These will be facilitated by establishing relationships with trade bodies, sector representatives, Knowledge Transfer Networks, and public sector support bodies such as the Manufacturing Advisory Service.

Finally, Eng Doc and KTP schemes will be available for participation by companies of all sizes.

The overall aim is to ensure that forward-looking SMEs, which are the sources of many new ideas and much new technology, are given every available support to develop the full market potential of their innovations.

CONSORTIUM MEMBERS

Advanced Forming Research Centre
Location: *Glasgow*
Key Competencies: *Billet Forging / Sheet Forming / Precision Forging*
Contact: *Bill Ion*
w.j.ion@strath.ac.uk

Advanced Manufacturing Research Centre with Boeing
Location: *Sheffield*
Key Competencies: *Machining / Materials and Component Testing / Hybrid & Metallic Composites / Assembly*
Contact: *Keith Ridgway*
k.ridgway@sheffield.ac.uk

Centre for Process Innovation
Location: *Wilton, Sedgefield*
Key Competencies: *Chemical Processing / Biotechnology / Printable Electronics*
Contact: *Nigel Perry*
nigel.perry@uk-cpi.com

Manufacturing Technology Centre
Location: *Coventry*
Key Competencies: *Automation & Tooling / Fabrication, Joining & Assembly / Additive & Net shape / Process Modelling*
Contact: *Clive Hickman*
clive.hickman@the-mtc.org

National Composites Centre
Location: *Bristol*
Key Competencies: *Design & Manufacture of Composites*
Contact: *Peter Chivers*
peter.chivers@nccuk.com

Nuclear Advanced Manufacturing Research Centre
Location: *Sheffield*
Key Competencies: *Fabrication of Civil Nuclear Components*
Contact: *Stephen Court*
stephen.court@namrc.co.uk

Warwick Manufacturing Group
Location: *Coventry*
Key Competencies: *Lightweight Product System Optimisation /Energy Storage and Management / Digital Verification and Validation*
Contact: Dave Mullins
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A number of centres also offer competencies in: *Measurement & Verification / Cost Modelling / Design & Manufacturing Systems / Materials Analysis*

In each issue we profile one member of the consortium

NUCLEAR AMRC

Partner Spotlight: The Nuclear AMRC

University of Sheffield and University of Manchester

The focal point for the UK civil nuclear manufacturing industry

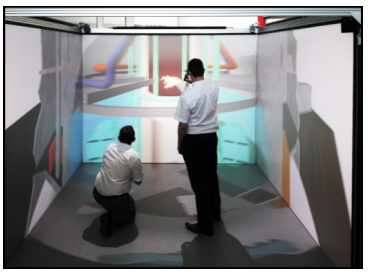
The Nuclear Advanced Manufacturing Research Centre (Nuclear AMRC) aims to enhance the capabilities and competitiveness of the UK civil nuclear manufacturing industry, and help British manufacturing companies compete for nuclear contracts worldwide.

The Nuclear AMRC is a collaboration between the Universities of Sheffield and Manchester, with the backing of government and industry. The centre combines the materials expertise of The University of Manchester Dalton Nuclear Institute with the manufacturing excellence of the University of Sheffield, to help companies identify and overcome their manufacturing problems. Currently, 23 companies have been accepted as full members of the Nuclear AMRC, from global reactor providers Areva and Westinghouse, through top-tier suppliers such as Rolls-Royce, to manufacturing SMEs.

The centre's core facility is a new 8,000m^2 research factory on the Advanced Manufacturing Park, South Yorkshire. Research focuses on the fabrication, machining, joining and assembly of large components for new nuclear power stations.

Core research areas include:

- Large-scale welding and cladding using robotics and adaptive control.
- Machine tool optimisation.
- Robotic machining.
- Non destructive evaluation.
- Developing large-scale demonstrators for innovative technologies and processes.
- Virtual simulation and design for manufacturing and assembly.



The Nuclear AMRC also has access to the research laboratories of the Dalton Nuclear Institute, which have undergone an £8 million expansion to create an integrated facility for the Nuclear AMRC in Manchester. The Manchester laboratories focus on fundamental research in:

- Materials, processing and cutting.
- Welding and joining.
- Surface engineering.

The Nuclear AMRC also provides a range of targeted support programmes in skills and training; quality and accreditation; and supply chain development. A key programme is *Fit For Nuclear*, which uses an online questionnaire to help companies understand the requirements of the nuclear energy market and identify areas for business change.

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For enquiries about the overall programme of technology and innovation centres please contact centres@tsb.gov.uk