

**Australian Academy of Science submission to the
Australian Government's *Economic Reform Roundtable***

Stimulating research and development (R&D) activity is vital to boost productivity, improve living standards, enhance sovereign capability, and to keep us safe in a volatile world. However, 15 years of underinvestment shows R&D has been undervalued and overlooked in Australia.

As a nation we want technologies like AI to boost our productivity, we want new medicines to keep us healthy, and the most advanced defence capabilities to keep our island nation safe. Yet we aren't willing to sufficiently invest in the discoveries that create them. There is no "D" without "R"

This is why the Australian Academy of Science (the Academy) is calling for an urgent national conversation on R&D investment in Australia.

The economic reform roundtable and strategic examination of R&D together provide a rare opportunity to create policy settings that enables R&D to thrive and in so doing improve economic complexity and growth and to enable Australia to participate and compete in a technologically advanced world.

The Academy's proposals for consideration:

- Incentivise business R&D investment by applying a 0.25% or 0.5% R&D levy to businesses with annual revenue of \$100 million or more, with offsets available to those businesses that invest in R&D. The levy revenue would be quarantined invested in research to contribute to discovery and breakthroughs that drive productivity and economic growth.
- Implement a long-term national high-performance computing and data (HPCD) strategy and roadmap to build national capacity, with targeted investment in next-generation HPCD infrastructure, as *the* essential underpinning infrastructure required to support research and industry growth.

Furthermore, over the past 18 months, the Academy has examined Australia's national science capability against the economic forces shaping our country's future. We have mapped this capability against the five economic forces listed in the Intergenerational Report, and have projected forward to evaluate our workforce in the coming decade. This is made it possible to see where Australia is and is not on track to build the capability and workforce our country will need to meet the challenges of our future.

The Academy of Science would be pleased to provide a briefing on this novel analysis to the Treasurer. The full report will be published ahead of the Academy's National Symposium on 4 September 2025.

R&D must be part of the solution to improve national productivity and economic resilience

Investing in R&D – especially research – generates the foundational knowledge that fuels long term economic growth and productivity. It provides the ideas and breakthroughs that lead to technological progress, improved economic output and living standards. Analysis by the International Monetary Fund¹ indicates that a 10 per cent increase in domestic basic research can increase productivity by 0.3 per cent.

For many nations scientific research is considered an indispensable strategic national asset. Not in Australia.

As a percentage of GDP, both government and industry investment in R&D in Australia has been declining for over a decade. On the current trajectory we risk dropping to the bottom of OECD countries within the next five years. This low investment severely limits our nation's ability to build economic resilience, boost productivity and be internationally competitive.

¹ IMF: *Why basic science matters for economic growth*, October 2021

To advance our nation and its people, we need to work in partnership – government, industry, higher education and philanthropy – and reverse the decline in R&D investment in Australia, creating an environment that values research so all Australians can enjoy its benefits.

[A solution to incentivise business investment in R&D](#)

Raising government investment is essential but insufficient to fill the gap – even if government R&D expenditure doubled, Australia would still fall short of the OECD average.

Business investment is strikingly low compared to the OECD average. The government’s discussion paper for the Strategic Examination of R&D highlights the growing reliance on small and medium enterprises to drive business investment on R&D (BERD) in Australia.² This contrasts with other countries where large companies primarily lead BERD.

Large businesses have built successful businesses on the fruits of long-term publicly funded research and R&D incentives. They are well positioned to invest and innovate, and to reap the benefits of improved competitiveness, greater profits and access to new markets.

To offer perspective, public investment in R&D is at an historic low: 0.17% of GDP by government, the OECD average is 0.23%, a difference of A\$1.8 billion. Australian business investment is 0.89% of GDP; the OECD average is 1.99% - a gap of A\$32.5 billion.

The Australian Academy of Science proposes incentivising large business R&D investment by applying a 0.25% or 0.5% R&D levy to businesses with annual revenue of \$100 million or more, with offsets available to those businesses that invest in R&D. We propose that the levy revenue be invested as a Research Future Fund and its returns invested in research.

Depending on the levy rate and R&D discount rate, **we estimate that a levy could raise between \$2.14 billion and \$12.84 billion annually** (based on 2021-22 ATO data).

The levy revenue collected must be legislated, governed and protected to support basic research in areas of national significance. This measure rewards those businesses that invest in R&D, incentivises those that don’t, and grows the pool of funds available for investment in research to maintain the wellspring of innovation needed to keep the R&D system – including businesses – healthy, productive, and delivering for all Australians.

A detailed explanation of the proposal, [including economic modelling and implementation options](#), is available on the Academy website.

[Supercomputing is an investment in a competitive and productive Australia](#)

Australia’s infrastructure investments need to be future-ready and able to seize the scientific and technological opportunities before us. Supercomputers are to the 21st century what national roads were to the 20th century.

High-performance computing and data (HPCD), also referred to as supercomputers, is unique and critical research infrastructure because it underpins other research infrastructure and capabilities. HPCD enables accurate weather forecasting, supports agricultural productivity, accelerates drug discovery, and drives the development of new technologies, including artificial intelligence (AI), to create jobs and fuel economic growth.

Supercomputing is also a capability required by industry to enable them to innovate, compete and grow.

The Academy calls for the Australian Government to commit to a [long-term national strategy and roadmap to build HPCD-capacity](#). This would necessitate an investment of \$200 million a year over 10 years. Detailed investment models, include pathways for co-investment with the private sector should be assessed.

² Australian Government, [Strategic Examination of R&D discussion paper](#), February 2025

To discuss or clarify any aspect of this submission, please contact Lauren Sullivan, Manager Policy at science.policy@science.org.au.