

UK Government R&D Roadmap (July 2020) – SFC submission to survey

Introduction

1. The comments below constitute the submission to the BEIS R&D Roadmap survey by the [Scottish Funding Council](#) (SFC).
2. SFC is the national, strategic body for the funding of further and higher education and research in Scotland. Its purpose is to secure coherent, high quality further and higher education by colleges and universities across Scotland, and the undertaking of research among those bodies¹.
3. This submission is made by SFC as an organisation. You may contact Dr Stuart Fancy, Director of Research and Innovation (sfancey@sfc.ac.uk), in respect of this submission.
4. Following two introductory sections, we have given a selection of comments structured around the Roadmap sections. This is not intended to be an exhaustive or comprehensive contribution to the development of the UK R&D Plan since we accept the welcome invitation, explicit in the Roadmap document, to contribute to the planning work from its inception and stand by to do so as BEIS suggests.

SFC Review of coherent provision and the undertaking of research

5. SFC has been asked by Scottish Ministers to [review](#) how best we can fulfil our statutory mission of securing coherent provision by post-16 education bodies, and the undertaking of research, in these changing times. This broad-ranging review will report at three points: August 2020, December 2020 and May 2021.
6. It is, in the view of SFC, helpful that our examination of our own support for R&D in Scotland (as part of our Review) will be happening at the same time as the UK Government's wide-ranging examination of R&D support within its own reserved competences. The opportunity to work in partnership on the Roadmap delivery, as the Roadmap document invites, is welcomed as it will help in ensuring an optimum outcome with respect to the complementary policy objectives of the two Governments.

Governance and Leadership

7. While the Roadmap document does not indicate the governance arrangements for this UK-wide review of Research and Development, it is very clear in its commitment that:

¹ http://www.sfc.ac.uk/web/FILES/Governance/SFC_Framework_Document_July_2018.pdf

“...we will develop the proposals in this Roadmap in a comprehensive R&D plan working very closely with the devolved administrations where plans cover or impact on their devolved policy responsibilities.” Roadmap p7

8. As is indicated by the welcome number of references to the devolved administrations in the Roadmap, there are many more areas of the intended R&D plan where joint working with the other three nations of the UK would be beneficial than there are areas which are policy responsibilities for England alone.
9. It would be essential therefore, in the view of SFC, for there to be a representative of Scottish Government or its agencies on whatever management, oversight or leadership body is constituted to oversee progress on the creation and implementation of the comprehensive UK R&D Plan.
10. In the immediate term, SFC would be keen to contribute to the first workstream bodies to be created: the group that will advise on the UK R&D Place Strategy; and the Innovation Expert Group. Expert membership from Scotland will be vital to ensure the specific policy, economic and structural environment of Scotland is reflected in plans intended to support all four nations' ambitions. That will be true for all other workstreams except those considering England-only policy areas, such as QR in England.

Raising our Research Ambitions

11. SFC welcomes the ambition to invest in fundamental and long term research across a wide range of curiosity-driven areas and the commitment to strengthen the translation and deployment of new knowledge. Investing in projects and people in diverse ranges of disciplines and settings requires a flexible and broad funding portfolio and the Roadmap indicates that is the intent of the new R&D Plan. The setting of challenges and 'moonshots' should be done in consultation across a wide range of stakeholders and certainly in partnership across the four nations. While we have many societal challenges in common, there are distinctions which should be respected and exploited in any UK-wide programme. The sixth of the CST's (Council for Science and Technology) seven criteria for moonshot, "areas where the UK is a world leader", is often place-specific.
12. The creation of an ARPA-style research funding body is eye-catching and we look forward to working closely with BEIS and devolved government colleagues to develop a proposition that will have the desired impact across the whole UK. Without knowing what is intended at this point, it might be premature to advise on incubation but it does seem obvious to explore the use of existing UKRI structures and settings wherever appropriate to prevent delay in implementation.

13. The intent to engage the public is welcome and we suggest that existing expertise is exploited. In Scotland that could involve the Royal Society of Edinburgh as well as the university public engagement networks.

Inspiring and enabling talented people and teams

14. The further development of existing work on research culture by Wellcome and the work on research careers represented by the new Concordat would be welcome. This will need to be taken forward by a broad group of stakeholders, with universities themselves very much engaged. SFC would support the proposed combination of improving the attractiveness of academic research careers and better preparing the majority of trained researchers to contribute to the highly skilled workforce outside academia.
15. College education (by apprenticeship or by further or higher education qualifications) is highly relevant to the training of technicians. SFC is responsible for colleges as well as universities in Scotland and would be very happy to advise on how such training is being, and could be, developed in Scotland.
16. The creation of an Office for Talent to encourage inward migration of skilled researchers is an exciting idea but one that should be linked to the 'place' strategy and the intention to 'level up'. The need for advanced skills will be, in part, locally specific. We would advise that the new Office is designed and operated by a four-nations partnership which can ensure these place-specific considerations are reflected in the incentives and conditions applied to immigration of the researchers, to respond to the specific needs of the devolved nations and in the regions of England.

Innovation and Productivity

17. There is a lot of common policy, and a diverse range of experience, in the innovation-supporting ecosystem across the UK. The Roadmap highlights Innovation Centres and Interface in Scotland. We would also like to highlight the newly created Scottish National Investment Bank – a potential partner in the workstream on Innovation and access to finance. Our colleagues in the enterprise agencies of Scotland will be valuable expert contributors to this area and to other areas around innovation, including the questions posed on scale-ups. We would be pleased to share recent experience on scale-up support through business leadership education. We have been exploring the benefit of multi-university collaboration to create an inclusive offering to businesses.
18. Consideration of innovation and productivity will be prominent in the SFC Review described above. Economic recovery post-Covid and post-Brexit will require significant support for academia, the more so as we work to meet the net-zero carbon obligations in the legislation of each nation.

19. In considering infrastructure and the role of Public Sector Research Establishments (PSREs), Scottish Government should, we suggest, be engaged. There are (Scottish) Government owned research facilities of a similar character and they might wish to share learning.
20. We welcome the intention to strengthen further the relevance and impact of InnovateUK across the four nations and to strengthen further the responsiveness of InnovateUK to local needs, through co-creation. It has long been a challenge in Scotland to reduce the disparity between the (high) proportion of Research Council investment and the (low) proportion of InnovateUK investment placed in our universities and businesses. SFC will be keen to be part of the enterprise agency and government partnership that will engage with such welcome ambitions.

Levelling up R&D across the UK

21. There is considerable strength in R&D across the UK but its structure and its support for society is not uniform. Considerable variation in R&D intensity, whether public or privately funded, is evident even within individual regions and nations. The development of an R&D Place strategy for the UK has great potential to reduce inequality of opportunity for people and to better exploit the talent pool present across the UK.
22. Economic development being already partially local, and university policy similarly being the responsibility of each of the four nations, there is a lot of regional practice to share and build from in developing a UK strategy for 'place'. SFC and Scotland's enterprise agencies have a lot of experience to bring to the development of a UK strategy for a range of interventions and place-specific actions. The attraction of private investment is a key measure of success in broadening and deepening the economic and social impact of R&D. This is particularly so in Scotland, where BERD is historically low. The creation and retention of new high quality jobs aligned to the low carbon economy will be vital to achieve our legal responsibilities. The principles of equity of opportunity and the reduction of inequality are drivers of place-based thinking in Scotland as we seek to encourage and enable rurally based businesses as well as those in urban areas.
23. The experience of Strength in Places is indicative of the potential to go further. Expanding that or similar programmes is an option we hope is explored. There is a separate challenge – the areas of the UK with little extant R&D to develop – where a different approach may be needed. Again, Scotland brings experience of these extremes to the table.
24. Finally, the stated intention (p35) to examine the use of infrastructure investment as a tool to promote levelling up is welcome. A targeted use of

infrastructure investment outside the current R&D powerhouse areas of the UK could be very helpful in bringing more talent, energy and investment to bear on commercial opportunities and societal challenges. This is one of the areas where the intended review of “the geographical balance of decision-makers and advisory boards” might be particularly helpful.

Being at the forefront of global collaboration

25. Scotland’s academic research community is no less, arguably even more, internationally collaborative than that of the UK as a whole². The maintenance and development of international research partnerships as well as the attraction of global finance and global talent is, in our view, vital for the economic and social future of the four nations of the UK. As an example: we will not design and implement a net-zero carbon future on our own.
26. Since research³ and science policy are devolved matters, the development of a new agile offer for growing global collaboration is something for the four nations to approach together. As discussed in the context of ‘place’, there is a local variation of research strengths and so the network building and strengthening of our collective ‘offer’ needs to build on the distinctive ‘offers’ of the nations and regions of the UK. In Scotland, the experience and strategy of Universities Scotland, the Royal Society of Edinburgh, Scottish Development International and SFC is likely to prove helpful.
27. The maintenance and development of international collaboration, wherever in the world, is important but the maintenance and development of our strong networks and partnerships in mainland Europe is of particularly great importance. The commitments in the R&D Roadmap are welcome but it cannot be sufficiently emphasised that uncertainty on the status of the UK with respect to the Framework programme will be highly destructive to the research partnerships and the migrant EU research workforce which contribute so much to our global reputation. Addressing funding gaps, implementing interim support and enabling researcher mobility are all to be strongly encouraged.

Developing world-leading infrastructure and institutions

28. The recognition of infrastructure investment as a scientific, economic and social stimulus is welcome. The potential for greater interaction between infrastructures created by UK Government (such as Catapults) and those created by devolved governments (such as Innovation Centres or research pools in Scotland) is an area with potential.

² <https://www.scottishscience.org.uk/sites/default/files/article-attachments/Scotland%27s%20Science%20Landscape%20Main%20Report.pdf>

³ Apart from the research councils, which are reserved to Westminster in the Scotland Act 1998.

29. It is important, however, to consider the distribution of new infrastructure created by UK Government investment and refer to the earlier commitment to review the geographical distribution of decision making. Scotland has not, proportionally to its size, seen the investment in major UK infrastructure that might be expected, particularly given the size and excellence of its research base. We will seek, as part of 'levelling up', to encourage a changed approach.

Ensuring a healthy R&D system

30. The four interlocking dual-support systems that support UK university research and the network of ecosystems which support innovation across the nations are certainly complex and seeking increasing coherence is to be welcomed. SFC, as part of its own Review and in a spirit of partnership across the UK, will be keen to be engaged in making progress in ways that benefit all of our systems.
31. In our four instances of the dual-support system, the devolved funding bodies and Research England work in partnership with the UKRI Research Councils to underpin and support research in line with direction from UK Government (UKRI) and the relevant devolved Governments. We work closely across the four research funding bodies - on the REF, on shared Concordats etc - though we do not always align on matters where the policies of the relevant governments diverge.
32. We look forward to contributing to questions of open science, of the payment by UKRI Research Councils of greater fractions of full economic cost and other areas of shared interest where the relevant governments' policies align. We note the intention to explore a university 'compact' in England and would be happy to share relevant experience in Scotland as part of our engagement in this workstream.