

# Connect Globally for the Benefit of Australia

International research and innovation partnerships can extend Australia's research and development output and impact, opening access to world-leading expertise, infrastructure, markets, investment and funding programs.

Connecting globally on science, technology and engineering innovation is a key priority for the Australian Academy of Technology and Engineering (the Academy). It draws on its extensive networks with sister academies, research organisations and governments overseas to ensure Australian expertise is disseminated to the world and to ensure that leading practice from other countries helps inform policy decisions in Australia. In addition to collaborative workshops, visits and programs, the Academy delivers a number of international engagement programs for the Australian Government, providing a valuable non-government avenue for science diplomacy, an important contributor to Australia's "soft power" profile.

This statement sets out the Academy's international priorities which underpin our Strategy Plan 2017-2020.

## Why International Engagement?

### Australia's strengths and weaknesses

Australia ranks highly in quality research production. It is responsible for some 4 per cent of the world's total scientific output listed on the web, despite having only 0.3 per cent of the global population. It places eighth among OECD+ economies' share of the world's top 1 per cent of natural science and engineering publications. However, Australia is weak on the translation of publicly funded research into commercial outcomes, and the proportion of R&D expenditure financed by industry is low by international standards. Improving collaboration between Australian businesses and universities and publicly funded research organisations is a national strategic priority and one that is strongly supported by the Academy.

### International science and technology engagement

The Australian Government acknowledges that international science and innovation partnerships extend Australia's research and development output and impact, opening access to world-leading expertise, infrastructure, markets, investment and funding programs.

This engagement includes collaboration among individual and groups of scientists and engineers, and among organisations such as research institutions and businesses.

In particular, the Australian Government's Global Innovation Strategy looks to strengthen and expand Australia's

strategic international science partnerships and programs, in conjunction with other treaties, partnerships and science diplomacy initiatives.

Australian Government engagement is focused on the world's science, technology and engineering "super powers" with a "pull-up" effect on Australia's innovation capacity. Australia has long-standing and active partnerships with these countries, and there is a demonstrated history of these partnerships delivering mutual benefit. Australia also engages with emerging science and innovation countries, looking for long-term partnerships of mutual advantage.

## National Priorities

The Australian Government has nine National Science and Research Priorities – health, food, soil and water, transport, cyber security, energy, resources, advanced manufacturing and environmental change. In addition, the Government has announced two "national missions" – to make Australia the world's healthiest nation, and to save the Great Barrier Reef – and potentially a "demonstration hydrogen city".

The Government has six industry-led Growth Centres in medical technologies and pharmaceuticals; advanced manufacturing; cyber security; food and agribusiness; oil, gas and energy resources; and mining equipment, technology and services. Each has published Sector Competitiveness Plans in collaboration with stakeholders in their sectors to map industry strategies for growth and innovation. These importantly include international engagement requirements to improve access to global supply chains and global business opportunities and competitiveness.

The Global Innovation Strategy programs assist businesses to expand their international activities and drive researcher-industry collaboration. They include the Global Connections Fund, which is operated by the Academy and provides grants to support international collaborations between researchers and small to medium enterprises (SMEs).

These national priorities and programs inform the Academy's international strategy, and we seek to leverage the opportunities available wherever possible, including through the provision of government funding and the strategic selection of topics which align with Academy priorities.

## The Academy's International Engagement

As a Learned Academy, we have a unique ability to engage with organisations and individuals overseas to further Australia's science and innovation diplomacy. The Academy's Fellows bring extensive networks and experience in working with partner countries, and these capabilities can be leveraged to further Australian interests and diplomatic goals. We believe the Academy has a significant role to play in contributing to the growth of Australia's "soft power", particularly in the Indo-Pacific region and countries with complementary resource, agriculture and/or education based economies. The Academy needs to engage both with the science, technology and engineering "super-powers" as well as with emerging economies, notably in the Indo-Pacific.

Wherever possible, the Academy will align its international activities with Australia's national priorities and industry innovation frameworks. We will also align our international work with our own strategic priorities, such as the work of our Forums under the Academy's National Technology Challenges and our key policy research project, on Industry Technology Readiness. The Academy will continue to cooperate with the Government's Industry, Innovation & Science (DIIS) and Foreign Affairs and Trade (DFAT) portfolios and relevant agencies and councils. We will also support the work of the Crawford Fund on the international promotion of Australian agricultural research.

Currently funded international engagement opportunities include:

- » Two bilateral Strategic Research Funds with China and India. The Academy will seek to continue to be involved in these funding programs, notably through the Australia-China Young Scientists Exchange Program and the supporting funding for research collaboration with India
- » Global Innovation Strategy - including the Global Connections Fund (GCF) - with a focus on research translation and commercialisation
- » DFAT country-specific grants, including with China, Japan and Korea

As part of its international strategy the Academy also will:

- » Maintain strong relationships with key Embassies and High Commissions both in Australia and in key partner countries overseas. In particular, we will leverage the DIIS Overseas Counsellor Network and Austrade personnel when developing activities in relevant countries
- » Continue to work closely with the active technology and engineering academies within the International Council of Academies of Engineering and Technological Sciences (CAETS) umbrella
- » Look for avenues to increase involvement in regional and multilateral fora, such as the Asia Pacific Economic Cooperation (APEC) forum
- » Leverage the value of its international network of eminent Foreign Fellows
- » Advocate for increased resources devoted to international science, technology and engineering programs, notably for an increase in the number of dedicated Science Counsellors worldwide and for the introduction of a specialised fund to support international engagement in science, technology and engineering
- » Develop an implementation plan to operationalise this strategy

The Australian Academy of Technology and Engineering is an independent thinktank that helps Australians understand and use technology to solve complex problems. We bring together Australia's leading experts in technology, engineering and science to provide impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity. It is one of Australia's four national Learned Academies, but uniquely its 900-strong Fellowship comes from industry, government and research organisations, as well as academia.