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COMMERCIALISATION
AUSTRALASIA

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KCA submission to Review of the National Survey of Research Commercialisation Discussion Paper

Purpose

KCA supports the purpose of the review. It is consistent with views provided by KCA to the Department from late 2013.

In passing KCA notes some assertions in the context statement that “Australia performs well in terms of research excellence and output, but poorly in translating publicly funded research into commercial outcomes”. We contest that as a blanket assertion. There are numerous examples of successful translation that can be cited including Wifi, Gardasil, Cochlear, Contact Lens technology, mining process and exploration technologies, wheat, barley and other key crop varieties and many others. In addition comparative benchmarking data published in past NSRC reports shows that Australia’s performance from 2000-2011 exceeded Canada, UK and the rest of Europe and was second only to the US in relation to metrics on commercialisation income (from licences, options and assignments) as a percentage of research expenditure.¹ There are certainly other areas where Australia benchmarks comparatively poorly.²

The focus on commercialisation as represented only by licensing and startups in the international comparisons is also problematic in our view, as much important translation and dissemination of research into commercial outcomes occurs via research contracts and consultancies where research expertise and skills are applied to real world problems. NSRC data itself shows, through the proxy measure of contract income data which is an order of magnitude greater than licence option and assignment income, how much more extensive this is. It is a significant route by which the research sector assists in improving productivity in the broader economy. There are many significant collaborations between the research and industry sectors which are hybrids that involve elements of both contract research and licensing. The context statement cites OECD data on Australia’s low ranking on the proportion of large businesses and small to medium enterprises (SMEs) collaborating with higher education and public research institutions on innovation. However it does not take into account the clear problems in comparability of data that are evident if the OECD study notes that relate to those figures are considered. Neither does it reference the fact Australia also benchmarks at the bottom of the comparisons in relation to business collaboration with business suppliers and customers. It is our belief that Australia actually performs relatively

¹ see Figure 20, p.38 2010-11 NSRC report December 2012

² for example startup formation – though there are obviously further issues that contribute to this in Australia, not least the relative paucity of local venture funding



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well in relation to applied research engagement (when assessed by comparing research income figures with equivalent institutions in the US and the UK).

Fundamentally, KCA does not believe that it is helpful to decry Australia's performance in commercialisation – we should advocate more of the success stories that exist, and provide better services to support further connections between the research and business sectors.

However, these are only passing observations. KCA believes that Australia must improve its performance on translation of research to outcome and we fully support efforts to measure and benchmark that performance, as well as to build commercialisation skill development and innovation in practices and business models. We also support innovation and diversity in approach - as best fits the context of research institutions and their business and funding partners. And we are very keen to improve the level and nature of interaction and engagement between the research and business sectors: as it is personal relationships and sound collaborations that are often at the heart of successful translation to impact.

We welcome the Australian Government's desire to implement policy incentives that will improve the translation of publicly funded research into commercial and broader public benefits. We also endorse a refocus the NSRC to capture robust data, and to provide a comprehensive picture of research commercialisation in Australia including pathways to commercialisation.

International Survey development

There have been efforts around the world to gain a better understanding of university/industry engagement and the impact that flows from these. In the UK a report by Library House³ recommended that assessment of engagement metrics was the most appropriate approach and this has been used for a number of years both for assessing performance and driving the allocation of funding to universities. A European Commission Expert committee made very similar recommendations.⁴ Most recently the US based Association of Public and Land Grant universities (APLU) provided a guide on metrics which again recommended that assessing the volume and value of interactions via engagement metrics.⁵ In the last year, the UK has taken the next step in terms of assessment by conducting a full scale impact assessment exercise as part of the Research Excellence Framework. This case-study based approach appears to have worked well, although it has been noted that the exercise would have been considerably more difficult had not the engagement metrics already been in place as a body of supporting evidence.

Current Survey

As the review notes, Knowledge Commercialisation Australasia (KCA) has used the NSRC instrument to survey its members in alternate survey years, and has provided a range of feedback over the years to the Department on the survey instrument. Our members often use this data in benchmarking of performance, locally and internationally. We wish to reinforce the following common views:

³ http://ec.europa.eu/invest-in-research/pdf/download_en/library_house_2008_unico.pdf

⁴ http://ec.europa.eu/invest-in-research/pdf/download_en/knowledge_transfer_web.pdf

⁵ http://www.aplu.org/projects-and-initiatives/economic-development-and-community-engagement/economic-engagement-framework/related-resources/cicep-new-metrics-field-guide_201405.pdf



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- Continuing the survey in a refocused and streamlined format;
- Some of the current questions are difficult to provide verifiable data for, or are open to interpretation, adversely impacting data reliability and usage is undermined;
- Time series data is useful to show trends;
- Accessing and aligning with other national collections will help streamline the survey;
- The biennial collection cycle is a problem: it reduces currency and data quality
- For ease and efficiency, the collection instrument should be upgraded.

In relation to the principles of the new approach, our responses are set out below.

- Streamlining the survey to eliminate unnecessary and unverifiable questions to minimise the administrative burden on respondents: **KCA Response:** Fully supported
- Broadening the survey and adopting measures to capture the breadth of commercialisation activity in Australia. This includes introducing new metrics on pathways to research commercialisation while maintaining key intellectual property measures. Optional case studies to support metric data may be included: **KCA Response:** Partly supported. We only support broadening of the survey where there is a compelling case on cost/benefit and the new measures are meaningful in the light of policy drivers and are able to be robustly tested. Specific comments on the few areas where we think this might be possible are set out below, but we do not believe that there is a major case for broadening the survey. We believe that case studies are important but that they are optional, ancillary and complementary to a metrics study rather than an inherent feature of it.
- Moving from a single-source survey collection to a multi-source data collection by accessing data not only from survey respondents but various national data collections including IP Australia and the Department of Education: **KCA Response:** Fully supported
- Introducing new metrics that are already collected by respondent organisations or that are available through other national data collections. In cases where data is not available in the respondents' information systems or collections, metrics will be phased in over time to allow organisations time to prepare for the new survey requirements **KCA Response:** Partly supported. We support using data from other robust existing national data collections (eg IP Australia, HERDC). Beyond that it is difficult to point to new metrics that are consistently gathered by the sector respondents.
- Improving data quality by introducing a data verification requirement. **KCA Response:** Supported provided this does not impose a disproportionate resource drain.
- Reporting data, including at institution level, using a digital platform that enables dynamic analysis and visualisations, and providing regular communications with data highlights; **KCA Response:** Fully supported
- Implementing administrative and methodological changes to support these new arrangements and achieve efficiencies for all parties. **KCA Response:** Fully supported



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Repurposing – broader focus

Clearly there is a balance to be struck between maintaining a tight focus on existing measures and embracing new metrics to adapt the focus. This needs to be informed by policy intent and drivers. It would be appropriate to ensure inclusion of more research entities in the survey where appropriate (eg MRIs). In respect of the specific questions raised:

Including new measures to capture the pathways to commercialisation activity in Australia?

KCA Response: Not necessary within the NSRC itself – rather (akin to case studies) this is an important complementary matter of information and education.

Would expanding the data collection to include RDCs provide useful information on the broader research system?

KCA Response: Such data is only partly represented in current datasets where Universities/CSIRO working with RDCs. RDC work is important and – in terms of the funding source - represents a mix of industry levy and government funding, with an applied focus, even where some of the data may currently be captured in “Category 1” funding. Some of our RDC members are supportive of inclusion. Whether this is included in the NSRC more comprehensively, or brought together in a parallel exercise and available in a combined portal/visualisation, KCA believes RDC related data should be more available and transparent in a consolidated way.

Are there other entities in receipt of public research funding that should be included in a repurposed survey?

KCA Response: KCA is supportive of the survey being as broad as possible to cover the full reach of research/industry interaction, including MRIs and other public research (while State supported research organisations have been subject to heavy rationalisation, there is still some important activity there which often has an industry dimension – for example in the agricultural field).

Refocussing – new metrics

KCA agrees that there should be an ongoing consideration of the potential value of inclusion of new metrics. But clearly there must be an appropriate cost/benefit in this. At this stage, with the exception of additional insights that might be available through new analysis of existing data points collected via the current NSRC or other third party data that might be accessed in a new survey, KCA is not convinced that there are many obvious examples of new questions that will be both robust and not impose an undue burden on institutions. Case studies are valuable but should be optional as they are not inherently capable of being part of a robust quantitatively oriented survey document. Narratives provide a nice complement to statistics. Likewise information about pathways is essentially a complementary offering to the survey rather than something appropriately included within it.



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In terms of the new measures referenced in the paper, brief comments are offered below:

- Collaborative research involving public funding: **KCA Response:** To the extent that this is applied research and the type of work caught by the existing survey instrument, this is supported. Beyond that it might require further consideration. This should not extend to Basic research carried out by research collaborations without a specific applied focus
- Hire of research facilities and equipment: **KCA Response:** some of this may be captured in a small way by some of the existing reporting
- Research industry revenue streams by discipline; **KCA Response:** We note this suggestion coming from ATSE submissions. To the extent it can be the subject of analysis off the back of existing data collections it may be of some interest. The desirability of this type of analysis may connect to the extent to which this type of analysis is useful for policy reasons or in how such measures might be taken into consideration in the adjustment government has flagged to be made to place added emphasis on research-industry collaboration.
- Tailored industry professional development and education courses, workshops and services; **KCA Response:** some of this may be captured in a small way by some of the existing reporting. KCA is not persuaded that it needs a special focus beyond its inclusion in overall reporting.
- Clinical trials **KCA Response:** this should be captured in the existing reporting. KCA is not persuaded that it needs a special focus beyond its inclusion in overall reporting.
- Publications co-authored with industry **KCA Response:** along with co-patenting with industry this is an interesting metric of demonstrable interaction, but if capable of separate analysis from other datasets then that is preferable
- Download of academic articles by industry **KCA Response:** capable of separate analysis from other datasets
- Downloads of health related digital products **KCA Response:** KCA is not persuaded that it needs a special focus
- Patent citations **KCA Response:** capable of separate analysis from other datasets
- Repeat business with industry **KCA Response:** potentially of some value, and possible for some members, perhaps more difficult for others (especially smaller institutions) to report.
- Public engagement through *The Conversation*. **KCA Response:** capable of separate analysis from other datasets

As indicated further below in response to question 30 - and in place of existing gross numbers requested on contracts (which offers little of value) - one option might be to ask institutions to identify the number of revenue active clients. This might be broken down by sub categories of interest (eg local SMEs/large corporates/internationals/public). However, while this would be possible for some of our members, it might be harder for others that don't currently systematically collect such meta data.

In relation to the timing of collection: we note that the proposal is to move to an annual collection cycle over July/August. We presume this is the timing of the gathering rather than

the survey period itself, which we assume would still be on a calendar year basis to maintain consistency and alignment to most of the reporting periods of surveyed institutions.

Streamlining

KCA is very supportive of rationalisation and use of good quality data sources such as IP Australia/HERDC. Third party analyses (ORCID, Researchfish/U-Multirank) are interesting but currently have issues with the extent of data capture and verification. Over time these may provide a valuable source, or even supplant some other survey instruments – but in our view they are not sufficiently mature or comprehensive as yet.



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KCA's specific comments on selected proposed changes to the current survey design are:

Question 3: KCA believes it is important to simplify and clarify the definition to ensure that it is clearly understood to cover all staff directly connected to commercial engagement (whether licensing, startup or in particular contract/applied R&D connected). While all are covered in the finer detail of the definition, the predominant focus and the current label both steer thinking much more to those staff engaged in licensing and startup activity. *We note the proposed new focus only on dedicated commercialisation staff (retention of ci and cii) - we think this is retrograde and focusses on too narrow an aspect of engagement. We suggest a more inclusive approach and potentially a broader term.*

Questions 5 and 6: It is proposed to retain question 5 with a focus on external costs but drop question 6. We think a focus only on external costs is appropriate, but the current survey's information on both gross and net cost is interesting. If only one is to be retained, we suggest asking about net spend (offsetting recoveries/reimbursements).⁶

⁶ As a side note, KCA assumes that the survey focus is intended to be on costs of securing IP protection, and note that the costs of litigation (in defence or prosecution) can be significant – Wifi and Sirtex both provide recent examples).

IP related questions: as a general note, wherever these are able to be addressed by taking that information from trusted third party sources (such as IP Australia), this should be done, to enable the survey instrument to be further rationalised.

Question 24: Further to comment at the November consultation, we query the proposed approach on questions 24 and 25a. Valuing early stage technology ventures is notoriously difficult and different institutions take different approaches to valuation unless a fixed methodology is specified. So we query the robustness and comparability of this data. The recommended approach does not take into account the fact that market comparable data may not be available and that some may take a very risk averse approach to valuation, others more bullish. While we note that there might be some desire to retain a time series question, it is of less value if the inherent robustness in the data is low. A metric that we think is more interesting, in place perhaps of 25a, is how much additional funding a spinout raises in a given survey period – this is a much more tangible and current measure of perception of value from external stakeholders.

Question 29: This is a very important question, however the data is gathered. With particular reference to data collection on consulting KCA notes that HERDC collections will explicitly **exclude** consulting where that does not meet the definition of research. We believe that such activity is still relevant to include for the purposes of this survey, as it



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demonstrates tangible external engagement (and may relate for example to specialised testing services connected to research facilities that are not otherwise available to industry and play a critical role in enabling them to work effectively).

Question 30: KCA suggests exclusion: it is not adding much useful information. *Alternative* questions could be directed at the number and type of different entities that an institution is engaged with for paid work in a survey period (ie number of revenue active clients, potentially broken down by sub categories of interest). Breakdown of sub categories of interest would be possible for some of our members, but might be harder for others that don't currently systematically collect such meta data.

Question 31 targets an important issue – skills development, but retaining the question at the level of Yes or No is meaningless as all respondents should be able to claim a Yes to this and without granularity there is not much value (and on the issue of granularity, there may be issues around comparability and robustness). We suggest excluding this question altogether.

Question 32 KCA suggests exclusion of this - it is not adding much useful information.

Robustness

KCA agrees this is important. Where data can be drawn from other existing sources that are more robust/have other verification measures this may be a draw card for making them more prominent features. KCA is chary of increased administration responsibilities. AS indicated before, this must be proportionate to real gain and take into account the government mandate to cut not impose red tape. KCA is not convinced that a higher level signoff necessarily adds veracity.

Alignment

KCA agrees with maintain benchmarking against US, Canada, UK EU data. KCA believes Asian metrics development lags those data collections but we don't believe this will remain the case. Therefore a watching brief is needed, but KCA does not advocate specific further inclusions now.

Accessibility

KCA agrees this is important. New visualisation tools may be useful but please ensure that data is also available in basic / standard formats so that it can be used as others see fit (on an open access basis).

KCA is happy to continue to contribute to thinking on these issues and is interested in other views on these topics

Yours Sincerely,

Robert Chalmers

Chair, on behalf of the Executive Committee

Knowledge Commercialisation Australasia Inc