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Unlocking Australia's R&D potential

JULY 2025

ATLASSIAN Cochlear® BCA Business Council of Australia

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Note: All dollar figures are Australian dollars unless indicated otherwise.

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Executive summary

Investment into Research and Development (R&D) plays a key role in driving productivity, which in turn leads to better living standards and economic competitiveness.

Concerningly, Australia's business R&D spending has fallen to half that of peer countries, driven by **low and declining R&D expenditure from large businesses** and undermining productivity growth at a time where it is at a 60-year low. Over the past decade, large business R&D investment has declined by 24%, or $2.9 billion. Despite well-established links between R&D, productivity, and economic growth, Australia has not taken the necessary decisive action to improve R&D investment. This report identifies targeted policy measures that could help reverse the decline and unlock Australia's R&D potential.

Large businesses anchor R&D ecosystems, making their underinvestment particularly concerning for Australia's innovation future. This relationship is universal: no OECD country achieves strong R&D performance without substantial investment from large businesses. Australia clearly underperforms peers; large companies' contribution to business R&D expenditure is 61% as an OECD average, compared to just 45% in Australia. The numbers illustrate this outsized influence. **Just 5% of Australian businesses account for 48% of the country's business R&D expenditure** through the Research and Development Tax Incentive (R&DTI).

The impact of this investment extends far beyond the companies themselves. Large companies do not just conduct research; they generate knowledge spillovers that build innovation capacity across the entire economy. **Former employees from major R&D-performing businesses have gone on to lead 1,800 other companies, collectively generating $77 billion in value added and employing 132,000 R&D workers in Australia**. As large businesses pull back from R&D investment, Australia loses these multiplier effects that drive economy-wide growth, innovation, and productivity.

Australia underperforms on every dimension that drives business R&D decisions. Large businesses invest in R&D when the economics make sense; balancing costs, productivity (driven by factors including talent availability, institutions, and networks), and potential returns. While Australia has the institutional and talent foundations for strong R&D performance, it falls short when compared to international peers on costs and potential returns. Costs are relatively high, with **R&D expenses 12% above the OECD** average. Government support remains uncompetitive, **with large business tax incentives 30% lower than in comparator countries**.

Furthermore, Australia's 30% corporate tax rate with no tax concessions for income from the domestic commercialisation of intellectual property (IP) makes domestic commercialisation less attractive, discouraging companies from developing Australian innovations locally.

Six targeted reforms could unlock $7.72 billion in annual economic output, generating $5 of value for every $1 of government expenditure over the next 10 years. These reforms are expected to cost on average $1.41 billion p.a. over this period, however the net fiscal impact is expected to be neutral when accounting for the additional tax revenue that government would make. These reforms include:

1. **Simplify R&DTI rates** to a consistent offset of 18.5% above the company tax rate
2. **Remove the $150 million R&DTI cap**
3. **Introduce an R&DTI collaboration premium** for partnerships between businesses and higher education or government research institutions
4. **Introduce an R&D commercialisation incentive**, providing a concessional tax rate of 10% for the Australian commercialisation of Australian-developed IP
5. **Streamline R&DTI compliance requirements** to reduce the administrative burden on businesses
6. **Consolidate R&D grants** into fewer, nationally significant programmes

This economic impact is largely driven by the **productivity improvements** associated with increasing R&D expenditure. In total, the proposed recommendations are expected to **lift Australia's productivity by 0.1%**. This is a significant productivity reform – similar in scale to the Productivity Commission's estimated impact of improving competition in the banking sector (0.11%) or expanding telehealth services across Australia (0.1%). The reform package will also drive an additional $2 billion in annual business R&D spending, significantly narrowing Australia's gap with international peers.

Australia now stands at a critical juncture. The Strategic Examination of Research and Development presents a valuable opportunity to fundamentally reform Australia's R&D policies, following years of reviews that have yet to deliver meaningful economic outcomes. With the economic case for R&D investment clearly established, Australia must move beyond analysis to the decisive action needed to restore international competitiveness and unlock the productivity growth essential for long-term economic prosperity.

1. Untapped large business potential drives Australia's poor R&D performance

Research and Development (R&D) investment represents one of the most direct pathways to achieving Australia's productivity growth objectives.[1] R&D investments provide countries with the technological foundations to increase competitiveness and raise living standards, driving economy-wide productivity improvements.[2,3]

Australia faces a critical R&D investment gap. Total R&D expenditure is 1.5 times lower than peers and declining, with the shortfall concentrated in business investment. While universities, not-for-profits, and governments spend at internationally comparable levels, Australian businesses are spending half that of their peers.

The decline in large business investment has been particularly damaging. Over the past decade, large business R&D expenditure has fallen by $2.9 billion (24%), weakening Australia's overall R&D performance in both absolute and relative terms. This trend is especially concerning because large businesses anchor the entire R&D ecosystem.

The numbers illustrate their outsized influence: the top 5% of R&DTI claimants account for 48% of total investment and employ 10% of the Australian R&D workforce. These companies generate crucial spillover effects as employees move through the ecosystem, transferring knowledge and expertise to smaller firms and startups.[4] Former staff from major R&D-performing businesses now lead 1,800 companies, collectively generating $77 billion in value added and employing 132,000 R&D workers. As large businesses retreat from R&D investment, Australia loses access to these economy-wide multiplier effects.

Over the past decade, large business R&D expenditure has fallen by $2.9 billion (24%), weakening Australia's overall R&D performance.

1 IMF (2021) *Reigniting productivity growth in Australia*
2 CSIRO (2021) *Quantifying Australia's returns to innovation*
3 Griffith et al. (2001) *Mapping the two faces of R&D*
4 Bloom et al. (2013) *Identifying technology spillovers and product market rivalry*

1.1

Australia's expenditure on R&D is lower than peer nations and declining

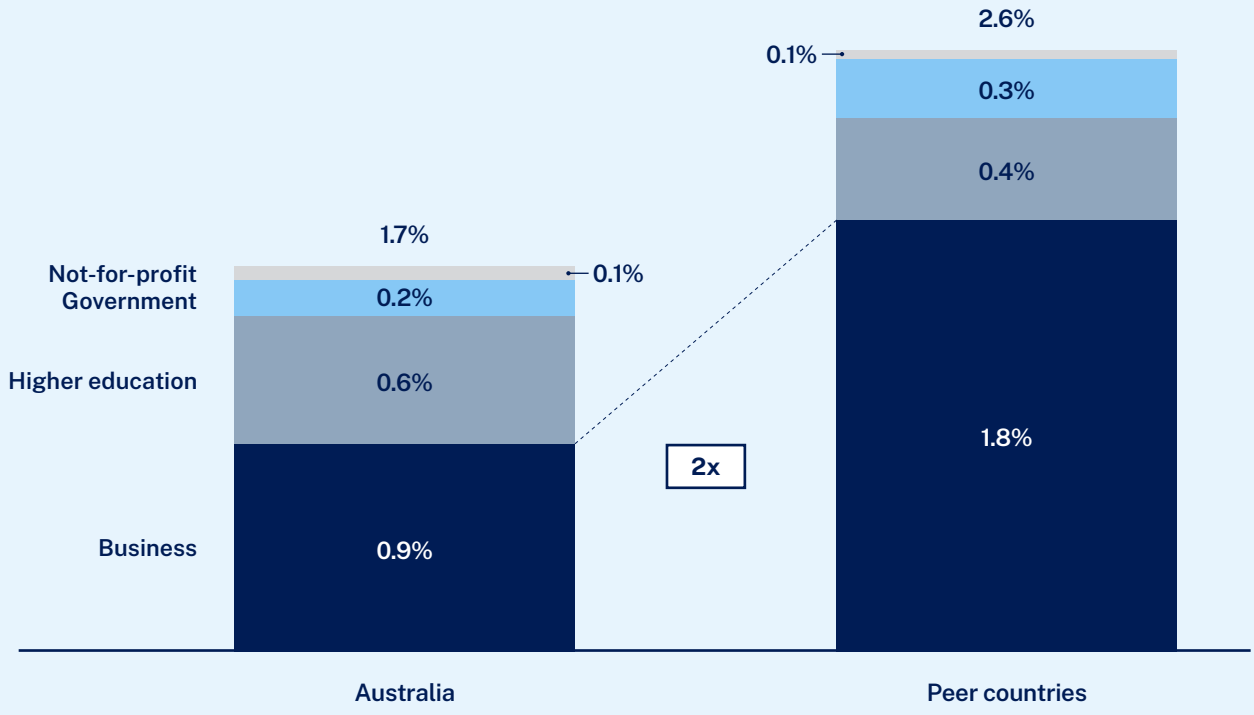
Australia's expenditure on R&D as a share of national output has fallen significantly behind peer nations.[5,6] While investment levels were comparable to international benchmarks in 2008, they have declined to 1.5 times below the peer average.[7] Australia's low R&D expenditure is driven by low levels of business R&D, at 0.9% of GDP compared to the peer average of 1.8% (**Exhibit 1**).[8] Meanwhile, not-for-profit, government, and higher education R&D spending match or exceed peer levels.

Australia's strong public research sector offers an untapped opportunity to boost business R&D performance, both through leveraging foundations to build in-house research capacity, as well as through stronger collaboration to commercialise research. While Australia ranks 18th globally for innovation inputs such as education and research quality, it falls to 30th for innovation outputs such as patents and high-tech exports.[9,10] This performance gap reflects both limited industry-research linkages and insufficient large business investment in internal R&D capabilities. Greater investment in both company-led research and collaboration between Australia's world-class public research base and businesses could strengthen commercial outcomes, which drive the economic growth and jobs dividends of R&D. The lack of collaboration and commercialisation have been identified as key barriers to Australia's R&D performance.[11] Aligning industry and public research incentives could help to address these challenges simultaneously, building both collaboration between sectors and in-house research capabilities at businesses.

EXHIBIT 1

Gross domestic expenditure on R&D, by sector

% of GDP, 2021



Note: 'Peer countries' includes Canada, Germany, Japan, New Zealand, Singapore, the United Kingdom, and the United States. 2021 is the latest data available for this metric.
Source: OECD (2024) *Main Science and Technology Indicators* and Mandala analysis.

5 'Peer average' includes a simple average of the R&D expenditure of Canada, Germany, Japan, New Zealand, Singapore, the United Kingdom, and the United States. Peer group chosen to reflect similar advanced economies commonly used to benchmark in prior R&D studies.
6 Prior & Brennan (2025) *R&D and innovation in Australia: 2024 update*
7 See appendix 4.1 Exhibit 13
8 OECD (2024) *Main Science and Technology Indicators*
9 World Intellectual Property Organisation (2024) *Global Innovation Index*
10 Scimago (2025) *Journal & Country Rank*
11 Industry Innovation and Science Australia (2023) *Barriers to collaboration and commercialisation*

1.2

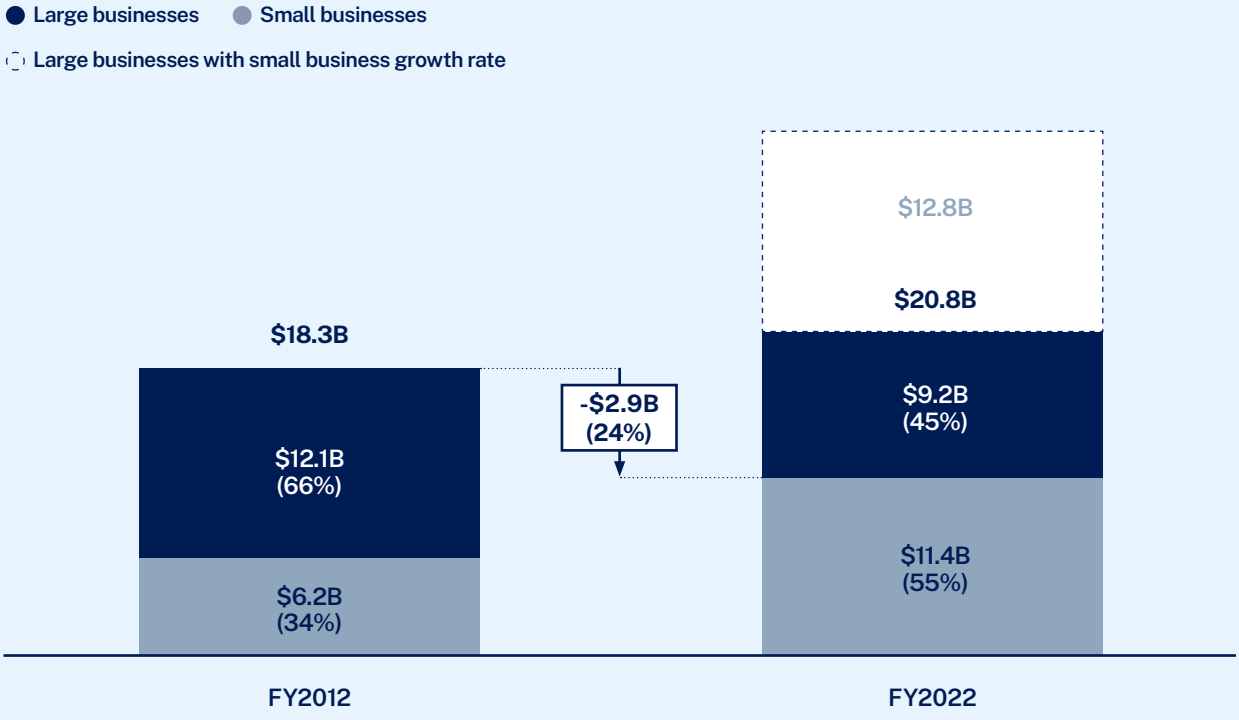
Large business underinvestment limits Australia's R&D performance

Large business R&D has declined in both absolute and relative terms over the last 10 years. Between FY2012 and FY2022, large business R&D expenditure decreased by 24% in absolute terms, while small business expenditure increased by 84% (**Exhibit 2**).[12] This corresponds to a $2.9 billion decline in large business R&D expenditure between FY2012-22. If instead Australia's large business R&D had grown at the same rate as small businesses' R&D, by FY2022 there would be an additional $12.8 billion in annual R&D investment from large businesses. The reduction in R&D spending by large businesses undermines Australia's capacity to increase productivity growth and maintain competitiveness in knowledge-intensive industries.[13]

EXHIBIT 2

Australian business expenditure on R&D, by business size

$B expenditure on R&D, 2011-12 and 2021-22



Note: 'Large businesses' are defined as those with 200+ employees, while 'Small businesses' are those with less than 200 employees.
Source: BCA (2025) *Strategic Examination of R&D – BCA submission*; AlphaBeta (2020) *Australian Business Investment in Innovation: levels, trends and drivers*; ABS (2023) *Research and Experimental Development, Businesses Australia*; and Mandala analysis.

12 ABS (2023) *Research and Experimental Development, Businesses Australia*
13 IMF (2021) *Reigniting productivity growth in Australia*

1.3

Australia's level of R&D is low, even when accounting for industry composition

Some of the recent decline in Australia's R&D can be attributed to the mining sector's transition from exploration and development to production.[14] However, this sectoral shift does not fully account for the size of the gap with peer nations. One third of the R&D intensity gap is not accounted for by industry composition, representing $6.8 billion in lost R&D expenditure (**Exhibit 3**). This unexplained gap reveals a competitive disadvantage beyond structural factors, and corresponding untapped potential for R&D growth.

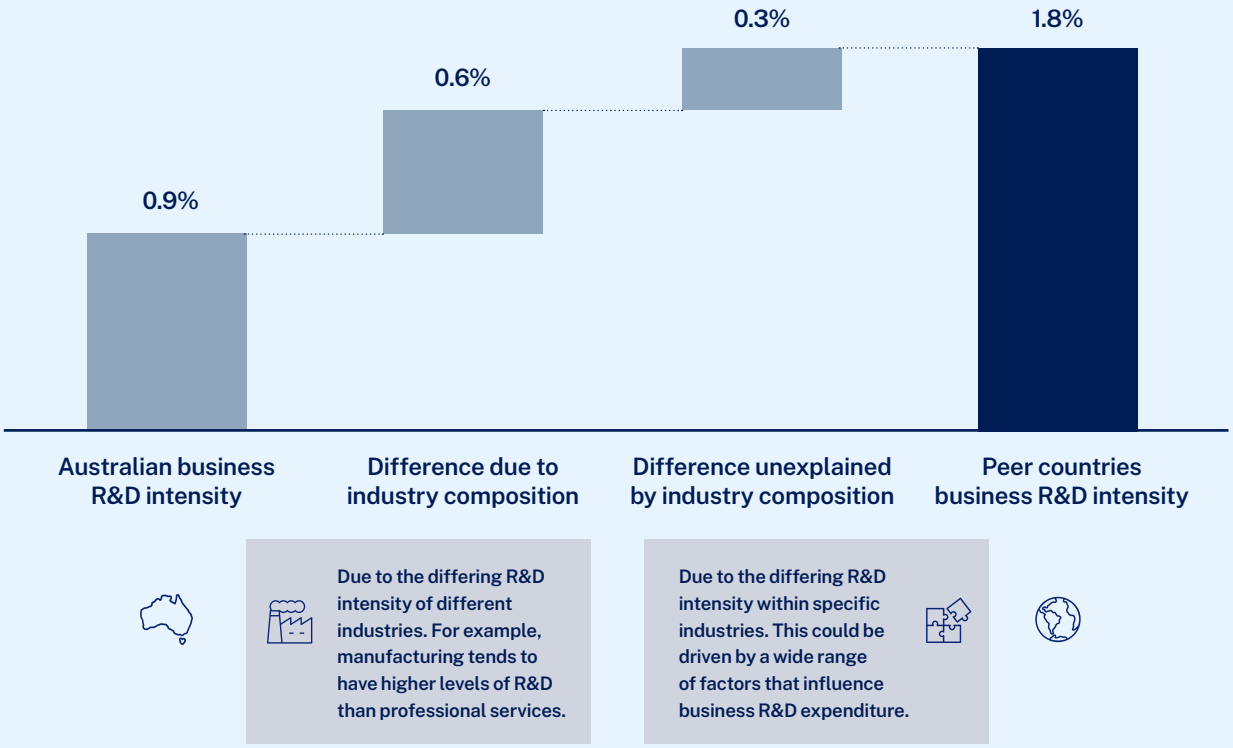
Certain industries, such as ICT, tend to naturally invest more in R&D. Countries that have a higher proportion of these industries will typically see higher business R&D expenditure. Conversely, industries such as mining are typically less R&D intensive. In Australia, the resources sector accounts for almost 15% of GDP, about five times more than in peer nations.[15] This overrepresentation of low R&D intensity industries leads to structurally lower business R&D expenditure, accounting for approximately two-thirds of Australia's R&D shortfall compared to peers.

Investing in more R&D intensive industries, such as advanced manufacturing and technology, will help close the R&D intensity gap and grow key strategic sectors. The government, through Future Made in Australia and related policies, is taking action to support such industries. However, to make improvements to R&D outcomes in the immediate term, and help to reverse the productivity growth decline, there must be additional efforts to address intensity gaps within Australia's existing industry structure.

EXHIBIT 3

Business R&D intensity, Australia vs international peers

Business R&D expenditure as a % of GDP, 2021



Note: Industry composition adjustment made by applying Australian industry R&D intensities to peer average industry composition.
Source: OECD (2025) *STAN value added by economic activity*; Statistics Singapore (2025) *GVA by institutional sector*; OECD (2021) *ANBERD database*; and Mandala analysis.

14 AlphaBeta (2020) *Australian Business Investment in Innovation*
15 OECD (2021) *STAN database for Structural Analysis*

1.4

Large businesses act as pillars in the R&D ecosystem and generate spillover benefits

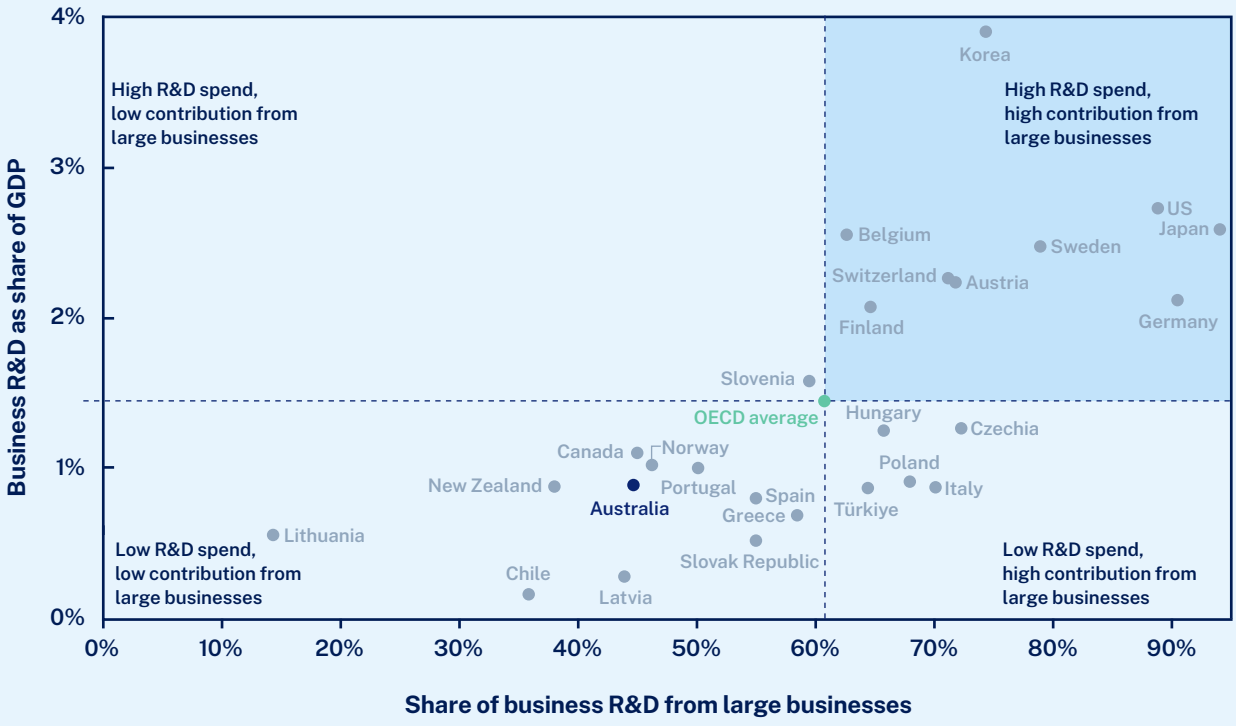
Large businesses drive R&D through two critical channels. First, they make investments at substantial scale and employ a disproportionate number of R&D workers. Second, they generate spillovers that benefit the entire economy.[16] When large firms invest in innovation, they create knowledge networks and train specialised talent that smaller companies and startups can leverage. This means that underinvestment by large businesses does not just represent a missed opportunity for those individual firms, it undermines the innovation capacity of the entire economy.

Large businesses lead R&D spending in high-performing economies. Businesses with 200+ employees account for 61% of business expenditure on R&D on average in OECD countries. In contrast, Australia lags at 45% (**Exhibit 4**).[17,18] Countries with higher contributions from large businesses systematically achieve higher levels of total business R&D, highlighting the central role these companies play in supporting national R&D.

EXHIBIT 4

Large business contribution to business R&D expenditure

x-axis: share of business expenditure on R&D from large businesses, y-axis: business expenditure on R&D as share of GDP, 2021



Note: Includes a sample of 26 OECD countries where there is available data on business R&D expenditure by business size. 'Large businesses' are defined as businesses with 250+ employees, except for Australia where it is defined as businesses with 200+ employees (due to data reporting practices by the Australian Bureau of Statistics).
Source: OECD (2024) *Main Science and Technology Indicators*; ABS (2023) *Research and Experimental Development, Businesses Australia*; and Mandala analysis.

16 Bloom et al. (2013) *Identifying technology spillovers and product market rivalry*
17 OECD (2024) *Main Science and Technology Indicators*
18 ABS (2023) *Research and Experimental Development, Businesses Australia*

Large businesses play a pivotal role in R&D ecosystems as a source of capital and knowledge transfer due to their substantial scale and investment capacity. The influence of a small number of large businesses is exemplified in the concentration of R&D activity, with just 5% of businesses accounting for 48% of all expenditure claimed on the R&D Tax Incentive (R&DTI) ($5.4 billion of $11.2 billion claimed in FY2021 and FY2022).[19]

Not only are large businesses overrepresented in terms of R&D investment, but they also employ a disproportionately large number of R&D workers. R&D workers are foundational to innovation, undertaking creative and systematic work to increase the stock of knowledge.[20,21] The top 5% of R&DTI claiming firms employ 10% of Australia's R&D workforce (**Exhibit 5**). This concentration of R&D workers at large businesses demonstrates the critical role large businesses play in supporting the workforce that drives productivity improvements, innovation, and broader economic growth.

Movements of R&D workers represent a key mechanism through which technical expertise and commercial insights flow through Australia's R&D network.[22] When skilled researchers move between organisations, they carry accumulated expertise and insights with them.[23] This labour dynamism facilitates the sharing of knowledge among organisations, with knowledge acquired at one organisation becoming available to subsequent employers.[24] In particular, R&D workers carry technical expertise that enables technology diffusion through the economy, as firms adopt new technologies based on the knowledge of incoming workers.[25] This cross-pollination of ideas accelerates technological advancement and drives spillover benefits across the entire R&D ecosystem.

CASE STUDY

Atlassian acts as a pillar in the R&D ecosystem and generates spillover benefits

Atlassian is one of Australia's largest R&D spenders, claiming over $200 million on the R&DTI in 2021.[26] Over 50% of Atlassian's 12,000+ employees work in R&D, with a significant portion in Australia.[27] As a large investor and employer, Atlassian forms a key pillar in Australia's R&D landscape.

The company has generated significant knowledge spillovers, demonstrated through the extensive alumni network.

Former staff have founded at least 140 companies, including Codefresh, Launchdarkly, Magical, and JR Academy, with many raising more than US$10 million in capital to date. At these companies, alumni share accumulated technical expertise and operational knowledge in new ventures.

This network illustrates two key dynamics: the important role that large companies play as pillars in the R&D ecosystem, and how their concentrated R&D investment generates knowledge spillovers and economic returns.

A meaningful measure of large business' spillover benefits is the network of smaller companies that are led and supported by former employees. Former R&D staff of the top 5% of R&DTI claimants have gone on to lead 1,800 companies, contributing to the Australian economy by generating $77 billion in value added and employing 132,000 R&D workers (**Exhibit 5**).[28]

Furthermore, 8,200 R&D-led companies have hired former employees of the top 5% of R&DTI claimants, demonstrating their centrality in the R&D landscape.[29] This talent mobility between established and new R&D firms creates clusters of knowledge and expertise, raising technical capacity and supporting innovation across the R&D ecosystem.

19 ATO (2024) R&DTI 2021-22, see appendix 4.1 Exhibit 14
20 OECD (2015) *Frascati Manual*
21 This analysis specifically identifies scientists and engineers who perform specialised R&D tasks, see appendix 4.1 Exhibit 15
22 Bakhtiari & Breunig (2017) *The role of spillovers in research and development expenditure in Australian industries*
23 Braunerhjelm et al. (2020) *Labour market mobility, knowledge diffusion, and innovation*
24 Bloom et al. (2013) *Identifying technology spillovers and product market rivalry*
25 Akerman & Holzheu (2025) *The Role of Workers in Knowledge Diffusion Across Firms*
26 ATO (2024) *R&DTI 2021-22*
27 Atlassian (2024) *Annual report*
28 See appendix 4.1 R&D worker identification methodology note
29 R&D-led defined as the founder or CEO of a company being identified as an R&D worker in previous roles via Revelio analysis.

EXHIBIT 5

Overview of benefits of large businesses in the R&D ecosystem

Large businesses play a pivotal role in R&D ecosystems and are a key source of capital and knowledge transfer

Act as pillars

Provide stability to the R&D ecosystem by being large employers of R&D staff and deploying large amounts of capital for investment

48%

of R&D investment comes from top R&D claiming companies

10%

of R&D workers are employed by the top 5% of R&D claiming companies

Generate spillovers

Generate additional benefits to the R&D ecosystem through knowledge and talent transfer

Former staff of top R&D claiming companies have gone on to lead[1]...

1,800

companies which have generated...

$77B

in value added, from...

132,000

R&D workers currently employed

1. Figures refer to activities of R&D workers who were employed at one of the top 5% of R&DTI claiming companies between 2014-2025. 'Leader' defined as founder or CEO of a company.
Note: GVA contribution obtained using company headcounts and industry average GVA/employee statistics.
Source: ATO (2024) *R&DTI 2021-22*; ABS (2025) *National accounts*; Revelio labs; and Mandala analysis.

CASE STUDY

PainChek: transforming pain assessment for vulnerable people

PainChek is a digital health company that has developed world-first technology for objective pain assessment. The company's flagship product uses artificial intelligence and facial recognition to assess pain in those who are unable to self-report.

Founded by CEO Phillip Daffas in 2014, formerly of Cochlear, PainChek has benefitted from the spillovers of large business R&D. The company builds on extensive experience from Australia's growing med-tech sector, combining clinical excellence with technological development capabilities to improve health outcomes.

1,800+
facilities worldwide

10,000,000
clinical assessments facilitated in aged care

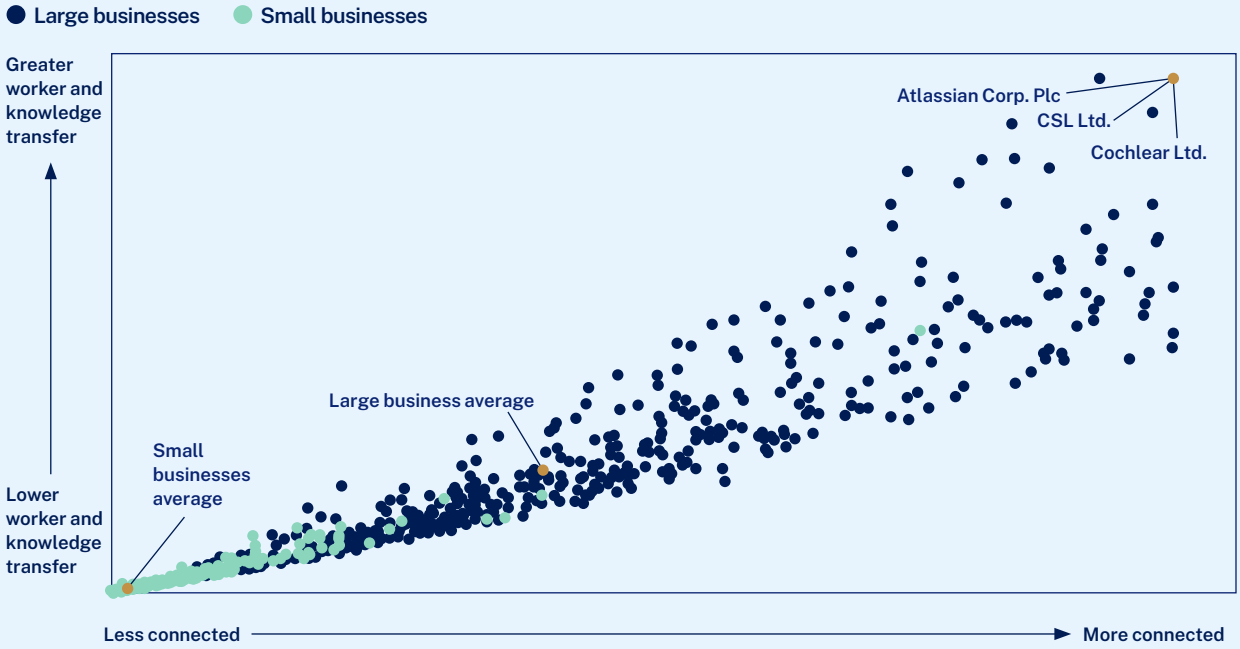
41,000+
staff trained to use PainChek

As well as supporting new businesses, large R&D companies act as central nodes that drive knowledge transfer across Australia's R&D sector (**Exhibit 6**).[30] 'Connectedness' measures how much R&D workers move between companies, capturing both the number of organisations involved, and the volume of worker mobility between them. Large R&D companies are more likely to have more connections to other R&D organisations, and facilitate a greater volume of worker and knowledge flow. In particular, large well-connected businesses create paths between smaller organisations, facilitating the labour dynamism that drives innovation outcomes. Additionally, large companies are more likely to maintain international connections, moving capital between countries, fostering research partnerships, and attracting global talent to Australia.

EXHIBIT 6

R&D connectedness and transfer of Australian companies

x-axis: connectedness score based on extent of connectedness to other organisations; y-axis: worker and knowledge transfer score based on number of R&D worker flows, 2014 to 2025



Note: Employment transitions are between 2014 cto 2025, based on latest data as of April 2025.
Source: Revelio Labs and Mandala analysis.

30 See appendix 4.1 Exhibit 16

2. Australia underperforms in cost competitiveness and incentivising commercialisation

Australia underperforms on each of the dimensions that drive business investment in R&D, ranking last among eight comparator countries on a composite metric of investment decision criteria (**Exhibit 11**).

Businesses invest in R&D where they can generate the strongest returns. Three main factors shape business R&D investment decisions: costs, productivity, and return on investment.[31] Australia underperforms on all three measures, ranking eighth, fifth, and last respectively. This reflects a poor investment environment that fundamentally discourages R&D spending, preventing Australia from capitalising on its strong research foundations.

These unfavourable conditions reduce the attractiveness of R&D investments for domestic companies and puts Australia at a competitive disadvantage when large businesses with mobile capital are choosing where to locate research. In failing to compete with peers for mobile capital, Australia risks losing both the direct benefits of large business R&D investment, and the broader knowledge transfer it facilitates.

- **Costs** for R&D include labour, facilities, inputs, and utilities, which can vary by country. Additional costs may relate to regulatory complexity or country-specific operational risks. Countries with lower costs may be more attractive for R&D investment, while higher-cost countries can offer grants and subsidies on R&D expenditure to become more cost competitive.
- **Productivity** refers to how effective a country is at performing R&D. This is defined by a combination of factors, such as skill levels, agglomeration benefits, capital market depth, and strength of institutions. Countries with higher economy-wide productivity offer higher revenue potential of R&D, becoming more attractive R&D investment locations. Productivity can be improved through attracting skilled migration, improving education, improving industrial relations practices, and attracting FDI. Improvements to productivity typically only materialise on a longer time scale than improvements to costs or return on investment.
- **Return on investment** quantifies the profitability of R&D expenditure. The primary lever available to government is the effective taxation rate; adjusted by reducing the corporate tax rate or providing a commercialisation incentive through income-based tax relief for R&D. Countries with lower effective tax rates attract greater R&D investment.

Australia underperforms on each of the dimensions that drive business investment in R&D, ranking last among eight comparator countries on a composite metric of investment decision criteria.

31 See appendix 4.1 Exhibit 17

2.1

Australia is a high-cost country both pre- and post-policy

The cost of completing an equivalent R&D task in Australia is 12% higher than the OECD average (**Exhibit 7**). When comparing a representative cost-stack by aggregating across industries, Australia's R&D costs are high, ranking sixth out of peers.[32] The primary driver of R&D costs is the cost of labour, where Australia is the third most expensive country among peers. High wages support Australians' high living standards and therefore should not be undermined. Broader policy settings should be considered when trying to improve Australia's cost competitiveness, to enable a thriving R&D ecosystem while protecting living standards.

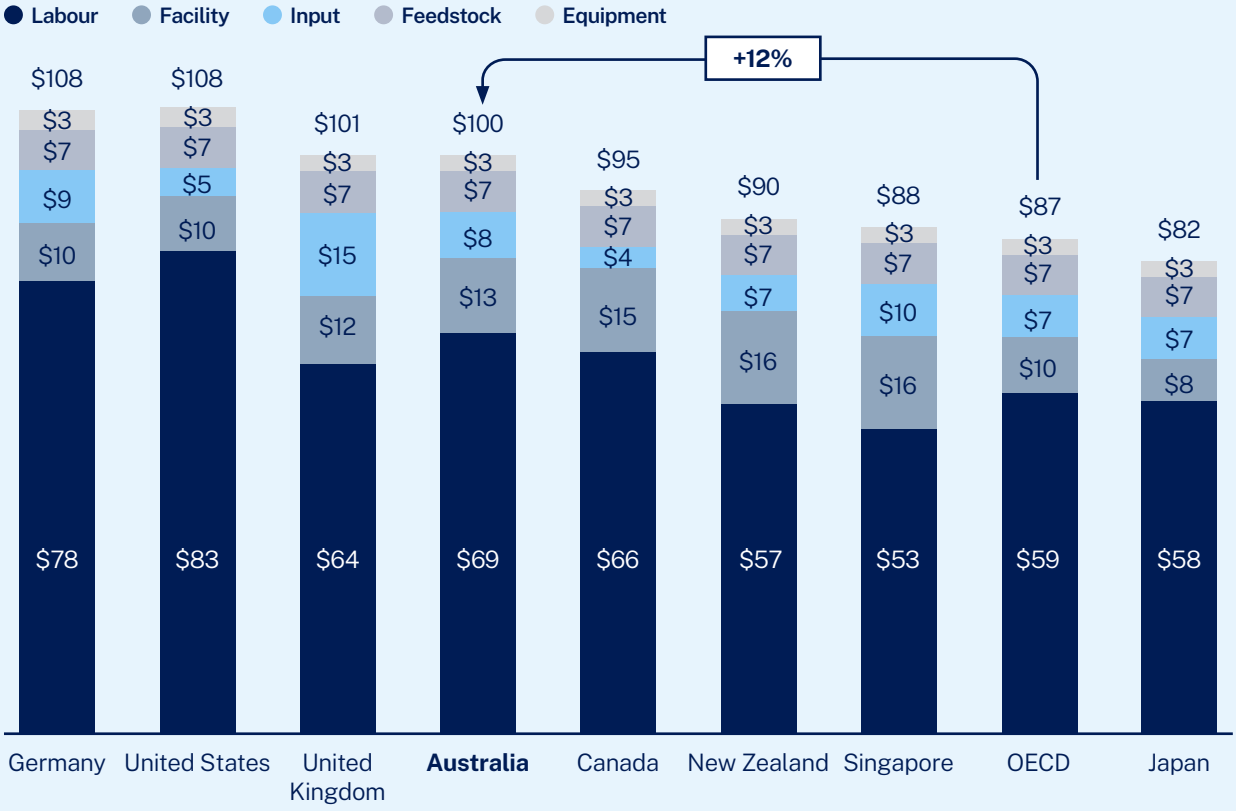
The peer group has been chosen to reflect similar advanced economies commonly used to benchmark in prior R&D studies. This analysis defines a peer group composed of eight comparator countries and an OECD average measure.

The simplest policy mechanism for improving cost competitiveness is the provision of grants and tax incentives.[33] However, for large businesses, Australia's tax incentive fails to improve cost competitiveness. Currently Australia's settings are geared towards small businesses. The large business implied subsidy rate is 10%, compared with 14% in peer nations, while small businesses in Australia enjoy subsidies worth 22%, compared with a peer average of 21%.[34,35] After accounting for costs and tax incentives for large businesses, Australia falls from sixth to eighth of nine peers (**Exhibit 8**).

EXHIBIT 7

Large business R&D cost-stack cross-country comparison

R&D input costs relative to Australia, represented in AUD



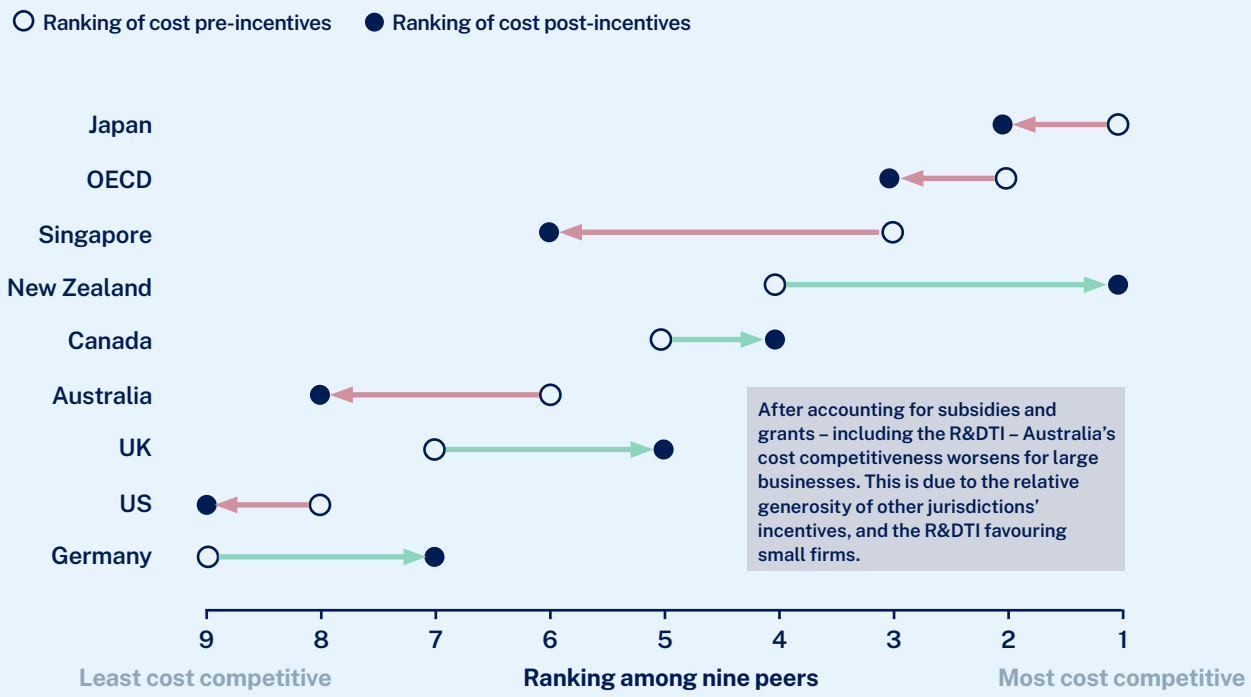
Note: Stacked bar proportions indicate the relative cost of R&D components in different economies. Cost of labour measured by salaries for a representative R&D workforce, built as the weighted average share of R&D roles over industry data. Cost of rent measured by OECD property affordability index, cost of inputs measured by 2018-2025 average business electricity rates. Costs of specialised equipment and feedstock are kept constant across countries.
Source: CIE (2016) *R&D Tax Incentive Programme Review*; ILO (2021) *Average monthly earnings of employees by occupation*; Economic Research Institute (2025) *Average wage for an R&D Scientist*; OECD (2024) *Property affordability*; Global Petrol Prices (2025) *Business electricity rates*; Professional Engineers Australia (2021) *Professional Engineers Employment and Remuneration Report*; Clear Picture (2021) *Atlantic Canada Engineering Salary and Benefits Survey*; Statistics Canada (2025) *Average usual wages*; Verein Deutscher Ingenieure (2021) *German engineer salary*; Ministry of Health, Labour, and Welfare of Japan (2025) *Monthly Labour Survey*; Singapore Ministry of Manpower (2023) *Salary comparison*; Professional Engineers Board Singapore (2025) *Annual report*; Singapore Ministry of Manpower (2025) *Total wage changes*; Figure NZ (2021) *Average wage for managers*; Reserve Bank of New Zealand (2025) *Labour Cost Index*; The Engineer UK (2021) *Annual salary survey*; United States Bureau of Labor Statistics (2023) *Occupational employment and wage statistics;* Social Security America (2025) *National Average Wage Index*; and Mandala analysis.

32 It is important to note that the requisite costs of R&D vary significantly across industries. For instance, software R&D activities are almost exclusively dependent on labour costs, while R&D in the manufacturing sector relies more heavily on physical capital and material inputs.
33 Bloom et al. (2000) *Do R&D tax credits work? Evidence from a panel of countries*
34 Peer average calculated as the simple average of subsidies offered by Canada, Germany, Japan, New Zealand, Singapore, the United Kingdom, and the United States. Singapore B-index calculated manually. Large firms are those with more than 250 employees.
35 OECD (2023) *Implied tax subsidy rates on R&D expenditure*

EXHIBIT 8

Impact of financial incentives on large business R&D costs

Ranking among nine peers



Note: Grant impact is measured by Business Expenditure on R&D (BERD) financed by government as a % of BERD, assumed uniform across businesses.
Source: OECD (2024) *Main Science and Technology Indicators: BERD financed by Government*; OECD (2023) *Implied tax subsidy rates on R&D expenditure*; and Mandala analysis.

CASE STUDY

The R&DTI in practice: definitional differences

The R&DTI is the government's largest R&D policy, aiming to subsidise R&D expenditure to promote additional R&D that generate spillovers.[36] The most recent statistics show that in 2021, more than 11,000 businesses claimed expenses on the R&DTI, amounting to $11.2 billion in R&D spending.

Yet businesses leave $8.8 billion in R&D expenditure unclaimed annually. While $11.2 billion was claimed on the R&DTI in 2021, the ATO reported business R&D expenditure at $20 billion.[37] Though the parameters of the R&DTI are broadly aligned with peers, businesses are deterred from claiming their full entitlements due to administrative burden, enforcement inconsistencies, and eligibility uncertainties.[38]

This systematic underutilisation undermines the policy's efficacy. This further disincentivises business R&D in Australia, particularly for large businesses, who already receive below-par government support compared to international peers.

36 Ferris et al. (2016) *Review of the R&D Tax Incentive*
37 ABS (2023) *Research and Experimental Development, Businesses Australia*
38 Industry consultation

2.2

Higher company tax levels reduce the return on R&D investment

Australia's corporate tax settings reduce the after-tax returns of R&D commercialisation compared to international benchmarks. The 30% corporate tax rate and absence of an income-based tax incentive for commercialisation makes business R&D relatively uncompetitive (**Exhibit 9**). Due to the relatively less favourable tax settings, Australian companies are incentivised to take their IP overseas for commercialisation.

Recent OECD regulations have intensified these challenges. Under new nexus requirements, companies can only claim income-based tax support for R&D if a substantial portion of the relevant R&D activity occurred in the same jurisdiction that offers the preferential tax arrangements. The reforms appropriately target harmful tax practices and prevent artificial profit shifting between jurisdictions, ensuring commercialisation incentives deliver genuine benefits.[39] This regulatory shift means competitive effective tax rates can now attract not merely the commercialisation of international IP, but entire R&D operations and the associated spillovers. For patent-driven businesses, such as in medtech or manufacturing, this incentivisation is particularly compelling, as IP commercialisation forms the core of their business models. Without competitive effective tax settings, Australia risks losing the substantial spillover effects of commercialised R&D: the creation of high-skilled jobs, the benefits of co-located manufacturing, subsequent IP development, and the broader productivity and economic growth benefits.

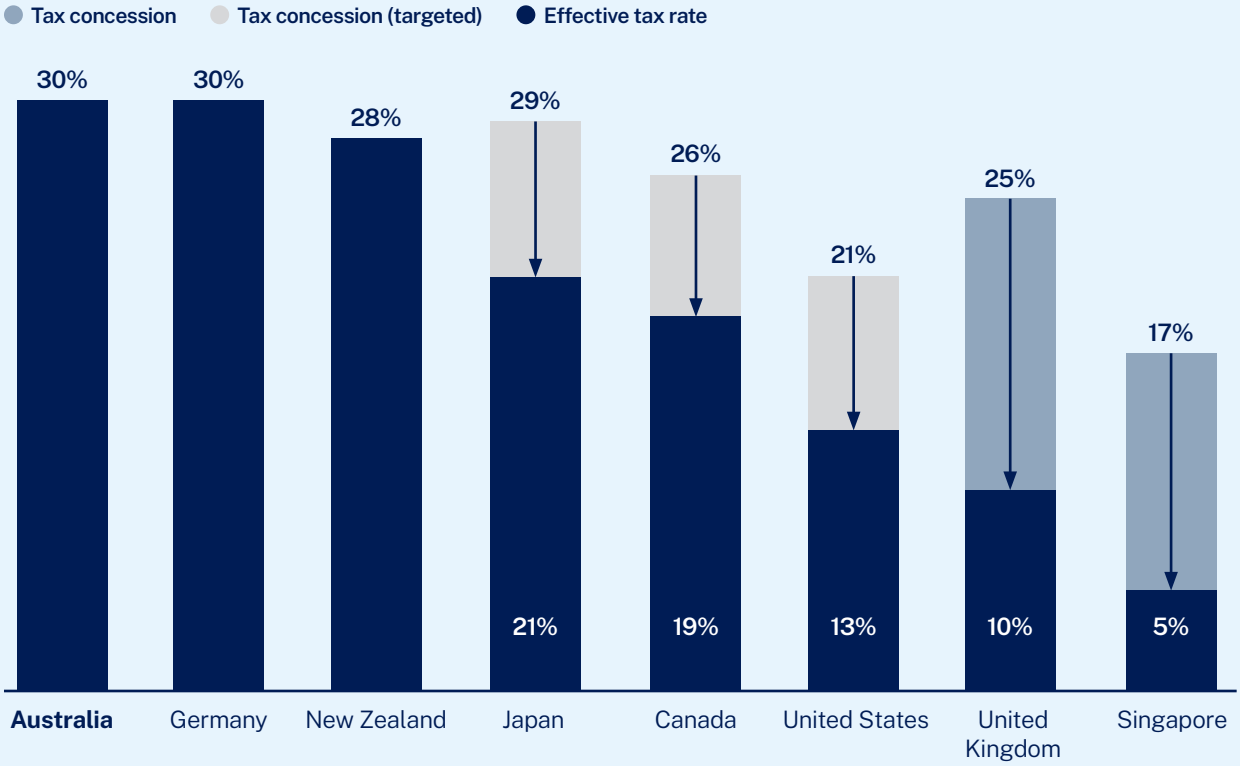
The implementation and targeting strategy of preferential tax rates for commercialising innovation varies across countries. Concessional tax rates commonly apply to patent-derived income, with some jurisdictions expanding to other intellectual property types.[40] This broader approach recognises the emerging importance of diverse forms of intellectual property, driven by recent developments in AI technology. Software innovations, including those in AI, are less commonly patented as an industry standard. Therefore, countries seeking to encourage AI innovation can offer income-based tax incentives for a broader scope of IP, moving beyond the traditional patent framework. Additionally, some preferential tax regimes are available to a limited range of R&D activities, with typically less generous concessions (**Exhibit 9**).

39 OECD (2025) *Harmful tax practices*
40 OECD (2023) *Income-Based Tax Relief for R&D and Innovation*

EXHIBIT 9

Effective tax rate on commercialised IP in Australia and peer countries

% of corporate income, large business



Note: Tax concessions considered include Canadian Innovative Companies Deduction (available only in Québec), US Foreign-Derived Intangible Income Deduction (available for income related to IP exports), Japanese Innovation Box (available for AI-related IP income up to a cap of 30% of total income), UK Patent box, Singapore IP Development Incentive.
Source: OECD (2024) *Corporate income tax rate*; Centre for International Economics (2016) *R&D Tax Incentive Programme Review;* Finances Québec (2016) *The Québec Economic Plan;* US Department of the Treasury Internal Revenue Service (2021) *SOI Tax stats*; United Kingdom Government HM Revenue and Customs (2020) *Corporation Tax: The patent box;* Singapore Economic Development Board (2025) *IP Development Incentive;* and Mandala analysis.

CASE STUDY

The United Kingdom's patent box and consolidation of multiple R&D tax schemes has boosted business R&D investment

The United Kingdom's patent box has supported a 10% increase in R&D investment among claiming firms.[41] These changes have improved the United Kingdom's business R&D performance, lifting from 1.04% of GDP in 2013 when the policy was introduced, to above the OECD average level, at 2.05% in 2021 (**Exhibit 10**).

OECD nexus reforms in 2015 restricted patent box benefits to profits generated from substantial R&D within the jurisdiction. The United Kingdom's compliance-driven redesign in 2016 proved effective, sustaining investment growth that increased business R&D expenditure by 0.26% of GDP by 2021.

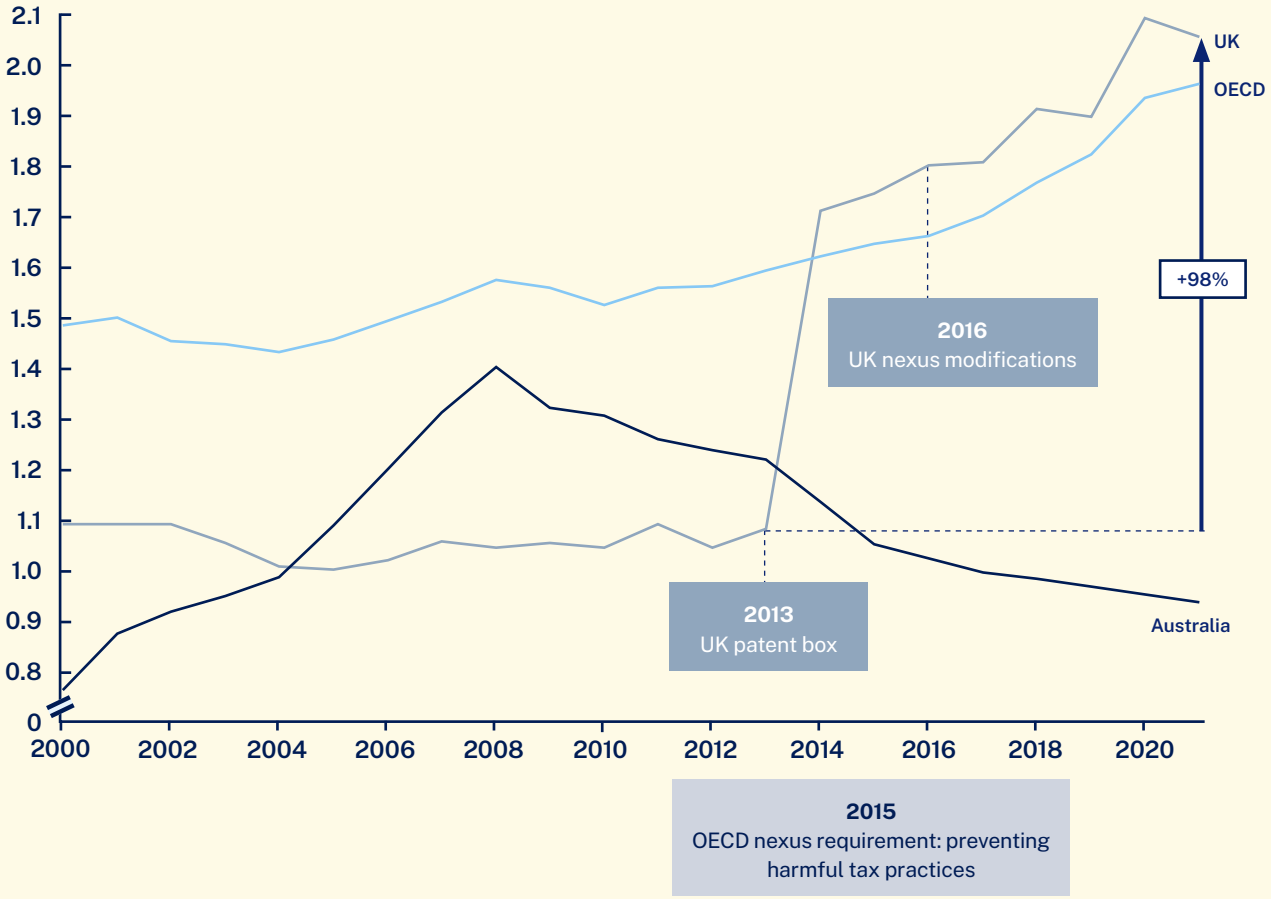
Given the established links between R&D and productivity, this additional R&D expenditure is expected to have contributed to the increase in productivity growth that the UK saw post-2013.[42,43,44]

Additionally, in 2023 the United Kingdom consolidated its multiple disparate R&D tax schemes into a streamlined system. The new scheme focusses on simplicity with the aim to continue to drive business R&D improvements.[45]

EXHIBIT 10

Business Expenditure on R&D over time

% of GDP 2000-2021



Source: OECD (2024) *Main Science and Technology Indicators* and Mandala analysis.

41 Rowe-Brown & James (2020) *Patent Box Evaluation*
42 Office for National Statistics (2025) *UK Whole Economy: Output per hour worked SA*
43 IMF (2021) *Reigniting productivity growth in Australia*
44 Productivity growth in the 5 years pre-2013 was 0.3%, compared to the 5 years post-2013 increase of 3.7%.
45 HM Revenue & Customs (2023) *Merger of current small or medium enterprise (SME) and Research and Development Expenditure Credit (RDEC) schemes*

2.3

Australia underperforms peers on all business decision-making criteria

Overall, when considering cost, productivity, and return on investment, Australia underperforms comparator countries. Australia and its peers each have areas of relatively stronger or weaker competitiveness (**Exhibit 11**). While, Australia's public research foundations and early clinical trial infrastructure are well regarded, the country falls behind peers in encouraging business R&D with uncompetitive investment settings.[46] Peer nations more effectively apply tools such as tax incentives, grants, and concessional tax rates to compensate for their competitive disadvantages. Whilst different industries may weight these dimensions unequally, Australia's broad underperformance presents challenges in encouraging R&D across all sectors.

The relationship between business expenditure on R&D and competitive conditions involves complex causality, and simple rankings may not capture the full scale of performance differences between countries. However, Australia's consistent underperformance across all three dimensions means it struggles to attract R&D investment regardless of industry-specific priorities.

46 MTPConnect (2021) *Australia's Clinical Trials Sector*

EXHIBIT 11

R&D decision factors matrix

Performs better ● ● ● Performs worse

Country (overall R&D decision factors ranking)	Cost competitiveness Countries with lower costs may be more attractive for R&D investment	Productivity Higher economy-wide productivity may be more attractive for R&D investment	Return on investment Higher returns through lower tax rates on R&D profits may attract R&D investment	Comment	Global Innovation Index ranking[1]
Singapore (1)	6	3	1	Singapore demonstrates how a **suite of targeted policies** can encourage innovation despite high costs.	4
UK (1)	4	4	2	The UK's **patent box** and **consolidation of multiple R&D tax schemes** has boosted business R&D investment.	5
US (3)	8	1	3	The scale, quality, and **depth of capital markets** in the US offsets high costs, encouraging investment.	2
Japan (4)	1	7	5	Japan's long-term **industry-government collaboration** drives sustained private R&D leadership.	13
Canada (4)	3	6	4	Canada's **R&D tax incentives and business-led collaboration** infrastructure encourage innovation.	14
Germany (6)	7	2	7	Germany's R&D tax system **combines incentives with established grant infrastructure**, coordinating support.	9
New Zealand (6)	2	8	6	New Zealand's **generous R&D subsidies** decrease already low R&D costs, attracting investment.	25
Australia (8)	5	5	7	Australia does not rank highly among peers for any R&D decision-making dimension, deterring business R&D.	23

1. World Intellectual Property Organisation (2024) *Global Innovation Index*
Note: Decision factors developed through industry consultations, capturing the behaviour of firms who seek to maximise returns from R&D investments. Colours determined by rankings, not indicative of the scale of variation across dimensions. Numerical rankings differ from previous charts and discussion due to the exclusion of the OECD from this matrix.
Source: CIE (2016) *R&D Tax Incentive Programme Review*; industry consultation; and Mandala analysis.

3. Improving R&D settings will drive productivity growth and support over $7 billion in economic activity

3.1

Australia should prioritise impactful, market-based, collaborative, system-wide interventions

Australia's declining R&D investment is limiting productivity growth and economic competitiveness. Current policy settings fail to adequately incentivise business R&D expenditure, particularly by large firms, resulting in both less research being conducted and the ineffective translation of research into commercial outcomes. Many Australian-founded R&D conducting companies presently follow incentives offshore, weakening the domestic innovation market and broader economy. Improving Australia's R&D settings could ensure that R&D activity is attracted, encouraged, and retained.

Strong R&D systems drive long-term economic growth, create high-value employment, and contribute to higher standards of living. Australia must reverse declining R&D trends to achieve its productivity objectives and drive future economic activity.

Australia's R&D challenges require targeted interventions that enhance existing strengths and efforts, while providing business certainty. This will be achieved through building local capability in businesses, as well as attracting international R&D investment. International best practice demonstrates that effective R&D policy balances immediate commercial incentives with long-term system building, aligning market incentives with national objectives.

These insights and imperatives have informed the following four principles that underpin the recommendations:

Impact-driven: Recommendations should have a high likelihood of significantly increasing R&D investment and commercialisation to drive economic activity and productivity gains in Australia.

Market-based: Recommendations should aim to incentivise behaviour within competitive markets, remaining sector agnostic.

Collaboration-focussed: Recommendations should promote collaboration between actors in the R&D ecosystem, leveraging complementary strengths.

System-wide: Recommendations should support the R&D system as a whole, including the interaction with foundational elements of overall competitiveness.

3.2

Australia must strengthen tax incentives, boost commercialisation, and streamline administration

Australia must act now to capture the benefits of R&D investment and reverse the decline in business R&D that has weakened the nation's innovation capacity. The proposed recommendations provide a pathway to realising these benefits through targeted policy reforms.

Strengthening Australia's R&D policy settings could generate an additional $7.72 billion in annual economic output, at an annual cost of $1.41 billion on average over the decade (**Exhibit 12**). This would create $5 in economic value for each $1 of government expenditure.[47] The cost is equivalent to just 10% of current annual government support for R&D.[48] The reforms are expected to be cost neutral over the next decade when considering the additional tax revenue that government would collect.[49]

R&D investment is tied to permanent productivity increases, with long-term benefits typically realised over a 3-10 year period.[50] Over the forward estimates, before these benefits are fully realised, the expected total GDP uplift is $3.75 billion, at a fiscal cost of $3.61 billion.[51]

Six specific policy reforms have been recommended, based on industry consultation and international literature on innovation policy. However, the ultimate objective is to increase the attractiveness of Australia for larger businesses to invest in R&D. Any reforms or initiatives that reach the same objective should be considered.

Recommendation 1: Simplify R&DTI rates

Apply a consistent R&DTI offset premium rate of 18.5% above the company tax rate, removing intensity and business size distinctions, while maintaining existing rules on refundability.

Over the next decade, simplifying the R&DTI rates is expected to, on average, increase GDP by $2.82 billion per year, at a cost of $0.37 billion per year to the government.

Recommendation 2: Remove the R&DTI cap

Remove the existing R&DTI cap, currently set at $150 million.

Over the next decade, removing the R&DTI cap is expected to, on average, increase GDP by $0.22 billion per year, at a cost of $0.06 billion per year to the government.

47 See appendix 4.2 for detailed notes on methodology
48 Prior & Brennan (2025) *R&D and innovation in Australia: 2024 update*
49 Tax revenue has been estimated by applying the average ratio of Commonwealth Government taxation revenue to GDP (adjusted for inter-governmental transfers) to the estimated GDP uplifts from the CGE outputs. Refer to Exhibit 23 in the appendices for a detailed breakdown of this tax revenue.
50 CSIRO (2021) *Quantifying Australia's returns to innovation*
51 See appendix 4.1 Exhibit 19

Recommendation 3: Introduce an R&DTI collaboration premium

Apply a collaboration premium of 20% on the R&DTI rate for businesses that collaborate with higher education or research institutions, designed in consultation with key stakeholders, and aligned with the principles of recommendation 5.

Over the next decade, introducing a collaboration premium is expected to, on average, increase GDP by $1.22 billion per year, at a cost of $0.21 billion per year to the government.

Recommendation 4: Introduce R&D commercialisation incentive

Introduce a concessional tax rate of 10% for income derived from R&D activities completed in Australia.

Over the next decade, introducing an R&D commercialisation incentive is expected to, on average, increase GDP by $2.38 billion per year, at a cost of $0.77 billion per year to the government.

Recommendation 5: Streamline R&DTI compliance requirements

Simplify the compliance requirements for the R&DTI. Provide clearer guidance of eligible expenditure, reducing administrative burden.

Over the next decade, streamlining R&DTI compliance requirements is expected to, on average, increase GDP by $1.05 billion per year at negligible cost to the government. It is assumed that this recommendation has minimal cost, as no fiscal outlay is required from government other than a one-off use of staff resources to evaluate existing business processes.

Recommendation 6: Simplify R&D grants for business

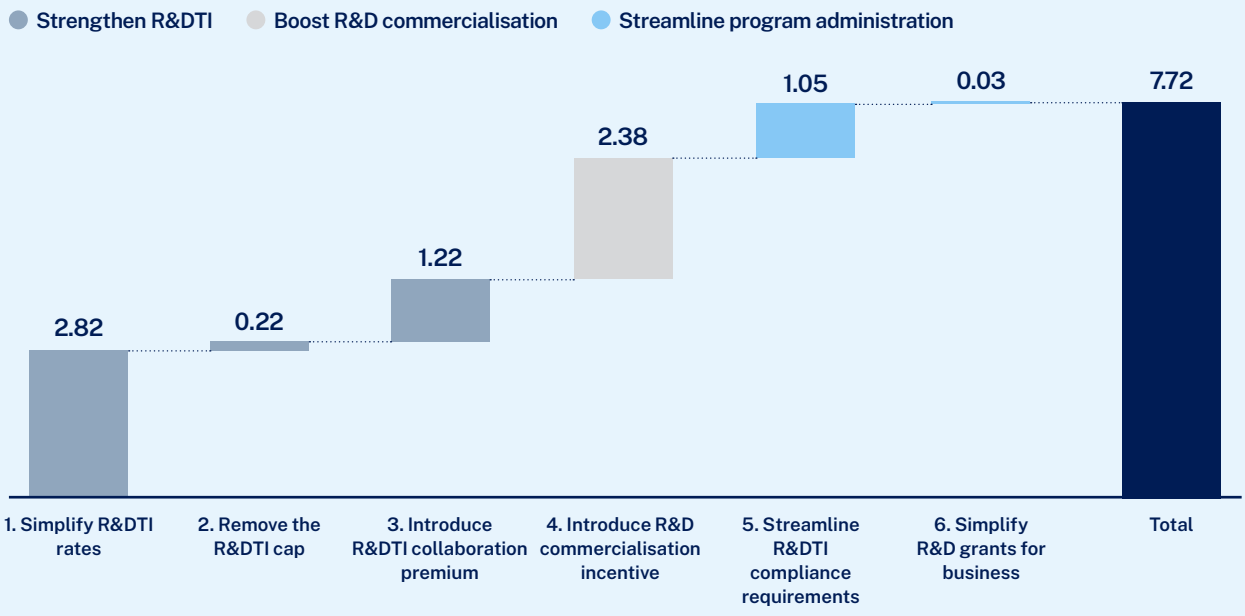
Consolidate the existing business and multi-sector R&D grants administered by the Australian Government into fewer nationally significant programs.

Over the next decade, simplifying R&D grants for businesses is expected to, on average, increase GDP by $0.03 billion per year at negligible cost to the government. Cost is assumed minimal for the same reasons as above.

EXHIBIT 12

Estimated benefits of proposed policy recommendations

Average annual GDP uplift ($B), 2026-2035



Average annual cost to government ($B)

1. Simplify R&DTI rates	2. Remove the R&DTI cap	3. Introduce R&DTI collaboration premium	4. Introduce R&D commercialisation incentive	5. Streamline R&DTI compliance requirements	6. Simplify R&D grants for business	Total
$0.37B	$0.06B	$0.21B	$0.77B	–	–	$1.41B

Note: Total impact is estimated as the sum of the GDP impacts of each individual recommendation. Interaction effects between recommendations may change this total. See appendix for a detailed overview of the cost and benefit estimation methodologies.
Source: Mandala analysis.

CASE STUDY

Additionality and spillovers: the intention of R&D tax policies in Australia

The core objective of Australia's R&D tax policy is encouraging additional R&D that generates spillovers to benefit society at large.[52] Large businesses demonstrably contribute to positive spillovers for the R&D ecosystem.[53] In terms of additionality, contemporary studies in the Australian context suggest that the effect for large firms is positive.[54,55] Several robust estimates place additionality in the range of 0.8-1.9.[56] That is, for every dollar in foregone tax revenue, the government can expect between 0.8-1.9 dollars of additional R&D investment. The mechanism of this additionality is, in simple terms, what companies do not pay to the government in tax they reinvest in R&D activities.

These estimates include only the intensive margin, where existing R&D performers increase their activity. The extensive margin, where non-performers begin R&D, may generate more pronounced additionality effects.[57] Large businesses could be particularly significant at this extensive margin.

While there are some limitations in information availability on the efficacy of large businesses subsidies, if the policy aim is to encourage additional R&D with positive spillovers, large businesses must be included.[58] Best practice R&D tax policy does not discriminate by firm size.[59] The evidence suggests Australian large businesses both contribute meaningfully to additionality and to outsized spillovers.

3.3

The uplift from these actions will boost productivity and living standards

Implementing the proposed recommendations will generate substantial economic benefits, increasing GDP, growing business expenditure on R&D, and boosting productivity.

Business expenditure on R&D is expected to increase by an average of $2 billion p.a., over 10% growth from current levels.[60] This uplift will close a significant portion of the business R&D intensity gap between Australia and peers.[61] The increase positions Australia to compete more effectively in global markets where innovation drives competitive advantage.

The productivity benefits flowing from enhanced R&D investment are particularly substantial.[62,63] The proposed recommendations are estimated to boost productivity by 0.1% p.a. on average over the next 10 years. This is a significant productivity reform: similar in scale to the estimated impact of improving competition in the banking sector (0.11%) or expanding telehealth services across Australia (0.1%).[64]

With productivity growth identified as a national priority, the proposed recommendations provide a clear avenue to boost Australia's international competitiveness. Strategic investment in R&D will be essential to meeting Australia's long-term economic goals and maintaining competitiveness in an increasingly innovation-driven global economy.

52 Ferris et al. (2016) *Review of the R&D Tax Incentive*
53 Bloom et al. (2013) *Identifying technology spillovers and product market rivalry*
54 Holt et al. (2016) *The Additionality of R&D Tax Policy in Australia*
55 CIE (2016) *R&D Tax Incentive Programme Review*
56 Holt et al. (2016) *The Additionality of R&D Tax Policy in Australia*
57 See appendix 4.2 for methodology notes on the extensive margin additionality effects.
58 Elnasri & Fox (2014) *The Contribution of Research and Innovation to Productivity and Economic Growth*
59 European Commission (2014) *A Study on R&D Tax Incentives*
60 See appendix 4.1 Exhibit 24
61 See appendix 4.1 Exhibit 25
62 OECD (2001) *R&D and Productivity Growth: Panel Data Analysis of 16 OECD countries*
63 CSIRO (2021) *Quantifying Australia's returns to innovation*
64 Productivity Commission (2024) *National Competition Policy: modelling proposed reforms*

4. Appendices

4.1
Supporting charts and analysis

Provided in additional document

4.2
Costings methodology

Provided in additional document

4.3
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