Technology Strategy Board
Driving Innovation

EPSRC
Engineering and Physical Sciences Research Council

Press Release

28th July 2009

UK's aero-engine industry and supply chain boosted by investment in innovative new technology

- **Technology Strategy Board and Engineering and Physical Sciences Research Council (EPSRC) work with Rolls-Royce**
- **Business and academia to work together to help industry remain competitive**

Rolls-Royce are set to play centre stage in an investment programme totalling £40m that aims to strengthen the supply chain for the UK's aero-engine industry and accelerate the development and introduction of low carbon aircraft engine technology. The Research and Development programme will be delivered by the Technology Strategy Board, the non-departmental government body that supports UK business in the development of innovative technology and the Engineering and Physical Sciences Research Council (EPSRC).

The programme is called Strategic Affordable Manufacturing in the UK with Leading Environmental Technology (SAMULET).

SAMULET, is a collaborative programme between industry and academia led by Rolls-Royce working in a consortium alongside other high profile manufacturers, Small and Medium Sized Enterprises (SMEs) and several of the UK's top universities. The Technology Strategy Board is investing £28.5m in the programme and the Engineering and Physical Sciences Research Council (EPSRC), £11.5m. Further support is under discussion with regional bodies. The total cost of the project including industry investment is expected to be around £90m.

Chief Executive of the Technology Strategy Board, Iain Gray said:

"SAMULET aims to ensure that the UK aero-engine industry remains competitive in the face of new 2020 emissions targets for aircraft and that it is in a position to manufacture engines for the next generation of civil aircraft.

"We supported this intervention because we felt that it was essential that new technology advances rapidly enough in the industry to ensure that the UK retains a competitive advantage in this field. Through the supply chain and academic partners, SAMULET also offers exciting opportunities to promote UK high value manufacture more generally."

Chief Executive of the Engineering and Physical Sciences Research Council, Dave Delpy said:

"The application of science and engineering research is vital to help overcome the threat of climate change and sustainable living. This important partnership brings together key stakeholders and provides a strategic focus in the search for new technologies to provide an effective response to emissions targets and maximise energy efficiency.

This collaboration is also an excellent example of how the union of research and industry will develop business, stimulate economic growth and ensure the UK plays a leading role in providing solutions to the challenges of the 21st century".

SAMULET will focus on productivity and environmental improvements including reductions in raw material usage, efficient advanced manufacturing processes and lower engine fuel consumption. The programme aims will be achieved by developing new technologies and delivering a number of knowledge transfer initiatives, it will be closely linked with the advanced manufacturing research centres (in Sheffield, Glasgow, and Ansty near Coventry) and so strengthen the position of UK aerospace manufacturing and its supply chain.

Ends

Editor's notes

This press release is being issued in conjunction with an announcement today about Advanced Manufacturing from the Department of Business Innovation and Skills (BIS). A copy of *Advanced Manufacturing – Building Britain's Future* and a social media news release with photos and video can be found here:

http://interactive.bis.gov.uk/advancedmanufacturing/

SAMULET (Strategic Affordable Manufacturing in the UK with Leading Environmental Technology)

Programme Consortium

1. The consortium is led by Rolls-Royce plc and the other companies involved as industrial partners are: BAE Systems, GKN, Tacit Connexions, Granta, and BERU F1. These companies intend to use the research facilities at the Rolls Royce University Technology Centres at Birmingham, Cambridge, Cranfield, Loughborough, Nottingham, Oxford and Southampton and the "AxRC's" at Sheffield, Strathclyde and Coventry (Ansty).
2. The academic partners formally collaborating include specialist principal investigators at the Universities at Birmingham, Cambridge, Cranfield, Loughborough, Manchester, Nottingham, Oxford Sheffield, Southampton and Strathclyde. Additionally, principal academics in Oxford, Cambridge, Loughborough, Cranfield, Manchester, Birmingham Sheffield, Southampton and Strathclyde have been successful in obtaining EPSRC research grants aligned with the SAMULET programme. The companies collaborating within the SAMULET programme intend to sub-contract further academic research from Imperial College and the Universities of Swansea, Newcastle, Birmingham, Nottingham, Bath, Bristol, Cranfield, Sheffield, Southampton and Strathclyde.

Low emissions targets

The ACARE (Advisory Council for Aeronautics Research in Europe) targets are specifically defined and require reductions by 2020 (relative to best practice in 2000), of CO2 emissions per passenger-km by 50%, NOX (Nitrogen Oxide) emissions by

80% and noise by 50%. These targets will need to be met by any manufacturer wishing to sell engines for commercial aircraft in this time-scale. They require radical change for new aircraft, engines and their systems.

Environmentally Friendly Engine (EFE) programme

The SAMULET proposal builds on the earlier Environmentally Friendly Engine (EFE) programme, which the Technology Strategy Board, EPSRC and regions already support, and links closely to the EU Clean Sky Joint Technology Initiative which is focused on building and testing engine demonstrators validating cleaner and quieter technologies.

Efficiency goals

SAMULET is one of several major research programmes which collectively aim to achieve a two-fold increase in engine deliveries over the next eight years within the current manufacturing footprint. They aim to achieve a 50% - 80% reduction in cycle times in key operations, a 30% improvement in productivity of key operations and in 'right first time', and a reduction in material waste of 45%. It will make it easier, faster and cheaper to make key components, with the use of less raw material and energy.

The Technology Strategy Board is a business-led executive non-departmental public body, established by the government. Its role is to promote and support research into and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve quality of life. It is sponsored by the Department for Business, Innovation and Skills (BIS). For more information about the Technology Strategy Board please visit www.innovateuk.org.

Engineering and Physical Sciences Research Council (EPSRC) is the main UK government agency for funding research and training in engineering and the physical sciences, investing more than £800 million a year in a broad range of subjects – from mathematics to materials science, and from information technology to structural engineering. www.epsrc.ac.uk

Building Britain's Future - New Industry, New Jobs (published on 20 April 2009) identifies key areas where Government action can have most impact, investing in growth to speed recovery and building manufacturing and services essential to ensure British people and businesses can compete successfully for the jobs of the future. New Industry, New Jobs identifies a number of areas where strong UK capabilities should be a priority for Government attention and support, including aerospace engine and wing design and manufacture - to help adapt to the low carbon age and to help the UK retain its existing strengths.

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