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Unlocking Australia's R&D potential

Methodology Appendix

JULY 2025

ATLASSIAN Cochlear® BCA Business Council of Australia

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This document is intended for general informational purposes only. The analysis in this report was commissioned by Atlassian Corporation, Cochlear Limited, and the Business Council of Australia, and prepared by Mandala.

Mandala is an economics research and advisory firm. Mandala specialises in combining cutting-edge data and advanced analytical techniques to generate new insights and fresh perspectives on the challenges facing businesses and governments.

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

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Cost-benefit analysis methodology

A bespoke modelling approach has been adopted to estimate the costs and benefits associated with each of the proposed recommendations. The benefits of the recommendations have been estimated by analysing the additional R&D expenditure that would be generated by each recommendation, and the flow-on impacts this would have to productivity and GDP. The costs of each recommendation are an input into each R&D expenditure uplift.

An economy-wide Computable General Equilibrium (CGE) model has been used to estimate these GDP uplifts for all recommendations, except for simplifying the administration of government grants, which has been modelled as a direct fiscal saving to government.

This analysis has not attempted to model the full set of dynamics between uptake, program costs and program benefits. This is because of the uncertainty around how uptake would change over time, and the limitations on the existing literature on additionality rates.

EXHIBIT 26

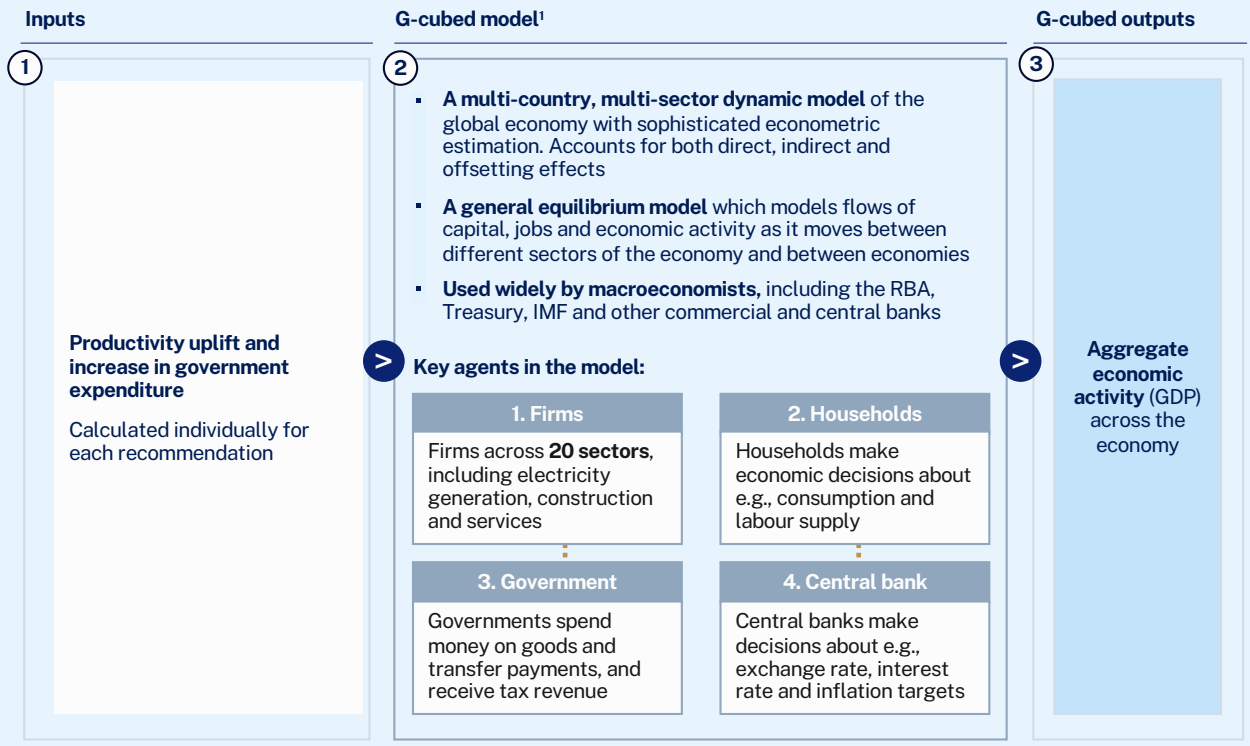
Overview of method of converting additional R&D expenditure levels to GDP uplifts

1. CIE (2016) *R&D Tax Incentive Programme Review.*
2. Productivity Commission (2007) *Public Support for Science and Innovation.*
3. CSIRO (2021) *Quantifying Australia's returns to innovation.*

Source: Mandala analysis.

EXHIBIT 27

Overview of CGE modelling approach



1. McKibbin and Triggs (2018) *Modelling the G20*.
Source: Mandala analysis.

Technical note: Additionality rates used in benefit calculations

Understanding the Intensive and Extensive Margins

'Additionality' refers to the additional R&D investment that firms undertake for every dollar of tax revenue forgone. Estimates of additionality rates serve as key inputs for evaluating the benefits of policy recommendations.

Additionality operates through both 'intensive' and 'extensive' margins. The intensive margin captures the extent to which firms already conducting R&D increase their R&D activities in response to policy changes (e.g., tax incentives). The extensive margin measures the degree to which firms—either domestic or international—that do not currently conduct R&D in Australia begin doing so following policy implementation.

The international literature on R&D tax incentive additionality predominantly focuses on estimating the intensive margin, primarily due to limited data availability and methodological challenges associated with measuring the extensive margin.

Intensive Margin Estimates

Additionality estimates for R&D tax incentives at the intensive margin vary considerably across studies, reflecting differences in policy contexts, time periods, and methodological approaches employed.

This report adopts a conservative additionality rate of 1.2 for the R&D Tax Incentive (R&DTI) at the intensive margin. This figure represents a simple average of estimates from Thomson and Skali (2016) *The Additionality of R&D Tax Policy in Australia* (upper bound) and CIE (2016) *R&D Tax Incentive Programme Review* (lower bound).

For the proposed profit tax incentive, an additionality rate of 0.54 has been applied, based on estimates from Mohnen (2017) *Evaluating the Innovation Box Tax Policy Instrument in the Netherlands, 2007–13*. Given the limited empirical research on profit tax incentive additionality, a single point estimate has been utilised.

Extensive Margin Estimates

The empirical literature on R&D tax measure additionality at the extensive margin remains limited. Consequently, the extensive margin's magnitude has been indirectly estimated by analysing the relative contributions of intensive and extensive margins to growth in business expenditure on R&D. Given the limited empirical analysis available on this subject, research conducted in Singapore has been leveraged.

Failing to account for the extensive margin would likely result in underestimating additionality rates across policy measures, particularly given the global nature of R&D investment, which increases the likelihood of participation by new domestic and international firms.

Despite this extensive margin estimation, the total additionality rate for the R&DTI (1.9) remains comparable to the upper-bound intensive margin estimate alone reported by Thomson and Skali (2016) *The Additionality of R&D Tax Policy in Australia.*

Technical note: Additionality rate sensitivity analysis

Sensitivity analysis has been conducted to determine the extent to which the estimated GDP uplifts from the proposed recommendations are impacted by different additionality rates for the R&D tax incentive and profit tax. Additionality rates have been reduced by 25% and 50% to assess this impact.

For modelling purposes, this analysis has not re-run the CGE model used in the core calculations, but instead has relied on estimates by the CSIRO on the economy-wide returns to R&D investments in Australia.[1] These estimates produce similar GDP uplifts to the results from the CGE modelling (i.e. the average annual benefit of $7.72 billion under the CGE modelling is comparable to the estimate of $7.85 billion under the CSIRO estimates). This result also validates the robustness of the CGE modelling that has been completed.

The sensitivity analysis results reveal that under all scenarios where the additionality rates are reduced, the GDP benefits of each individual recommendation continue to exceed the fiscal costs of implementing the program (**Exhibit 28**). This suggests that even if the reforms have lower additionality rates than currently assumed, the benefits of recommendations are likely to still exceed the costs.

EXHIBIT 28

Summary of additionality rate sensitivity analysis

Fiscal costs and GDP uplift ($B), 2026-2035

			Average annual benefits (10-years)			
Recommendation	Average annual cost of program (10-years)	Existing parameter settings	RDTI additionality rate (-25%)	RDTI additionality rate (-50%)	Commercialisation incentive additionality rate (-25%)	Commercialisation incentive additionality rate (-50%)
1. Simplify the R&DTI rates	0.37	2.57	1.93	1.29	2.57	2.57
2. Remove the R&DTI cap	0.06	0.44	0.33	0.22	0.44	0.44
3. Introduce R&DTI collaboration premium	0.21	1.42	1.06	0.71	1.42	1.42
4. Introduce R&D commercialisation incentive	0.77	2.37	2.37	2.37	1.78	1.19
5. Streamline R&DTI compliance requirements	-	1.01	1.01	1.01	1.01	1.01
6. Simplify R&D grants for business	-	0.03	0.03	0.03	0.03	0.03
Total	**1.41**	**7.85**	**6.74**	**5.63**	**7.26**	**6.66**

Source: Mandala analysis.

1 CSIRO (2021) *Quantifying Australia's returns to innovation* estimates that on average each $1 of R&D investment in Australia produces $3.5 in economy-wide benefits.

RECOMMENDATION 1

Simplify R&DTI rates

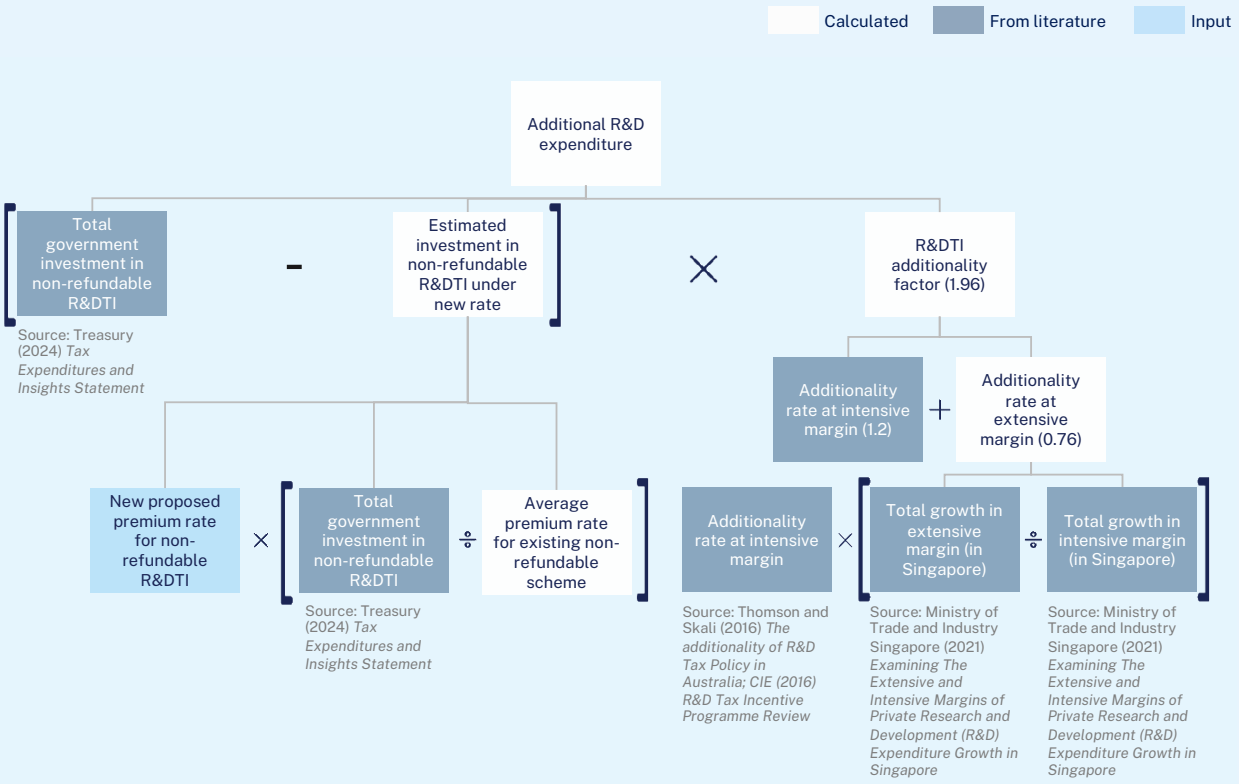
Applying a flat R&DTI offset of 18.5% above the company tax rate would create a stronger financial incentive for large businesses to invest in R&D in Australia. This would help increase large business R&D in Australia, without negatively impacting small businesses.

The current intensity calculation and distinction based on business size is not considered best practice in international literature, due to mixed results on efficacy and necessity.[2] The intensity measure also unfairly discriminates against businesses operating in industries with high-cost structures (e.g. manufacturing), undermining the benefits of the scheme.[3]

Simplifying the R&DTI rates would make the program easier to administer and claim, potentially leading to further cost savings.

EXHIBIT 29

Recommendation 1 method



Note: This approach does not consider the potential interaction between changing the R&DTI rate and the impact this may have on demand.
Source: Mandala analysis.

2 European Commission (2014) *A Study on R&D Tax Incentives*
3 BCA (2025) *Strategic Examination of R&D – BCA Submission*

RECOMMENDATION 2

Remove R&DTI cap

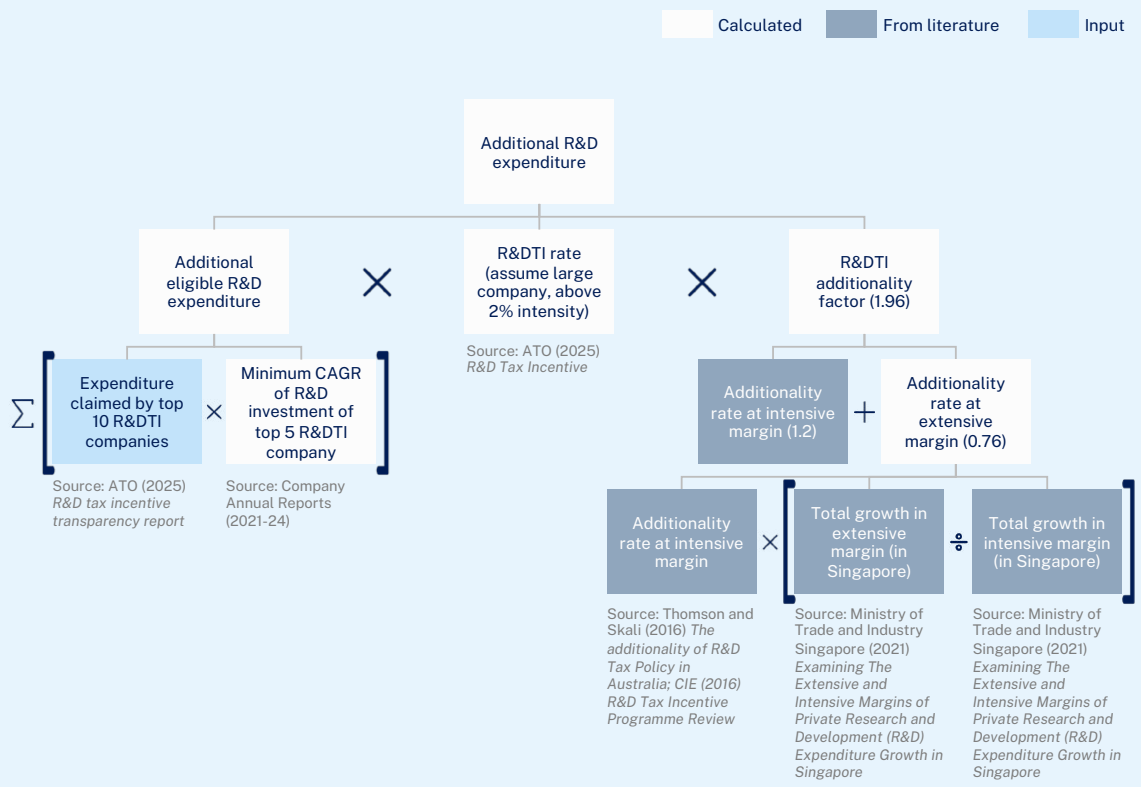
The existing $150 million cap arbitrarily constrains the benefits that large innovative companies can access by claiming the R&D tax incentive. Given the strong spillover benefits associated with R&D investment, this limits the total positive impact of the scheme.[4]

Removing the cap will act as strong financial incentive and signal to large international companies that Australia is a competitive market for R&D investment.

The current cap is not indexed, meaning that without policy intervention inflationary pressures will further reduce the benefits of the scheme.

EXHIBIT 30

Recommendation 2 method



Source: Mandala analysis.

4 Bloom et al. (2013) *Identifying technology spillovers and product market rivalry*

RECOMMENDATION 3

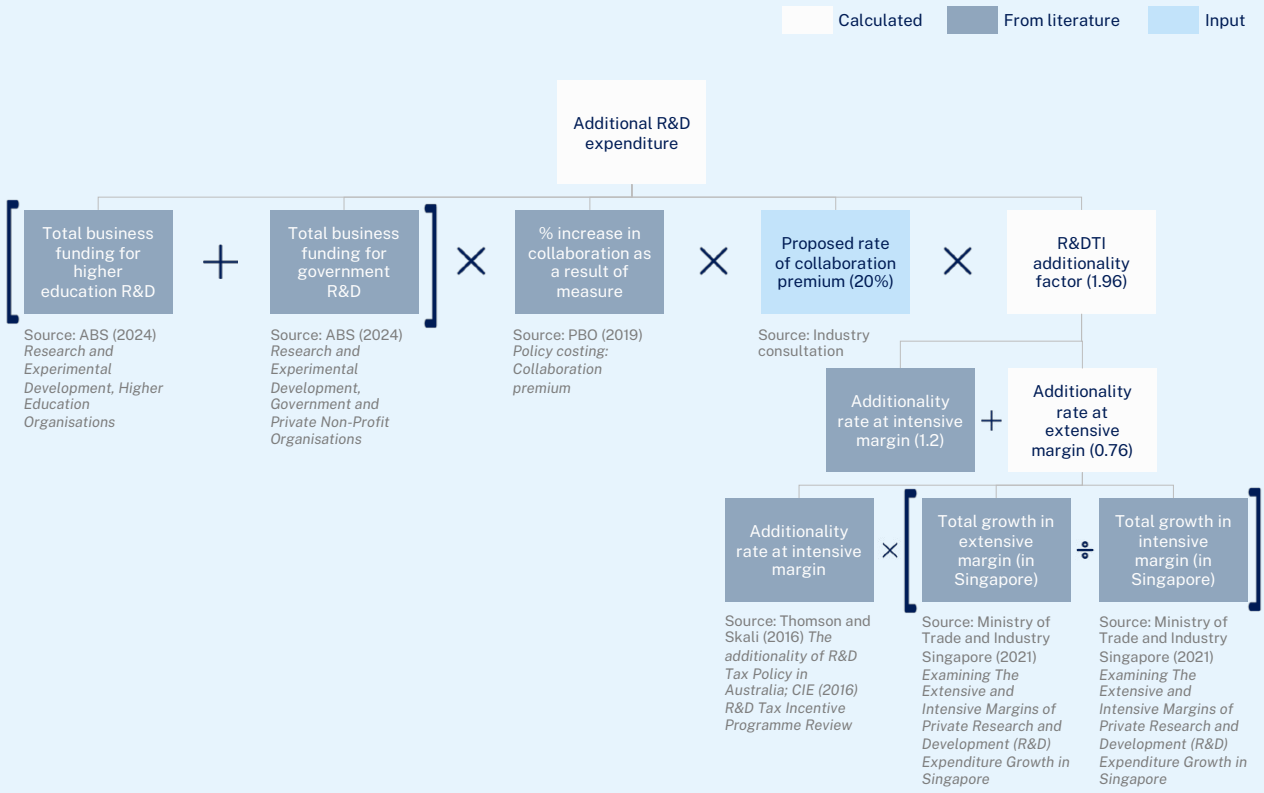
Introduce collaboration premium

Industry-research collaboration and commercialisation levels in Australia have remained persistently low.[5, 6] Introducing an additional collaboration premium for businesses that develop long-term partnerships with universities and research institutions will help drive greater knowledge sharing, overcoming this area of weakness, and leverage the complementary strengths of different sectors. To ensure effectiveness and adoption, this collaboration premium should be designed in consultation with key stakeholders from both industry and public research.

Introducing a collaboration premium into the R&DTI will ensure that collaboration efforts are 'industry-led' and that businesses are able to identify opportunities where R&D efforts are likely to translate to high-value commercial innovations.

EXHIBIT 31

Recommendation 3 method



Source: Mandala analysis.

5 Dayton (2020) *A top-down reinvention*
6 Ferris et al. (2016) *Review of the R&D Tax Incentive*

RECOMMENDATION 4

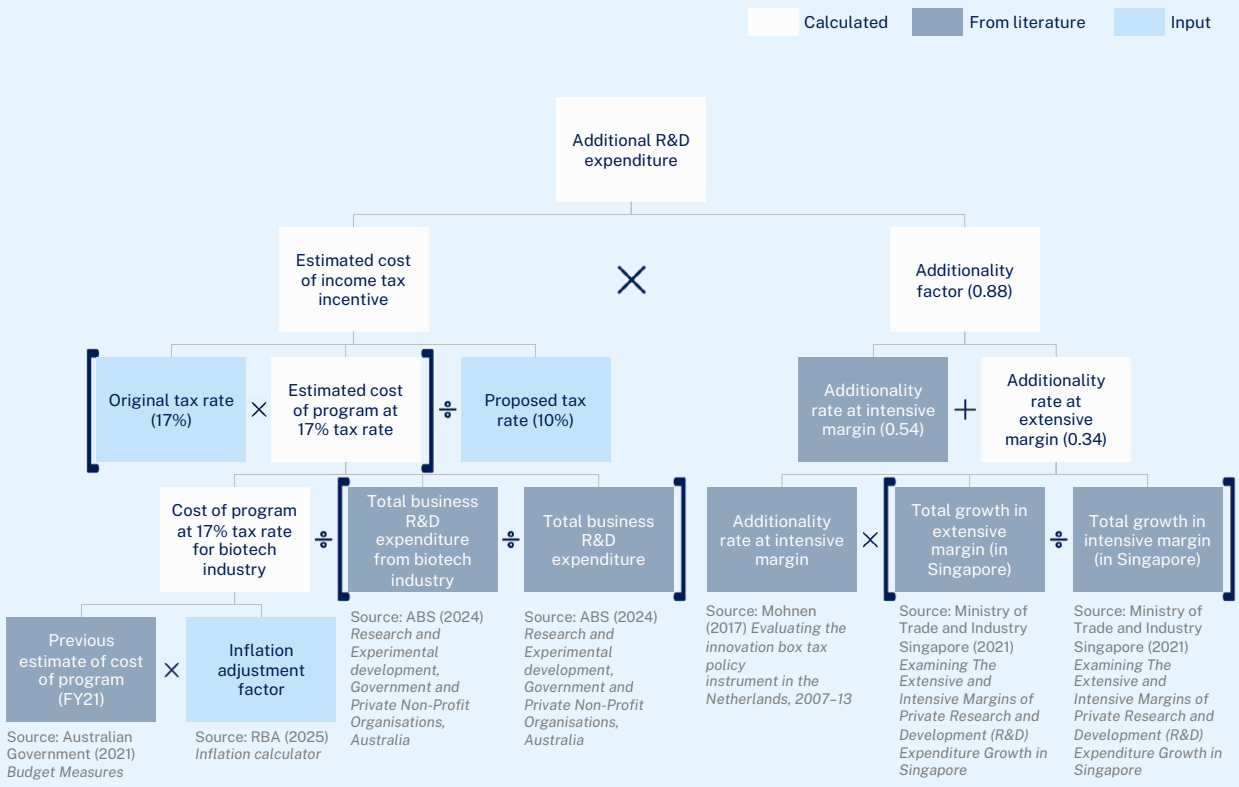
Introduce an R&D commercialisaiton incentive

Introducing an R&D income-based tax incentive has the potential to significantly improve Australia's global competitiveness as an R&D investment destination. The policy would complement existing schemes such as the R&DTI by encouraging firms to commercialise in Australia rather than taking IP overseas.

Emerging evidence from both the United Kingdom and Netherlands suggests that similar programs have been effective in stimulating additional investment.[7, 8] Implementing a commercialisation incentive in line with the OECD nexus requirements will ensure that the scheme leads to additional R&D investments.

EXHIBIT 32

Recommendation 4 method



Source: Mandala analysis.

7 Rowe-Brown & James (2020) *Patent Box Evaluation*
8 Mohnen et al. (2017) *Evaluating the innovation box tax policy instrument in the Netherlands*

RECOMMENDATION 5

Streamline R&DTI compliance requirements

Claiming the R&DTI places a considerable administrative and compliance burden on businesses, estimated at 9 per cent of the total benefits they receive.[9]

Streamlining existing registration processes, reviewing the level of compliance documentation required and providing clearer industry-specific guidance on R&D definitions would lead to significant time savings for firms, that can be re-deployed into R&D activities.

EXHIBIT 33

Recommendation 5 method

Source: Mandala analysis.

9 CIE (2016) *R&D Tax Incentive Programme Review*

RECOMMENDATION 6

Simplify R&D grants for businesses

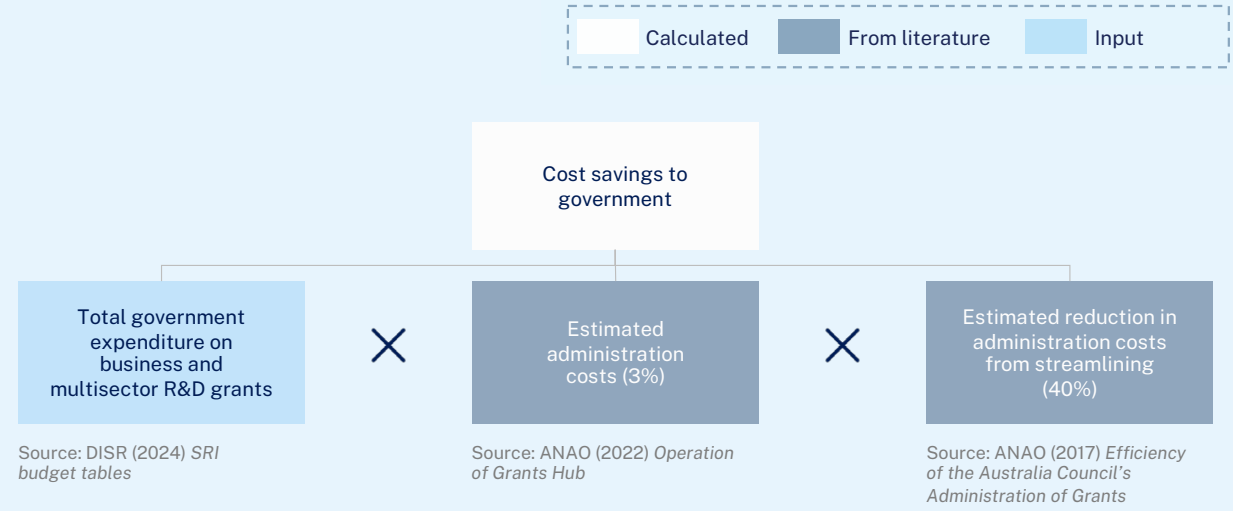
Australian Government grants for business and multi-sector R&D activities are highly fragmented across a wide range of programs, including the Cooperative Research Centres (CRC), Australians Economic Accelerator (AEA) and small business innovation grants.

Consolidating these grants into fewer, nationally significant programs has potential to drive administrative savings by removing duplicative processes and achieving greater economies of scale.

Streamlining grants will also enable industry to better understand and access the funding opportunities that may be relevant to them.

EXHIBIT 34

Recommendation 6 method



Source: Mandala analysis.

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