



Cooperative
Research
Australia

**CRA's response to the Industry Growth
Program's Discussion Paper
(July 2023)**

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 participate in the consultation on the Industry Growth Program.

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 are the 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) and their spinoff/successor entities, CRC – Projects grant participants, 30 universities and research institutions, as well as other industry-research collaboration entities, associated businesses, alumni and professionals.

Our contribution focuses on the importance of prioritising industry-led research, stressing its potential to achieve a sophisticated, complex and sustainable economy.

The highlights of CRA recommendations are:

- Prioritising industry-led research to develop sustainable long-lasting solutions that meet market demands.
- Expand eligibility criteria of SMEs to ensure better chances of success, including governance capacity, minimum employee threshold and clear business model.
- Fast-track applications from technologies arising from industry-led research program to leverage on Commonwealth funding, incorporate a coordinated innovation system, increase probability of success and signal the private sector.
- Prioritise projects according to criteria related to market validation, commitment to sustainability and ESG considerations, collaborations and export readiness.
- Consider an expanded system for readiness evaluation including Technology Readiness Level TRL and Commercial Readiness Index (CRI).
- Industry partner organisations' experience should be shared with participants on issues like market expertise, business development support, access to networks, R&D facilitation, business mentorship, amongst others.
- The program could request alumni commitment to support fellow participants that are still going through their journey.
- To ensure comprehensive and effective program governance and grant assessment, the committee should include experts in R&D and IP and reflect the diversity of the wider community.
- Metrics should be expanded to reflect effectivity of long-term desired impacts.
- A follow up beyond the immediate post-grant period is advised, which adopts quantitative data templates.

Cooperative Research Australia is committed to working collaboratively with the Australian Government to transform this country's industry and economy for a prosperous, sustainable and innovative future for all Australians. We are open to facilitating a platform for further consultation and/or clarification with our members on any of the recommendations.

Prioritising Industry-Led Research for a Sustainable and Innovative Future

The proposed Industry Growth Program presents a significant opportunity to foster sustainable and innovative growth in Australia's economy. As referred to in our submission to the National Reconstruction Fund, to achieve a sophisticated and complex economy, we need more industrial R&D based on scientific knowledge, especially in light of our recent drop to rank 93 in the Atlas of Economic Complexity¹.

At its core, robust innovation serves as the foundation for long-term economic prosperity. Innovations grounded in scientific knowledge are founded on rigorous research and evidence, enhancing their chances of success, adaptability, and the development of sustainable, long-lasting solutions.

Industry-led research is a powerful driver of innovation as it addresses real-world challenges, inspiring practical solutions that meet market demands, and thereby positively impacting the economy. Additionally, this approach facilitates strong collaboration between academia and businesses, leveraging specialized knowledge and real-world challenges to achieve more impactful and innovative outcomes.

By prioritizing industry-led research, the Industry Growth Program signals to private investors the potential for successful commercialisation, leading to increased private sector investment and bolstering the program's financial sustainability—a promising prospect for the National Reconstruction Fund.

Moreover, prioritizing industry-led research nurtures a culture of innovation across sectors. This cultural shift acts as a driving force for long-term economic growth and sustainability, propelling Australia towards a more prosperous and forward-thinking future.

Eligibility of innovative SMEs

CRA welcomes the opportunity presented for SMEs that comply with the eligible criteria proposed. We would encourage to also consider the following elements for eligibility:

- **Governance Capacity and Financial Management:** Requiring SMEs to demonstrate appropriate governance structures and financial management capacity ensures that they can effectively manage funds. This can be a simple statement of the organization's capacity to manage funds responsibly and efficiently.
- **Minimum Employee Threshold:** Setting a minimum number of employees as an eligibility criterion encourages SMEs to have a sufficiently staffed team. This helps prevent overstretching and inefficiencies, ensuring that the SME has the bandwidth for reporting and managing the funded project effectively.

¹ [The Atlas of Economic Complexity](#), produced by the Growth Lab at Harvard University, shows Australia is ranked 93, falling two positions from last year.

- **Clear Business Model:** The SME should be able to describe their business model, including how they generate profits, target markets, ongoing expenditure, and their development plans. This criterion applies not only to established businesses but also to SMEs in the development phase. A well-defined business model helps assessors understand the company's direction, attract potential investment, recruit talent, and ensures personnel have a clear vision.

Furthermore, we propose a second line of criteria that would represent a strategic and beneficial move that promotes innovation and maximizes the impact of government funding:

Introducing a fast-track application process for commercialisation of the outcomes of institutions like Cooperative Research Centres, Rural Research and Development Corporations, CSIRO Missions, Drought Resilience Adoption and Innovation Hubs, Trailblazer Universities Program, Australia's Economic Accelerator, etc., that comply with certain eligibility would take us one step closer to achieving a coordinated system for innovation.

Institutions like the Cooperative Research Centres, that are TRL spanning entities and whose core purpose is to move research along the TRL scale, have a proven track record of successful collaboration between industry and research organizations, resulting in innovations with significant potential for commercialisation and economic impact.

Eligibility of Projects

The Industrial Growth Program, fuelled by public funds, represents a powerful opportunity to make a positive impact on Australia's economy. While its primary goal may not be financial returns, the program's design should be geared towards measuring and showcasing its contributions to the nation's GDP, manufacturing capacity, job creation, and skills development right from the start. We recommend its link to the principles of the proposed Australian Centre for Evaluation (ACE)².

In line with this, we recommend an investor approach for prioritising the projects that should receive funding, which would not only assess best value for public money, but also prepare SMEs for future prospect investors. These criteria should include market validation, commitment to sustainability and ESG considerations, collaborations and export readiness. An example of an assessment system for these criteria is shown on table 1.

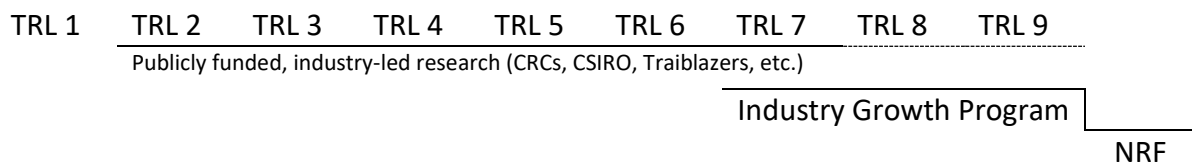
By carefully allocating funds to projects with the greatest potential for future growth and market impact, the program can act as a catalyst for transformative innovation and long-term economic prosperity.

² The 2023-24 Budget includes \$10 million over four years to establish the ACE in the Australian Treasury to help ensure government programs deliver value for money. <https://ministers.treasury.gov.au/ministers/andrew-leigh-2022/media-releases/australian-centre-evaluation-measure-what-works>

Table 1. Project Prioritisation Scorecard

Criteria	Description	Assessment (Fair)	Assessment (Good)	Assessment (Very Good)	Assessment (Excellent)
Market Validation and Potential Impact	<i>SMEs should provide at least high-level evidence of market validation and potential impact of their innovative products or processes. The program should target projects that address real-world challenges and have the potential to make a positive impact on the economy and society.</i>	Limited market validation, little evidence of product demand, and unproven impact on the economy. Product's impact on the economy is uncertain.	Some market validation, with early positive feedback from potential customers. Product has potential for positive economic impact, but with some uncertainty. Product's potential impact on the economy is promising.	Substantial market validation, significant interest and demand for the product or process. Positive impact on the economy is evident, with a clear and feasible path for scalability and growth.	Extensive market validation, strong demand and proven impact on the economy. Strong evidence of potential economic impact and future growth, with a clear pathway for scalability and expansion.
Commitment to Sustainability and ESG Considerations	<i>Encouraging projects that prioritise sustainability and address environmental, social, and governance (ESG) considerations promotes responsible innovation and aligns with broader societal goals.</i>	Limited consideration of sustainability and ESG factors in the project's design and implementation. The project lacks a clear strategy for addressing environmental and social considerations.	Some consideration of sustainability and ESG factors in the project's design and implementation. Project demonstrates awareness of environmental, social, and governance considerations. Project's commitment to sustainability and ESG is evident.	Considerable commitment to sustainability and ESG principles, with clear plans to integrate sustainable practices into the project. Project design considers environmental, social, and governance (ESG) factors. Project actively contributes to broader societal goals.	Strong commitment to sustainability and ESG principles throughout the project's lifecycle. Project design reflects a deep understanding of environmental, social, and governance considerations, aiming for a positive and lasting impact on the environment and society.
Partnerships and Collaborations	<i>Projects that showcase partnerships and collaborations with research institutions, industry experts, or other businesses should be prioritised. Collaborative efforts can enhance innovation, share expertise, and broaden the potential for successful commercialisation.</i>	Limited or no partnerships or collaborations with research institutions or industry experts. The project lacks diverse external inputs and expertise.	Some collaborations with research institutions or industry experts. Limited networking or integration of expertise from external sources. Project shows potential for collaboration and networking with relevant stakeholders.	Multiple collaborations with research institutions, industry experts, and other businesses. Collaborative efforts enhance innovation and broaden potential for successful commercialisation. Strong evidence of collaborative success and positive project outcomes.	Extensive collaborations with research institutions, industry experts, and other businesses. Project has built strong networks and leveraged collective expertise to enhance project success. Extensive partnerships and collaborations drive innovation and market impact.
Market Potential and Export Readiness	<i>Assessing the SME's market potential and readiness for international expansion can identify projects with significant growth opportunities and potential for export.</i>	Limited market potential, with unclear path for growth. Project's scalability and export readiness is uncertain. Project lacks a clear plan for domestic and international growth.	Some market potential with early signs of potential for growth. Project demonstrates potential for expansion and export readiness. Project readiness for export is promising. Project has potential for significant growth and expansion.	Good market potential, ready for potential expansion. Project shows potential for growth in domestic and international markets, with feasible plans for export. Project's readiness for export is well-established, with a clear strategy for international market penetration.	Strong market potential, well-prepared for international expansion. Project has identified international markets and is strategically positioned for global growth. Project demonstrates a deep understanding of global markets and shows strong potential for international growth.

Emphasizing a fast-track application process for "graduated" projects from industry-led research institutions is a strategic decision that aligns with market needs and real industry challenges. These projects have already undergone rigorous research and collaboration with industry experts, making them promising candidates for future growth and market success. By supporting these projects on an expedited track, the program can harness existing market demand and accelerate the transition of innovative ideas into tangible products or processes.



In relation to readiness evaluation, the Technology Readiness Level (TRL) system is an invaluable methodology for assessing the maturity of innovations and guiding their development, particularly in initiatives like the Industry Growth Program. However, to fully leverage its benefits, it is essential to ensure that both SMEs seeking support and assessors have a clear understanding of the TRL ladder.

We recommend seeking guidance from best practice examples like Ecolabs or The Welding Institute (TWI), which offer self-assessment tools to users. By adopting such an approach, we can bridge the knowledge gap and foster effective communication between innovators and assessors, facilitating a more informed decision-making process.

Alternatively, the Commercial Readiness Index (CRI), presents another relevant methodology. It provides a comprehensive and systematic evaluation of an SME's readiness to take their innovation to market. Unlike TRLs, that primarily focus on the technical aspects of a technology, CRI takes a broader approach, considering various factors that are essential for successful commercialisation. We recommend looking at ARENA's implementation of this methodology³.

Diversity and inclusion

As underscored in our submission to the National Reconstruction Fund, we support that 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.

³ ARENA's Commercial Readiness Index for Renewable Energy Sectors is available here: <https://arena.gov.au/assets/2014/02/Commercial-Readiness-Index.pdf>

We welcome the Industry Growth Program's consideration of including matters of regional development, gender equality and opportunities for First Nations communities as part of their guiding principles.

Industry partner organisations

The industry partner organisations approach in the program represents a valuable opportunity to enhance commercialisation and early-stage growth performance for participants. Their experience should be offered by industry partners in the form of:

- **Market Expertise:** insights and guidance on product positioning, market demand, and competitive analysis.
- **Business Development Support:** robust business plans, marketing strategies, and sales tactics.
- **Access to Networks:** extensive networks of potential customers, investors, suppliers, and collaborators.
- **Funding Opportunities:** financial resources or links to investors that can help participants secure the necessary funding for product development, scaling, and market expansion.
- **Research and Development Expertise:** R&D facilities, resources, and specialised knowledge can accelerate the innovation process and improve the quality of participants' products or services.
- **Regulatory and Compliance Guidance:** help to navigate legal and compliance issues, ensuring their products are compliant and market-ready.
- **Prototyping and Testing Support:** access to prototyping facilities and testing capabilities
- **Technical and Intellectual Property Assistance:** intellectual property to safeguard their innovations and avoiding potential infringement issues.
- **Business Mentorship:** mentorship and guidance through the sharing of their experiences and insights on overcoming challenges and maximizing growth opportunities.
- **Export and Internationalization Support:** explore global expansion opportunities and navigate export processes.

A good practice amongst many incubator and accelerator programs is to ensure a commitment from alumni to support fellow participants that are still going through their journey. This allows the creation of a solid and growing network of support for this audience.

Another thing to consider is that if the industry partner is a more experienced business in the same sector, one key point is to clarify what are the benefits and incentives for the partner, including whether there is a monetary gain associated. A transparent and mutually beneficial relationship between industry partners and program participants will foster trust and fair competition, enabling all involved parties to thrive avoiding biases and conflicts of interest.

Program governance and grant assessment

In addition to the expertise mentioned in the committee, there are three components that CRA encourages to have represented in the committee to ensure comprehensive and effective program governance and grant assessment:

First, including members with a background in research and innovation can provide valuable insights into cutting-edge technologies and emerging trends, helping to identify projects with significant potential for commercialisation and economic impact.

Also, having individuals with expertise in intellectual property laws and legal matters related to innovation can ensure that grant recipients' intellectual property rights are protected and that any legal implications are appropriately addressed.

Finally, ensuring the committee is diverse, and includes diversity and inclusion advocates on the committee can ensure that the program is inclusive and accessible to businesses from diverse backgrounds and demographics.

Program design to meet intended outcomes

To ensure a quality, positive business experience, and successful outcomes, the Industry Growth Program should be designed with a long-term vision and a comprehensive set of metrics to measure its impact on the industry and overall economy as suggested above (impact to GDP, manufacturing capacity, to jobs and skills development, number of generated companies in the sector, investment lift to each sector, etc.)

In addition to the proposed metrics, several other design elements can be considered:

- Number of successful projects that apply for funding from the NRF
- Number of successful projects that attract private investment
- Number of SMEs that transition to public companies in the long run
- Assess the level of collaboration and partnerships formed between industry players, research institutions, and other businesses resulting from the program's initiatives
- Diverse Sector Representation

Regarding the proposed project periods of up to 24 months, this duration is reasonable considering how intense the non-financial support is. For constant, reliable and tailored advice, 24 months is a sufficient time.

Experts from our cohort recommend that if the technology (valley of death period) is beyond this timeframe, then it has probably missed its market and needs to consider all the project eligibility points again.

However, it is essential for the Industry Growth Program to embrace flexibility with opportunities to reapply. While shorter funding periods may offer efficiency in some cases, accommodating projects with greater complexity and specific needs may require extended

timelines for successful commercialisation and growth. A one-size-fits-all approach may lead to suboptimal outcomes.

Post-grant period reporting obligations

As recommended above, the program should follow up with grantees and advice recipients over a reasonable timeframe, ideally extending beyond the immediate post-grant period.

To minimize the reporting burden on participants, a streamlined and user-friendly reporting process should be established. This can involve providing templates or standardized formats for data collection, focusing on collecting essential information that directly contributes to program evaluation. Additionally, exploring options for automated data collection and integrating existing data sources can further reduce the reporting burden on participants.

Adopting quantitative data templates ensures consistency in reporting, enabling easy comparison and assessment of different projects over time. The use of predefined metrics and data points allows for a systematic review of participants' progress and outcomes, facilitating a comprehensive understanding of their performance.

Beyond data collection, the post-grant period presents opportunities to foster ongoing support and collaboration among participants. As mentioned above, an alumni support network would be a first step towards long-time support.

Alignment with other initiatives

The Industry Growth Program stands as a pivotal initiative to drive sustainable and innovative growth within the Australian economy. However, to ensure the program's resounding success, it is imperative that it aligns harmoniously with other complementary industry-led initiatives, including the Cooperative Research Centres, Rural Research and Development Corporations, CSIRO Missions, Drought Resilience Adoption and Innovation Hubs, Trailblazer Universities Program, Australia's Economic Accelerator. We propose to do this by fast-tracking applications for commercialising research that is originated in the mentioned programs.

By forging strategic partnerships with these existing programs, the Industry Growth Program can create a powerful network that spans the entire value chain and crosses multiple sectors. This interconnected approach will not only ensure the efficient utilisation of resources but also facilitate the seamless exchange of knowledge and expertise between industry players and academic institutions. By fostering such meaningful connections, the program can stimulate cutting-edge research, inspire practical solutions, and leverage the entrepreneurial spirit of students, leading to the creation of innovative products and processes that address real-world challenges.

Moreover, the alignment with industry-led research, as advocated in our previous arguments, becomes a key driver for private investors' confidence. By demonstrating a strong commitment to industry-led research, the program signals the potential for successful commercialisation, which in turn attracts increased private sector investment.

This virtuous cycle of funding and support creates a positive impact on the program's financial sustainability, solidifying its role as a promising prospect for the esteemed National Reconstruction Fund.

Finally, we recommend interconnectedness with the system overall, including in its design long-term impacts to the economy, jobs and skills (Jobs and Skills Australia and the Startup Program) and effective program evaluation metrics (Australian Centre for Evaluation).