AAH Policy

UNIVERSITY RESEARCH COMMERCIALISATION
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The Australian Academy of the Humanities is the national body for the humanities in Australia. As one of the nation's five Learned Academies, we provide advice to government and policy makers on issues of national and international significance. Our work aims to ensure ethical, historical, and cultural perspectives inform discussions regarding Australia's future challenges and opportunities.

We appreciate the opportunity to respond to the Department of Education, Skills and Employment's (DESE) University Research Commercialisation (URC) Scheme Consultation Paper (the Paper). Our submission focuses on the proposed mission-based approach to research commercialisation in the context of a broader research translation agenda designed to deliver durable social and economic benefits.

The Academy has been involved in a number of initiatives aimed at better supporting university-industry collaboration and translating the benefits of university-based research. Through the Australian Council of Learned Academies (ACOLA), we have contributed to and led work on research translation, innovation-led skills and workforce development, and the ethical and responsible development of AI and the Internet of Things.[1] We recently provided input into commissioned work undertaken by the Australian Academy of Technology and Engineering (ATSE) for DESE looking at priority areas to support research commercialisation in Australia. This project aims to identify areas in which Australia can improve translation of university research into new products, job creation, productivity gains and economic growth.

Key issues

Issues we want to flag with the Department and the URC taskforce at this stage in the process:

- The Paper is focused on a relatively 'niche' part of the current system. **Research commercialisation cannot be viewed in isolation, it is part of a much broader innovation ecosystem** involving a range of actors, sectors, and government portfolio areas.
- **Research commercialisation needs to be defined broadly.** Traditional formations of science, technology, engineering, and mathematics (STEM) focused technology transfer or IP sequestration and exploitation are unnecessarily constraining and can miss much potential and actual research translation, when properly measured.
- **A URC scheme should be collaborative in design and support cross-disciplinary and cross-sector approaches to research and innovation,** involving both STEM and the humanities, arts, and social sciences (HASS).
- **The role and contribution of HASS needs to be embedded in the process, including ongoing advisory processes and evaluations.**

3 Liversidge St Acton · GPO Box 93 · Canberra ACT 2601
E enquiries@humanities.org.au · T +61 2 6125 9860 · F +61 2 6125 9142 · www.humanities.org.au
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- We share concerns expressed by public health colleagues and others that a focus on research commercialisation should not skew the system away from public interest research.[2] **The proposed scheme should not come at the expense of the core, enabling research capabilities across the disciplines, which are needed for the whole system to function effectively**.
- To achieve enduring value, public funding of research commercialisation in Australia should be driven a by a principles-based approach to realise long-term social, economic, cultural, and environmental benefits to the nation. **Wealth creation, generated through research commercialisation, needs to be sustainable and have positive social impacts and outcomes in view**. This is compatible with values and leadership set out by the Business Council for Australia, for instance, in its mission.[3]
- Research commercialisation is part of a research collaboration and translation continuum. It would be unproductive, inefficient and unrealistic for all researchers to become entrepreneurs. **Strategic investment in research translation infrastructure is an important part of the landscape where Australia is currently lagging**.
- A mission-based approach can be effective insofar as it is not about 'picking winners' but aimed at creating an ecosystem, with a **role for government in shaping markets, brokering relationships between sectors, and coordinating networks of stakeholders.** Its success will be contingent on incorporating both 'top down' and 'bottom up' approaches.

A mission-based model

As the Paper indicates, Australia has to date essentially adopted a 'picking winners' approach to innovation and commercialisation, which in practice has meant that we do not make the most of the talent in the system.

Innovation policy developments internationally have sought to redress deficiencies of sectoral approaches by developing a 'mission-driven' model, whereby governments set "specific challenges to stimulate innovation across sectors". Focused around well-defined challenges, such as digital inclusion or sustainable energy, governments then have "the opportunity to determine the direction of growth by making strategic investments throughout the innovation chain and creating the potential for greater spillovers across multiple sectors, including low-tech sectors". This is what Mariana Mazzucato, who has advised the OECD and the European Commission, has called "cross-disciplinary, cross-sectoral, and cross-actor innovation" and its success is conditional on "bottom-up processes that nurture innovation". [4] This means:

1. "**a strong focus on the intersection between natural sciences, formal sciences, social sciences, and humanities**;
2. **collaborations across different industries**; and
3. **new forms of partnerships between the public sector, the private sector, and civil society organisations**."[5]

What this tells us is that missions are essentially discipline and industry agnostic, they are challenge-based agendas which stimulate innovation activity across sectors.

University-industry collaboration

Australian researchers should be encouraged to collaborate with a range of actors in the system, private businesses, not-for-profits, community groups and the public sector. There needs to be buy-in from all sides. The key will be to ensure they are really creating a pull from the universities into industry and not limiting the scope of the scheme to STEM, but enabling entrepreneurial endeavour across the workforce. Research commercialisation, defined narrowly as the traditional niche of (STEM-based) IP sequestration and exploitation, is unnecessarily constraining and can miss much potential and actual research translation, when properly measured.

In the past, Australia's innovation agenda has been narrowly focused on product innovation and technology transfer, so the government's acknowledgement of the potential of non-R&D innovation (such as business model innovation) is welcome. There is growing awareness that humanities expertise and creativeness are vital to innovation and business models of the future. Greater recognition of services innovation is also needed in the context in which the "shift towards services industries is projected to continue, with growth in Health Care and Social Assistance (15.0 per cent), followed by Professional, Scientific and Technical Services (15.1 per cent), Education and Training (12.2 per cent)."[6]

There is untapped commercial potential in Australia's research sector, however, the skill set to commercialise research does not need to be developed across the research workforce. What we do need to get better at is developing research translation infrastructure, along the lines developed in Scotland, for example, through its Interface platform.[7] In the context of COVID recovery, Interface has developed a series of case studies profiling the ways in which universities, researchers, and broad range of industries are collaborating to address industrial challenges. We would also point to the UK's very comprehensive Knowledge Exchange Framework now in place through Research England as a model.[8]

In a recent submission to the Inquiry in Creative Industries and Institutions, we outlined some of the policy instruments and mechanisms to develop industry-research collaboration at scale in a sector which is dominated by SMEs.[9] In that submission we recommended an R&D collaboration premium to include the cost of employing new PhD graduates, inclusive of both HASS and STEM, in their first three years of employment. This has the potential to drive cultural change at a national scale, seeding the development of a next generation PhD workforce, capable of building links across both industry and academia.

We would be pleased to elaborate on this submission and convene further expert input. Please direct your initial inquiries to the Academy's Executive Director, Dr Christina Parolin on (02) 6125 9860 or christina.parolin@humanities.org.au

REFERENCES

[1] See Securing Australia's Future (SAF) reports SAF04: *The role of science, research and technology in lifting Australian productivity*, https://acola.org/role-science-research-tech-lifting-aust-saf04/ and SAF09: *Translating research for economic and social benefit – Country comparisons*, https://acola.org/research-social-economic-benefit-saf09/ and SAF10: *Skills and capabilities for Australian enterprise innovation*, https://acola.org/skills-capabilities-enterprise-innovation-saf10/ . See Horizon Scanning reports: *The effective and ethical development of artificial intelligence*, https://acola.org/hs4-artificial-intelligence-australia/ and *The Internet of Things*, https://acola.org/hs5-internet-of-things-australia/

[2] Jon L. Wardle, Fran E. Baum, Matthew Fisher (2019) 'Editorial. The research commercialisation agenda: a concerning development for public health research,' *Australian and New Zealand Journal of Public Health,* Volume 43, Number 5, pp. 407–409.

[3] Business Council of Australia, which descrbes their purpose thus: "We work to ensure Australia is economically strong to support a fair, free and inclusive society for all Australians. Achieving this requires successful, well-run businesses that create meaningful jobs and inclusive work environments which reflect and are accountable to the broader Australian community.The Business Council champions the role that responsible businesses play in generating sustainable economic growth and advocates for policy settings that are in the national interest.". See https://www.bca.com.au/about

[4] Mariana Mazzucato (2018) 'Mission-oriented innovation policies: challenges and opportunities,' *Industrial and Corporate Change*, Volume 27, Issue 5, pp. 803–815, https://doi.org/10.1093/icc/dty034

[5] Mariana Mazzucato (2018) 'Mission-oriented innovation policies: challenges and opportunities'.

[6] Department of Education, Skills and Employment (2020) National Priorities Industry Linkages Fund Consultation Paper, p.4. https://www.dese.gov.au/job-ready/resources/npilf-consultation-paper

[7] Interface Scotland https://interface-online.org.uk/

[8] Research England, Knowledge Exchange Framework https://re.ukri.org/knowledge-exchange/knowledge-exchange-framework/

[9] Australian Academy of the Humanities (2020) Submission to Inquiry into Australia's Creative Industries and Institutions https://www.humanities.org.au/wp-content/uploads/2020/11/201028-AAH-Policy-Creative-Cultural-Industries_final.pdf