

## **Business Environment – how to drive business investment**

### Introduction

Central to the UK Government's Industrial Strategy White Paper, published in 2017, is the target to increase the UK's spend on research and development (R&D) to 2.4% of GDP by 2027. UK Research and Innovation (UKRI) has organised a series of workshops with our stakeholders, to explore the biggest questions for UKRI and the UK research and innovation landscape more broadly over the coming years. Workshop outputs are being used to develop our evidence base and inform our policy and analysis work.

On 12 October 2018, Sir John Kingman chaired a workshop which gathered expert business stakeholders to explore a series of questions about how to enhance the UK business environment for R&D, with a focus on large businesses. Annex A contains a full delegate list. The discussion was wide-ranging, covering topics as diverse as the general business R&D landscape, regulation, state aid, taxation, and the UK's absorptive capacity.

### Background

To meet the 2.4% target will require increases in both public and private spend. Even accounting for industrial structure, UK business investment in R&D is low by international standards, with underinvestment relative to the OECD average across all sectors. Maximising business investment will be a key contributor to achieving the 2.4% target, with it likely that both demand-side and supply-side measures will be required.

### Summary of discussion

#### **Business R&D environment**

Delegates posed varied viewpoints. Businesses are judged on quarterly or six-monthly performance, acting as a disincentive to investment in R&D. Short termism is also an issue; both in markets and in relation to the REF when trying to forge long-term partnerships between industry and academia. The importance of understanding the end goal was also raised – what are we trying to achieve in reaching the 2.4% target? Understanding this would influence how businesses felt the challenge should be addressed. A long term financial settlement would also allow a strategic, and potentially transformative, approach to increasing R&D intensity.

The approaches of other countries to relationships between government, academia and industry were examined. It was noted that the Industrial Strategy Challenge Fund (ISCF) marked a new approach in the UK, aiming to back big opportunities (both scientifically and economically) for the UK and change the way that universities and businesses work together.

#### **Regulation**

The opportunities of leaving the EU in terms of the UK setting its own regulatory environment were discussed. Representatives from the life sciences emphasised that the UK would remain in the EU regulatory framework, but acknowledged that there may be opportunities, for example around early clinical trials. Other potentially interesting possibilities were also raised, such as around use of drones in unregulated airspace. For some sectors, for example energy and digital, delegates felt regulators may struggle to keep pace with the speed of development.

The nature of R&D is rapidly evolving, with the spread of data science and artificial intelligence (AI) across many research disciplines. Businesses emphasised the potential for rapid innovation when economic pressures in an industry are coupled with the right regulation and advocated for the

Innovation Principle to be considered alongside the Precautionary Principle; examining how new regulations would impact on innovation.

## **State Aid**

Delegates noted that state aid rules, designed to prevent unfair competition within the EU, contributed to the UK investing in less close-to-market development, and acted as a barrier to increasing market share. The UK was felt to have one of the strictest applications of state aid rules, with delegates suggesting that its application of these could be revisited to align with the application of the rules in other EU countries. The Important Projects of Common European Interest provision, allowing for the rules to be set aside in certain circumstances, was highlighted as a mechanism that allowed for some closer-to-market development.

## **Tax system**

R&D tax credits represent a significant cost to government, but delegates highlighted their importance. It was raised that there was an unanswered question about whether tax credits (and other levers) stimulated genuine new R&D investment or acted to shift finite amounts of investment to new locations worldwide. And whilst an incremental R&D tax credit was enticing, a country with an effective implementation could not be identified.

There was consensus that businesses would advocate for increasing the scope of R&D tax credits, rather than a more generous rate. Purchase of data for research purposes, expenses of patenting, digital infrastructure costs, and regulatory roles are all integral to modern-day R&D and widening the scope could capture these costs. In addition, large businesses promoted the value of outsourcing some of their R&D and permitting this in claims; third party spend can only be claimed against tax credits if it is public.

Businesses agreed that all countries wanted to attract the high-risk, high-reward R&D and that to keep it in the UK the government would need to insure against the risk in some way. Belgium and the Netherlands, for example, have introduced tax relief on hiring R&D workers.

## **Absorptive capacity – what would hold businesses back from doing more R&D**

The role of people as central to the R&D ecosystem was emphasised, with it posed that there was a need for a long-term skills strategy for the UK. As well as research, leadership, innovation, financial, business and management skills are essential for commercial success. Delegates suggested that investments could be de-risked, and perceptions of failure decreased, if innovation projects were viewed as an investment in the skills of individual people rather than a specific project or outcome. PhD funding is already viewed through this lens.

Gaps in data science were highlighted, alongside a need for future careers to be seen as fluid, with increased crossover between professions and sectors. Delegates suggested that encouraging increased international mobility of students and graduates would encourage diverse perspectives and awareness of how other systems work, invigorating the UK ecosystem as a result.

## **What is required to drive business investment in R&D to achieve the 2.4% target?**

The UK already has a supportive business environment. It is ranked seventh in global league tables for ease of starting, locating and growing a business and business expenditure on R&D represents around 70% of the total. But, if we are to reach the 2.4% target, R&D intensity will need to increase across both the public and private sectors. Delegates proposed a number of ideas:

- look at what works and commit long-term to provide for business confidence and continuity;

- refine and optimise new schemes, such as the ISCF, learning from experience. Stop supporting mechanisms where it becomes clear they are not succeeding;
- consult businesses on the design of post-EU exit regulatory systems, aiming for a stable, but not static, system;
- revisit the scope and eligibility of the R&D tax credit scheme to reflect the changing nature of contemporary R&D;
- create a 'digital shop window' to pull together the UK's support for innovation in one place online, and explore the possibility of following up with a full 'one stop shop' for government support for business R&D;
- back skills needed across the R&D system, including in entrepreneurial leadership and management, regulatory professions, and lifelong learning;
- join up across the whole landscape (transport, planning, housing) – 2.4% requires a step change in activity and physical infrastructure;
- consider an increase in living labs to provide more space to try innovative ideas;
- back initiatives that are known to work – KTPs, Prosperity Partnership awards and iCURE were highlighted as success stories; and
- consider infrastructure gaps, such as for 'grow on' space;

In summary, Sir John Kingman emphasised that the workshop conversation was just a starting point. UKRI has a responsibility to rise to the opportunity, and challenge, of the target to increase the UK's investment in R&D to 2.4% of GDP by 2027, and 3% in the longer term, improving productivity and economic growth across the UK.

## Annex A – delegate list

<b>Name</b>	<b>Organisation</b>
John Kingman (Chair)	UK Research and Innovation
Paul Beasley	Siemens UK
Alan Bickley	Weir Group
Ian Campbell	UK Research and Innovation – Innovate UK
Rachel Castle	AstraZeneca
Rebecca Endean	UK Research and Innovation
Helen Ewles	Royal Academy of Engineering
Scott Johnston	Scottish Lifescience Association
Helen Miller	Institute for Fiscal Studies
Drew Nelson	IQE
Dai Richards	ABB
Phil Smith	Independent
Julia Sutcliffe	BAE Systems
Graham Thomas	BBC
Naomi Weir	Campaign for Science and Engineering
Ania Zalewska	University of Bath