

Technology Strategy Board
Driving Innovation

Investing in the future

Welcome to the fourth 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.

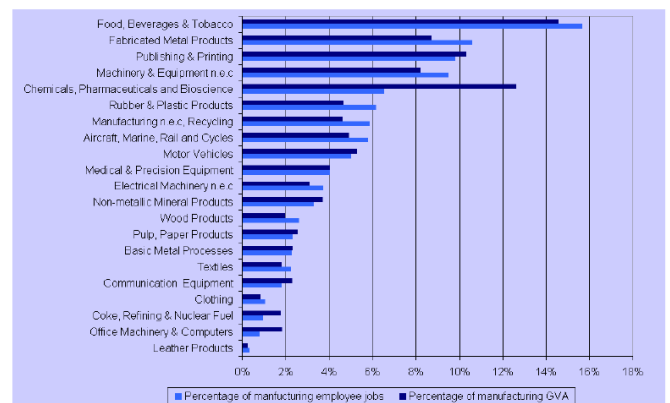
They will also help businesses access new funding streams and point them towards the potential of emerging technologies. The new investment will further bridge the gap between universities and businesses, helping to commercialise the outputs of Britain's world-class research base. This newsletter keeps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

The Economic Context of UK Manufacturing

The health of manufacturing in the UK is assuming greater political importance at the present moment and many would say "not before time". Representing somewhere between 11% and 12% of GDP, it is the third largest sector of the economy after business services and wholesale/retail. The definition of manufacturing which economists use, especially when making international comparisons, does not however include many activities where a physical product is produced or where plant and facilities, and hence manufacturing processes, are involved. A wider definition, including, for example, construction, energy production and mineral extraction would place the total to nearer 25% of the economy. These are all parts of the economy which are major consumers of services, as well as producing the majority of exports, physical products being easier to export than services. Products currently account for 58% of exports.

Internationally, the market for manufactured goods has grown at a consistent 3% p.a. over the past decades.

Whatever definition is used, manufacturing is made up of a diverse range of sectors, as shown in the diagram below.



Source: ONS statistics, Employee jobs and National Accounts

Some sectors are growing, some are contracting and all exhibit different levels of R&D intensity. SMEs in particular are driving growth in many sectors. The highest levels of R&D are seen in pharmaceuticals & biotechnology, aerospace, defence and automotive but all sectors rely substantially on R&D, with 75% of all the UK's R&D being conducted in the manufacturing sector.

Whilst a sectoral focus could be taken, the approach being taken in the High Value Manufacturing Technology and Innovation Centre is one of focusing on technologies which have the widest range of application. For example, the intelligent automation technologies described in the MTC article overleaf can be applied to the automotive sector, aerospace, packaging, food and drink, electronic assembly and pharmaceuticals, to name but a few. With these points in mind, key criteria for all future investments in the Technology and Innovation Centre will therefore be the breadth of potential applications which individual investments will provide and their ability to convert cutting edge technologies from the research base to industrially-ready technologies.

CONSORTIUM MEMBERS

In each issue we profile one member of the consortium

Partner Spotlight: The Manufacturing Technology Centre (MTC)



Manufacturing the future?

Advanced Forming Research Centre

Location: *Glasgow*
Key Competencies:
Billet Forging / Sheet Forming / Precision Forging
Contact: *Bill Ion*
w.i.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*
David.Mullins@warwick.ac.uk

A number of centres also offer competencies in: *Measurement & Verification / Cost Modelling / Design & Manufacturing Systems / Materials Analysis*

The world class Manufacturing Technology Centre (MTC) represents one of the largest public sector investments in manufacturing for many years, with East Midlands Development Agency (EMDA) and Advantage West Midlands (AWM) together funding the initial £40 million capital contribution for the building and production scale manufacturing equipment for research and development.

The Centre is housed in a 12,000 square metre purpose built facility at Ansty Park, Coventry. MTC has been established via a new model of collaborative partnership between industry, universities and research and technology organisations (RTO), with the University of Birmingham, University of Nottingham, Loughborough University and TWI Ltd as the founding research partners. Industrial members of the MTC include Rolls-Royce, Aero Engine Controls, Airbus UK, Hewlett Packard and Gudel.



The UK has an excellent reputation for developing innovative University based research but has not been effective in converting those research concepts into credible manufacturing

solutions. Recognition of the fact that UK manufacturing is losing competitive advantage has led to the creation of MTC which will focus on working with cross sector manufacturing companies to validate and implement concepts developed by academia and other sources. The centre will provide a high quality environment for the development and demonstration of new technologies on an industrial scale, thus allowing companies to develop their competitiveness in an industrial setting without the constraints of the manufacturing facility. This approach provides a unique opportunity for manufacturers to develop new and innovative processes in a low risk environment, proving and validating new procedures and practices whilst reducing the associated financial risks.

MTC specialises in a range of manufacturing processes and activities which are applicable across a wide range of industry sectors: including net shape manufacture; intelligent automation; advanced tooling and fixturing; high accuracy automated welding, high integrity electronic systems, manufacturing systems modelling and operational effectiveness. These specialisms have been identified in response to industry demand and will evolve continuously to reflect the ever-changing requirements of our manufacturing partners.



The manufacturing sector comprises a range of diverse companies, from the large multinationals to small SMEs, and MTC has developed processes and technologies to reflect the varying requirements of the players in this arena. MTC provides a flexible approach to working with both large and small companies and offers a tailored service designed to meet the needs of individual companies which ranges from consultancy support for specific problems to a long-term relationship for programme based projects through membership of MTC.

MTC is currently working with companies across a range of industry sectors including aerospace, automotive, rail, health-care and ICT and the move into the bespoke state-of-the-art facility over the summer has enabled MTC to further strengthen its capability and sector offering.

CONTACT MTC:

MTC Limited
Ansty Business Park
Coventry
CV2 2TF
T: +44 (0) 7772 593 004
www.the-mtc.org

Enquiries on the High Value Manufacturing technology and innovation centre should be addressed to:
Margo Hutchison, margo.hutchison@strath.ac.uk or +44 (0) 141 534 5200
For enquiries about the overall programme of technology and innovation centres please contact
centres@tsb.gov.uk