



Industry Research Facilitation Policy –
Translating Research to Economic Outcomes

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Introduction

The Technology and Industry Advisory Council's (TIAC) Industry Research Facilitation Policy is a recommended pathway to enhance collaboration and to secure increased Commonwealth science, research and innovation funding into Western Australia.

Increased research funds from the Commonwealth will diversify, strengthen and grow the State's economy creating new jobs, new industry sectors, new products, services and solutions as a basis for improved competitive advantages and cost-savings for the State.

The Commonwealth makes considerable investment in science, research and innovation (\$10.1 billion in 2016-17). This is supported by an established set of science and research principles and supporting policies. TIAC previously identified the poor performance of Western Australia in accessing a variety of Commonwealth competitive funding programs and grants¹, where the failure to access the programs worsens the State's financial position, research capacity, capability and future opportunity for success. Western Australian researcher projects by default turn to State funding placing increased pressure on State finances.

In essence, this underperformance means that Western Australia is exporting jobs to other states and losing significant economic gain through ongoing research and innovation.

Unlike other Australian states, Western Australia does not have a strategic framework, policy settings or processes that actively support applicants seeking Commonwealth Government research investment. These external funds strengthen research and industry engagement, create high-value jobs and build in-state capacity and capability.

The target for the proposed strategic framework and policy is an increased applicant success-rate that at least meets, if not exceeds, pro-rata population measures for success over the next three to five years.

This paper sets out a range of facilitation mechanisms for the Western Australian Government to ensure Western Australian industry-focused research projects gain Commonwealth investment. It aims to develop and increase

¹ TIAC's Supporting Access to Commonwealth Funding Discussion Paper Available [http://www.tiac.wa.gov.au/TIAC/media/Document/News/Current/Accessing-Commonwealth-Funding--TIAC-Advisory-Paper-Final---May-2017-\(2\).pdf](http://www.tiac.wa.gov.au/TIAC/media/Document/News/Current/Accessing-Commonwealth-Funding--TIAC-Advisory-Paper-Final---May-2017-(2).pdf)

specialist commercialisation skills that play a critical role in converting research findings and outputs into saleable intellectual property, market-ready processes, products or services. These all add value to companies, develop new economic and social opportunities and improve the State's economic resilience.

The necessary by-product of the strategic framework will be greater engagement and collaboration across research, industry, community and Government, which in-turn, will lead to new commercial activity that will diversify the state's economy.

The scope of the policy is focused on projects and programs which support industry development and industry focused research. These include the Commonwealth's Cooperative Research Centre (CRC) Program, Cooperative Research Centre Projects (CRC-P), Australian Research Council (ARC) Linkage and Infrastructure Grants, ARC Centres of Excellence, and National Health and Medical Research Council Partnership Projects.

The recommendations in this paper have been developed in line with the current State Government's policy objectives of creating local jobs and increased use of local content. TIAC acknowledges the initiatives already implemented by the McGowan government including the introduction of the *Western Australian Jobs Act 2017*, the introduction of the Western Australia Industry Participation Strategy, the New Industries Fund and the proposed Market-led Proposals Policy. This document also takes into account the Government's current fiscal constraints.

Recommendations

This paper includes five recommendations for State government support to drive greater collaboration, industry-focused research and translation of this research into economic outcomes.

1. A single point of contact (Portal Team) in the State Government (Department of Jobs, Tourism, Science and Innovation) to act as a liaison and coordinator with the Commonwealth, potential applicants, university business development staff, small, medium and large industry organisations, researchers and State agencies.
2. An application-readiness process. This will act as a sounding board/pre-application evaluation of applications' early development.
3. The promotion of collaborative research and development projects by proactively identifying across Government agencies key issues that require research focus as a major end-user and market for solutions.

4. A requirement to translate research into innovative commercial products and services in partnership with the private, public or community sectors.
5. An industry-based Higher Degree by Research Placement Program that is targeted at Masters and Honours level.

Coordination/Single point of Contact

One of the main concerns raised by stakeholders when pursuing Commonwealth funding, is the lack of proactive and practical support from the State Government and a well promoted portal where that support and advice can be accessed.

Currently, there is not a clearly identified single point of contact within the State Government that identifies or supports the attraction of Commonwealth funding for industry-focused research projects. Rather, there is an *ad hoc* and scattered patchwork. This is in contrast to other States that have a strategic approach, a clear process, an aligned policy, and strong and proactive communications.

Applicants realise that to be successful in the national funding field they require core and up to date information and advice so that they can prepare applications that are competitive with those from other states where advice, similar to that proposed in this document, is readily available from state entities. Applicant advice includes information on the policy priorities of the State and Commonwealth that, when aligned with an application, improves the competitive nature of the submission.

For researchers whose focus is on their research work, these policy priorities are not readily recognised as important focus points for any application. To Western Australia's disadvantage this is not currently well understood and the role of the proposed Portal will significantly improve this aspect.

There is a critical role for advocacy for Western Australia's often leading research effort and expertise. Currently, the State has very few members on Commonwealth key decision making bodies or assessment panels, nor a recurring presence at national meetings, forums and announcements. The disadvantage of distance has created an 'out of sight, out of mind' attitude, which has not supported the reputation and efforts of Western Australian researchers.

The socialisation of decision making, where national assessors are able to look their Western Australian colleagues in the eye and still argue against funding proposals currently does not exist. It is an area of distinct disadvantage that erodes the many areas of specialist industry and research knowledge and fields of success that this state possesses.

There is also limited peer to peer pressure where Commonwealth government representatives must say 'no' to a trusted Western Australian colleague for a State-supported proposal. It is easy for Commonwealth decision makers to fund projects in other States.

There is a weighting in Commonwealth funding programs that is biased towards long-held successes of past applicants – the more funds you win, the more likely you are in being successful in the future.

As Western Australia's track record has not been successful, these weightings will only magnify unless the State's representatives on Commonwealth funding bodies are able to meet and work quietly in the back ground with other smaller states to have these weightings more evenly calibrated.

The coordination of effort to ensure applicants are able to prepare highly competitive applications requires one further element; prioritised catalytic investment by the State.

The Commonwealth does not want to be doing all the heavy financial lifting. Other states increase the opportunity for success by directly supporting their applicants for Commonwealth funds by investing in them first and then letting that investment demonstrate State support and alignment with policy priorities.

To level the federal funding playing field, Western Australia's industry and research strategic framework also requires investment criteria for those applications that strongly link research and industry collaboration to drive significant opportunity for commercial benefit. Many of the Commonwealth funding programs are well known to researchers nationwide and have been established for a number of years. However, policy priorities change and refine over time and it should be the job of the Portal to monitor programs for changes, updates and subtle adjustments, so that applicants are fully aware of all criteria, policy priorities and weightings.

In addition, a dedicated point of contact will:

- assist in building a strong working relationship between the State and the Commonwealth through regular communication by State personnel with Commonwealth officials. It is important to provide and receive back-channel advice on funding policy intentions and drivers, as well as communicating state-based activities and outcomes;
- help address the already (Commonwealth) acknowledged low Western Australian application success rate and respond to this knowledge with State input that prioritises shared objectives;
- communicate with State stakeholders and articulate the narrative and advice received from the Commonwealth to improve the quality of applications;
- communicate with stakeholders regarding the State's priorities and objectives;
- work with industry, SMEs in particular, to identify their research needs and link to appropriate partners;
- be an early filter or sounding board for applicants, provide feedback and advice to applicants that will increase success rates;
- assist in business case preparation for selected programs;
- support connections and collaborations among industry, researchers, universities and Government;
- add value to proposals at different development stages so that they clearly demonstrate value-adding activities and outcomes; and
- provide the intelligence on new, emerging technologies and industries in the State for policy development and planning.

Collaboration and Commercialisation

Industry and research collaboration is critical to translate research findings to real-world, high impact applications. This is where new jobs, new products and services are created.

Collaborations allow universities and industry to access high-cost infrastructure, data and talent that would not otherwise be available. It should be noted that for the last 30+ years Australia has not been overly successful in converting research into commercially-ready solutions, when compared to international standards. Much of Australia's research and commercialisation success has been driven by collaborative research. Collaboration applies a business oversight to guide research and potential application that translates research into more effective and efficient service, product and technology advantages.

Even this collaborative research focus has shown decline as universities and researchers have faced disincentives to work together with industry because there is little career reward to move between industry and academia.

The Commonwealth has recently made funding criteria changes so that research impact (links and collaboration with industry) is equally weighted with other academic measures.

For example, the Commonwealth block grants have been amended to incentivise and facilitate greater collaboration by universities with industry and introduced collaboration incentives to the Australian Research Council (ARC) Linkage Projects scheme for competitive funding projects with an industry partner. These initiatives are being rolled out in 2018.

Under the relatively new CRC Projects funding program, the application must be submitted by the industry collaborator while still requiring involvement of a research partner.

Stronger links between industry and research will also improve professional industry placement programs for higher degree researchers (Honours, Masters and PhDs). These placements build a culture and strong personal networks in industry for collaboration for early career researchers in particular. New skills are learned, commercial acuity is gained and individuals recognise that there is a professional future for high quality researchers in industry (business, government and community sectors).

Locally, universities have begun to recognise that professional skills are required to underpin industry partnership and commercialisation of the knowledge and ideas created by their researchers. Western Australian universities also have been evolving and growing their business development units to establish a translational pathway.

Across Australia, universities are also realising that there is real value in engaging in the small to medium enterprise sector. This is the largest national sector for employment and it is where much innovation and new technology is being created. This process has begun to develop industry demand – ‘pull’ as opposed to university ‘push’.

Recommendation 1

Introduction of a single point of contact (Portal Team) in the State Government (Department of Jobs, Tourism, Science and Innovation) to act as a liaison and coordinator with the Commonwealth, potential applicants, university business development staff, small, medium and large industry organisations, researchers and State agencies.

This will lead to greater discussion and coordination of research and industry engagement, as well as facilitating the preparation of increasingly competitive applications. There will be a particular focus by the Portal Team of applications in their early development.

The Portal Team would highlight priorities, understand the proposals in development, identify the research leaders behind proposals and triage applications so the most competitive, with the most likelihood of success, are the ones focussed upon.

In addition, the information gained from this process can then play a role in advising future State policy development, particularly in emerging technologies and industry needs in a commercially responsive time.

- The Portal Team's role will be outcomes-based, measuring the impact of funds attraction, new jobs, economic impact and productivity improvements. These will need to be monitored and evaluated over a number of years by the Portal Team.

Recommendation 2

Introduce an application-readiness process. This will act as a sounding board/pre-application evaluation of applications' early development. An initial one-page summary from applicants would be prepared so Portal staff can assess it against State and Commonwealth funding criteria, policy priorities and an industry needs analysis. Portal staff will give feedback before advising the applicant to proceed with further application writing for Commonwealth programs.

It should be noted that Portal staff need to be enablers of the process and not gate keepers. Selection of the correct staff to work in the Portal Team will be a big influence towards its success.

This process could be trialled in the Commonwealth's Cooperative Research Centre Projects (CRC-P) program, an extension of the larger and longer lasting Cooperative Research Centre program that is fully industry-driven. Securing smaller projects within the CRC-P scheme will help develop capability and, in time, develop larger collaborations and capacity in the State.

Recommendation 3

The State Government takes a leadership role in promoting collaborative research and development projects by proactively identifying across Government agencies, the key issues that require research focus as a major end-user and market for solutions. This initial 'market pull' through government solutions-based procurement, will then lead to calls for submissions from research institutes, universities and industry for responses. Assessment of these should be carried out by an independent commercial and research focussed panel. As research projects addressing State Government problems are shortlisted, the relevant department will need to be able to match the problem with in-house funding. This will play a central role in making the application more competitive, as demonstrated by the State Government's financial buy-in, and will be linked to research outcomes and benefits.

In addition to improving State Government agency effectiveness and efficiency, whilst solving potentially expensive issues, this process will also add to the reputation of WA-based research teams and the skills and capabilities within those teams. These real-world outcomes will, in turn, add to the competitiveness of these teams for future Commonwealth application success. Solving Government problems provides a market driven pathway for early research translation and the commercialisation of research findings.

Recommendation 4

Any State policy developed in this area of collaborative research should include the requirement to translate research into innovative commercial products and services in partnership with the private, public and/or community sectors. The State's funds could, in part, be directly tied to facilitating research translation outcomes within the full application.

This could be enhanced by ensuring competitive research applications are linked and supported to engage with commercialisation specialists or undertake commercialisation upskilling and training.

Recommendation 5

The State Government introduce an industry-based Higher Degree by Research Placement Program that is targeted at Masters and Honours levels. This will place students in industry early in their careers, so they can maximise their professional skills, knowledge and application that solves real world problems in a culture of collaboration. The Commonwealth has similar programs at the PhD level, but targeting students at the earlier stage will increase the quality and quantity of researchers who enter industry.

This program could be closely linked with the recent announcement seeking to attract the brightest international students to remain and build Western Australian industry capability by being able to access permanent resident visas sponsored by the State.

Conclusion

The recommendations in this paper provide a focus on critical change that the State Government can drive to diversify and strengthen the State economy. The outcome will be new jobs, new industry sectors, a more resilient economic base supported by greater diversity and the use of ground breaking research solving real world problems.

This advice may appear bold to some readers. In the Australian context, much of what is recommended here has already been applied in other states and Western Australia is the laggard in this national setting.

Although at a distinct disadvantage at the moment, Western Australia can turn this around with a clear strategic approach to facilitating, investing in and supporting research and innovation through industry driven engagement, starting with our own State Government.

Adoption of these recommendations, in particular the Portal, will also increase the flow of Commonwealth funds into the State because the State will closely match its efforts and policy drivers to align with the Commonwealth's science, research and innovation policy agenda and the associated funding.

Evidence of outcomes to this proposed change process will take time, but there will be reward and improved performance by the state within the term of the current McGowan Government, if fully adopted.