Regional Universities Network (RUN) Submission to University Research Commercialisation Consultation Paper

The Regional Universities Network (RUN) provides the following submission in response to questions in the Government's University Research Commercialisation consultation paper.

1. Mission-driven research

a) *Are Missions the appropriate priority-setting mechanism? Should they be accompanied by smaller, targeted Challenges?*

Missions are broadly appropriate to set priorities at the high level, galvanising collective interests around specific capabilities, in areas where Australia has clear strengths, can be a world leader, or where we have a niche market. However, we note that mission-driven research has not always been successful e.g. some of CSIRO's flagships.

In setting missions, it is important to note that not all worthwhile research, including discovery research, will come under these priorities, and that mission-driven research must be augmented by research in other areas.

Targeted challenges, which would sit below the broad missions, are appropriately set by industry rather than by government as companies must set their own agendas, and know their own markets.

b) *What criteria should be used to select Missions?*

Missions are broadly appropriate to set priorities at the high level in areas where Australia has clear strengths, can be a world leader, or where we have a niche market. Relevant fields would potentially include agriculture, resources, and targeted areas of manufacturing, such as value add to raw materials.

From a commercialisation perspective, the agenda should be driven primarily by industry and end-user groups (e.g., Industry Growth Centres), but also require the input of the research community on the big challenges and the next stages to research that can address the missions.

c) *Is Australian research sufficiently linked to demand? Where are the opportunities to link supply to demand?*

In general, many researchers at regional universities are well linked to demand, including through the following schemes:

- Cooperative Research Centres Projects, where industry is the primary applicant, and where a mechanism is provided to link research with demand. However, the scheme should be expanded to cover a broader range of research disciplines. It does not adequately cover some areas of research e.g. agriculture. In addition, funding needs to be adequate to cover all worthwhile projects.

- Rural Research and Development Corporation funded projects, which successfully link researchers to industry demand.

A successful scheme in the UK is the Link Programme, where, in the first instance, all reasonable proposals are funded. Follow-on funding can be applied for, giving 5 years funding in all. Subsequently, industry can take up projects through to commercialisation. The whole process can take up to eight years.

The ARC linkage program only has funding to cover about 35 per cent of project applications, and is university rather than industry-led.

d) *How can university researchers identify this demand?*

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In addition, the identification of a number of specific missions plus a clear articulation of sub activities and needs within these missions would provide an effective template for researchers to follow areas of high demand. Additionally, the establishment of translation precincts, including universities and ideally located on university campuses, focussed on regional capability and industry need, would assist in focussing endeavours.

There is a role for business development managers in universities to support the development of linkages between researchers and industry. Specific funding of relevant positions in universities would be helpful, as, at present, relevant funding has to be taken from other sources. Researchers are time poor, and can't make all the linkages themselves.

2. Stage-gated Scheme design

a) *Is a stage-gated model suited for the purpose of the Scheme?*

A stage-gated model is suited for the purpose of the scheme.

As per the UK Link Programme, a large number of projects should be initially funded where the risk is greatest, with the number of projects going on to further funding being reduced over time i.e. a funnel-shape progression.

b) *What is the appetite from industry and private investors to participate in such a Scheme?*

There is an appetite from industry and private investors to participate in such a scheme as demonstrated by existing programs such as the R&D tax incentive, CRC projects, industry development corporations and Innovation Connect grant schemes.

Industry and private investors should be encouraged to participate in any new stage-gated scheme with government funding provided at the front end to reduce the risk. Industry should fund the last stage of development to commercialisation.

c) *How should any stage-gating process be defined to ensure any additional incentive is maximised?*

SMEs in Australia don't have deep pockets to fund research – ABS figures show that 93 per cent of business in Australia have a turnover of less than $2 million annually.

A co-investment model should be used for the new scheme, where Government funding is maximised at early stages when the risk is greatest. This type of model has worked well in the EU and UK.

Industry should take up the funding of promising projects at a later stage when there is greater likelihood of a return.

d) *How should projects be selected?*

If a project is fundable, it should receive funding to cover the engagement of people and resources.

Projects should be aligned to specified missions, and guided by industry and university sector capabilities.

The involvement of industry on selection panels (50 per cent) facilitated a paradigm shift in industry relevant research and commercialisation in the UK and EU.

Potential return on investment in a project should be an element in the selection process.

e) *How should the success of projects be measured?*

The success of projects should be measured over a long time frame (up to eight years), with commercialisation being the ultimate successful outcome. How commercialised products can be built into existing production lines is relevant.

Public good outcomes should also be taken into consideration.

3. Incentives for participation

a) *What broader incentives influencing the business and university sectors may influence their participation in a Scheme?*

Adequate funding by government if the project has sufficient merit, particularly in the early stages to overcome the "valley of death", will encourage the business and university sectors to participate.

The introduction of a collaboration premium on the non-refundable R&D tax offset, as suggested in a previous review of the Australian Chief Scientist, would incentivise industry, as well as facilitating industry employment of PhD or equivalent graduates would motivate both sectors.

b) *What would motivate businesses, universities or private investors to invest in this Scheme?*

Businesses would be motivated to participate by:

- An industry embedded model
- Tax incentives.

Universities/university researchers would be motivated by:

- Inclusion of the expectation of collaboration by researchers with industry in performance agreements.

c) *Aside from co-funding, should universities or businesses have any additional requirements for participation?*

Inclusion of regionally based universities and businesses should be considered when funding regionally located sectors or industry.

4. Industry-university collaboration

a) *How may the Scheme incentivise or support better industry-university collaboration?*

The scheme should support the development of projects particularly at innovation precincts located on university campuses. At these locations, university researchers and industry employees can mingle in a relaxed environment to generate ideas which can develop into worthwhile projects.

Businesses, especially SMEs, struggle to source up-front capital to support collaborative ventures. Some latitude around the expectation of their investment into the scheme and the timing of this investment would be worthy of consideration.

b) *Would an Industry PhD program help improve collaboration outcomes?*

An industry PhD program with co-supervision by industry and university staff and co-funding by industry would help improve collaboration outcomes.

However, barriers include:

- That the PhD timeline is too long for business
- PhDs are based on a discovery model of research
- IP ownership.

Potentially a shorter e.g. 12 month element within the PhD could focus on an industry problem.

c) *Are there skills gaps in academia or business that inhibit collaboration or commercialisation?*

Many academics don't recognise the transferable skills that they have to work with business. They could be encouraged to undertaken micro-credentials to build-up relevant skills and the application of these in an industry context.

Researchers-in-residence in businesses, and industry practitioner-in-residence at universities would facilitate a two-way exchange of information aimed at overcoming the cultural divide.

d) *How can we increase collaboration between university researchers and industry, particularly amongst SMEs?*

Collaboration between university researchers and industry, particularly SMEs, can be encouraged by

- Co-location of SMEs on university innovation precincts/tech parks, and creation of informal meeting places to discuss ideas.
- Encouragement for SMEs to form collaborative groups to work together on problems.

5. Governance arrangements

a) *What stakeholders should be involved, and where, in the governance arrangement*?

Industry should lead the governance, with university, and government representatives involved. The Minister should not have a decision making role.

b) *What type of Governance arrangement is best suited for the Scheme?*

The Collaborative Research Centres provide a good model for governance, with an independent chair, boards with industry and university representation, and some government representation.

Advisory committees can report to the board, with stakeholders and other members represented on a voluntary basis.

Innovate UK provides another successful model of industry-led governance.

c) *How should projects be selected and managed?*

Projects should be selected for funding if the outcomes will potentially deliver substantial value.

As previously noted, initially any potentially worthwhile project should be funded, with further funding dependent on potential to deliver commercialisation.

d) *How can the Governance arrangement minimise administrative burden whilst also minimising risk?*

CRCs have low overheads, so this is a good model to follow. The board would have the key responsibility for the project, with advisory committees reporting to it.