THE FOUNDATION FOR SCIENCE AND TECHNOLOGY

**DEBATE SUMMARY**

# The vision for UK Research and Innovation (UKRI)

Held at The Royal Society on 9th November, 2016.

The Foundation is grateful to the Association of Innovation, Research and Technology Organisations (AIRTO), GSK and Invoke Capital for supporting this debate.

The hash tag for this debate is #fstukri .
Audio files of the speeches are on www.foundation.org.uk .

**Chair:** **The Earl of Selborne GBE FRS**
Chair, The Foundation for Science and Technology

**Speakers:** **Sir John Kingman KCB**
Chair, UKRI
Department of Business, Energy and Industrial Strategy
**Professor Dame Julia Goodfellow DBE FMedSci**
President of Universities UK and Vice-Chancellor, University of Kent
**Phil Smith**
Chair, Cisco UK & Ireland, Chair, Innovate UK and Chair, The Tech Partnership

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SIR JOHN KINGMAN noted that, subject to Parliament, UK Research and Innovation (UKRI) would come into legal existence in 2018. The process for appointing a CEO was well advanced.

The external context had changed significantly since his appointment as Chair of UKRI had been announced, and this brought into central focus the role of UKRI as a champion of research and innovation. As thought was given to the UK's future outside the EU, an honest assessment was needed of the country's strengths, and one of those was undoubtedly the quality of our science and universities. In considering UKRI's role, it was important to recall that the Nurse Review[1] had not described a broken system. Instead, the focus needed to be on how the circa £6 billion spend per annum could involve greater efficiencies (e.g. in back office functions); on the role a small body could play in acting as a sort of challenging shareholder; and on advising Ministers on budgets and tough choices.

UKRI should not get involved in second guessing the expertise of the Research Councils; it needed to be a small, focused and high quality organisation. The Government had decided to include Innovate UK in its remit, because there were no clear lines between university research and business innovation, so a single body with oversight of the whole was logical; and the more outward looking culture of Innovate UK would bring something additional to the party.

He would particularly welcome input from the meeting on what UKRI should focus on, and the choices it should make; and on elements of its strategic overview, including learning from international best practice.

PROFESSOR DAME JULIA GOODFELLOW said that the Government's 2014 Science and Innovation policy document (Our Plan for Growth: Science and Innovation[2]) remained valid. The starting point for UKRI had to be the strength of the UK science base. The dual funding mechanism (Quality Research – QR funding by the Higher Education Funding Councils for England, Wales and the Scottish

[1] Bringing science to the heart of government: the Nurse Review of the Research Councils, Foundation debate on 12th January, 2016 – www.foundation.org.uk .

[2] www.gov.uk/government/publications/our-plan-for-growth-science-and-innovation

Funding Council plus Research Council funding) had served the country well. It was also important to recognise that the Research Councils had a track record of funding the best quality projects (based on the Haldane Principle that Minister's should not decide RC priorities for research). Inevitably, because of the nature of basic research, success rates were sometimes low, and UKRI should put pressure on the government for increased funding.

It was also important to keep in mind the training role of universities, and the balance between PhD's and the faculties etc. In addition to being a champion for increased funding, UKRI should encourage the creation of critical masses of researchers to work on grand challenges, be an advocate for funding of international partnerships, ensure investment in Science and Technology infrastructure, and provide strategic oversight of the science and innovation networks in our Embassies.

The inclusion of Innovate UK under UKRI fitted in with universities' wider responsibilities, and innovation funding should be increased, but not at the expense of the science base. UKRI's interaction with the Government's industrial strategy would be key.

PHIL SMITH noted that in many businesses the idea that there was a public body that supported innovation was not widely known. There was therefore a real opportunity to engage business more.

He illustrated the changing world by describing some of the features of the digital revolution, e.g. the volume of things connected to the internet, and the volume of traffic on the Net (which has tripled since 2014). These changes should be capitalised on. Moreover, the country's productivity challenge (e.g. the fact that 75% of employees worked for organisations whose productivity was below EU average productivity; or that half of UK cities were in the bottom 25% in the EU in terms of productivity) lent itself to smart use of innovation[3].

The digital revolution raised questions of privacy, safety and security that needed to be addressed, and there needed to be a coherent approach from Government, business and academia. He described Cityverve, an Innovate UK project in Manchester that brought together 21 companies, universities and authorities, looking at best practice in energy/environment, transport and travel, health and social care and culture. The opportunities for business to drive innovation should multiply in the period ahead. From a business perspective, success for UKRI would mean that it was business relevant, market sensitive, simple/accessible and impactful/visible.

In the ensuing debate, the following points were raised:

- There was support for the proposal that UKRI should be an advocate for international centres and collaboration (recognising that a lot of existing research centres were not EU ones).

- Differences of view were expressed about the inclusion of innovation in UKRI's remit, but the point was repeated that innovation and research were not completely separate activities, and there was a lot that could be done in the areas in between the two.

- One suggestion was that extra resource should go towards SME innovation. Another was that the opportunities in e.g. digital manufacturing, healthcare, autonomous systems/AI should be exploited.

- The best innovation was often done by individuals/small companies, and it was important to continue to reflect on how to reach out effectively to them.

- The design of UKRI should help long term strategic thinking and rigour. It should create a "map" of strengths and opportunities, to build on. But it should not second guess the expertise of the Research Councils, though it should challenge them and hold them to account.

- UKRI has a role to play on mobility of scientists and students in a world outside the EU.

- Public sector research establishments were part of the "ecology" and should be included in the UKRI "map". So should the Knowledge Transfer Network.

[3] See the Foundation debate on Closing the US/UK productivity gap: connecting innovation and research to economic output held on 2nd December, 2015 – www.foundation.org.uk .

- Concern was expressed about the perceived downgrading of science in Government over the years, and the risk of the forthcoming changes diluting mattes further as the Research Council CEOs would be line managed by the UKRI CEO. Against this it was pointed out that there had been nearly two decades of Chancellors of the Exchequer who were inherently sympathetic to increasing funding of the science base, but this could not be guaranteed in the future.

- UKRI should provide clarity of roles, data/evaluation, setting of budgets that could introduce benign incentives (e.g. for collaboration), and be a powerful independent voice on behalf of research and innovation.

- It was crucial that the Research Councils continued to attract high quality leaders, and that UKRI demonstrated added value.

- Its priorities should be relevant, and focus on the opportunities that would make an economic difference. A central question was how UK research and innovation could produce a step change that really addressed the productivity challenge.

- The establishment of UKRI did not address some fundamental problems, e.g. how to scale up companies rather than sell them, and how to address skills shortages.

- The proposal that UKRI should be a powerful independent champion of science was widely supported. However, one participant argued that the Research Council system worked well and saw no need for the radical changes proposed.

Sir Brian Bender KCB

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www.bbsrc.ac.uk

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www.epsrc.ac.uk

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Association for Innovation, Research and Technology Organisations (AIRTO)
www.airto.co.uk

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BAE Systems
www.baesystems.com

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Catapult Programme
www.catapult.org.uk

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www.cisco.com/uk

Cityverve – Manchester Smart City Demonstrator
www.cityverve.org.uk

Francis Crick Institute
www.crick.ac.uk

Higher Education Division, Department for Education, Northern Ireland Government
www.economy-ni.gov.uk/articles/higher-education-division

GSK
www.gsk.com

Higher Education Funding Council for England
www.hefce.ac.uk

Higher Education Funding Council for Wales
www.hefcw.ac.uk

Innovate UK
www.gov.uk/government/organisations/innovate-uk

Invoke Capital
www.invokecapital.com

Knowledge Transfer Network
www.ktn-uk.co.uk

Learned Society of Wales
www.learnedsociety.wales

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