The University of Sydney, submission in response to the Strategic Examination of R&D Issues Papers 1 - 4, September 2025

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Executive summary

The University of Sydney welcomes the critical work of the Strategic Examination of Research and Development (SERD) and commends the extensive consultation that has informed its consideration of this critical topic and the development of Issues Papers 1-4.

We commend that analysis and support many of the recommendations, but note the missed opportunity to create a National Strategy for RD&I. The fragmented approach to releasing issues papers highlights a disjointed piecemeal approach to tackling the broad RD&I ecosystem. It is unclear how papers relate to each other and they take an approach of cherry-picking parts of the system - fixing one thing here, and another thing there - rather than looking at it from a holistic view.

The other consistent absence is the reference to how various activities and recommendations would be funded.

We offer the following comments on the proposals put forward in the Issues Papers to assist the SERD Panel as it develops its recommendations.

Issues paper 1 - National Coordination for RD&I impact

We support the intention of the reform proposal outlined in the paper and commend the SERD for tackling the fragmentation and lack of coordination in our RD&I system which stakeholders identified as a major barrier to uplifting RD&I. We agree that we must target our efforts ambitiously to catalyse change, grow capability across the system and build scale in areas of national need and global opportunity.

The model for a long-term national coordination approach to building scale and capability is described at a high level, that does not yet go into detail about the scale of funding proposed or how the approach would be funded. At this stage it is unclear how the proposed national approach to funding research missions would reduce fragmentation, and which schemes or programs would be consolidated to achieve the 'defragmentation' which is at the heart of the rational for 'national coordination'. Additionally, it is unclear how a set of new 'focus areas' would sit across or integrate with other priority areas already supported by governments (at both levels).

At the Federal level for example, the Government has the National Science & Research Priorities, Industry Growth Centres, Future Made in Australia, the National Reconstruction Fund and a yet to be launched, new Health & Medical Research Strategy (to name a handful). Related to this, it does beg the question why one couldn't apply a 'national coordinated' approach to these existing areas rather than reinventing the wheel. If the framework is sound, then this could be the framework for guiding government investment and bringing the various players together.

Orient and align Australia's RD&I system to 5 or fewer focus areas over a 10+ year horizon

Prioritising up to five focus areas with long-term, high-level goals is a sound approach to aligning efforts in areas of national need and global opportunity. In its structure, the prioritisation model seems very similar to existing schemes such as CRCs, ARC CoEs, MRFF Frontiers, and Trailblazers. It is unclear if these and similar schemes would remain in place (noting that ARC CoEs have now ceased under the new NCGP). Given this, we feel the approach falls short of a National Strategy for RD&I, which was, as the paper highlights, a near-universal callout in submissions to the SERD discussion paper. There is an

inherent risk that, in an environment where no National Strategy for RD&I exists, the scheme's ability to achieve the reform it seeks will be significantly hampered.

International experience shows mission-oriented coordination can deliver superior productivity and GDP outcomes. A few focus areas with an emphasis on translation and a 10+ year horizon allows both public and private sector to orient and plan. How many and which focus areas, and how they are selected, is critical. They must be areas in which Australia already has or, importantly intends to, develop strategic and unique advantages, and not just in traditional sectors like Defence, Health, Agriculture, Energy, Resources, which could risk locking Australia into a backward-looking model. Enabling and emerging technologies — particularly AI, quantum and other horizontal capabilities — must be included. These technologies cut across every mission, underpin sovereign capability, are decisive in international R&D competition, and should be funded and prioritised accordingly. We note that while a cross-jurisdictional advisory group would make recommendations on proposed focus areas, a Commonwealth level governance board would then have responsibility for developing whole of system strategies for enabling instruments that span across focus areas, including critical and enabling technologies such as AI and quantum. The RD&I governance framework must guarantee enduring support for enabling technologies alongside sectoral missions, or Australia risks losing its global edge.

Back RD&I focus areas with public investment to shift the dial

The proposed matched-funding, portfolio-based model will help consolidate fragmented programs and sharpen the focus on translation. However, funding design must be explicitly benchmarked against international peers. Without incentives on a scale comparable to global leaders, Australia will struggle to attract and retain globally mobile capital or to onshore commercialisation.

The proposed national approach appears to be pitched at the TRL4 end of the research pipeline. While the paper indicates that activities across the full spectrum would be allowed, the suggested selection criteria are all aligned with the translational and commercialisation activities generally found at the higher TRL. Additionally, while 'cultural & societal outcomes' are mentioned as proposed selection criteria, there is very little discussion on the importance of the role the humanities and socials sciences play in RD&I.

The proposed long-term funding is sensible, but it is unclear how this would fit within the short-term government election cycle at both Federal and State levels, and annual budget processes. These considerations will be critical to achieving the long-term solution the SERD, and RDT&I stakeholders desire yet they are not even acknowledged let alone addressed.

The explicit expectation that the tri-sector partnership would need to consider how to leverage other parts of the ecosystem (incubators, facilities, private capital networks, research orgs) is an important inclusion. It could be worthwhile to consider funding several (~3) partnerships for the first three years, and selecting only one to continue for the remainder of the project lifetime, based on ability to collaborate and deliver effectively, after the first triennial review. International precedent exists for such an approach.

Introduce Commonwealth-level coordination mechanisms to agree on focus areas and support their delivery

Raising the role of RD&I to Cabinet level through the approval of focus areas is welcome. The tri-sector model of government, industry and research is sound, but the Governance Board should include the Secretaries of Industry, Science and Resources, and Education to overcome departmental siloing and ensure whole-of-system accountability. However, beyond this, it is proposed that each focus area is primarily managed by a lead Commonwealth agency which is what happens today albeit via different routes. National Coordination through a single Ministerial portfolio will entrench many of the current issues.

Maintain investment in foundational RD&I and system enablers for a vibrant research base

We strongly agree with the paper's assertion that the Government must safeguard the core foundations of Australia's R&D system throughout these proposed reforms and maintain funding towards broad, investigator led research, infrastructure, publicly funded research agencies, expanding the VC & startup ecosystem, and workforce mobility & skills development. On the latter, it is important that the system is

designed to support sustainable career pathways for researchers. However, the paper does not address what that might look like, in the face of a nationally coordinated effort.

Without a strong and continuous pipeline of fundamental research, our innovation system risks becoming reactive, short-term, and disconnected from the frontiers of global discovery. Research that doesn't involve industry and benefits society by contributing to, for example, better health outcomes and making our communities safer and more inclusive, should be valued equally to research that contributes to industry growth and new commercial technologies. We asserted the importance of university R&D in our submission to the initial SERD consultation highlighting that 33% of our current R&D is conducted in universities.

Failure of the SERD Panel to reference and integrate to other various strategies and approaches (like the new Health & Medical Research Strategy, the MRFF priorities, the new NCGP framework, etc.) means we approach the whole spectrum of RD&I from a simple single lens, which in turn will hamper the ability to truly deliver a coordinated approach and a step change to RD&I outcomes. The importance of the role of international collaboration in maintaining Australia's competitiveness is also overlooked.

Issues paper 2 – A proactive approach to scaling the RD&I system

The focus of this paper is on specific interventions to help translate ideas into successful businesses that create significant economic impact. It is primarily concerned with creating an environment that allows businesses to grow from medium to large, increasing business R&D expenditure, scaling up the start-up ecosystem and allowing them to move from start-up to businesses, attracting more VC investment, converting research into commercialisation outcomes, and building an appropriate R&D workforce. We strongly support R&D reporting being mandated, increasing industry PhDs and providing entrepreneurial mentorships for PhD candidates.

However, there is also a need for targeted investment to scale high-performing research programs, rather than broad-based funding increases that dilute impact.

Many of the proposed solutions have the potential to positively impact the university and broader R&D sector and many are aligned with the feedback the University of Sydney provided to the initial consultation. Commercialisation of R&D is key. While the focus on startups and SMEs is welcome, more needs to be done to encourage and incentive large multinational corporates to do R&D in Australia and partner with PFRAs. Building our commercialisation capacity through the creation of useful intellectual property is a necessary (long term) strategy, as part of which we should both make it easier to attract high quality overseas entrepreneurial talent and encourage home grown talent to remain in Australia. We encourage the SERD to consider BCA's recommendations to (a) support large businesses as enablers of translation, (b) explicitly include a commercialisation incentive to increase Australia's competitiveness, (c) ensure the RDTI delivers ROI without new compliance burdens, and to (d) link skills strategy to retention of large R&D players.

There is also an opportunity to ensure the development of demand-side support / stimulating absorptive capacity for innovation and new technology. This is critical for boosting RD&I but does not have a great enough focus within the paper. For example, specific support for technology pilot projects, or capability development for both suppliers of tech innovation and buyers of innovation to build skills and understanding of how to actually bring new technologies into existing large enterprises/production processes.

Another area for further assessment is whether pooled investment vehicles add more unnecessary complexity to the system, restrict the deployment of capital to larger investments preventing early-stage investment in start-ups, and remove heterogeneity in the private capital market.

There is no comment on how some of these suggestions would be funded, and given many of them are interrelated and range in scale (and complexity), they will require a robust plan and timeline for implementation.

Issues paper 3 – Incentivising breakthrough innovation and ambitious R&D

We commend the SERD for exploring the system across the whole ecosystem from pre-revenue to start-ups, SMEs and large businesses in this paper.

Prioritising simplicity and outcomes in RDTI reform aligns with calls from the business sector to rectify pain-points and we strongly support broadening and simplifying definitions, reducing thresholds and moving to an outcomes-focused RDTI.

We would recommend providing enhanced incentives for corporates only when there is demonstrable engagement with startups, SMEs, and universities, not simply for onshoring R&D. Incentives need to drive ecosystem building instead of rewarding activities in isolation. As suggested in our initial submission, we recommend that the SERD consider implementation of a Collaboration Premium to encourage collaboration between the industry and research sectors:

- Establish a 20% premium of the RDTI for industry collaboration startups, public research organisations and universities

- Target support to partnerships that accelerate early-stage commercialisation and leverage complementary strengths across the innovation system.

Issues paper 4 - Growing investment and capital for RD&I

We strongly support proposals to tackle Australia's conservative capital culture and increase the availability of venture capital to support startups and scale ups, particularly through

(a) encouraging public investment funds (e.g. NRF) to prioritise support for the development of Australian innovation and technology by leveraging private capital markets, such as through fund of funds and partnering with specialist deeptech funders, with direct investment focused on companies with high CAPEX needs aligned to national focus areas;

(b) reforming current superannuation policy settings to encourage investment in Australian venture assets; and

(c) incentivising large business to work with and acquire startups and invest in VC funds, e.g. through conditional RDTI benefits or premiums.

This said, the framing of the paper is still largely investor-centric. Deeptech is only acknowledged briefly and requires incentives for long-horizon capital where returns may take 10–15 years.