

## Strategic Examination of Research and Development (SERD) Submission 2025

14 April 2025

### Key takeaways and recommendations

1. A long-term, well-structured research and development (**R&D**) funding model is essential to sustain research pipelines, drive innovation, and build Australia's sovereign capability.  
ATN Universities recommends:
  - a) A balanced approach to funding across fundamental research, translation, and commercialisation.
  - b) The establishment of a CPI-indexed R&D funding system to provide long-term stability.
  - c) Expanding industry R&D incentives, including a premium incentive for collaboration with research organisations, to increase private sector engagement in research and innovation.
2. Stronger national coordination is required to harmonise R&D priorities, streamline collaboration, and reduce regulatory burden.  
ATN Universities recommends:
  - a) Progressing toward a nationally coordinated Innovation Framework that aligns federal and state R&D policies and integrates strategies for commercialisation and research infrastructure.
  - b) Embedding First Nations knowledge, leadership, and approaches across all aspects of the national R&D system.
3. Universities and industry need better alignment to strengthen research translation and commercialisation pathways.  
ATN Universities recommends:
  - a) Expanding and aligning existing commercialisation plans<sup>1</sup> with national initiatives like the National Reconstruction Fund and the Future Made in Australia agenda.
  - b) Including metrics in national R&D assessments that track industry engagement, commercialisation outcomes, and long-term impact.
  - c) Expansion of research commercialisation training for academics and researchers, and the introduction of targeted training initiatives for research commercialisation professionals.
4. A nationally coordinated approach to research infrastructure and innovation precincts will ensure that Australia remains competitive in the global knowledge economy.  
ATN Universities recommends:
  - a) Embedding national shared research infrastructure programs within innovation precincts.
  - b) Expanding, and increasing coordination of, precinct-based innovation hubs that co-locate businesses, public sector R&D organisations and universities.

<sup>1</sup>Such as the University Research Commercialisation Plan, which includes Australia's Economic Accelerator and the Trailblazers Program.

5. Investment in workforce development is critical to maximise the impact of Australia’s R&D system. ATN Universities recommends:
- a) Implementing a nationally coordinated approach to research workforce development.
  - b) Reforming academic promotions to recognise industry engagement and research translation.
  - c) Expanding structured industry PhD programs and targeted funding for early-career researchers.
  - d) Supporting lifelong learning through a reformed tertiary education system that recognises research and innovation skills.

The Australian Technology Network of Universities (**ATN Universities**) welcomes the opportunity to contribute to the Strategic Examination of Research and Development (**SERD**). ATN Universities represents Australia’s most industry-engaged institutions: Curtin University, Deakin University, RMIT University, The University of Newcastle, University of South Australia, and University of Technology Sydney.

Australian universities play a vital role in the nation’s research and development (**R&D**) ecosystem, contributing approximately 34.8% of total R&D expenditure. This is a higher proportion than in many other countries, including the UK (22.5%), France (20.1%), and South Korea (9.1%). While direct comparisons of applied research alone are limited, Australia’s university sector is a key driver of innovation and knowledge creation within the national research landscape. However, industry investment in experimental development remains below global benchmarks, limiting the potential for research translation and commercialisation. The SERD Discussion Paper identifies the misalignment between industry needs and university research priorities as a major barrier to collaboration.

ATN member universities receive more Category 3 (industry) funding than they do Category 1 (federal competitive) funding, unlike other university groups (Figure 1). This reflects our strong focus on industry-engaged and applied research. Our submission incorporates key insights from recent reports, including Boosting Australia’s Innovation (ATSE, 2025) and the Science System Advisory Group Report (MBIE, 2024), as well as input from our members, to reinforce recommendations for strengthening Australia’s R&D system.

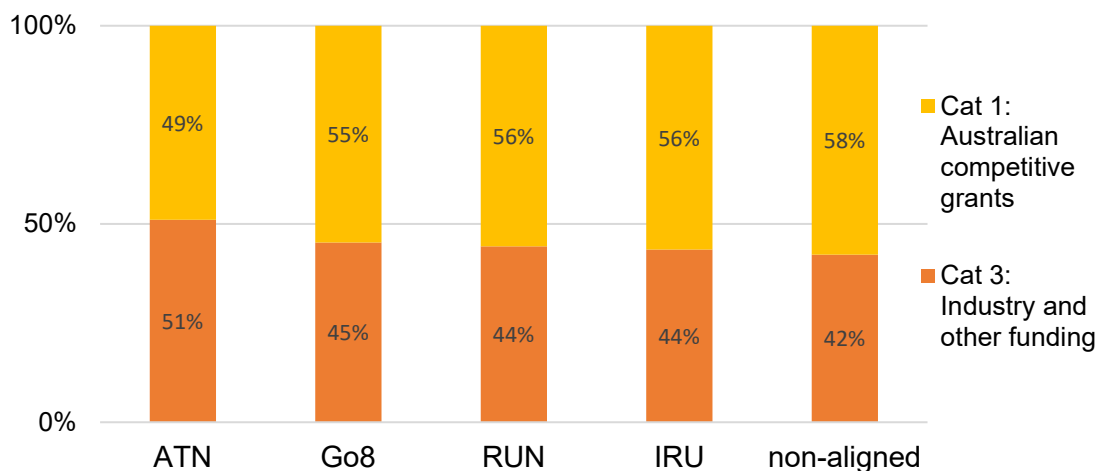


Figure 1: R&D income percentage broken down by each Cohort’s Cat 1 & Cat 3 ratios, year ending 2023.  
 Source: [Research and development income time series](#).

## **A long-term, well-structured R&D funding model is essential to sustain research pipelines, drive innovation, and build Australia's sovereign research and development capability**

As highlighted in the SERD Discussion Paper, the current funding system, characterised by short-term allocations and funding volatility, creates uncertainty, hinders sustained research progress, and discourages long-term collaboration between universities and industry. This instability results in fragmented research efforts, making it difficult to attract and retain top research talent, build long-term industry partnerships, and plan for large-scale, high-impact research programs.

International evidence demonstrates that stable public investment in R&D drives stronger private sector co-investment. Countries with long-term, indexed R&D funding mechanisms, such as Germany, South Korea, and the Netherlands, have successfully leveraged public-private partnerships to strengthen research translation, commercialisation, and industry engagement. Meanwhile, Australian universities are forced to cross-subsidise research from other revenue streams, which creates financial vulnerabilities and limits their ability to undertake high-risk, high-reward innovation projects. Without a structured and predictable funding system, Australia risks falling behind global competitors in key research-intensive industries, such as advanced manufacturing, clean energy, and biomedical technology, and may miss areas critical to national resilience.

ATN Universities strongly supports a balanced funding approach, recognising the importance of fundamental research, translational research, and commercialisation pathways. Along with others in the sector, we recommend the establishment of a CPI-indexed R&D funding system to provide long-term stability for researchers and industry partners. In addition, ATN Universities calls for the expansion of industry R&D incentives, including tax credits, commercialisation grants, and venture capital support, with a premium incentive attached where this collaboration is with a research organisation to ensure greater private sector engagement in research and innovation.

## **Stronger national coordination is required to harmonise research priorities, streamline collaboration, and reduce regulatory burden**

Australia's R&D system is highly fragmented, with too many funding streams, overlapping programs, and inconsistent coordination between federal and state governments. Much of the nation's R&D is driven by bottom-up, institution- or investigator-led research, rather than a national, top-down strategic approach that aligns research efforts with national priorities. While ATN Universities strongly supports institutional autonomy and fundamental, curiosity-driven research, we also believe that Australia's R&D ecosystem must be shaped by a clear, long-term strategy that prioritises economic and societal impact, industry collaboration, and research translation. A more strategic and coordinated R&D system will also enable Australia to develop sovereign research capabilities that can withstand increasing risks linked to geopolitical uncertainty and global supply chain disruption.

Countries such as the United Kingdom, Germany, and South Korea, have implemented national research strategies that guide investment decisions, coordinate research focus areas, and ensure that government, industry, and academic/research institutions are working towards shared objectives. Without a similar strategic approach, Australia risks duplicating efforts, underfunding key priority areas, and failing to translate research into real-world impact. The New Zealand Science System Advisory Group Report recommends the establishment of a Prime Minister's Science, Technology & Innovation Advisory Council to oversee national research priorities and ensure greater alignment across funding bodies and public sector research institutions. A similar model in Australia could

provide stronger leadership and coordination across the R&D landscape, ensuring that government investment delivers maximum impact.

ATN Universities recommends the development of a nationally coordinated Innovation Framework to align federal and state R&D policies. Improved coordination between major government funding programs will also improve accessibility, reduce fragmentation, and create clearer pathways between different grant programs, to support research to transition from discovery to application. While not an insignificant challenge, with proper consultation and planning, as well as bipartisan support, this work will reduce duplication and ensure that funding is allocated efficiently across priority research areas.

We also propose that national strategies and implementation plans for commercialisation and research infrastructure be embedded within the Innovation Framework, which will provide a structured, long-term approach to research translation and industry collaboration as well as research infrastructure investment. In building a more integrated and resilient R&D system, it is also essential that First Nations knowledge, leadership, and approaches are embedded and supported at all levels. This will ensure that Australia's innovation system is inclusive, culturally grounded, and responsive to the full breadth of knowledge systems that shape our national identity and future.

### **Universities and industry need better alignment to strengthen research translation and commercialisation pathways**

Despite Australia's strong research capabilities, commercialisation outcomes remain below potential. The SERD Discussion Paper notes that universities and businesses often self-fund R&D, leading to short-term decision-making rather than sustained partnerships. International experience demonstrates that targeted government intervention can strengthen research translation and industry partnerships.

Embedding a National Commercialisation Strategy within a nationally coordinated Innovation Framework, as proposed in the section above, will allow the establishment of a clear and coordinated approach to research translation. The Strategy should be developed in close partnership with universities, as key drivers of research commercialisation, and provide a structured, long-term framework to expand, integrate and streamline existing government programs. It should build on the foundations of the University Research Commercialisation Plan, which includes initiatives such as Australia's Economic Accelerator and the Trailblazers Program and be closely aligned with the investment priorities of the National Reconstruction Fund (**NRF**), the Future Made in Australia agenda, or other similar whole-of-government initiatives. This will ensure that research commercialisation and translation supports high-growth industries and delivers public value through sovereign capability and national productivity. It should also include clearer IP management guidelines and commercialisation incentives, making it easier for businesses to engage with universities and translate research into economic impact.

Current R&D evaluation places too much emphasis on traditional academic outputs, such as publications and citations, while failing to adequately measure the real-world impact of research. This limits visibility on how effectively research funding supports industry collaboration, commercialisation, and job creation. It also affects workforce development, as academic promotion frameworks remain dominated by conventional indicators, often undervaluing or inconsistently recognising industry engagement. To address this, national R&D assessments should track industry-funded research engagement, commercialisation success (e.g. patents, non-patented technology, spinouts, start-ups, licensing, income), and long-term innovation outcomes to ensure research translates into economic and societal benefits. In parallel, we should also seek to expand research commercialisation training

for academics and researchers, build on existing targeted training initiatives for research commercialisation professionals and strengthen university technology transfer offices so they have the capability to support researchers in navigating research commercialisation and translation pathways.

While commercialisation is often associated with bringing a final product or service to market, research commercialisation refers to translating research insights, technologies, and capabilities out of academic settings into industry and broader society. ATN Universities does not propose that universities become end-to-end commercial operators, but rather that they are supported and recognised as key contributors to the early stages of innovation, including prototyping, licensing, partnerships, and talent development. Strengthening research commercialisation ensures that applied knowledge flows into business, government, and community settings, thereby supporting productivity, job creation, and sovereign capability. Beyond research commercialisation, Australia's R&D ecosystem must also support innovation in areas of social as well as economic need. Many of the country's most pressing future challenges, such as aged care, mental health, housing, and climate resilience, require cross-sector collaboration between government, industry, and research institutions. Embedding this broader understanding of impact within national R&D frameworks will ensure the system delivers long-term public value.

### **A nationally coordinated approach to research infrastructure and innovation precincts will ensure that Australia remains competitive in the global knowledge economy**

Access to state-of-the-art research infrastructure is crucial for innovation. Countries such as Germany and the Netherlands have successfully implemented national shared research infrastructure programs, enabling collaboration between businesses and academic/research institutions. In contrast, Australia does not have a fully coordinated national approach to research infrastructure investment, which limits opportunities for innovation and makes it harder to attract and retain top research talent as well as research infrastructure experts. As a result, businesses turn overseas to gain access to the research infrastructure they need and many highly skilled researchers and research infrastructure professionals move to better-funded international facilities, where they have greater access to cutting-edge technology and industry partnerships as well as career development opportunities.

ATN Universities recommends embedding a National Research Infrastructure Strategy within a nationally coordinated Innovation Framework. The Strategy should align with broader government innovation priorities; improved coordination across federal, state, and institutional research infrastructure funding, will reduce duplication and improve efficiency. Embedding national shared research infrastructure programs within innovation precincts will not only expand access for small and medium enterprises (**SMEs**) and emerging technology start-ups but also strengthen university-industry-public research sector collaboration. By integrating research infrastructure investment with innovation precinct development, Australia can create dynamic R&D hubs that accelerate research translation and commercialisation.

Australia can build a more connected and commercially focused R&D ecosystem by expanding precinct-based innovation hubs that co-locate businesses and universities, as well as public research organisations, such as CSIRO, ANSTO etc. where relevant. Innovation precincts and hubs will provide businesses and universities direct access to cutting-edge research infrastructure, joint R&D opportunities, and industry-led training programs, giving academics and researchers hands-on experience in commercial settings. Beyond expanding precinct-based models, there is a clear need for greater coordination and shared commitment across the three levels of government to support the

success of existing innovation precincts. As seen in precincts such as Tech Central in NSW, the presence of an anchor university is not sufficient on its own. Coordinated leadership, clarity of roles, and active engagement from government, industry, and the research sector are essential to realise the full economic and social potential of these hubs.

In addition to supporting collaboration and commercialisation, innovation precincts can also play a key role in developing R&D capabilities across the broader workforce. Drawing from international models, there is strong value in embedding research training earlier in the education pipeline, including through embedded undergraduate and postgraduate research projects. Utilising precincts to upskill workers in priority industries through "earn and learn" models could help build Australia's R&D capacity, particularly in SMEs that face barriers to accessing formal training programs. This approach aligns with the Universities Accord's emphasis on lifelong learning and system-wide reform. Strategic investment in research infrastructure and precincts also complements the objectives of the Future Made in Australia agenda and the NRF by enabling high-impact collaboration between universities and industry in key sectors such as clean energy, advanced manufacturing, and medical science.

### **Ensuring a highly skilled and mobile workforce is critical to maximise the impact of Australia's R&D system**

A nationally coordinated approach to workforce development will allow researchers to move seamlessly between universities, industry, and government, strengthening collaboration and accelerating research translation. In Australia, moving from academia/research to industry, or even professional services within academia/research, is often seen as a one-way street. For the academics and researchers that choose to stay, current academic promotion frameworks do not adequately recognise industry collaboration, research translation, and commercialisation as core achievements. As a result, academics and researchers pursuing industry-engaged research pathways often face career progression barriers.

A best practice career progression framework with shared principles is key to enable transitions between academia and industry, as well as government; this aligns with the recommendation of the Australian Council of Learned Academies' *Research Assessment in Australia: Evidence for Modernisation* report. It also supports the intent of the National Research Workforce Development Strategy proposed in the Universities Accord, which seeks to build a diverse, sustainable, and mobile research workforce aligned with national priorities. Several initiatives are underway in this area, including The Academy for Collaborative Research Infrastructure, and University Transformation activities within Trailblazer programs.

As Australia's most industry-engaged universities, ATN member universities are currently working collaboratively to ensure that best practices are adopted across institutions. A national approach that does not compromise institutional autonomy may ensure that Australia remains an attractive option for top talents across the globe. Other countries have also embedded structured industry PhD programs and talent exchange initiatives to strengthen collaboration and innovation pathways. Without similar programs and initiatives, Australia risks losing top research talent to global competitors with stronger industry integration and clearer career development pathways.

To strengthen industry-research collaboration, Australia needs better research workforce mobility programs that allow researchers to move seamlessly between academia, industry, and government. Ensuring parity of recognition between traditional academic outputs and industry collaboration in promotions frameworks is key to encouraging more researchers to engage with industry, support



workforce mobility by allowing movement between academia and industry without career penalties and align university incentives with national innovation priorities to maximise economic and societal benefits.

ATN Universities also supports the introduction of structured industry PhD programs that embed early-career researchers in industry settings, strengthening long-term partnerships between universities and business. Sustaining a skilled research workforce also requires increased, targeted funding for early-career researchers, as well as higher degree by research students, to support their career development and retention in high-growth, research-intensive sectors. In parallel, ATN Universities advocates for a reformed tertiary education and training system that fosters skills-focused lifelong learning and recognises the value and transferability of capabilities essential for research, innovation, and industry engagement.

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By taking a long-term, strategic approach to R&D investment, strengthening industry collaboration, and enhancing research translation, Australia can build a world-class innovation ecosystem that drives economic growth, supports industry transformation, and delivers real benefits for society.

ATN welcomes the opportunity to continue working with policymakers to shape an effective, sustainable, and forward-thinking R&D ecosystem for Australia.

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