Knowledge Commercialisation Australasia (KCA) – Submission Re: University Research Commercialisation Scheme Taskforce

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The successful commercialisation of university research is a key role conducted by the 700+ individual members of KCA. Our trained professionals manage the relationships and are the key translation points between researchers and industry on behalf of their respective organisations. KCA launched the Survey of Commercialisation of Outcomes from Public Research (SCOPR)[1] in 2020 to fill the gap in research commercialisation data following the discontinuation of the National Survey of Research Commercialisation (NSRC). This is currently the only source of consolidated research commercialisation data from participating Australian universities.

Based on our members' extensive experience, we present three recommendations to the URC scheme committee for consideration. To provide a more comprehensive response against all the questions in the briefing paper, we request a consultation via interview.

Recommendation 1

To improve the capacity of commercialisation personnel by Implementing Recommendation 22 from Australian Office of Innovation and Science Australia report: *Australia 2030 Prosperity through Innovation* and establish of system wide third stream funding for supporting the development of additional commercialisation capacity and development and delivery of worldwide recognised training and support for developing best practice in commercialisation.

Recommendation 2

To provide funds for Pre-Seed and Proof of Concept Funding by establishing a devolved proof of concept funding scheme separate from institutional block funding, similar to the NZ Pre-Seed Accelerator Fund, to enable rapid, local decision making for advancing opportunities to the point at which they can be commercialised.

Recommendation 3

To align senior management with university research commercialisation activities by developing a Research Commercialisation Concordat to be adopted by university leadership, similar to the UK's Knowledge Exchange Concordat, outlining a series of principles supporting research commercialisation.

[1] https://techtransfer.org.au/metrics-data/

1. Mission-driven research

Mission based approaches to research are an interesting and currently topical approach to research strategy as a response to societal challenges and UN Sustainable Development Goals. There is no evidence to suggest that such approaches increase University industry collaboration or commercialisation of university research[2].

2. Stage-gated Scheme design

To improve the capacity of commercialisation personnel

For Australia to realise the benefits of Australian Government investment in research, further investment is required to improve capability, and increase research commercialisation capacity, across universities. Improving capability and increasing capacity of university commercialisation offices can be achieved through dedicated third-stream funding. Such funding would address the skills gaps across the innovation ecosystem, and provide appropriate resourcing for commercialisation offices, benchmarked to international standards. The UK addressed this issue with the introduction of bipartisan supported third-stream funding in their Higher Education Innovation Fund[3]. This fund has been in place for more than a decade and has facilitated the development of a vibrant knowledge exchange sector in UK Higher Education Institutions. Over the period the HEIF has been in place, KE income has increased by 80% from £2.2 billion to £3.99 billion and that £1 of HEIF invested results in £6.1 of gross additional impact.[4]It has also led to the recent development of the Knowledge Exchange Framework (KEF)[5] and the ongoing development of the Knowledge Exchange Concordat.

New Zealand has funded Commercialisation Partner Networks[6], alongside their PreSeed Accelerator Fund (PSAF) to ensure that appropriate skills are linked with funding. An Australian third-stream funding program for our universities would help to address these capacity and capability issues by developing a critical mass of well-trained commercialisation professionals with the skills necessary to translate the high-quality basic research in the Australian research system. Similar schemes have proven successful in France through the Les Societes d'Acceleration du Transfeit de Technologies (SATT)[7]

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[2] Larrue, P. (2021), "The design and implementation of mission-oriented innovation policies: A new systemic policy approach to address societal challenges", *OECD Science, Technology and Industry Policy Papers*, No. 100, OECD Publishing, Paris, https://doi.org/10.1787/3f6c76a4-en.

[3] See https://re.ukri.org/knowledge-exchange/the-higher-education-innovation-fund-heif/

[4] https://re.ukri.org/sector-guidance/publications/assessing-the-gross-additional-impacts-of-the-higher-education-innovation-fund-heif/

[5] See https://re.ukri.org/knowledge-exchange/knowledge-exchange-framework/

[6] See https://www.mbie.govt.nz/science-and-technology/science-and-innovation/funding-information-and-opportunities/investment-funds/commercialisation-partner-network/

[7] See https://www.satt.fr/

program and in New Zealand[8]. These internationally accepted best practice programs should be familiar to the Australian Government having been recommended by the Australian Office of Innovation and Science Australia report: *Australia 2030 Prosperity through Innovation*[9]. Recommendation 22 of this report is to "increase commercialisation capability in research organisations by establishing a new stream of funding for translational activities". The subsequent response to this report from the Australian Government with respect to Recommendation 22 was "The Government **supports in principle** this recommendation."[10]

There is also a vibrant practitioner led training and professional development system in the UK through PraxisAuril[11], which runs a range of professional development courses to upskill commercialisation and knowledge exchange staff in all areas from commercialisation through business development and industry engagement. This enables practitioners to progress through to recognition as a Registered Technology Transfer Professional (RTTP). RTTP was developed by the Alliance of Technology Transfer Professionals (ATTP)[12] as a globally recognised professional designation. KCA is a founding member of ATTP, and is supportive of practitioners working towards earning RTTP recognition. KCA also developed a world first skills framework for commercialisation practitioners with funding from the Professional Services Council[13] that has attracted significant interest globally. However, in order to fully utilise this framework, new courses need to be developed and delivered, and currently there are insufficient resources to do this. Further to this, many research organisations do not have the funds to support the professional development of their commercialisation practitioners.

An Australian third stream funding program for our university and federally funded research agencies would help to address these capacity and capability issues by developing a critical mass of well-trained commercialisation professionals with the skills necessary to translate the high quality basic research in the Australian research system.

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[8] See https://www.mbie.govt.nz/science-and-technology/science-and-innovation/funding-information-and-opportunities/investment-funds/commercialisation-partner-network/

[9] See https://www.industry.gov.au/data-and-publications/australia-2030-prosperity-through-innovation

[10] See https://www.industry.gov.au/data-and-publications/government-response-to-innovation-and-science-australias-australia-2030-prosperity-through-innovation-report

[11] See https://www.praxisunico.org.uk/
[12] See http://attp.info/
[13] See https://kcaincorporated.wordpress.com/2016/09/09/world-first-career-framework-for-technology-transfer-professionals-published

To provide funds for Pre-Seed and Proof of Concept Funding

From KCA's perspective, access to proof-of-concept funding remains a significant barrier to the effective commercialisation of intellectual property developed within universities and other publicly funded research organisations. Some commercialisation offices have a small pool of funding to progress the commercial and early stage technical development of promising inventions to make them more likely to be adopted by industry, ready to enter an accelerator, or investment-ready for seed stage investors. These funds are typically used for activities that fall outside of funded research projects , such as building a first prototype, conducting critical technical proof-of-concept experiments, sponsoring customer discovery programs, hiring entrepreneurs-in-residence for specific opportunities, or performing targeted market analysis and associated business development. Evidence suggests that these pre-seed and pre-licensing funds controlled by commercialisation specialists are highly impactful. The creation of a National Proof-of Concept Scheme, which is light touch and locally administered, would create considerable, quantifiable benefit to the national innovation landscape. Our colleagues in New Zealand have an excellent example of such a scheme in their PSAF[14]. This government funded initiative devolves funding decisions to local approved commercialisation entities. These entities can approve the allocation of PSAF funds to projects, provided matched funding provided by the institutions. These can be individual commercialisation offices, or networks to gain scale. This program has been successfully run since 2003 and has delivered both the flexibility required for individual opportunities as well as accountability through approved investment processes. The 2020 KiwiNet Annual PreSeed Report demonstrated that by investing in proof-of-concept projects, they had created a return to New Zealand over eight-times greater than PreSeed invested[15].

It is noted that a secondary effect in the way these funds are operated is the skill building in commercial opportunity assessment that occurs at the local level. A review of the performance of the PSAF in 2014 showed that it had created 460 high-technology jobs, $188 million of external investment into research organisations and potential export earnings of $3 billion[16].

The transition from block or competitive grant funded research to commercial licensing and venture backed start-ups is noted as a significant barrier to successful commercialisation. Intellectual property as a tangible outcome of competitive grant funded-research is inherently immature and the investment market will generally not invest at this early stage. However, while there are few grant schemes beyond ARC Linkage and NHMRC Development that target the establishment of commercial proof of concept, the timeframe of these grants is not suited to most commercial opportunities in this setting. The Accelerating Commercialisation scheme under the Entrepreneurs' Program and some State-based schemes offer some support in this area, but again the timeframes are often not conducive to the majority of opportunities arising from publicly-funded research. As a result, investments at this stage that bear the greatest risk fall to the university and their

[14] See http://www.mbie.govt.nz/info-services/science-innovation/investment-funding/current-funding/pre-seed-accelerator-fund
[15] See https://kiwinet.org.nz/About/CorporatePublications
[16] See https://www.kiwinet.org.nz/Investment/PreSeed10YearReview

technology transfer and commercialisation offices to fund. Dedicated proof-of-concept funds are not at scale, and are only available on an *ad hoc* basis across some universities. The net result is a significant number of commercial opportunities from grant-funded research are not commercially progressed.

It should be noted that without adequate proof of concept funding the desired translation research outcomes and impact/public benefit from Australian Government funding of research will not occur. A succinct summary of global proof of concept measures can be found in the 2015 ACOLA report "Translating research for economic and social benefit: country comparisons"[17].

5. Governance arrangements

To align senior management with university research commercialisation activities

University leadership and senior executive support is critical to ensuring success in research commercialisation. Implementation of a framework similar to the UK's Knowledge Exchange (KE) Concordat[18]would allow Australian universities to commit to developing their research commercialisation and knowledge exchange activities. This model acknowledges that good practice in research commercialisation can be dependent on institution size and context, hence once size does not fit all. The KE Concordat outlines eight key principles to enable successful outcomes, including:

1. Mission
2. Policies
3. Engagement
4. Working transparently and ethically
5. Capacity building
6. Recognition and rewards
7. Continuous improvement
8. Evaluating success

Many Australian universities already have explicit statements and good examples of the above principles that could be used to support establishment of an Australian Research Commercialisation Concordat. In the UK example, 126 higher education providers are already signatories to this Concordat, with the majority participating in the 2020-2021 development year. During this period, signatories are expected to publicly commit to this activity through adoption of the principles, actively engage through forums and share good practice, and then perform a self-evaluation and produce an action plan.

Having a common framework for the measurement, practice and expectation of R&D Commercialisation is important for future success. As technology transfer is not a directly funded activity there are differing expectations on their role function and purpose. Globally

[17] See https://acola.org/wp-content/uploads/2018/08/saf09-research-economic-social-benefit-report.pdf
[18] See https://www.keconcordat.ac.uk

the research commercialisation office is considered a cost centre, and over the past 20 years 87% of research commercialisation offices operated at a loss[19]. For profit research commercialisation business models have also not proven to be successful as the mission of the commercialisation office is counter to the mission of the parent university resulting in poor behaviour and engagement.

Other initiatives worth considering with respect to governance are government agencies that focus on knowledge exchange and commercialisation. The best global example is Knowledge Transfer Ireland[20] which helps businesses connect with appropriate expertise and technology by making it simple to connect and engage with the research base in Ireland.

About Knowledge Commercialisation Australasia

KCA[21] is the peak body leading best practice in industry engagement, commercialisation and entrepreneurship for research organisations. This involves activities from licensing technology to existing companies, academic consulting to industry, conducting sponsored research and spinning out new companies and increasingly a combination of these.
It represents a significant majority of the commercialisation offices of public sector research organisations across Australia and New Zealand, and works with similar bodies globally including the US, Europe and the UK to develop best practice in developing the research business interface. It conducts the annual Survey of Commercial Outcomes from Public Research (SCOPR).

[19] See https://www.brookings.edu/research/university-start-ups-critical-for-improving-technology-transfer/
[20] See https://www.knowledgetransferireland.com/
[21] See https://techtransfer.org.au/