



## Australian Council of Graduate Research (ACGR) response to

### National Priorities and Industry Linkages Fund Consultation Paper

#### Overview

Australia's higher degree by research candidates make up 56% of our university's research workforce<sup>1</sup>, and this cohort can contribute significantly to our nation's bid to improve graduate employability and engagement between higher education and industry. Each year close to 16000 new candidates commence their graduate research degrees, identifying and pursuing research projects that have the potential to not only engage with industry partners, but also to meet their needs and offer collaborative solutions. Evidence of the economic and social benefits of graduate research in Australia has been outlined recently in an ACGR Graduate Research Impact Blog<sup>2</sup>. Supporting interactions with industry, either through short term placements or as an integral part of their 3-4 year research projects, provides invaluable work integrated learning and enhances graduate destination opportunities for graduate research candidates.

It is logical therefore, that the guidelines for the National Priorities and Industry Linkage Fund must recognise and support the importance and effectiveness of industry engagement and WIL by graduate research students.

#### Current Scope of HDR Industry Engagement

The nature of end user engagement by Australia's current PhD candidates is already extensive, complex and varied. The Australian Postgraduate Research (APR) Intern Program<sup>3</sup> has placed almost 400 graduate research candidates in paid internships since it was federally funded in 2017. But this is just part of the story.

Research undertaken by the Melbourne Centre for Studies in Higher Education on behalf of ACGR in 2017 involved a survey of over 3700 PhD candidates and showed strong levels of engagement of current candidates with end users along a continuum which extends far beyond simply internships. Paid and unpaid placements were just a small part of this engagement and up to 40% of candidates engage, in one or more of a wide variety of ways, with non-university partners. These include data collection, industry advice and other forms of collaborations and underline the importance of utilising a broad definition when measuring external engagement, capturing the diversity of activities in different disciplines.

The survey highlighted that external engagement is associated with a range of positive outcomes for PhD candidates in relation to both the completion of their degrees and their transition to employment. The majority of those so involved appreciated the contacts, networks, insights into work experience, motivation to complete and practical skills that are generated by placements and collaborative research projects. Although they represent a relatively small proportion of the total EFTSL, HDR

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<sup>1</sup> <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8111.02018>

<sup>2</sup> <https://www.acgr.edu.au/impact-blog/evidence-of-the-economic-and-social-benefits-of-graduate-research-in-australia/>

<sup>3</sup> <https://aprintern.org.au/>

students are likely to make a strong contribution to the NPILF metrics, particularly Industry partnerships.

## Responses to Specific Discussion Questions

### 1 – NPILF Principles

ACGR supports the five principles that guide the framework of the fund as described in Figure 1 but also suggest that another principle of “inclusivity” should be added to recognise that the indicators and measurement of performance should be appropriate to all cohorts within the higher education sector. This would specifically include higher degree by research students.

The metrics proposed for all universities should not only be simple, they should also align with existing data collections and reporting where possible.

### 4 – Tiered Indicators – listed metrics

ACGR contends that defining the WIL metrics relevant to HDRs to “students undertaking internships/placements within the first 18 months of commencing their HDR” does not recognise that, for graduate researchers, placements represent a (workplace) learning opportunity in which to apply the technical and transferable skills that they have developed during their research higher degree program (this is the best way to get them to ‘think beyond the lab’ – Q12). To maximise the impact of graduate researchers on the development of industry linkages the WIL metrics relevant to HDRs should be applied to all stages of candidature.

The 2017 Research Training Implementation Plan<sup>4</sup> emphasised the need to increase (the range of) Industry-university collaboration and recognised that benefits are achieved through a range of engagement activities undertaken at all stages during (and immediately after) candidature. ACGR collaborated with the Australian Industry Group to develop two guidance documents<sup>5</sup> to enhance university industry engagement. The Department has also signalled its commitment to this imperative by annually collecting and reporting the levels of end-user engagement through the HEIMS indicator 593 which has five components:

- Research internship with a research end-user
- Joint supervision by a research end-user
- Jointly funded or fully funded by a research end-user
- Formal training on industry engagement
- Other commercialisation and engagement activities

These HEIMS end-user engagement elements demonstrate the breadth of WIL engagement for higher degree by research students and this pre-existing data provides “ready-made” metrics which would reduce the need for new and additional workload and resourcing.

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<sup>4</sup> <https://docs.education.gov.au/documents/research-training-implementation-plan>

<sup>5</sup> <https://www.acgr.edu.au/key-initiatives/industry-engagement/>

Similarly, the Industry Partnership component within the metrics could also include the HEIMS data on joint supervision by a research end-user and jointly funded or fully funded by a research end-user.

## **7 – Distribution Options**

ACGR is concerned that linking the per-EFTSL rates in each of the distribution options to the CSP EFTSL of each institution may signal that the fund is relevant only to undergraduate and postgraduate coursework students funded by the Department of Education, Skills and Employment. Graduate research students are also supported by the Commonwealth Government through the Research Training Program. As will be the case for CSP funded students, but additional funding via NPILF would also be extremely valuable in promoting HDR student-industry linkages. The opportunity to use NPILF to support HDR placements must be explicitly recognised in NPILF guidelines and the per EFTSL components of each of the options should be modified to take into account the proportion of the total RTP distributed to each university.

## **8 – Definitions of Priority Areas**

ACGR notes that the WIL and Industry Partnerships definitions can readily applied to graduate research education. Given the recognition within the consultation paper that STEM+ skills (problem solving, inquiry, creative and critical thinking) combine discipline knowledge and scientific method, ACGR sees a strong correlation with research skills and argues that researcher development initiatives should be included in the demonstrators and innovators in the STEM+ priority area.

## **15 – Exemplars of HDR Practice in WIL and Partnerships**

Building on regional, institutional and industry strengths, Australian universities have individually and collectively invested in and grown the breadth and scale of their industry engagement opportunities for graduate researchers. These range from mandated coursework components to co-curricular experiences as well as recognition of skills and experiences gained when undertaking research with an industry partner. Appendix 1 includes a small sample of the initiatives that are currently in place.

## **18 – Other Feedback or Comments**

Graduate research programs are already focussed on the mutual benefits of industry engagement but expansion of the range and scope of graduate research industry engagement initiatives is needed in order to:

- Provide more places in existing programs where there are currently limits on the number of students who can access them;
- Enable wider geographical diversity in the programs; and
- Establish new programs for different skill sets – HASS related areas can have huge impact on business, government and the third sector.

Ensuring that the guidelines for National Priorities and Industry Linkages Funding Scheme encompass and encourage investment in graduate research industry engagement will provide universities with the opportunity to take further advantage of the untapped potential that HDR end user engagement holds.



## Appendix 1 – Current Examples of Graduate Research Industry Engagement Initiatives

### **UQ 30 day-plus Placement Scheme**

<https://cdf.graduate-school.uq.edu.au/placements>

This scheme involves (usually unpaid) placements for a minimum 30 working days in duration. Students can self-source their own industry placement, often with the help of their supervisors.

### **Monash Graduate Research Industry Partnerships**

<https://www.monash.edu/graduate-research/partnerships/grip>

This program enables businesses to develop new ideas, products and services for the market with a team of graduate researchers and academic experts with interdisciplinary expertise; and to reduce research costs by gaining access to research facilities and state of the art technologies and equipment.

### **WA Industry & Research Engagement Program**

<https://www.iprep.edu.au/>

iPREP WA is a collaboration between the five WA universities and has been established for PhD candidates who may not have had previous industry experience. The program involve interdisciplinary teams, working on a six week project (with scholarship) for an industry partner.

### **Deakin PhD Xtra**

<https://www.deakin.edu.au/research/become-a-research-student/phd-xtra>

As part of a candidate's individualised learning plan they may undertake a career pathway placement. A placement can be a valuable learning experience, it provides evidence of relevant practical knowledge, and it can be a wonderful network-building opportunity.

### **IMNIS Industry Mentoring in STEM**

<https://imnis.org.au/>

IMNIS connects motivated PhD students (mentees) in science, technology, engineering and mathematics (STEM) with outstanding high level industry leaders (mentors) in a one year industry mentoring program.

### **ACGR Enhancing University Industry Engagement Guides**

<https://www.acgr.edu.au/key-initiatives/industry-engagement/>

Collaboratively produced by the Australian Council of Graduate Research (ACGR) and the Australian Industry Group (Ai Group), the two complementary publications which assist both universities and industry partners to realise the substantial short-term and long-term benefits that can be gained from graduate research student-industry engagement.

### **QUT eGrad School ENGAGE Program**

<https://www.qut.edu.au/research/e-grad-school>

Facilitated online learning modules to provide information, practical tools and skills that will enable candidates to engage with, end-users, industry and innovation practices.

### **UTS Industry Doctorate Program (IDP)**

<https://www.uts.edu.au/research-and-teaching/graduate-research/industry-engagement-programs/industry-doctorate-program-idp>

A formal 3-4 year PhD program that prepares candidates for a research career outside academia by working closely with an industry partner to solve a real-world challenge impacting the partnering organisation or the sector in which they operate.

Contact: Fiona Zammit, Executive Officer ACGR [exec@acgr.edu.au](mailto:exec@acgr.edu.au)