

Submission to the NSW Department of Premier & Cabinet

# Accelerating R&D in NSW

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# ACCELERATING R&D IN NSW

The Australian Academy of Technology and Engineering (ATSE)<sup>1</sup> welcomes the opportunity to provide input into the 'Accelerating R&D in NSW' vision and initiative. The Academy strongly encourages efforts to increase the effectiveness of funding into the R&D sector. For a vibrant and successful innovation ecosystem to exist in NSW, collaboration between businesses, entrepreneurs, universities and the NSW Government needs commitment to turn great ideas into commercial products and job creation.

ATSE has produced numerous evidence-based reports and statements that illustrate the central role of R&D and innovation as central drivers of prosperity. These included two seminal reports for the Australian Council of Learned Academies (ACOLA) on [the role of science, research and technology in lifting Australia's productivity](#) and [translating research for economic and social benefit](#). A selected reference list of relevant ATSE reports and statements is provided at the end of this submission.

## Key issues and recommendations

### **Central co-ordination of NSW Government expenditure on R&D and enabling activities, routine outcome evaluation**

NSW Government expenditure on R&D and enabling activities across portfolios in 2018-19 was \$400 million. ATSE feels this funding could have more impact if it were centrally co-ordinated, with routine evaluation of outcomes achieved.

ATSE recommends that the NSW Government prepare and publish a directory, by region, of the available support facilities accessible for any R&D journey in NSW. This directory should encompass ideation to IPO, fundamental research to revenue, and prototyping to contracts. Mapping services and funding available around the state will highlight strengths, weaknesses and opportunities.

### **Translation – commercialisation of research and supporting start-ups to scale up**

The 'overnight success' of a company is a myth. It takes years with many 'valleys of death'. ATSE strongly recommends further funding and coordinated support for the scale-up phase of the research translation ecosystem. This is a complex and individual stage of a scale-up journey which needs to be encouraged and nurtured. There is significant work to be done in understanding and developing successful programs, but approaches could include:

- **Business Development Fund** – co-investing in NSW businesses. This should be a fund that allows for flexibility in the level of support, depending on the stage of development and revenue of the product or service. Thus, the criteria for this investment program should be as broad as possible to avoid a one-size-fits-all assessment process. An extension to this fund could include a matching service or directory to find co-contributors and/or co-investors in larger projects.
- **Catapult Program** – provide seed funding to develop and test new commercially viable solutions to solve a NSW Government or industry challenge. This funding should be connected with problems identified by the Government or industry who would act as a 'trial customer'.

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<sup>1</sup> The Australian Academy of Technology and Engineering operates as a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering the Academy provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

- **Buy Local** – An extension of the Catapult Program could focus on ensuring NSW small and medium enterprises (SMEs) get access to aspects of large government contracts. Fundamental education and reform in NSW Government procurement activities is required to enable ‘best value’ procurement rather than ‘lowest cost’. Best value procurement must consider the positive benefits of buying from start-ups, scale-ups and local innovators, which results in job creation and local economic activity.
- **Founders Fellowships** – support academics, small business and entrepreneurs to develop their innovations into practical commercial outcomes. Recognise that individual founders’ vision, drive and risk appetite is essential to the innovation process. Individuals should be supported, connected and celebrated as role models to inspire the next generation.

### **Addressing the regional dimension**

Expanding and enhancing regional innovation ecosystems would support job creation where it is needed most. Regions are great launching pads for start-up and scale-up companies, as establishment costs are generally lower. Encouraging clustering of businesses would help to build capacity, and focus would provide opportunities for global visibility. Funding for both attracting and developing vibrant ecosystems is critical.

- **Industry Attraction Fund** – to attract innovative businesses to settle in NSW, with additional incentives to support settlement in regional areas.
- **Building Ecosystems for Growth** – provide funding for organisations that are locally based, to encourage and support entrepreneurs and businesses to commercialise new products. This should include fostering a more collaborative and linked network of angel groups, co-working spaces, incubators and accelerators.
- **Regional Infrastructure** – Regional ecosystems require infrastructure such as high-speed internet and efficient transport links to global cities like Sydney. Failure to provide effective global-connectivity from regions will constrain growth opportunities.

### **Coordination between the NSW Government, industry and universities**

The NSW Government should establish clear, measurable objectives for the nascent NSW Waratah Research Network (perhaps in the form of a three-year plan), supported by appropriate resources.

### **Science-based strategic initiative to address water R&D**

ATSE is particularly concerned by the lack of strategic vision for Australian water research and development, especially given the growing importance of water security in Australia and the lack of appropriate funding mechanisms for water R&D. ATSE is currently investigating the potential for a science-based strategic initiative to address water supply and use holistically in a water-rated environment, and would welcome engagement with the NSW Government to further this in a national context.

### **References:**

- ACOLA SAF04 – [The role of science, research and technology in lifting Australia’s productivity](#)
- ACOLA SAF09 – [Translating research for economic and social benefit](#)
- ATSE Position Statement – [Advancing Industry Competitiveness in Australia](#)
- ATSE Submission to the [inquiry into funding Australia’s research](#)
- ATSE Action Statement – [New business opportunities for research collaboration](#)