

Impact Outlook

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An innovation economy

Simon Edmonds talks about his work as Director of Manufacturing & Materials at Innovate UK, a public body devoted to supporting and promoting new technologies of value to the British economy

Could you begin by introducing the aims and objectives of Innovate UK, and the Manufacturing and Materials team in particular?

Innovate UK has been successfully helping industry to commercialise world-class UK research for the last 10 years. We help businesses to identify the potential in new technologies and turn them into new products, processes and services that will significantly grow the UK economy. We are central to making sure that the UK meets the target of spending 2.4 per cent of gross domestic product (GDP) on R&D by 2027.

The Manufacturing and Materials sector team are a group of experts bringing together the areas of: automotive, driverless cars, aerospace, high value manufacturing, and advanced materials and the circular economy. Our aim is to enable UK businesses across all sectors to develop transformative manufacturing and materials capabilities that are flexible and resource-efficient, ensuring leading-edge products are manufacturing-ready and that the value of UK manufacturing and materials innovation benefits the UK economy.

How important is the manufacturing and materials sector to the UK economy?

The UK is the ninth largest producer in the world and accounts for 3 per cent of global manufacturing output. Manufacturing is worth £162 billion to the UK economy. Improving UK productivity could add £30 billion to the economy by 2025 and create 500,000 new jobs. 69 per cent of R&D activity takes place in manufacturing.

The UK economy has a strong base in high value manufacturing and advanced materials. It underpins sectors such as aerospace, automotive, energy, transport and process industries.

As a partner in the UK government's Year of Engineering, what initiatives is Innovate UK involved in?

The Year of Engineering is a very important initiative to inspire our young people about engineering and excite them about the wide range of opportunities on offer as a future career. I'd like to highlight an important new campaign Innovate UK has launched with the Prince's Trust to find the next generation of UK innovators and provide them with support, advice and funding. The programme – 'Ideas mean business' – is open to 18 to 30-year-olds from a range of backgrounds. We are inviting young adults with ideas to fix everyday problems, make changes in their community or tackle environmental issues to take part. For more information please see: <https://www.princes-trust.org.uk/help-for-young-people/princes-trust-online/young-innovators>.

Women are underrepresented in engineering at both the graduate and professional level. What do you believe can be done to improve this imbalance by professional bodies, government and policy?

It is important that every organisation sees this as a priority and takes action. Promoting female entrepreneurship has been a priority for Innovate UK since we launched our first Women in Innovation Awards in 2016. Last month, our Chief Executive Ruth McKernan announced our long-term commitment to expanding the programme. A second phase of the Women in Innovation Awards competition will be run in 2018, alongside a dedicated support programme, continuing our commitment to encourage female-led innovation.

The inaugural Women in Innovation campaign was aimed at addressing the disproportionately low number of women seeking

Simon Edmonds took up the role of Director of Manufacturing & Materials at Innovate UK in April 2016. He joined Innovate UK in 2013 as the Director of the Catapult programme, which has established 10 Catapult technology and innovation centres over the last three years. Prior to joining Innovate UK, Edmonds was a Director in the Department for Business Innovation and Skills and its predecessor departments, in addition to spending 20 years in the private sector. He has a first degree from Aston University, an MBA from Henley Management College, and is a graduate of the Government's Major Projects Authority leadership programme.

support from Innovate UK. It resulted in a 10 per cent increase in registrations from female applicants for Innovate UK support and saw a 31-strong cohort of women achieve business successes.

Can you provide details of how the Manufacturing and Materials team has worked with industry and academia, and the resulting achievements?

The Faraday Battery Challenge is a really good example. It is breaking new ground because, for the first time, it offers a coordinated programme of competitions across research, innovation and scale-up funded with a £246 million investment through the government's Industrial Strategy Challenge Fund. It will therefore draw the very best of the UK's world-leading research into commercial technologies and put UK businesses at the forefront of electric vehicle battery development.

Also relevant here is the work of the High Value Manufacturing Catapult which, through its seven technology and innovation centres across the UK, brings expertise and equipment for use by business and helps bridge the gap between academia and business.

Innovate UK recently made £19 million in grant funding available to support innovation in manufacturing, materials and infrastructure systems. Could you elaborate on this initiative?

Throughout 2017 and 2018, we have invested up to £151 million in our sector-based and open programme competitions for businesses. This latest competition is one of our broad competitions aimed at encouraging collaborative business-led innovation in our key sector through grant funding. All successful proposals must demonstrate they will improve business growth and productivity or create export opportunities for at least one UK SME involved in the project.

There is also up to £16 million in funding available for Knowledge Transfer Partnerships (KTPs) that bring together businesses and graduates working on manufacturing, materials and infrastructure applications. What benefits do KTPs provide?

Manufacturing businesses across the country have a long association with the KTP scheme, which supports UK businesses to innovate

and grow. KTPs enable businesses to bring in new skills, and the latest academic thinking, to deliver an innovation project of commercial benefit in a three-way knowledge-based partnership between them, an academic or research organisation, and a suitably qualified graduate. KTPs have been run with Unilever, Dyson, Jaguar Land Rover, Rolls Royce, Sainsbury's and many other large companies, although in fact 80 per cent of KTPs are SME-led.

Can you share examples of how the Manufacturing and Materials team has worked with similar bodies internationally, and the positive outcomes this has created?

Innovate UK supports innovative businesses to access global markets, link with global partners and become integral to global supply chains. An excellent illustration of this for the Manufacturing and Materials team is the work we undertook with Science and Innovation Network India to jointly research opportunities for greater collaboration between the two countries in future manufacturing. The UK and India are among the top manufacturing countries in the world with a combined manufacturing output of more than US \$500 billion. We published a report which sets out a series of recommendations towards a joint programme of innovation support.

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