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Department of Education, Skills and Employment

By email: urcs@dese.gov.au

RE: University Research Commercialisation

The Australian Industry Group (Ai Group) welcomes the opportunity to make a submission regarding university research commercialisation.

Ai Group is a peak national employer association representing and connecting thousands of businesses in a variety of industries and sectors across Australia. Our membership and affiliates include private sector employers large and small from more than 60,000 businesses employing over 1 million staff.

Response to discussion questions:

Mission driven research

Mission-driven research may help incentivise larger, more complex research projects and create an incentive for business and academia to collaborate on high risk, high impact R&D.

Australia appears to be moving in a mission-driven direction through a number of other high-profile processes such as the Low Emissions Technology Statement and the recently released Modern Manufacturing Initiative (MMI) and its priorities. Therefore, a shift in this direction may be intuitive.

As outlined in the paper, selected areas of national priority should align with areas of commercialisation opportunity and business need. This is consistent with the approach taken by Government with regard to the MMI, which considered comparative advantage and strategic importance when formulating Australia's national manufacturing priorities.

Additional to our consideration of factors such as comparative advantage, commercialisation opportunity and business need, we should take a pragmatic approach to areas of research and technology that Australia can't compete in. Therefore, when selecting missions, we should consider our strengths and invest in them, while de-prioritising areas that are likely to be more successful offshore.

In terms of identifying opportunities to link supply and demand, industry and academia may do so organically, but as with the MMI, government can take a leadership role in providing valuable strategic direction and funding signals to the research and business communities.

Smaller targeted challenges or missions should also have a place in the research system as there is likely to be instances where R&D collaboration is valuable, even outside of priority missions.

Stage-gated Scheme design

As discussed, the risks involved in the development and commercialisation of very early-stage scientific research are often too high for businesses to justify funding and the government does need to investigate ways in which to address this gap, including provision of funding for high-risk research.

Although the paper is correct to note that it is not the role of the public to bear all risk associated with commercialising research, it has demonstrated a clear case for some investment of public funds, particularly if the success of programs like SBIR in the United States could be replicated in Australia.

If public money is to be used to de-risk projects, it seems logical to implement the use of gates not only to monitor development, but to put an end to the development of any weak projects. This will help to maximise the effectiveness of both the funding and time resources involved in projects.

In terms of selection of projects, a process which dovetails with priority missions would be a good place to start, but the stage-gated scheme design method could be applied more broadly.

Incentives for Participation

Feedback from industry indicates that SMEs in particular are reticent to invest or participate without clear demand signals from customers. As such, supply side programs are probably not going to be as effective as actually creating demand signals for business. These signals can come from the market itself, or from the government highlighting clear priorities with long term funding opportunities associated.

An incentive for participation could be a tiered system for the R&D tax incentive. Ai Group are aware of businesses who are engaging in R&D, but report that current tax arrangements are not the driver of this activity, and do not encourage more research commitment. Other members have reported that it is simply too costly and there is not enough support to participate in R&D locally, which represents a missed opportunity.

Schemes such as Canada's Strategic Innovation Fund (which has created 68,000 direct jobs since 2017¹) and New Zealand's Pre-Seed Accelerator Scheme are worth investigating to incentivise participation in collaboration and commercialisation locally. The co-funding option helps to strike a balance between industry and academic commitment to projects and a need for public support to overcome barriers. That said, a willingness to provide co-funding should

¹ University Research Consultation Paper (2021), page 9

not be the only requirement for participation in any local schemes and the factors already discussed in this paper (e.g. comparative advantage, business need and consideration of international competition) must also be considered when deciding how best to allocate funding.

A final note of caution is that a shift from rewarding research 'excellence' to research 'commercialisation' may only be appropriate in some areas. For example, much work that goes on in the health research space is for public good but may have limited potential to generate income or create new jobs. As such, ensuring that funding models for research are flexible enough to include (and more importantly, not exclude) public good projects will be essential.

Industry-university collaboration

Schemes can incentivise or support better industry-university collaboration through a focus on mutual benefit between businesses and universities. Any scheme will also need to consider cultural issues, such as overvalue of IP by universities and the difference in pace between a faster moving private sector and a traditionally slower moving research process.

When original ideas/IP are overvalued by academic owners, creating a pathway to commercial development can be long and expensive. Differences in view over the value of original IP can also create friction between universities and businesses and does not lead to a productive collaborative environment. Legal debates around IP are difficult for companies and in a commercial environment, original IP needs to be appreciated and balanced within the context of cost and expense to commercialise the product or service.

In terms of SME involvement, helping to resolve tensions around IP and the pace of movement within the university sector combined with robust and thoughtful funding opportunities may help to reduce barriers to their participation.

Ai Group supports the development of a national PhD program. An exemplar currently exists in the form of the Australian Postgraduate Research Intern program (APR.Intern). As a member of the Program Steering Committee Ai Group is aware of the successful outcomes for companies involved with this program. It connects PhD students with industry through short-term internships across all sectors, disciplines and universities and links businesses with fresh ideas to innovate and provides pathways for universities to expand research collaborations. Already funded by the Australian Government's Department of Education and Training and run by the Australian Mathematical Sciences Institute (AMSI), an expansion of this program could be explored.

Governance arrangements

Once there is a decision around mission driven research and associated priorities along with a preference for or against stage-gated scheme design further consultation should take place between government, industry and research institutions to come up with a fit for purpose governance approach and design.

Additional comments

- We note that there is significant opportunity for research and commercialisation in the defence area, however work will need to be done on matters such as security clearances and ensuring that those taking part in projects are not being groomed by foreign governments.
- Provided that it is recognised that IP has been jointly developed (and is therefore jointly owned), funding models can be established to share income between businesses and research institutions. These models will need to consider things like the 'level of effort' of both parties, the costs incurred through R&D, technology readiness level maturation and production and sales factors.
- Having multiple universities involved in research projects has been reported to be difficult, but government can look to best practice Australian examples of academic collaboration such as the *Raine Study* when considering the viability of projects that involve multiple universities².

Should you wish to discuss the matters raised in this submission, please contact our adviser Rachael Wilkinson on 0413 352 286 or rachael.wilkinson@aigroup.com.au.

Sincerely yours,

Louise McGrath
Head of Industry Development and Policy

² The [Raine Study](#) has run since 1989 and consists of a collaborative partnership between the University of Western Australia, Curtin University, Edith Cowan University, Murdoch University, the University of Notre Dame, the Telethon Kids Institute and the Women and Infants Research Foundation.