



Cooperative
Research
Australia

CRA's submission to the Employment White Paper

Cooperative Research Australia acknowledges the traditional custodians of the land on which we operate, the Ngunnawal people. We also acknowledge the traditional custodians of the various lands across Australia upon which our members operate.

We pay our respects to Elders past, present and emerging and celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to our lands and waters.

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Executive Summary

Cooperative Research Australia (CRA) welcomes the opportunity to provide a submission on the Treasury's Employment White Paper.

CRA commends the Australian Government on building a more comprehensive and productive workforce and appreciates the Treasury's effort to boosting Australia's economy and diversity to create prosperity for all Australians.

CRA is the voice of industry-research collaboration and advocates for the translation of research into commercial, economic, social, and environmental outcomes that benefit all Australians. Our members form a lynchpin in the Australian innovation system and are focused on creating new products, services, industries, and value in our economy. CRA represents Cooperative Research Centres (CRCs), CRC Projects (CRC-Ps), post-CRC entities, and universities as well as other industry-research collaborative entities, associated businesses, alumni and professionals.

Our contribution focuses on the challenge Australia faces in attracting, developing, and retaining a highly skilled workforce, which is intrinsically associated with levels of innovation and productivity needed to transition to a more complex economy.

CRA has focused on the following scopes and themes from the Terms of Reference:

1. Achieving full employment and increasing labour productivity growth and incomes
2. The innovative skills needed for economic / industrial transformation
3. The adaptability of a highly skilled workforce to meet the needs of emerging industries and areas of traditional economic strength.
4. Diversity across all measures as a factor to nurture an innovative and productive workforce
5. Migration as a strength to compete in the global race for highly skilled talent
6. The role of collaborative partnerships to build thriving communities

Cooperative Research Australia is committed to working collaboratively with the Australian Government to build an innovation strategy that ensures a productive and prosperous country for all Australians. We are open to facilitating a platform for further consultation and/or clarification with our members on any of the points.

Recommendations

Our contribution focuses on the challenge Australia faces in attracting, developing, and retaining a highly skilled workforce that includes industry focused research skills and research-engagement capacity across all sectors. A highly skilled workforce is intrinsically associated with levels of innovation and productivity needed to transition to a more complex economy. Without the skills that enable business to harness the possibilities of research, we cannot expect to create greater complexity in our economy.

Achieving full employment and increasing labour productivity growth and incomes through a highly skilled workforce begins with a cultural change

If we want to attract, keep and retain highly skilled workers – those with research skills from higher degree research (HDR) like Masters by Research, and PhD graduates – then we need to make some cultural shifts, starting with the long-held adage that a PhD will lessen career options.

To support culture change, we need to better understand the career pathways of industry-focused research graduates, particularly in industry. This insight can support better information that ensures talented people clearly see the potential that an HDR qualification unlocks.

A knowledge gap remains on the employment pathways and entrepreneurship by graduates of industry-led research programs such as those 4,000+ PhD graduates of the CRC Program. Better understanding of the cohort would contribute to establishing the settings for developing and retaining of a highly skilled workforce and would challenge prevailing notions of the value of research in industry, the value of a research qualification, and the value of a research capable workforce.

Furthermore, even though Australia's support and investment in the translation of research is positive and substantial, it has created as a side effect a complex system of poorly integrated programs across governments and states that overlap and compete with one another.

We need to build ecosystems with the capacity to integrate our disconnected system and build scale at speed, offering opportunities for business and industry to grow here, and providing highly skilled workers with attractive career progression. An innovative ecosystem comprehends interactions between universities and research institutes, Australian Research Council and NHMRC programs, the National Collaborative Research Infrastructure Strategy, Industry Growth Centres, Cooperative Research Centres, University Research Commercialisation, incubator hubs, entrepreneurs programs, different levels of Government, industry partners, startups, etc. unified by their core industrial goal.

Successful clusters that bring together the innovation ecosystem in Australia would create real potential to transform existing industry, generate new jobs and new career pathways.

Australia would benefit from addressing the myth that a Higher Degree by Research (HDR) qualification leads only to a career in academia, rather than to a myriad of career options. There would be benefit in extending incentives and encouraging businesses to recognise the value they will receive in employing and investing in staff with HDR qualifications as prospective drivers of innovation and growth for their business.

The skills of the future needed in the economic / industrial transformation are embedded in the innovation ecosystem

There is an underlying assumption to be made when discussing concepts such as “transformation” and “transition”, which is that they are only possible because of innovation.

The human resources needed to drive the transformation associated with digitalisation and emerging technologies will emerge from those invested in the innovation ecosystem – the collaborative cohort that includes government, industry and academia.

CRA, as a representative body of publicly funded industry-led research, believes that a revision of the current incentives, both for academia to translate research into commercialisation but also - and more challenging- for industry to engage with universities to innovate, would be beneficial.

In this respect, we would encourage the Australian Government to consider extending incentives and rewards for Australian businesses engaging with research institutions, with the view of supporting innovation and commercialisation of new technologies and building a skills pipeline.

Complementary to the above, we support developing leading practice tools and guidance on research translation to support diffusion across the economy

Finally, we recommend settings that encourage and support people to gain cross-sectoral experience, particularly between the university/research sector, business and community organisations. Current incentives do not necessarily reward cross-sectoral experience, essential to unlocking innovation.

The adaptability of a highly skilled workforce to meet the needs of emerging industries and areas of traditional economic strength.

The industrial transformation and Australia’s energy transition and net zero emissions targets are intrinsically linked to the industrial transformation being undertaken in the innovation system. CRCs and other collaborative entities are the linking point between research and its application; thus, they are at the forefront of this transition. CRA’s Decarbonisation Group is an initiative put forward by CRA members to quantify and

enhance the work being done by CRCs and post-CRC entities in the decarbonisation space and to identify cross-sector collaboration opportunities.

Over 80% of the current CRC and post-CRC cohort have direct relevance to Australia's decarbonisation mission; either mitigating, informing or adapting to climate change. In light of this, CRA is commissioning a study of the expected contribution of CRCs and post-CRC entities to decarbonisation, and the potential for accelerating and scaling Australian innovation aligned to the Federal Government agenda to set Australia on the path to net zero by 2050.

The members of the CRA Decarbonisation Group - and similarly funded translation entities, face a substantial barrier to cross-sector and cross organisation collaboration that may enhance the speed and scale of innovation, as under the Special Purpose Eligible Expenditure (SPEE), entities cannot use Commonwealth funds toward collaborative research projects between Commonwealth funded entities. We recommend that the Australian Government investigate whether rule this is limiting Australia's potential collaboration across the innovation system and tackling challenges.

Skills, education and training, upskilling and reskilling, including in transitioning sectors and regions

Many of our members work in the spaces of emerging industries and transitioning sectors and embed significant knowledge in those areas. However, we believe there's a wider opportunity for the government and industry to promote and celebrate existing achievements, jobs, skills and businesses that are using Australia's remarkable research performance and capacity to innovate and create new products and processes, setting a precedent and example for many more to come. This narrative is important to encourage consideration of HDR as a career path.

The wins of this cohort of Australian workers are a national strength and pride, and can be used as know-how to transfer world-leading expertise, capability and technology in other areas of the economy.

Diversity across all measures as a factor to nurture an innovative and productive workforce

A diverse and inclusive workforce is critical to an innovative economy, and career pathways to leadership for highly skilled workers of diverse backgrounds are essential if we are to benefit from the full talent of our population.

Our members recognise that the increased participation of traditionally underrepresented cohorts in the workforce is important both for the workforce growth and to address historic inequality of access.

Many of our members are taking the initiative and we examples of holistic approaches to productivity by integrating this vision into their core business for their sectors. A few

examples include the Cooperative Research Centre for Developing Northern Australia (CRCNA), the Sovereign Manufacturing Automation for Composites Cooperative Research Centre (SoMAC CRC) and SmartCrete CRC.

- SoMAC CRC is working on a program for to strengthen engagement of women - and diversity more broadly through both immediate opportunity and career development, as well as new targets for female representation across their students and managers.
- SmartCrete has been looking deeply into diversity, equity and inclusion (DEI) issues in the construction sector. According to ABS statistics, the sector is underperforming, showing 29% female participation overall, and 4% in “Trade and Technical”. This CRC has partnered with the National Association for Women in Construction to look at innovative solutions to “gamify” DEI and encourage the hugely diverse construction SME community to engage in the conversation.
- CRCNA is a strong advocate of indigenous, regional and the north’s unique challenges. They have invested more than \$5 million towards new research and development proposals which will unlock new First Nations Estate economic and employment opportunities across the region.

Migration as a strength to compete in the global race for highly skilled talent

Australia exists in a global talent market, and we face real and immediate challenges in attracting and retaining a very highly skilled workforce because of our settings around support for HDR education, migration and the cost of living.

The recent impacts of COVID-19 international border closures have exacerbated the challenge of attracting the most talented prospective HDR scholars and industry-focused researchers to Australia.

It is time to review the incentives we have for Australians and the most talented prospective migrants to undertake HDR studies in Australia and to build a career here. The Australian Government can leverage on its national manufacturing and science priorities by aligning it with its migration needs, considering the value that this strategy contributes to achieving full employment.

Australia has a long history of benefits from skilled migration, and we encourage to keep utilising that strategy as a complement to a domestic workforce. Speeding up and simplifying the process for HDR graduates to take up permanent residency then Australian citizenship would make Australia a more attractive destination not only for study but for a lifelong career.

HDRs require developing pathways for skilled migrants to enter the country on temporary (e.g. 12 month) visas to seek employment, then enabling a visa continuance to be sponsored by the employing organisation. This will ease market access for the skilled migrant and lower the hiring risk for the employing organisation.

Another point which has come up frequently in conversations with our members is that domestic and international scholars are abandoning research training at a greater rate as they contend with the cost of living and a hot labour market.

PhD stipends under the Research Training Program and incentives to undertake industry-focused programs are low, creating disincentives to attract candidates for a highly skilled workforce and to mid-career talent undertaking further development. This will have a long-term impact on Australia's very high skilled workforce and leave us lagging behind competitor and like nations.

The role of collaborative partnerships to build thriving communities

One of the scopes / themes to be discussed on this submission is "the role of collaborative partnerships between governments, industry, unions, civil society groups and communities, including place-based approaches."

CRA believes that this premise can be strengthened by also considering the role of research institutions, such as universities, as part of the collaborative partnerships needed to innovate, and therefore, grow productivity and achieve full employment.