University Alliance response to the House of Commons Science and Technology Select Committee inquiry on 'A new UK research funding agency'

Introduction to University Alliance

University Alliance (UA) is the voice of professional and technical universities. We represent large to mid-sized universities working at the heart of their communities. Alliance Universities work with industry and the professions to deliver the workforce of today and tomorrow through practical, skills-based learning and world-leading applied research.

Anglia Ruskin University	Kingston University
Birmingham City University	Leeds Beckett University
University of Brighton	Oxford Brookes University
Coventry University	Teesside University
University of Greenwich	University of South Wales
University of Hertfordshire	University of the West of England (Bristol)

Summary

A new UK research funding agency based on an ARPA style approach should fill a void in the current UK funding landscape by improving the translation of adventurous and promising research ideas into concrete applications. It should be a blueprint for attracting the world's best minds to solve the world's greatest societal and scientific challenges. It should be arms-length from government, support the reduction of bureaucracy in the whole R&D system and the design and implementation should mitigate potential risks of duplication, confusion, and a lack of joined-up approach. It should incorporate a social policy element into every project and its location and approach should support the levelling up agenda, new people, and innovative ideas.

What gaps in the current UK research and development system might be addressed by an ARPA style approach?

- A high-risk approach to solving the world's greatest societal and scientific challenges, such as climate change and infectious diseases.
- A blueprint for attracting the world's best minds to invest and work in the UK, including encouraging new academics and innovative ideas from within the UK. Traditional funding systems which reward track record rather than potential and sensitivity about the use of public funds has often led to: lower-risk, larger and longer awards that do not have the agility to flex, change or end; the concentration of funding; entrenching of inequalities; and increased bureaucracy.
- The gap between blue skies, fundamental and near-to-market innovation projects – the so called "valley of death".
- A pipeline from existing funding agencies and grants to catapult growing talent from both the UK and abroad to support overall missions and challenges. This, and indeed any aspect of an ARPA style approach, requires utmost clarity about how it operates alongside UKRI.

What are the implications of the new funding agency for existing funding bodies and their approach?

- The risks of duplication, confusion and a lack of a joined-up approach is high unless this is carefully considered in the design and implementation. The Nurse Review findings that the funding landscape was impossible to navigate, especially for industry, led to the creation of UKRI. Government should look at ways of addressing bureaucracy issues within UKRI (which should happen anyway and would be of benefit to the whole sector) and consider the merits of situating ARPA within that governance framework, whilst keeping this arrangement under regular review to ensure this does not become an extension of current methodologies for allocating research funding. The new agency will need a very distinct purpose and clear mandate but should work closely with other agencies to ensure there are good linkages, no funding mismatches and the rigour and expertise of existing agencies can be built upon.
- Governance arrangements should also ensure the agency is arms-length from government.
- If a focus of the new agency is on attracting and investing in the world's best minds, where they end up being based within the UK may encourage and reinforce concentration of R&D.
- Talent visas will need to fit for purpose to support international collaboration and able to be fast-tracked to ensure that research and innovation can occur in a timely manner, which will presumably be the focus of the new Office for Talent.
- The 'radical technological advancements' outlined in the UK R&D roadmap is needed. However, to improve UK GDP, we also need to support near-to-market research that makes a real difference to people's lives. Consideration should be given to ensuring this approach does not remove focus from other important aspects of innovation.

What should be the focus be of the new research funding agency and how should it be structured?

- Improving the translation of adventurous and promising research ideas into concrete applications (i.e. products and practice) to fill a void in the current UK funding landscape and address the so called "valley of death".
- Staged and stage gated funding, that will facilitate rapid progress through the innovation funnel without financial or reputational penalty for developing the many activities that will inevitably get filtered out along the way.
- Both responding quickly to emerging challenges and looking ahead to preparations for future challenges.

What funding should ARPA receive, and how should it distribute this funding to maximise effectiveness?

- The funding for the agency should be part of the commitment to increase investment in R&D and be funded through new government investment in order to protect and build on our existing R&D base, ensuring UKRI funding is high enough to support basic research across a wide range of disciplines, including arts and humanities, and near-to-market projects with businesses.
- This should be allocated through open, responsive calls with a short turnaround on decision-making. Through the Covid-19 emergency there has been a culture shift in expectations for funding and decision-making, from rapid response application submissions to rapid turnaround on outcome. This has paved the way for a new way of distributing funding which is both efficient and timely. The peer review process is very important, but it can cause delays which lead to missed opportunities and projects happening within changed landscapes.

- Inefficiency and duplication should be avoided by consolidating existing centres, organisations and other infrastructure into an inventory mechanism for equipment and resources that can be repurposed at short notice on a national level.
- There should be a social policy strand (whether human geographers, psychologists, social scientists etc) in every project to address the human element to all problems.
- Consideration should be given to how to mitigate negative financial and academic impacts on institutions as a result of a design principle of allowing projects to fail and be stopped quickly, which is very different to traditional academic ways of working.

What can be learned from ARPA equivalents in other countries?

- The EU commission has piloted the European Innovation Council, which bridges the gap between research and routes to market (proof of concept) and bringing this approach into an ARPA system will be advantageous.
- Risk appetite is high, and projects are allowed to fail quickly.
- The best ideas do not always come from the usual suspects.
- The convening power to bring teams of individuals together to ensure the best people are working together on pressing challenges.

What benefits might be gained from basing UK ARPA outside of the 'Golden Triangle' (London, Oxford and Cambridge)?

- Supporting the levelling up agenda and addressing London/South East bias in the current research funding system, and potentially creating capacity and employment opportunities in regions outside the 'Golden Triangle'.
- Avoiding reinforcing regional and social inequalities and increasing opportunities for innovation.
- It should have the flexibility and convening power to bring people and teams together wherever they are located across a range of organisations, including higher education institutions and businesses.

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