University Alliance submission to the Higher Education Commission's University Research and Regional Levelling-Up Inquiry

About University Alliance

University Alliance (UA) is the voice of professional and technical universities. We represent twelve large to mid-sized universities working at the heart of their communities:

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

Working in partnership to support the growth of the economy and our towns and cities is central to our mission. Many of our member universities trace their origins to Britain's Industrial Revolution and have worked closely with commercial and professional partners for more than 150 years. Alliance universities are a longstanding, stable presence in their regions and utilise their networks of graduates in many different occupations and close relationships with businesses and public sector bodies to act as hubs of research and innovation activity. This includes:

- **Ensuring businesses have the strong talent and skills pipeline they need** in their workforce, management, and leadership to deliver innovation and growth, through support for longer-term planning and co-designed undergraduate, postgraduate and continuing professional development and training.

- **Delivering world-class applied research with impact**, with strengths across a range of disciplines.

- **Supporting the R&D talent pipeline**, including through UA's flagship Doctoral Training Alliance (DTA), one of the largest nationwide doctoral training partnerships in the UK.

- **Attracting different types of innovation funding and funnelling it to businesses**, including leveraging private sector investment to provide routes to early-stage finance, helping businesses move into higher-value and increasingly sophisticated innovation activities.

- **Helping innovating businesses scale-up and increasing SME investment in R&D** through developing long-term relationships with small businesses that progress up the innovation chain.

- **Generating high-value start-ups** founded on student and graduate ideas and talent.

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- **Providing spaces, specialist facilities and support** for businesses, creative organisations, researchers, and graduates to co-locate and innovate together, and help facilitate idea execution.
- **Taking on strategic and leadership roles within their regions**, such acting as advisors to LEPs and senior staff participating in LEP boards and committees.

In this high-level submission, which has been made on behalf of our members, we address three key areas that are being examined by the Commission:

- Maximising R&D activity and economic impact
- Collaboration between universities and industry on innovation
- The role of the Advanced Research and Invention Agency (ARIA).

Our recent "Powering the UK's Future" publication and Research & Innovation pamphlet include a range of case studies from Alliance universities, some of which we reference below. We are happy to provide further information if they are of interest to the Commission, or to organise follow-up roundtables or visits if they would be useful.

Maximising R&D activity and economic impact

1. There are a complex range of factors that impact the productivity and economic performance of a region, and many of these also have an influence on the distribution of R&D capacity. We need a significant cross-government effort to identify synergies, align and sequence the various priorities and investments related to 'levelling-up'. Without a clear definition of levelling up and longer-term impact measures this will be difficult to achieve. It is hoped that these will be included in the forthcoming Levelling Up White Paper later this year, and universities should be key stakeholders in the engagement leading up to its publication. If and how the government seeks to define metrics for the levelling-up of places (including whether these will be societal and environmental, as well as economic) will have an impact on how success is defined in the context of R&D funding and capacity.

2. Definitions of place should be flexible, but it is important not to lose sight of measures of success and impact at different 'levels' of places as a result. If using flexible definitions of place, it will also be important to ensure there is a breadth and depth to the way UKRI convenes and listens to diverse communities. It will be vital that UKRI is systematically gathering intelligence to understand the different needs of different places.

3. Excellence exists across the UK. Attempting to grow excellence from scratch will not build relevant capacity and encourage inward investment, whereas investing in potential and widening existing R&D excellence across the UK will in turn support better place outcomes. This should include rewarding team potential, rather than

just individual track record and past investment; increased use of double-blind peer review; improving access to grant funding for early career researchers; and improved handling of interdisciplinary proposals. The initial areas of focus for the UKRI 'Simpler & Better Funding Programme', including a two-stage application process, are very promising.

4. By nature, some of the new and emerging sectors may be less people intensive and consideration should be given to how this will play into the place agenda, investment, and job creation.

5. The UK should shift back to valuing the amount and quality of R&D in inward Foreign Direct Investment to attract the most innovative companies into the UK, which tend to be smaller and riskier, and inject more enterprise into the UK economy.

6. Now that the EU-UK Trade and Cooperation Agreement has entered into force, UKRI need to provide clarity around State Aid and how business engages with R&D/public funding.

Collaboration between universities and industry on innovation

7. It is vital that research and innovation is integrated as a central theme of the UK Shared Prosperity Fund. In November 2020 UA, along with 70 other businesses and organisations, wrote to the Secretaries of State for BEIS and MHCLG on the important role that leveraging EU Structural Funds with research and innovation funding and co-investment from universities has had in regional innovation programmes and economic development. We are still waiting for clarity on the details of the Fund, and many of the existing projects will soon come to an end.

8. The importance of skills to innovation should be recognised and these agendas joined up across government. This could include enhancing support for businesses to anticipate the talent pipeline they will need in the future, alongside other forecasting activity such as central data mining to anticipate trends in skills demand and age profiling assessments across sectors and industries. Universities play a vital role in partnering with industry to train the future workforce for jobs that do not yet exist, as well as re-training and re-skilling the current workforce.

9. The success story of degree apprenticeships is an example of the link between skills and innovation, with many Alliance universities utilising them as a gateway to support employers with longer-term workforce planning and innovation activity. Our members offer over 4,500 apprenticeships across a range of sectors, including teaching, biomedical science, health care, social work, computing, construction, and the built environment – all areas where skills are needed to tackle the major challenges we face in the UK and across the globe.

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10. An important aspect to UKRI's convening and funding roles will be connecting systems and networks across the UK. Regional innovation systems are important, but it is not productive for them to be developed in isolation. Regional and time-limited programmes can also be challenging for SMEs to navigate.

11. Businesses need to be better supported to be more demand-led in their interactions with universities and access existing knowledge as well as cutting-edge research. There should be targeted funding opportunities for universities to improve the presentation and accessibility of their knowledge base.

12. A key element of improving collaboration on innovation and increasing the absorptive capacity of businesses is through efforts to increase the porosity between academia and industry.
    a. Leeds Beckett University offers a range of professional doctorates aimed at supporting practitioners to advance their knowledge. They can be co-created and completed alongside current roles, removing many of the barriers to study.
    b. Teesside University supports high-growth potential SMEs with 12-month supervised Graduate Associate Placements, delivering innovation and growth projects designed to increase productivity.

13. Support for new agile funding schemes that bring skilled graduates into industry on a faster and shorter-term basis, such as shorter-term Knowledge Transfer Partnerships (KTPs) as well as match-funding opportunities for staff sabbatical schemes should be explored. KTPs should also be expanded to better support microSMEs; businesses on a trajectory to rebound from the Covid-19 crisis but not yet in a position to be eligible for a KTP; environmental and societal impacts; and the creative industries sector.
    a. Examples of short-term KTPs include the KEEP+ programme, managed by Anglia Ruskin University. This is a partnership between six HEIs across four LEP areas (including three other UA members: The University of Brighton, the University of Greenwich, and the University of Hertfordshire).
    b. The Knowledge Exchange and Enterprise Network (KEEN) in the West Midlands involves two UA members (Birmingham City University and Coventry University) is based on the same KTP principles and supports SMEs to increase their profitability and achieve growth through working with a regional university. The ability to focus on business-specific innovation over a shorter period will be vital for sustaining SMEs with the potential to innovate and grow.
    c. The Hertfordshire Science Partnership is a collaboration between the University of Hertfordshire and Hertfordshire LEP and is a unique example of

an industry-led translational Doctoral Training Centre focussing on regional strengths. The delivery mechanism is the Hertfordshire Knowledge Exchange Partnership (HKEP). Each HKEP is designed to enable a business to establish new capabilities, proof-of-concept for new products/services or expand the business' capacity and market. Its 1+3-year structure is unique: in year 1 the post-graduate researcher (Associate) is recruited and placed directly into the company's premises undertaking a commercially focused project. This is a hugely attractive part of the scheme from the business' viewpoint because they can begin to develop the Associate to meet the ethos and standards of the business from day one. Upon completion of year 1 the Associate returns to the University of Hertfordshire to complete a 3-year research project, which is of strategic importance to the business. A £2.5m capital/revenue swap from the Local Growth Deal Fund, augmented by £1.5m of funding from ERDF to specifically support SMEs in the county and local region, as well as business co-investment and in-kind investment in the project through HEIF-funded staff at the University of Hertfordshire, takes the total value of the project to around £6.2m. The Partnership is expected to facilitate over 20 knowledge exchange partnerships by 2022.

14. Government needs to take a broader approach to research and innovation, which does not only occur in traditional STEM subjects and is increasingly interdisciplinary. R&D tax credits are not currently permitted for research in the social sciences, humanities, or creative arts; this issue requires urgent reform. Interdisciplinary and social innovation initiatives should also be incentivised and nurtured.

   a. Birmingham City University's STEAMhouse is aimed at encouraging coworking, collaboration and knowledge exchange between the arts, science, technology, engineering, and maths (STEAM) sectors as a platform for supporting long term sustainable economic growth, productivity, and job creation. It is anticipated STEAMhouse will help create up to 10,000 jobs across the West Midlands region and help support the growth of the Midlands Engine.

   b. Coventry University offers the only UK example of a social enterprise set up by a university to promote social entrepreneurship and innovation benefitting the local community and achieving true social value: CU Social Enterprise (CUSE). In 2019, CUSE supported the establishment of 15 new social enterprises, the highest ever achieved amongst universities in the UK at the time. Projects include support given to the MiFriendly Cities initiative, by providing training and mentorship to refugee and migrant social enterprises within the West Midlands.

   c. The Future Skills League Table recently compiled by Kingston University found that the top skills that are vital to protect the UK's global competitiveness include problem-solving (77 per cent), communication (66 per cent), critical thinking (64 per cent) and creativity (56 per cent). These are

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embedded in a range of disciplines, notably the creative arts, social sciences, and humanities, and suggest the need for a more holistic approach to research and innovation.

UK Government's Advanced Research and Invention Agency (ARIA)

15. The 'radical technological advancements' outlined in the UK R&D roadmap are needed. However, consideration should be given to ensuring this approach does not remove focus from other important aspects of innovation. To improve UK GDP, we also need to support near-to-market research that makes a real difference to people's lives.

16. ARIA should be part of filling a void in the current UK funding landscape (the so called 'valley of death') by improving the translation of adventurous and promising research ideas into concrete applications (i.e., products and practice).

17. The tolerance to failure aspect of the ARIA Bill could be utilised to provide stagegated 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. The scaling stages of proof of concept and beyond are challenging for universities unless projects already have an industrial partner to access funding.

18. Traditional funding systems, which reward track record rather than potential, as well as 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.

19. 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 extremely important, but it can cause delays which lead to missed opportunities and projects happening within changed landscapes.

20. ARIA will need a 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. The utmost clarity about how ARIA will operate alongside UKRI is needed if we are to avoid exacerbating the complexity of navigating the funding landscape.