

Regional Universities Network (RUN)

submission on *Boosting the Commercial Returns of Research*

Background

Regional universities have a fundamental role to play in innovation, productivity and national development. They drive regional economic, social, cultural and environmental development, and help to unlock human potential of their regions, and thus the nation.

The Regional Universities Network (RUN) is a group of six regionally-based universities - CQUniversity, Southern Cross University (SCU), Federation University Australia (FedUni, formerly the University of Ballarat), University of New England (UNE), University of Southern Queensland (USQ), and the University of the Sunshine Coast (USC). All RUN universities are committed to strengthening the development of their regions and the nation.

The research undertaken at RUN universities is regionally embedded and applied, reflecting the distinctive concerns and interests of their regions, but internationally connected. Research students make a major contribution to the research output of our universities.

RUN universities recognise the importance of translating research outputs to benefit Australians. Much of the research undertaken at RUN universities is relatively applied and is performed in close partnership with the users of the research.

Regional Australia plays a vital role in national prosperity and productivity. It is the leading source of Australia's largest export industries: agriculture, mining and tourism. The Regional Australia Institute (RAI) estimates that regional Australia accounts for around 67% of national earnings¹. As a very substantial component of the Australian economy, it is clearly in the national interest to maximise regional Australia's contribution to innovation.

Response to issues raised

Setting national priorities for research

The Government:

Will consult with stakeholders to set national priorities for research. These priorities will align areas of national research excellence with Australia's industrial strengths, global trends and community interests. Each priority will be supported by practical research challenges that will be developed in consultation with experts from industry, research organisations and government.

RUN recognises that the development of research priorities is a future task for Government to undertake in consultation with other parties, and it welcomes the opportunity to contribute to this dialogue in due course. RUN supports the goal of identifying areas of focus and of investing in relevant areas. In developing its approach, RUN urges the Government to ensure that the outcomes:

¹ Regional Australia Institute analysis based on ABS data for 2011

- Build on Australia's strengths in areas such as agriculture, natural resource management, energy, and health and well-being.
- Take a multi-layered perspective (global, national and regional) in terms of opportunities, challenges, engagement and impact.
- Incorporate a national and regional development perspective and draw on the strengths of Australian industry, including its substantial small and medium enterprise (SME) base.
- Ensure that the research priorities are relatively broad, but not too broad to dilute targeted investment and direction, and that research in areas that is not encompassed by the priorities continues to be supported to some degree (there should be flexibility to ensure that emerging opportunities are supported). A multi-disciplinary research approach should be encouraged. It will also be essential to retain a robust research and teaching base in science, technology, engineering and mathematics and to encourage students to study these subjects.
- Priorities should persist for reasonable periods to ensure confidence in the investment and infrastructure put in place by industry and research organisations.

Creating stronger incentives for research-industry collaboration

The Government will identify opportunities to adjust funding mechanisms to provide greater incentives for collaboration between researchers and industry. To achieve this outcome, the Government is seeking input from the research and end-user community on opportunities to:

- *Modify rules for competitive research grants to appropriately recognise industry-relevant experience*
- *Develop research block grant arrangements that retain a focus on quality and excellence while supporting greater industry and end-user engagement*
- *Leverage greater collaboration between publicly funded research agencies and industry;*
- *Consolidate existing programs that focus on collaboration with industry to increase their scale and effectiveness;*
- *Consider whether the R&D tax incentive sufficiently encourages collaboration between industry and researchers.*

While ensuring that strong incentives to focus on research quality and excellence are retained, RUN supports enhanced university-industry collaboration, provided that this is adequately funded, and urges the Government to consider the following:

- At present the funding provided by the block grants does not provide enough money to cover the cost of research, and cross-subsidisation needs to occur to support the effort. The funding for blue sky/pure research needs to continue, and there needs to be additional funding available to support greater industry and end-user engagement by universities. This could include encouraging industry to use some of the significant resources raised via the R&D tax incentive scheme to reinvest in university-industry collaboration.
- Carefully calibrated adjustments need to be made to existing research block grant incentives. For example, Research and Development Corporation (RDC) funding mechanisms promote university-industry collaboration and RDC funding has been proven to drive agricultural productivity. Funding sourced through such arrangements could be recognised not only as category one research income

(as at present) but acknowledged also as a measure of impact or engagement – see section below on measurement of outcomes. ARC linkage grants could also be similarly recognised as a measure of impact or engagement as well as category one funding.

- Fundamental research is critical and any adjustments to encourage industry collaboration and commercialisation outcomes should create an appropriate balance preserving the nation's capability and activity in fundamental research. As noted above, additional funding should be made available to encourage industry collaboration and commercialisation outcomes.
- Incorporating greater diversity in the membership of the panels of granting bodies such as the ARC and NHMRC. Appointing industry and regional members to these panels will strengthen the likelihood of funding decisions being appropriately based on end-user engagement.
- Adjusting the R&D tax Incentive so that it becomes available only if research expenditure is with a research provider **OR** there is a heavier weighting for research expenditure with a research provider. RUN supports the application of a tax rebate rather than a tax deduction.
- 'Industry' represents a heterogeneous mix of organisations of varying scale and different needs and capacity to engage in research projects; programs designed to bring industry and researchers together need to reflect this 'heterogeneity'. For example, a large multinational will have the expertise and resources to commit to long-term projects requiring substantial cash commitments (e.g. CRC programs) whereas many SME's will want to engage in research projects with less commitment (e.g. Research Connections). The scope of programs designed to support industry-researcher collaboration should cover these different levels of commitment.
- The new Industry Growth Centres should have some ongoing government funding as do the UK Catapult Centres.

Supporting research infrastructure

The Government will take steps to ensure that research infrastructure facilitates increased collaboration between researchers and industry. To achieve this outcome the Government is seeking to:

- *Strengthen the existing focus of the NCRIS on outreach to researchers and industry*
- *Undertake a reassessment of existing research infrastructure provision and requirements, in line with the National Commission of Audit; and*
- *Develop a road-map for long-term research infrastructure investment in consultation with the research sector and industry.*

RUN universities support the proposed measures. The Australian innovation system relies heavily on access to cutting edge research infrastructure. However, research infrastructure has been seriously challenged by a lack of long term planning and funding, and addressing these shortcomings should be a priority.

In particular, researchers and industry in regional Australia have limited access to facilities as they are usually based in capital cities. Consideration should be given to locating national laboratories incorporating medium scale facilities (such as scanning electron microscopes) on a distributed basis. This would provide regionally-based industry and researchers with access to relevant facilities.

There should be continued recognition that establishing and supporting infrastructure requires not only equipment and facilities but the support for the personnel to operate and manage the infrastructure (as per the National Collaborative Research Infrastructure Strategy).

Providing better access to research

The Government will put in place arrangements to provide industry and other end-users with better access to research. To achieve this outcome the Government is seeking to:

- *Strengthen IP guidelines for researchers;*
- *Examine the potential to link research funding to the dissemination of IP;*
- *Establish an online point of access to commercially-relevant research for business; and*
- *Develop a whole of government policy to open up access for business and the community to publicly funded research.*

These proposals will be supported by the release of an IP toolkit which will provide guidance to simplify discussions relating to IP between researchers and industry.

RUN supports enhanced university-industry engagement and better access to research by:

- Increased investment by Government via supporting the development and use of the proposed IP toolkit, and potentially exploring the possibility of establishing a national portal to manage IP brokerage, possibly under the auspices of IP Australia, and other appropriate initiatives.
- Encouraging universities to adopt a more open approach to managing IP so they act less like ‘gate keepers’ and more like ‘enablers’. The UNSW EasyAccess IP model exemplifies this via a streamlined and enabling framework. IP that a university will not patent or license is made available to end users free of charge based on a one-page agreement between the parties. For UNSW, this represents about 85% of its total IP.

Access to IP and the entrepreneurial culture within Australian research organisations may be improved and these measures should assist. (Our structures and incentives are actually equivalent to the US/UK and our commercialisation entitlements for university researchers are based on US standards.) However, RUN considers that there is a more fundamental problem associated with limited access to private equity funding which is stifling the establishment of start-up companies. Australia currently ranks 29th globally in terms of availability of venture capital, immediately above Bolivia² and 17 places below New Zealand.

Increasing industry relevant research training

The Government will take steps to ensure that the research workforce is equipped to work with industry and bring their ideas to market. To achieve this outcome the Government is looking to provide greater opportunities for industry relevant research training, provision of industry and business relevant skills, and recognition of PhD candidates with existing industry experience. These issues will be a focus of a review of research training arrangements which will be informed by consultation with the research sector and industry.

RUN supports the approach outlined above and looks forward to participating in the proposed review of Research Training Scheme. RUN also notes that the following suggestions would strengthen engagement between universities and industry:

- Encouraging universities to offer training in management and entrepreneurship to a greater number of higher degree by research students than is currently the case.
- Establishing a new, Government program of industry scholarships which would support recipients to work on an applied industry project as core to their research training.

² World Economic Forum *Global Competitiveness Report 2014-2015*, page 500

- Establishing a new program to support SMEs (and regional organisations such as local councils etc) to take on industry-based PhD candidates. SMEs are generally not interested in becoming involved in research and research training as they often have limited financial and other resources.

Measurement of outcomes

The Government will work with the research sector and industry to improve assessment of the research system, including improved metrics on engagement and knowledge transfer with industry, as well as research outcomes and impact.

RUN supports improved metrics on engagement and knowledge transfer with industry, and proposes that the following are considered:

- Ensure that any new metrics
 - Do not negatively impact fundamental research activity.
 - Reflect all aspects of industry collaboration and engagement not just simplistic measures such as commercialisation revenue, patent and license numbers.
 - Include measures such as embedded industry PhDs, contract research revenue that may be generated from industry engagement and collaboration.
 - Do not create onerous and complex reporting requirements.
- New metrics should give greater recognition to research income that promotes engagement and knowledge transfer. This could include income from Research & Development Corporations which has been proven to drive agricultural productivity and which could be considered in the context of the Joint Research Engagement Scheme. ARC linkage grant income could be similarly recognised.
- Adopting a new metric to reward HDR places sponsored by SME in the context of the Joint Research Engagement Scheme.
- RUN's preference is that the focus is on improved metrics on engagement and knowledge transfer. However, if a narrative approach is considered, we would support consideration of broad impact on a community rather than narrower research impact.