SERD Issues Papers 1-4: IRU response

The IRU welcomes the opportunity to offer feedback on the first four Strategic Examination of Research and Development (SERD) issues papers. The IRU submission to the SERD recommended a systematic approach to R&D through a national coordination agency. Therefore, we focus our feedback on the *National Coordination for RD&I Impact* paper and the proposed approach outlined by the SERD panel.

The *National Coordination for RD&I Impact* paper addresses the fragmentation of Australia's RD&I system across the R&D pipeline, inefficiencies caused by duplicated programs (particularly for translation and higher TRLs), siloed policymaking, and inconsistent funding strategies across jurisdictions. The paper proposes a five-part model: a three-part national coordination framework; an investment and evaluation framework; and a commitment to sustained support for foundational RD&I. The most substantive part of the paper is the national coordination framework. This is the focus of the IRU feedback. We address key questions from the discussion paper on foundational research in a separate response.

The *National Coordination for RD&I Impact National Coordination for RD&I Impact* paper's investment and evaluation framework only contains high level principles with few details. The IRU submission to the SERD recommended prioritising the development of a National Research Evaluation and Impact Framework, as well as fully considering the recommendations contained in the Australian Universities Accord Final Report on this topic and others. The commitment to sustained support for foundational RD&I is mostly a short list of safeguards that align with similar recommendations contained in the Accord. We again recommend the SERD panel consider the Accord recommendations for supporting foundational research and impact evaluation, as well as the outcomes of past reviews, including the Innovation Metrics Review.

The IRU submission to the SERD outlined the need to recognise a balance between commercial outcomes and broader public/social good impacts from R&D, engage with humanities and social sciences research, and ensure R&D benefits are equitably distributed across communities. This is part of the SERD Terms of Reference, but mostly absent from the national coordination framework. The IRU submission also recommended that the SERD engage with the Australian Tertiary Education Commission (ATEC) to foster innovation and boost R&D intensity through greater mission diversity in the higher education sector. We again offer that as a recommendation (see also our forthcoming IRU response to *Issues Paper 5: Foundational research*).

Overall, the IRU supports a systematic approach to R&D through a national coordination agency. However, the proposed model only partly addresses what the IRU envisaged for a national RD&I coordinating body to do (as set out in our previous recommendations to the SERD). It will not systematically examine research workforce issues, the balance of fundamental and applied research in our system, or at global shifts in RD&I and what they mean for investments in Australia. It is important that a national coordination agency takes a larger system view. We offer the following recommendations that we hope you find constructive.

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> **Recommendations**
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> 1. Focus Areas should be future-oriented and engage with humanities and social sciences research, with particular attention paid to equity and ensuring R&D benefits are fairly distributed across all communities.
> 2. Consolidated translational investment around challenged-based Focus Areas should be driven by new public investment, with broad-based foundational research maintained
> 3. The Governance Board include the proposed Australian Tertiary Education Commission to facilitate alignment between university research strategy and national priorities
> 4. A principled-based investment framework and evidence-based evaluation framework is appropriate, but it will need to be further developed and align with other government reviews.

1. Prioritisation around Focus Areas, each with a 10-year plan, and Tri-sector partnership

The National coordination for RD&I impact paper's aim is to achieve scale in areas where Australia already has substantial RD&I activity (e.g., defence, health, agriculture, energy, resources). Progress is to be measured through SMART goals and sub-goals, set in consultation with Tri-sector partners (government; industry; research partners) and First Nations communities. Goal selection will be set based on alignment with:

- national challenges
- areas of research strength and capacity
- industry capabilities – current and emerging
- comparative advantage
- market opportunities – domestic and global
- potential for social and economic benefit.

The paper does not explicitly discuss how the Focus Areas will be determined. Consultation focuses on the goal setting phase. Concentration in existing areas appears to be the main guiding principle for Focus Areas, but this does not align with the goal selection criteria. For example, Australia's long-term national challenges, market opportunities and emerging industry capabilities may be in areas where substantial RD&I activity is not currently present. This could include artificial intelligence and the care and support economy, identified by the Australian Government's Department of Prime Minister and Cabinet as "one of the fastest growing parts of the Australian economy" with government investment of $103B in 2024-25.

The choice of goals based on concentration risks locking in RD&I in topic areas based on past research investments, rather than future need or equity. The Focus Areas will also concentrate RD&I into geographical regions based on past investment. This conflicts with the SERD Terms of Reference which require the panel to examine "ways to ensure R&D benefits are equitably distributed across regions and communities."

Funding only one collaboration per sub-goal, with at least one state or territory government, may avoid duplication and assist with coordination between the national and local needs. However, depending on how the (up to) three sub-goals are determined and funded over the ten-year period, it could narrow opportunities and leave other applicants 'out of the game' for 10 years. This is a

particular risk for smaller and regional universities, and those developing research strengths. This is particularly problematic because, as the IRU paper [Concentration and diversity in Australian research funding](#) outlined, the greatest gains in research quality, productivity and collaboration since the early 2000s has occurred outside the traditional research intensive Group of Eight universities. There is a risk that funding only a small number of sub-goals in Focus Areas, and doing so in a way that replicates historically unequal research investments, will lock investment into areas and institutions not aligned with Australia's future needs.

Concentration of public funding based on past research investments is a particular concern for the humanities and social sciences (HASS). Despite 52% of Australian university students enrolling in HASS fields (in 2024), HASS research receives only 8% of National Competitive Grant Program funding: $175M in 2025; compared with $710M in science, technology, engineering and mathematics (from the National Competitive Grant Program); and further $1.3B for health and medical research ($686M in the NHMRC and $650M in the MRFF in 2025). These research investments have progressed over time without a clear national strategy or coordination. The proposed national coordination agency will be well placed to advise if public funding is correctly balanced across fields of research in ways that will contribute to Australia's future social and economic needs, including in the care and support economy.

The paper acknowledges that submissions to the SERD Discussion Paper strongly supported aligning national priorities to addresses challenges that will generate *societal benefits*. The issues paper outlined an expectation that bids would need to advance knowledge that leads to impact, including *cultural* and *societal outcomes*. But unlike the international examples offered for the priority areas in the EU and Germany, the five example Focus Areas (defence, health, agriculture, energy, resources) do not mention society or social sciences. The "potential for social and economic benefit" needs to be elaborated upon, describing how HASS research can contribute.

Historically, the potential of HASS and interdisciplinary research to contribute to economic outcomes has not been understood, recognised or supported by commercialisation offices. The primary outcome of HASS research is often a social contribution, but there is growing awareness of the economic contribution of HASS research when translated into community practice. For example, the overarching aims of Griffith University's [Parents Under Pressure](#) (PuP) and [Blurred Minds](#) programs are to use evidence-based support for parents facing adversity and prevent harm for children from alcohol, tobacco and cannabis. Through support from Griffith University's commercialisation office, the licensing and implementation of the PuP program has extended throughout Australia, the UK and Republic of Ireland, with conservative cost-effectiveness analysis estimating social service savings of more than A$3 million for every 100 families that participate in the program. Similarly, interdisciplinary teams contribute to environmental sustainability through on-campus [living labs](#) at Western Sydney University.

> **IRU Recommendation:** Focus Areas should be future-oriented and engage with humanities and social sciences research, with particular attention paid to equity and ensuring that R&D benefits are fairly distributed across all communities.

2. Consolidated translational investment around Focus Areas

The paper proposes consolidating existing programs specifically geared towards translation into Focus Areas, supporting scalable investment across the innovation pipeline in these Areas. The paper

proposes challenge-based funding streams in Focus Areas with tri-sector partnerships —comprising industry, academia, and state/territory government— and clear translational pathways, including commercialisation strategies and performance metrics. The tri-sector partnerships would receive co-funding from the Commonwealth. This model may incentivise universities to move beyond traditional research outputs and toward measurable societal and economic impact.

The main concern with the above approach is whether the consolidation is focused on redirecting existing translational investment programs towards Focus Areas, or redirecting funding currently supporting lower technology readiness levels (TRLs) and discovery research. Support for late-stage development and commercialisation is identified as a gap that impairs translation of research into scalable innovations, but if current public funding for RD&I at high TRLs is insufficient, then consolidating existing programs may not have impact. The paper appears to be proposing a new scheme, rather than consolidating different schemes, given the lack of current schemes targeting high TRLs. We hope this is the intention because putting too much focus on commercialisation and higher TRLs runs the risk of prioritising today's problems and undermining our ability to respond to tomorrow's challenges and opportunities.

The SERD panel need to be explicit if the goal is to consolidate existing high TRLs scheme to increase translational investment around Focus Areas, or to achieve this through new funding or redirection of other public schemes. The paper is explicit about "maintaining core funding for discovery research" but hints at redirecting lower level TRL public funding into translational investment around Focus Areas. The paper states that strategic direction is lacking in lower level TRL public funding schemes and this has led to low research translation outcomes because "public funding is concentrated in investigator-led research at lower technology readiness levels (TRLs). There is limited support for industry-led initiatives or those at higher TRLs." This is misleading because the evidence presented excludes the R&D tax incentive program, the Australian Government's most significant lever for funding innovation and R&D, which is industry-led and presumably at higher TRLs. The Australia's Economic Accelerator, the Cooperative Research Centres Program and the Industry Growth Program are also criticised for their focus on mid-range TRLs. Although not the focus of our current feedback, we note the fifth Issues Paper for foundational research recommends a premium rate for indirect research support (i.e. the Research Support Program) for research in Focus Areas. Unless the overall funding for indirect research support is increased, this would mean a redirection of existing funding.

The perceived lack of strategic direction for discovery based and investigator-led research – such as the Research Block Grant or ARC Discovery Scheme – is not a flaw that is holding back research translation. The paper affirms the importance of sustained investment in foundational research and recognises that basic research underpins long-term innovation and economic resilience. Similarly, applied research funded through mid-TRL projects in partnership with research end users is also an effective mechanism for leveraging Australia's university research strengths, especially for non-commercial, public good research with positive externalities.

The IRU's position is that it is essential that the ambition to lift Australia's gross expenditure on R&D is driven by new public investment and careful reconfiguration of existing investments, which could include current high TRL schemes. There are problems in our R&D system with a fragmentation of Australian Government programs and policies, limiting business sector investment in R&D. But there are also good examples of where universities are effectively collaborating with industry in mid TRL schemes. This includes explicitly industry oriented programs like the Cooperative Research Centres

(CRC) and rural research and development corporations (RDCs). These are rightly classified as mid-TRL 6 programs. But we also have other successful programs that span and connect lower TRLs with mid-TRLs, such as ARC Linkage Projects, Linkage Industry Fellowships, industry PhDs and others supported by the Research Training Program. Classifying all of these schemes a purely TRL 1/2 programs is incorrect and misunderstands the diversity of publicly funded programs.

> **IRU Recommendation:** Consolidated translational investment around challenged-based Focus Areas should be driven by new public investment, with broad-based foundational research maintained.

3. Commonwealth-Level Coordination Mechanisms

The paper proposes a cross-jurisdictional Governance Board to oversee a system-wide strategy, implementation of investment into Focus Areas (including their alignment, differentiation and evaluation) and enabling instruments (e.g. technology, infrastructure), alongside private capital. Each Focus Area would have its own Commonwealth lead agency, Board and Chair, supported by a secretariat, and reporting to the Governance Board. Recommendations could go to cross-portfolio Ministers, jointly submitted to Cabinet for final approval.

Although the Focus Area Boards will include members with diverse experience across industry and academia, it is less clear what role universities and research institutions will have in the national Governance Board. The Governance Board will include a balanced mix of experts across Focus Areas and explicitly include "those with deep experience in startup and VC ecosystems". But is should also include an explicit role for academic experts, ideally through the proposed Australian Tertiary Education Commission (ATEC).

The ATEC is intended to have a role in aligning university research strategy, quality, research training, capacity and impact with national priorities, via new mission-based compacts. Compacts currently outline each university's mission and priorities to government, but they lack incentive mechanisms and typically focus more on the university education mission. A national R&D agency could help further secure our research base and better leverage university compacts towards solving problems in the national interest by engaging with the ATEC. It could also help resolve challenges of how to provide long-term support for strategic and collaborative research infrastructure.

> **IRU Recommendation:** The Governance Board include the proposed Australian Tertiary Education Commission to facilitate alignment between university research strategy, national priorities and infrastructure

4. Investment and Evaluation Frameworks

The paper proposes an investment and evaluation framework to complement the 10-year framework. The investment framework would set out principles to guide all government RD&I investment, with goals to minimise administration and improve transparency and consistency across government agencies. Without detail on the current reasons for the problems of administration, opacity and inconsistency, it is difficult to consider the effectiveness of this approach.

The evaluation framework would centre on RD&I outputs, outcomes and impacts, but none are elaborated upon. System- and program-level evaluations that are evidence-based and outcomes-focused are appropriate, but their efficacy will depend heavily on the appropriate selection of RD&I

metrics and there is no indication what the SERD Panel is considering. Identifying causal factors will also be challenging, especially for impacts that are derived from foundational research.

The SERD needs to consider past reviews of RD&I and how its ambition aligns with other concurrent reviews. The Government's Innovation Metrics Review in 2019 aimed to accurately measure and communicate innovation performance and its impacts over the short and medium-term. The IRU has previously recommended the SERD Panel to examine the outcomes of this review. The Australian Universities Accord recommended a National Research Evaluation and Impact Framework that can efficiently assess research quality and impact, as well as incentivise and support researchers to consider pathways to impact, build external partnerships and advocate for the impact of their research (see Recommendation 29). The ARC recently released a new [Research Insights Capability](#). The draft [National Health and Medical Research Strategy 2026-2036](#) also includes a planned research evaluation framework health research. Increasing the impact of public R&D investments requires improved measurement, as well as coordination, advocacy and understanding of impact.

Overall, the SERD evaluation framework may struggle to capture the breadth of goals set out in the SERD Terms of Reference. These include: maximising the value of existing investments; strengthen linkages between sectors; achievement of national priorities; drive greater R&D investment by industry; and uplift Australia's overall R&D intensity. Additionally, the framework would need to consider the contribution of First Nations knowledge and equitable distribution of benefits across regions and communities. Not all Focus Areas, Goals or Sub-goals will be able to address all of these goals, and nor should they be expected to. The evaluation framework will need be calibrated to the context of each Focus Area and Sub-goal, and aligned with other government-led initiatives for impact evaluation.

> **IRU Recommendation:** A principled-based investment framework and evidence-based evaluation framework is appropriate, but it will need be further developed and align with other government reviews.

5. Sustained Support for Foundational RD&I

The IRU welcomes the proposal for continued investment in basic and applied research, infrastructure, and workforce development. Foundational research plays a critical role in Australia's innovation system and the higher education sector makes a disproportionate contribution.

In 2022, higher education R&D expenditure was $14.0B, roughly one third of gross expenditure on R&D (32% of total for most recent year). This was an increase from $9.6B one decade prior in 2012 (29% of total). However, for basic research, higher education expenditure has stagnated, barely increasing across the past decade from $4.5B in 2012 to $4.8B in 2022. Although higher education still contributes just over half of all basic research expenditure (52% of total for most recent year), its share has declined from around 60% of the total one decade ago. This is due to a combination of an increase in business expenditure on basic research, from around $1.2B in 2013 to $2.5B in 2023, and a greater focus of the higher education sector on applied research, which increased from $4.3B in 2012 to $7.8B in 2022.

The impact of basic research can only be realised over a long timeframe, and similarly, the consequences of the shift in investment away from basic research will be long term. Business investment on basic research has increased considerably over the past decade, which is a positive development. But given the distinct and important role of universities in the innovation system –

especially for pure basic research – it is important that they maintain strength in fundamental research. The share of overall higher education on basic research has declined from more than 60% in the 1990s to 30% today. Business investment can supplement, but not replace, university investment in basic, fundamental research.

Table 1. Research and Experimental Development expenditure by Sector, most recent year

	Basic research		Applied		Exp. Development	
	$'000	%	$'000	%	$'000	%
Higher education (2022)	4,834,155	52%	7,820,848	43%	1,335,415	8%
Business (2023-24)	2,499,361	27%	7,375,863	40%	14,535,239	87%
Government (2022-23)	1,389,820	15%	2,337,487	13%	617,069	4%
Not-for-profit (2022-23)	596,548	6%	790,427	4%	207,966	1%
Total	9,319,884	100%	18,324,625	100%	16,695,689	100%

Table 2. Research and Experimental Development expenditure by Sector, 2012-14

	Basic research		Applied		Exp. Development	
	$'000	%	$'000	%	$'000	%
Higher education (2012)	4,465,376	60%	4,344,484	34%	799,876	6%
Business (2013-14)	1,193,705	16%	6,134,385	48%	11,521,348	89%
Government (2012-13)	1,319,168	18%	1,948,652	15%	457,645	4%
Not-for-profit (2012-13)	422,087	6%	347,356	3%	191,078	1%
Total	7,400,336	100%	12,774,877	100%	12,969,947	100%

Figure 1. Higher education expenditure on R&D by type, 1994 to 2022
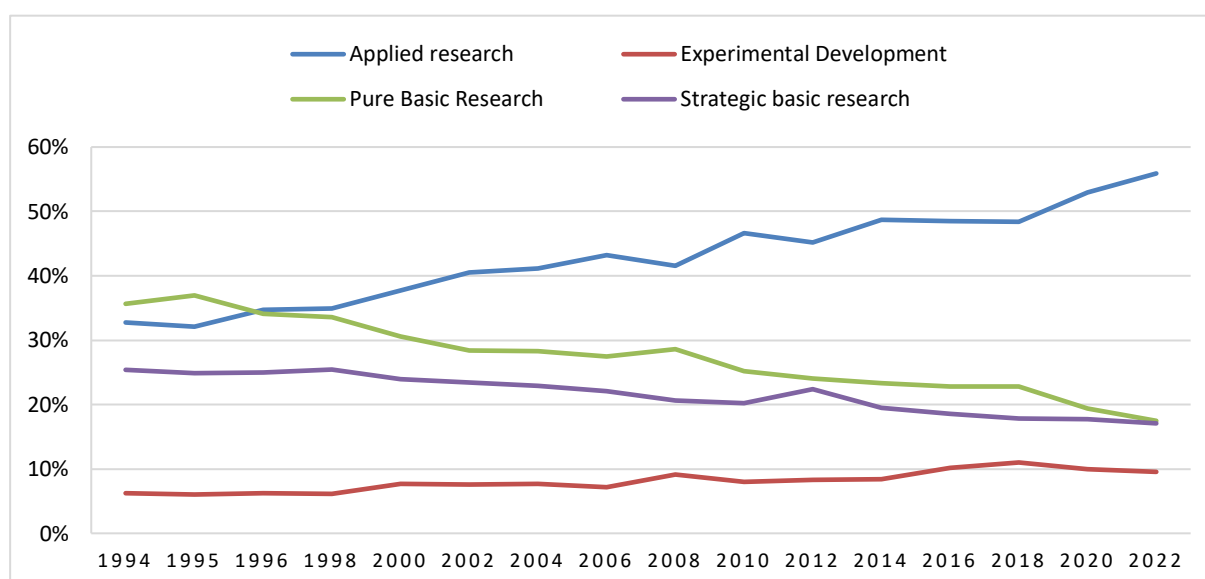
IRU Feedback on Issues Paper 2. Scaling the system

This issues paper aims to improve capacity to translate Australia's high-quality research into economic impact, especially into successful RD&I businesses and increasing their RD&I investment. The paper seeks to redress the declining R&D investment by large enterprises partly through a greater R&D workforce and skills base. As the trainers of the majority of the RD&I workforce and the producers of most of Australia's research, the paper envisages a stronger role for universities. It sees universities contributing towards two main problems:

1. Lack of local commercialisation of R&D;
2. Inadequate skill base to support scaling of new businesses.

To extract impact from our excellent research capabilities and to build sovereign capabilities/competitiveness, the paper proposes that universities grow pathways for entrepreneurial skill development, embed incentives to identify and disseminate IP, and support startup creation and growth pathways. The paper recommends greater support for active re-skilling, entrepreneurial and commercialisation skills and mentorship, and increasing talent mobility between industry and academia.

The IRU supports these intentions but recommends the SERD panel recognise broader forms of (non-economic) research translation and talent mobility. Universities have a direct role in the innovation system in certain fields of research through IP dissemination and commercialization. But universities' main contribution towards the creation of high value jobs, productivity and economic growth is through their scholarly-informed education of the workforce (from sub-bachelor through to research higher degrees; school leavers through reskilling and mature aged; across all fields of education).

In only a minority of fields will the primary form of education or research translation be directly economic. As publicly spirited institutions, universities and academics engage in knowledge transfer activities and support local communities and industries even when short-term financial returns are uncertain or minor. This also helps ensure the university education mission aligns with community needs and expectations, such as through industry-informed curriculum development and work-integrated learning activities that build upon existing research partnerships.

IRU Feedback on Issues Paper 3. RD&I incentives

This issues paper focuses on reshaping RD&I incentives with the core proposal being a new approach to the R&D Tax Incentive that would segment firms and eligibility (start-up and scale-up vs large businesses), and set a differential funding mechanism to incentivise alignment with identified national priorities. The paper also discusses the role of universities in entrepreneurial skills, commercialisation and mentorship, and incentivising universities to engage in commercialisation activities in national focus areas.

The incentives tied to the Research and Development R&D Tax Incentive have been much discussed, but without change for a decade or more. The Government did not act on the major elements of the 2016 review by Bill Ferris, Alan Finkel and John Fraser, including a collaboration premium for businesses working with universities and research agencies to boost R&D spillovers and innovation. University-side commercialisation skills development and incentives to engage with national priorities are important, but will have far less impact than refining the R&D tax incentive to incentivise businesses to leverage university R&D talent through a collaboration premium.

IRU Feedback on Issues Paper 4. Investment and capital

This issues paper does not directly reference universities or their role in the RD&I system, but outlines systemic issues and opportunities that may indirectly benefit universities, including mobilising venture capital and philanthropic investment, to support RD&I. We anticipate that university research commercialisation and spinouts may benefit from the proposed changes to improving access to private capital in the broader RD&I finance ecosystem. Given the ambition of the SERD to increase and better leverage university research commercialisation, we welcome the opportunity to further engage with the SERD panel on this topic.