

# ERA EI Review Consultation Paper Questions – IRU response

## Overview

Australia's university research system is performing strongly. It has directly improved the quality of life of all Australians.

Excellence in Research for Australia (ERA) provides a credible evaluation of the quality of our university research. Overall, ERA has met its objectives as an evaluation framework and national stocktake of research.

The Engagement and Impact (EI) assessment provided the first comprehensive guide to how well the good research demonstrated in ERA is translated into action by business, Government agencies and community bodies.

EI now requires substantive change to seriously build off the learning from the first assessment. This would refine EI towards the activities of greatest benefit with the least administrative cost.

## Excellence in Research for Australia

Excellence in Research for Australia (ERA) provides a credible evaluation of the quality of our university research. Overall, ERA has met its objectives as an evaluation framework and national stocktake of research.

ERA has matured into a robust, evidence-based means for identifying and developing areas of strength against international benchmarks. Over its decade of four assessments, the ERA has encouraged universities to ensure research investment is well directed to produce quality outcomes.

ERA has identified research excellence across the full spectrum of fields, specialisations and university sizes. It has also provided assurance to stakeholders that Australia's research has improved over time. This has narrowed the spread of results across the sector as all universities have shown their true capabilities.

The IRU's preference is for limited change to ERA targeted towards enhancing the integrity, acceptance and use of ERA data, without compromising comparability to earlier and future iterations. As a mature evaluation system, focus should now be on how ERA can be refined for operational purposes and better used to meet its objectives.

The broad soundness of the ERA methodology means ERA is already used extensively for internal decision making, albeit with adequate caution when drawing comparisons across fields of different sizes and evaluation methods.

Use of ERA data could be developed further with greater transparency in reporting, including publication of detailed volume metric ERA data and feedback.

[iru.edu.au](http://iru.edu.au)

## Engagement and Impact

The Engagement and Impact (EI) assessment provided the first comprehensive guide to how well the good research demonstrated in ERA is translated into action by business, Government agencies and community bodies.

EI requires substantive change to seriously build off the learning from the first assessment. This would refine EI towards the activities of greatest benefit with the least administrative cost.

As a first exercise, it was successful in identifying exemplar cases. With over 200 high impact studies and 170 high engagement narratives, EI provides a partial evidence base for how institutions have translated research into impact across the spectrum of disciplinary and interdisciplinary areas. This has the potential to assist universities to identify and refine processes to incentivise and enable greater impact, alongside processes already underway such as new career paths for academic staff beyond the traditional disciplinary-based teaching and research functions.

EI's contextual engagement indicators, including the (increasing) share of research funding from business, Government and not for profit research end users, are indicative of how universities have embraced the engagement agenda.

Following the first assessment of its type and with a targeted focus, priority should be to optimise EI based on what was learnt, with less concern about comparability to EI 2018. The complexity of identifying impact and attributing its causes, combined with a current lack of suitable quantitative indicators, means EI is primarily a qualitative and targeted exercise. This is unlike ERA, which is comprehensive and mostly quantitative-driven. This is appropriate, but it does make EI resource intensive and difficult to generalise.

## Main areas for action

The IRU proposes eight areas for action.

1. Stronger collective advocacy of ERA and EI results
2. Retain the ERA rating scale, but publish volume metric data
3. Improve transparency through public availability of more ERA data
4. Consider extending citation analysis to peer reviewed ERA fields
5. Combine engagement and approach to impact in EI
6. Refocus EI at showing first the sections of Australia's economy and society most using research to improve outcomes
7. Continue to develop ERA and EI evaluations of Interdisciplinary and Indigenous research
8. Alternate ERA and EI cycles every six years, with EI to be the next assessment.

## 1. Stronger collective advocacy of ERA and EI results

ERA and EI have the potential to demonstrate the value of investment in research to the Australian industry and the wider community, but generally this has not been the outcome of the National Reports.

Until the 2020 Budget there has been limited evidence that ERA or EI assessments have had a discernible impact outside the higher education sector.

- Government investment in research has declined since 2018 with the steady erosion of research time limited research programs.
- The incentives for university-industry collaboration on research have been more talked about than put in place, with changes to the R&D tax incentive a regular proposal.
- Setting Commonwealth Grants Scheme revenue in close alignment with strictly teaching costs threaten the relationship between research and education.

It is unsurprising that perceptions of the Australian public of how investments in research translate into tangible benefits beyond academia is lacking.

With the Government's recognition of the need to strengthen research capability against the impact of Covid-19 there is great scope to advocate more strongly and collectively the excellence and value of Australia's research to industry and the wider community.

## 2. Retain the ERA rating scale, but publish volume metric data

The ERA rating scale is intuitive, appropriate and should be retained. Stability in ERA methodology over time has allowed it to be incorporated into routine university practices.

The rating scale is intended to present the quality of Australian university research against international benchmarks. It is not intended to provide a fine grained differentiation between Australian universities at the upper (or lower) end of the scale. On this basis, the rating scale has an appropriate mid-point (3) of "at world standard", and a symmetrical range from (1) "well below" to (5) "well above" world standard.

The broadly defined categories are also appropriate for an evaluation exercise that contains elements of subjective judgement. Differentiation between institutions of similar ratings could be easily achieved by making the volume of outputs and contextual data publicly available.

## 3. Transparency and public availability of ERA data

The value of ERA would be enhanced at little administrative cost by increasing transparency of evaluations and public availability of data feeding into 4-digit level evaluations, such as bibliometric results (RCI data). This would help identify the contribution of research at more granular (e.g. 6-digit) level where research strategies and partnerships are more practical. It would improve usefulness of data for secondary analysis. Currently there is no public data to indicate the size and composition of the research workforce or funding by field at an institutional level, or to identify research volumes by field and geographical and regional areas.

#### 4. Consider extending citation analysis to peer reviewed ERA fields

Peer review remains highly appropriate, particularly for disciplines where citation analysis is not available (e.g. journal articles are not the main or most important output) or inappropriate (e.g. where excellent research takes a long time to be accepted or become highly cited). But expert panels can lack transparency and peer review disciplines have generally received weaker evaluation ratings in ERA.

Availability of citation data should not determine appropriateness citation analysis, such decisions are best made by disciplinary expert panels, but citation analysis can provide robust and transparent data from which to differentiate world class research. Extending citation analysis into peer reviewed fields could guide (not dictate) expert judgement and evaluations.

#### 5. Combine engagement and approach to impact in EI

Engagement and approach to impact both target whether and how well a university is pushing research outcomes towards impact through their use. EI can reduce workload required by combining these two with a strong focus on the work to optimise a positive impact. This change would sharpen the articulation of the EI report, with only two areas of evaluation: engagement and impact.

#### 6. Refocus EI at showing first the sections of Australia's economy and society most using research to improve outcomes

SEO codes or an explicit end user driven category would give Government useful information about which parts of the economy are the more likely or unlikely to seek out research to improve performance. It would provide greater clarity on the university contribution to economy and society, based on where and how research is used, not which part of the university was the research creator. It would recognise that a single action could draw on people from multiple disciplines.

#### 7. Continue to develop ERA and EI evaluations of Interdisciplinary and Indigenous research

ERA is sufficiently comprehensive, covering the full spectrum of research at a 4-digit level. This will be improved by the addition of Indigenous or Aboriginal and Torres Strait Islander research as a separate disciplinary category for evaluation. Adequate evaluation of interdisciplinary and multidisciplinary research remains an ongoing challenge.

#### 8. Alternate ERA and EI cycles every six years

IRU has regularly suggested that ERA and EI alternate, one every three years, to maintain the focus on public measurement while balancing the workload for researchers and universities. With improved efficiency from data collection, while ensuring universities retain possibility to curate data, a shorter time frame may be possible.

12 October 2020

## ERA Consultation Paper Questions - IRU Response

### 3.1 ERA policy

#### Value of ERA

Q3.1 *To what extent is ERA meeting its objectives to:*

- a. *Continue to develop and maintain an evaluation framework that gives government, industry, business and the wider community assurance of the excellence of research conducted in Australian higher education institutions.* **A large amount**

The ERA assessment has been a strong statement of the depth and breadth of research in Australia's universities, that has added considerably to the previous quantity of research metrics. Over time the repetitive aspect has meant each new assessment is less noteworthy.

- b. *Provide a national stocktake of discipline level areas of research strength and areas where there is opportunity for development in Australian higher education institutions.* **A large amount**

ERA provides a national stocktake of research, capturing most research outputs in most discipline areas with a critical mass of research, due to its (low) 50 output Low Volume Threshold and comprehensiveness in the range of research outputs included (including non-traditional outputs). It is less useful for identifying opportunities for development due to lagged indicators, differences in research traditions, resourcing and evaluation processes across disciplines.

- c. *Identify excellence across the full spectrum of research performance.* **A large amount**

ERA is sufficiently comprehensive, covering the full spectrum of research at a 4-digit level. This will be improved by the addition of Indigenous or Aboriginal and Torres Strait Islander research as a separate disciplinary category for evaluation. Adequate evaluation of interdisciplinary and multidisciplinary research remains an ongoing challenge.

- d. *Identify emerging research areas and opportunities for further development.* **A moderate amount**

ERA is a backward looking exercise and lagged, more suitable for examining past performance rather than identifying emerging opportunities or strengths. ERA comprises research outputs published across a six year period, including up to eight years prior to the ERA national report. The research conducted and resourcing underpinning the research process for these outputs may extend back many years prior.

- e. *Allow for comparisons of research in Australia, nationally and internationally, for all discipline areas.* **A moderate amount.**

Comparisons within Australia are complicated by variation in research scale and potential inconsistencies in how units are evaluated, particularly in peer review disciplines. For medical and STEM citation-based disciplines, international comparisons/benchmarking is provided for due to the international composition of research outputs. For HASS and peer review disciplines, the outputs of the rest of the world are skewed by North America, UK and EU, meaning that the international benchmark is different in these disciplines.

Q3.2 *The ERA objectives are appropriate for meeting the future needs of its stakeholders.* Agree.

Q3.3 *What impacts has ERA had on:*

a. *the Australian university research sector as a whole*

Australia's research excellence and scale appears to have improved over time in terms of number of disciplines assessed and the proportion at or above world standard, with improvement concentrated in citation-based disciplines. It is difficult to attribute the impact of ERA on research excellence independently of other national research policy decisions, but it appears that a focus on research excellence (over the previous emphasis on purely research scale metrics) has coincided with the ERA process, which is a positive outcome.

b. *Individual universities*

ERA helps identify and acknowledge areas of excellence wherever they lie in Australia's higher education sector. No university has the scale to be excellent across all sub-disciplines of research. ERA is influential internally because it encourages research strategy targeting areas of strength or priority.

Most of the cost of the exercise is borne by universities and it has required dedicated resources.

c. *Researchers*

ERA affects individual researchers indirectly via internal strategic resourcing decisions and external perceptions of capacity to conduct/support research, including in the assessment of the strength of the research environment in research grant applications.

d. *Other?*

Q3.4 *How do you use ERA outcomes?*

ERA facilitates institutional benchmarking and identifying areas where IRU members have collective research scale and excellence.

Q3.5 *ERA outcomes are beneficial to you/your organisation.* Agree

For the IRU, ERA provides a broad snapshot of research performance over time at a level of disaggregation (i.e. 4-digit FOR) that is meaningful for exchanging approaches to support research excellence. Individual members report that ERA is influential internally and used for research strategy decisions, taking care when drawing comparisons across disciplines due to the relatively depressed measures for the humanities arts and social sciences.

Q3.6 *Do you have any suggestions for enhancing ERA's value to you/your organisation?*

The value of ERA could be enhanced by increasing transparency of evaluations and public availability of data feeding into 4-digit level evaluations. This would help identify the contribution of research at more granular (e.g. 6-digit) level where research strategies and partnerships are more practical.

A printable version of the National Report (e.g. MS Word, PDF) would improve readability and understanding of ERA (particularly for the wider community and internationally), archiving and referencing.

## 3.2 ERA methodology

### ERA methodology at a glance

Q3.7 *The current methodology meets the objectives of ERA.* Neither agree or disagree

ERA's methodology meets the objective of providing a credible evaluation of the quality of university research and an assurance that Australia's research is improving over time. Methodologically, the main weaknesses lie in the transparency and potential arbitrariness of the peer review process. ERA has contributed to the objectives of internal strategic planning and research management. ERA has not clearly informed research policy and its use of lagged indicators is problematic for this goal. The soundness of the ERA methodology could meet the goals of demonstrating the value of investment in research to the Australian community, but generally this has not been the outcome of the ERA National Reports.

Q3.8 *What are the strengths of the overall methodology?*

ERA is comprehensive and frequency of every three to five years is appropriate, with improved efficiency from existing data but ensuring universities retain possibility to curate data. Methodology acknowledges disciplinary differences in research publishing and evaluation. A Low Volume Threshold is appropriate to exclude evaluation of units with unreliable data. ERA rating scale is intuitive but the basis for the rating thresholds not widely understood. Stability in ERA methodology over time has allowed it to be incorporated into routine university practices.

Q3.9 *What are the weaknesses of the overall methodology?*

ERA involves a large workload to capture all research. Evaluations can lack transparency. Some disciplines have a very large number of outputs from adjunct staff, which risks distorting (gaming) evaluations. Many of the contextual indicators have an unclear relationship with research excellence (e.g. applied measures, such as patents or research commercialisation) or may be both inputs and outputs of research excellence (e.g. research income; number of highly ranked research staff). International citation benchmarks may not be appropriate for assessing uniquely Australian-focused studies, which have a more targeted local audience and inevitably are cited less than North American or European equivalents (e.g. Australian law research, studies of Australian ecology and phylogenetics/systematics, Australian history, Archaeology and Palaeontology). Similar issues arise in peer review assessments and this may be particularly acute in the proposed Indigenous research field.

### Citation analysis methodology

Q3.10 *The citation analysis methodology for evaluating the quality of research is appropriate.* Agree

Given the practical constraints, citation analysis is appropriate in those disciplines where research is predominantly published in academic journals where citation data is available.

Q3.11 *Does the discipline-specific approach for evaluating research quality (citation analysis or peer review for specific disciplines) continue to enable robust and comparable evaluation across all disciplines?*

The discipline-specific approach supports robust evaluations of disciplines, comparisons across universities within the same discipline, and comparisons over time. However, such comparisons are

limited by potential reliability (particularly peer review disciplines), validity (e.g. appropriateness of citation analysis) and complex relationship with contextual indicators that are inputs into the research process. The discipline-specific approach does not enable comparisons across different disciplines due to the different underpinning methodologies and contextual situations.

Q3.12 *What are the strengths of the citation analysis methodology?*

Low cost, potentially transparent, and the use of relative citation impact (RCI) is size and field-specific independent. Separate national and international benchmarks help add disciplinary context to overall results. The citation metrics guide (but do not dictate) expert judgement and evaluations.

Q3.13 *What are the weaknesses of the citation analysis methodology?*

Citation analysis is complex and retains expert judgement that is not always transparent. For example, it is unclear when there is inconsistency between ERA scores and citation data from Web of Science/Scopus. While high citation rates are indicative of visibility and likely correlate with excellence, not all highly cited research is cited for positive reasons, it can favour certain article types (e.g. review articles) and the reference period may be too soon to judge research excellence/impact of some research (e.g. transformative research yet to be accepted).

Q3.14 *Can the citation analysis methodology be modified to improve the evaluation process while still adhering to the ERA Indicator Principles?* **Yes**

Publication of granular citation data. Brief explanations for when citation analysis does not correspond with ERA score.

### **Peer review methodology**

Q3.15 *The peer review methodology for evaluating the quality of research is appropriate.* **Neither agree nor disagree**

Peer review remains appropriate for disciplines where citation analysis is not available (e.g. journal articles are not the main or most important output) or inappropriate (e.g. where excellent research takes a long time to be accepted or become highly cited). Availability of citation data should not determine appropriateness citation analysis. This decision is best made by disciplinary expert panels.

Q3.16 *What are the strengths of the peer review methodology?*

The decision to assess a discipline by peer review, rather than citation analysis, is taken by disciplinary experts. A sample of outputs is appropriate.

Q3.17 *What are the weaknesses of the peer review methodology?*

Expert panels lack transparency and there is a burden on peer reviewers. The lack of international benchmark may make it difficult to credibly determine world standard, particularly when “international” may be skewed heavily by output in USA, UK and EU. Peer review disciplines have lower scores overall and volume (rather than excellence) may be a contributor to positive evaluations.

Q3.18 *Can the peer review methodology be modified to improve the evaluation process while still adhering to the ERA Indicator Principles?* **Yes**

Could benefit from more international peer reviewers (e.g. 40% of total). Domestic reviewers are essentially reviewing themselves against international benchmarks and may be inclined to normalise results within Australia. International reviewers could more effectively place research in world context. Extending citation analysis to HASS fields where journal articles are a majority of output and where (recent) citations are considered an adequate proxy for excellence.

### Contextual indicators

Q3.19 *The volume and activity indicators are still relevant to ERA.* **Neither agree nor disagree**

Volume is and some activity indicators are (e.g. funding; staffing), but it is unclear how these are to relate to excellence.

Q3.20 *The publishing profile indicator is still relevant to ERA.* **Strongly agree**

These add important context to the esteem of the publication outlets and potential skewness towards individual outlets/publishers.

Q3.21 *The research income indicators are still relevant to ERA.* **Neither agree nor disagree**

It is only used for upgrading high research income units of analysis that are on the border between two ratings: “At the final meeting of the research evaluation committee, the committee may decide to increase a rating of a unit of evaluation where it is considered to sit on the boundary between two ratings and the income is exceptional.” It is unclear why units with exceptional research income, but relatively low research excellence evaluations, should be upgraded. Research income is an input into the research process. One could easily argue units that perform well despite low research income ought to be upgraded.

Q3.22 *The applied measures are still relevant to ERA: (Patents; Research commercialisation income; Registered designs; Plant breeder’s rights; NHMRC endorsed guidelines).*

No comment. It is unclear how these measures are used in discipline specific committees.

### ERA rating scale

Q3.23 *The five-band ERA rating scale is suitable for assessing research excellence.* **Strongly agree**

ERA’s rating scale is not intended to provide a fine grained differentiation between Australian universities at the upper (or lower) end of the scale. The rating scale is intended to present the quality of Australian university research against international benchmarks. On this basis, the rating scale is intuitive containing an appropriate a mid-point (3) of “at world standard”, and a symmetrical range from (1) “well below” to (5) “well above” world standard. The broadly defined categories are also appropriate for an evaluation exercise that contains elements of subjective judgement.

Q3.24 *Noting that 90% of units of evaluation assessed in ERA 2018 are now at or above world standard, does the rating scale need to be modified to identify excellence?* **No**

### ERA low-volume threshold

Q3.25 *The ERA low-volume threshold is appropriate.* **Disagree**

The low threshold potentially captures some small discipline groups generating unreliable results.

Q3.26 *Are there ways in which the low-volume threshold could be modified to improve the evaluation process?*

Increase low-volume threshold to 100, with universities retaining the option to opt-in for fields between 50 to 99 outputs. Increasing the threshold would increase reliability, minimise privacy concerns in relation to publicising data.

Providing an opt-in would maintain inclusion of smaller universities' fields of strategic importance and maintain ERA's objective of identifying excellence and emerging excellence across the full spectrum of research. The opt-in would also counteract the introduction of the ANZSRC 2020, which increases the number of 4-digit codes from 157 to 213 and will dilute outputs in some fields.

#### **ERA staff census date**

Q3.27 *What is the more appropriate method for universities to claim research outputs—staff census date or **by-line**?*

A by-line approach is preferred because it is simpler to administer and is not affected by staffing changes immediately prior to the staff census date. While it may lack precision and comprehensiveness, a by-line approach it will not “prevent a snapshot of the current research capacity of a university” as stated in the Consultation Paper. Each institution could still retain some control to curate outputs with institutional by-lines, such as removing outputs by deceased researchers, former/visiting/seconded staff, students, or those who do not have an established affiliation to the institution (while retaining the right to include outputs of honorary/adjunct staff that have an established and genuine affiliation).

Q3.28 *What are the limitations of a census date approach?*

As the Consultation Paper states, the census date incentivises engaging staff “merely for the purpose of claiming all their research outputs within the reference period”. Presumably it also leads to administrative workload associated with this.

Q3.29 *Would a by-line approach address these limitations? **Yes***

A by-line approach would minimise the above problems with hires prior to census.

Q3.30 *What are the limitations of a by-line approach?*

A by-line approach focuses on past research performance and this is not a guarantee of future results, particularly in emerging fields and emerging fields of excellence. It also hides identification of areas of emerging strength or strategic research recruitment, where publications are not assigned to the current institution. The by-line approach may have an interacting effect with the low volume threshold, pushing some fields below 50 (or 100 if the threshold is increased).

#### **ERA interdisciplinary research and new topics**

Q3.31 *ERA adequately captures and evaluates interdisciplinary research. **Neither agree nor disagree***

ERA does not evaluate interdisciplinary research separately, but allows outputs, income and other indicators to be split across three Field of Research. In this way, it captures, but does not evaluate, interdisciplinary research.

*If you disagreed with the previous statement, how could interdisciplinary research best be accommodated?*

While it would appear relevant for ERA to identify institutions with excellence in interdisciplinary research, exceeding world standards, the ERA methodology is not well suited to the evaluation of interdisciplinary research. Interdisciplinary research may be disadvantaged in standard measures, such as field normalised citation rates, lack of established/prestigious outlets and have lower success rate on ARC funded projects. Evaluating interdisciplinary research based on peer review is also complex due to its breadth of disciplinary coverage. On balance, the current approach of including interdisciplinary research, but not evaluating it as a separate field, should continue.

### **ERA and Indigenous research**

Q3.32 *My institution would meet ERA low-volume threshold in Indigenous studies at:*

- a. *Two-digit? Yes/No. If you answered 'yes', please list which ones.*
- b. *Four-digit? Yes/No. If you answered 'yes', please list which ones.*

No comment. This is best answered by individual institutions.

Q3.33 *In ERA, the best approach for evaluating Indigenous Studies is (choose one):*

- a. *Using established ERA methodology i.e. the low-volume threshold would apply to the Indigenous Studies discipline and all its specific disciplines*
- b. *For Aboriginal and Torres Strait Islander studies by combining low-volume disciplines into single units of evaluation*
- c. *For Aboriginal and Torres Strait Islander studies by combining low-volume disciplines into two units of evaluation (one unit comprising Humanities, Arts, and Social Sciences disciplines and one unit comprising Science, Technology, Engineering and Mathematics disciplines)*
- d. **Other.** *Please describe.*

This requires further development. There are potential problems with coverage of outputs, which will impact low volume thresholds. The validity of “world class” may be questionable for research that is inherently local in nature and may fail to reach a (invalid/irrelevant) world standard. It is unlikely that Indigenous Studies is suitable for citation analysis.

Q3.34 *What would be the advantages and/or disadvantages of your preferred approach for evaluating Indigenous studies in ERA?*

Uncertain. The goal must be to identify and support existing and emerging research excellence in this field.

## **3.3 ERA process**

### **Collection of ERA data**

Q3.35 *ERA should move to an annual collection of data from universities.* **Neither agree nor disagree**

Q3.36 *What would be the advantages and/or disadvantages of an annual data collection?*

Benefits may be to spread the workload over a longer period (avoiding peaks and hiring temporary staff specific for ERA), avoid census “gaming” and potentially allow for rolling ERA cycles. For data that is already reported on an annual basis (e.g. contextual data from HERDC income and HEIMS staff), modifying the report to match FORs at a 4-digit level may be feasible. For publications, including automated harvesting (e.g. from ORCID), it would reduce workload, but universities need to be able to validate data to avoid locking universities in to certain fields if there is not an option to reclassify at time of submission.

Disadvantages include be extra workload from ERA reporting every year, risk of locking in pathways if no curation of data in year of ERA submission. Most of the workload is in the curation of data and assessing its quality, rather than data extraction. Assessing quality on an annual basis is not feasible with current resourcing.

### **Publication of ERA data**

Q3.37 *In future ERA rounds, should the volume of outputs submitted for each unit of evaluation be included in the National Report?* **Yes**

Transparency on quantum of output would improve interpretation of ERA scores (particularly ERA 5 low volume fields). Possibility to use bands of output if privacy is a concern.

Q3.38 *In future ERA rounds, research outputs should be published with their assignment to specific disciplines following completion of the round.* **Strongly agree**

Improved transparency at little administrative cost.

*a. What would be the advantages?*

Improved transparency, greater usefulness of data for secondary analysis, such as identifying research volumes by field in regional areas.

*b. What would be the disadvantages?*

The added value may be limited because ERA data is not comprehensive and remains a partial snapshot due to low volume thresholds.

Q3.39 *What other data do you think the ARC should publish following an ERA round?*

All contextual information (e.g. HERDC income; staffing FTE and HC) and bibliometric results (RCI data). Currently there is no HEIMS data to indicate the size and composition of the research workforce or funding by FoR.

## EI Consultation Paper Questions - IRU Response

### 4.1 EI Overview

Q4.1 *Considering that EI is a new assessment, to what extent is it meeting its objectives to:*

- a. *encourage greater collaboration between universities and research end-users, such as industry, by assessing engagement and impact?* **A small amount.**

The case study methodology can inform, but is not suitable for guiding research strategy or encouraging collaboration. It is very difficult to attribute impact to its source research/researchers. Impact requires external uptake and that can be beyond the university control.

- b. *provide clarity to the Government and the Australian public about how their investments in university research translate into tangible benefits beyond academia?* **A small amount**

The case studies provide only a partial indicators and examples, and do not adequately reflect to the public the contribution of research.

- c. *identify institutional processes and infrastructure that enable research engagement?* **A small amount.**

It is very difficult to attribute engagement and impact to the processes supporting it. Highly effective processes may have been evaluated this way due to effective narrative explanations, rather than processes.

- d. *promote greater support for the translation of research impact within institutions for the benefit of Australia beyond academia?* **A small amount.**

Universities face resource constraints, particularly for research. It is unclear if the EI exercise, on its own, is able to promote engagement on a more widespread basis given the other pressures (e.g. towards research excellence and traditional outputs supporting competitive grants, research block grants, prestige and international student revenue).

- e. *identify the ways in which institutions currently translate research into impact?* **A small amount**

EI identifies exemplar cases and describes the pathways to impact, but the cases are not necessarily “current”, attribution is difficult and only a partial picture of current processes.

Q4.2 *The EI objectives are appropriate for the future needs of its stakeholders.* **Neither agree or disagree**

The objectives are appropriate (clarity on public benefit; enabling engagement; supporting translation), but the EI process is resource intensive and not effective.

Q4.3 *What impact has EI had on:*

a. *the Australian university sector as a whole?*

Minimal impact or attention beyond the initial release of the Report.

b. *Individual universities.*

IRU members have found the reporting process to be resource intensive, with results having minimal impact or attention internally (certainly compared to ERA). However, EI does but did help identify examples of engagement and impact.

c. *researchers.*

Minimal. It did lead to local discussions at a field of research level at IRU members, but case studies and narratives were mostly developed one-on-one with researchers and groups.

d. *other sectors outside of academia?*

Minimal evidence of this.

Q4.4 *How do you, or your organisation, use EI outcomes?*

IRU presented the aggregate results in internal briefings at a group, institutional, FOR and SEO level. IRU members shared all of their case studies and outcomes, which were discussed at a one-day forum.

Q4.5 *The EI outcomes are valuable to you or your organisation.* **Agree**

The high impact case studies and the repository on the ARC website is useful for identifying examples (by FoR, SEO or keyword) of engagement and impact in IRU publications, internal briefings, external relations and inquiries. For example, identifying “bushfire” research examples following the 2020 bushfires, and country-based partnerships, such as inquiries from overseas university networks and Australian Government trade offices for partnerships.

Q4.6 *How else could EI outcomes be used?*

One limitation of EI is the follow through and use of the knowledge gained. There is some scope for using EI case studies in (early career) professional development of academic staff and PhD candidates. Many staff are motivated to see their research have impact and gain networks outside academe to support their research and careers. The high impact case studies offer exemplars of projects and researchers. Dedicating resourcing to use these existing cases in training programs may be more valuable than a further round of EI exercises which draw further examples.

On their own, the case study repository can be beneficial to individuals seeking knowledge and networks on specific projects. In 2019, IRU’s Policy Advisor, Dr Peter Bentley, used the EI case study repository in his Endeavour Executive Fellowship in Finland as background to his project and for meeting researchers with collaborations with IRU members. The fellowship involved supervision, interviews and site visits to Kalmar’s dock automation facilities in Melbourne and Tampere. Coincidentally, Kalmar’s university-industry partnership was identified as an EI high impact case study at the University of Sydney and offered further background information and contacts in Australia.

## 4.2 EI definitions

Q4.7 *The current Engagement definition is appropriate.* **Neither Agree nor disagree**

Q4.8 *The current Impact definition is appropriate.* **Neither Agree nor disagree**

IRU previously argued that the distinction proposed is not helpful. Our position was that the activity of working with end users on research could lead to a level of interaction (engagement) that if successful would constitute Impact. In effect the two would be points along a scale, not two distinct scales.

Q4.9 *The current end-user definition is appropriate.* **Disagree**

As noted in the Consultation Paper, the exclusion of higher education providers as end users is problematic, particularly given it is Australia's largest services export industry and Australian higher education research has led to policy innovation adopted elsewhere in the world (e.g. income contingent loans). Inserting "schools and tertiary education providers" into the definition would improve clarity (e.g. "Examples of research end-users include governments, businesses, non-governmental organisations, schools and tertiary education providers, communities and community organisations.")

Q4.10 *Are there other key terms that need to be formally defined?* **No**

## 4.3 EI methodology

### Unit of assessment

Q4.11 *Are the two-digit Field of Research codes the most appropriate method to define units of assessment for Engagement and Impact?* **No**

SEO codes or an explicit end user driven category would provide greater clarity on university contribution to economy and society, and recognise that a single action could draw on people from multiple disciplines. An end user focus would give Government useful information about which parts of the economy are the more likely or unlikely to seek out research to improve performance.

There would be implementation requirements to introduce this, which would be justified for the outcome.

Q4.12 *Are there other ways to classify units of assessment in EI, for example, SEO codes?* **Yes**

See above.

### Selectiveness of EI

Q4.13 *Should there be more or fewer units of assessment per university?* **The same number as in EI 2018**

Maintaining current approach would minimise costs.

### EI low-volume threshold

Q4.14 *The EI low-volume threshold should continue to be based on the number of research outputs submitted for ERA.* **Neither agree or disagree**

If the EI unit of assessment shifted to SEO, then the minimum threshold would need to be based on SEO output.

Q4.15 *The low volume threshold is set at the appropriate level.* **Agree.**

The low volume threshold of 150 weighted apportioned outputs (1 book counted as 5) per 2-digit FoR in ERA is appropriate if FOR remains the unit of assessment. If based on SEO, a similar threshold would be appropriate.

### Engagement indicators

Q4.16 *Overall, the engagement indicator suite for the assessment of research engagement is suitable.* **Disagree.**

Most of the metrics are poor proxies for engagement, can be skewed by a small number of (historic) examples and not size independent (per capita). It is also not clear how they are used in the engagement assessments by the panels

Q4.17 *The cash support from research end-users indicator using HERDC data is appropriate for the assessment of research engagement?* **Strongly disagree**

Cash support is a poor proxy for engagement, particularly for community engagement.

Q4.18 *The research commercialisation income is appropriate for the assessment of research engagement.* **Disagree**

Possibly relevant in some fields, but generally a poor proxy and skewed.

Q4.19 *Are there additional metrics that would be appropriate across many or all disciplines?* **Yes.**

External engagement of HDRs.

Q4.20 *Are there alternative metrics that would be appropriate across many or all disciplines?* **Yes**

It is possible that the Innovation Metrics Review Taskforce delivered examples in their 2019 report to government.

Q4.21 *Should any of the current Engagement metrics be redesigned?* **Yes**

Presented as per capita metrics.

Q4.22 *The co-supervision of HDR students should be made an engagement indicator in future rounds of EI.* **Agree**

Co-supervision is receiving increased attention from universities and data on this is being collected. There is a need that any metric of co-supervision needs to be appropriately defined because external engagement on supervision spans a continuum of activities (e.g. co-location with external supervisors; co-funding; internships) and different depths/durations of activities. There may be field-based differences.

Q4.23 *In your opinion, are any of the ERA applied measures appropriate indicators of research engagement in EI?*

a. *Patents.* **No**

- b. *Research commercialisation income.* **No**
- c. *Registered designs.* **No**
- d. *Plant breeder's rights.* **No**
- e. *NHMRC endorsed guidelines.* **No**

These have relevance only for a minority of fields and, without knowing how the metrics feed into the EI assessments, it is difficult to recommend their use.

### **Engagement narrative**

Q4.24 *The narrative approach is suitable for describing and assessing research engagement with end-users.* **Agree**

Due to the lack of suitable quantitative data for engagement across all disciplines, the narrative approach is suitable but needs to be shortened and allow for external links to substantiate and elaborate on claim (URLs).

Q4.25 *One engagement submission per broad discipline is sufficient for capturing the research engagement within that discipline.* **Agree**

A single submission may not sufficiently capture the breadth of engagement within a discipline, but we do not support increasing the number of engagement submissions per discipline.

Q4.26 *The engagement narrative needs to be longer.* **Strongly disagree**

The current length is sufficient and could be shortened with the use of external links.

Q4.27 *Additional evidence is needed within the narrative.* **Neither agree or disagree**

If required, further substantiation can be provided in external links.

### **Impact narrative**

Q4.28 *The narrative approach is suitable for describing and assessing impact.* **Agree**

Due to the lack of suitable quantitative data for impact across all disciplines, the narrative approach is suitable but needs to be shortened and allow for external links to substantiate and elaborate on claim (URLs).

Q4.29 *One impact study per broad discipline is sufficient for capturing the research impact within that discipline.* **Neither agree or disagree**

A single case study cannot sufficiently capture the breadth of impact within a discipline. This is an inherent limitation to the current approach. However, we do not support increasing the number of impact studies per discipline.

Q4.30 *The impact narrative needs to be longer.* **Strongly disagree**

The current length is sufficient and could be shortened with the use of external links.

Q4.31 *There is a need for additional evidence to be provided within the narrative.* **Neither agree or disagree**

If required, further substantiation can be provided in external links.

Q4.32 *In your opinion, are there quantitative indicators that could be used to measure the impact of research outside of academia?* **No**

#### **Approach to impact Narrative**

Q4.33 *The narrative approach is suitable for describing and assessing approach to impact.* **Neither agree or disagree**

Approach to impact could be incorporated into the engagement section. It is very difficult to identify and describe how differences in approach can be attributed to impact. However, a narrative approach is probably the only sufficiently flexible approach to articulate this due to lack of other robust data.

Q4.34 *One approach to impact narrative per broad discipline is sufficient for capturing the activities within that discipline.* **Agree**

A single narrative may not fully capture the breadth of approaches and support for impact within a discipline, but the flexibility of the narrative approach helps overcome this limitation. We do not support increasing the number of narratives per discipline.

Q4.35 *The approach to impact narrative needs to be longer.* **Strongly disagree**

The current length is sufficient and could be shortened with the use of external links.

Q4.36 *There is a need for additional evidence to be provided.* **Neither agree or disagree**

If required, further substantiation can be provided in external links.

Q4.37 *Would there be benefit in combining engagement and approach to impact?* **Yes**

Due to the interconnectedness of engagement and approach to impact (and their evaluations), there is potential to reduce the workload required by combining these. It would also sharpen the articulation of the EI report, with only two areas of evaluation: engagement and impact.

#### **EI rating scales**

Q4.38 *The engagement rating scale is suitable for assessing research engagement.* **Agree**

The EI rating scales (high, medium, low) are coarse, but intuitive. Until there is much more confidence in the value of the EI ratings a more fine grained – e.g. a five-point scale to align with ERA – is not suitable.

Q4.39 *The descriptors for the engagement rating scale are suitable.* **Neither agree or disagree**

A single narrative/case study is not likely to demonstrate that engagement is “well integrated” across an entire UoA. The descriptors of interactions (little-effective-highly effective) and integration (none-incorporated-well integrated) are intuitive, but may measure separate elements. Conceivably there can be highly effective engagements unintegrated into the rest of UoA.

Q4.40 *The impact rating scale is suitable for assessing impact.* **Agree**

The EI rating scales (high, medium, low) are coarse, but intuitive. Until there is much more confidence in the value of the EI ratings a more fine grained – e.g. a five-point scale to align with ERA – is not suitable.

Q4.41 *The descriptors for the impact rating scale are suitable.* **Strongly agree**

The descriptors are intuitive and appropriate for a case study example.

Q4.42 *The approach to impact rating scale is suitable for assessing approach to impact.* **Agree**

The EI rating scales (high, medium, low) are coarse, but intuitive. Until there is much more confidence in the value of the EI ratings a more fine grained – e.g. a five-point scale to align with ERA – is not suitable.

Q4.43 *The descriptions for the approach to impact rating scale are suitable.* **Agree**

The descriptors are intuitive and appropriate for a case study example, but similar to the engagement descriptors, a narrative/case study it is not likely to demonstrate that engagement is “well integrated” across an entire UoA.

#### **EI interdisciplinary research**

Q4.44 *Should EI continue to include an interdisciplinary impact study in addition to the two-digit Fields of Research impact studies?* **Yes**

Given the difficulties in quantitatively identifying and assessing interdisciplinary research (e.g. research output and excellence in ERA), its inclusion in EI helps acknowledge its importance.

#### **EI and Aboriginal and Torres Strait Islander research**

Q4.45 *Should the EI low-volume threshold be applied to the unit of assessment for Aboriginal and Torres Strait Islander research in EI 2024 with the option to opt in if threshold is not met?* **Yes**

It is important that universities can demonstrate their contribution to this field, with all having the option to opt in.

Q4.46 *Should the unit of assessment for Aboriginal and Torres Strait Islander research include engagement in EI 2024?* **Yes**

## **Overarching ERA & EI Consultation Paper Questions – IRU Response**

### **5.1 Frequency of ERA and EI**

Q5.1 *How often should ERA occur?* **Other**

The IRU retains its preference for a six-year ERA and EI cycle, alternating each of the two assessments so that there is one or other assessment every three years, will free up considerable academic and administrative resources.

With EI still needing much development and data to provide confidence in its outcomes it should be the next assessment.

Q5.2 *What impact would a longer assessment cycle (i.e. greater than three years) have on the value of ERA results, particularly in the intervening years?*

Research excellence takes more than three years to develop (or deteriorate), but extending the timeframe will impact on the currency of the ERA results. To have a larger gap after four rapid rounds would allow a refreshed approach to ERA and greater interest in its results.

Q5.3 *How often should the EI assessment occur?* **Other**

Every six years to allow a three year rotation with ERA. However, the next EI should come first to allow it to be refined and improved. It would provide opportunity to use the exemplars identified in EI for researcher and program development, rather than dedicating resources to a further round of data collection.

Q5.4 *What impact would a longer assessment cycle (i.e. greater than three years) have on the value of EI results, particularly in the intervening years? Please explain your answer.*

There is a risk that EI will lose momentum if conducted only every six years and delay evidence against EI objectives (e.g. clarity to Government and public of public investment), but the interim period would provide a better opportunity to use the EI results for the main objective of translation of research into impact.

## 5.2 Streamlining and simplifying ERA and EI

Q5.5 *ERA and EI should be combined into the one assessment.* **Disagree**

ERA and EI have different objectives. It would lead to a large peak in administrative workload.

Q5.6 *Are there other ways to streamline the processes to reduce the cost to universities of participating in ERA and EI? Yes*

ERA could integrate with HERDC and HEIMS annual submissions.

Q5.7 *In your view, what data sources could ERA use?*

Unsure.

Q5.8 *In your view, what are the most time-consuming elements of an ERA submission?*

No comment. This is most relevant to institutions.

Q5.9 *In your view what are the most time-consuming elements of an EI submission? Please describe.*

No comment. This is most relevant to institutions.

## 5.3 Using technological advances and pre-existing data sources

Q5.10 *ORCID iDs should be mandatory for ERA.* **Agree**

Making ORCID mandatory ought to reduce administrative workload at time of submission. Universities and ARC already seeking to integrate ORCID into operations. Making ORCID mandatory should reduce administrative workload at time of submission.

Q5.11 *The automatic harvesting of output data using ORCID iDs would streamline a university's submission process.* **Agree.**

This is suitable if ORCID reaches sufficient coverage.

Q5.12 *DOIs should be mandatory for ERA.* **Neither agree nor disagree**

For some outputs, such as non-traditional outputs, a lack of DOI may not be a strong reason for exclusion.

Q5.13 *Are there new ways to collect data to reduce the cost and burden to universities of participating in ERA and EI whilst maintaining the robustness of the ERA and EI process?* **No.**

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