



DIGITAL ECONOMY STRATEGY

A leading digital economy and society by 2030

Artificial Intelligence

Artificial Intelligence has the potential to deliver economy-wide benefits by lifting Australia's competitive capabilities, enabling industry wide transformation and unlocking local jobs and economic growth.

The Australian Government is supporting Artificial Intelligence (AI) in Australia by:

- investing **\$53.8 million** over four years to create the **National Artificial Intelligence Centre** that will drive business adoption of AI technologies by coordinating Australia's AI expertise and capabilities
- providing **\$33.7 million** over four years to support Australian businesses to partner with government to pilot projects for **AI-based solutions to national challenges**
- investing **\$24.7 million** over six years in the skills of the future by establishing the **Next Generation AI Graduates Program** to attract and train home-grown, job-ready AI specialists
- providing **\$12 million** over five years to **catalyse the AI opportunity in our regions** by co-funding up to 36 competitive grants to develop AI solutions that address local or regional problems.


Artificial Intelligence Action Plan

The Government's forthcoming AI Action Plan will set out the Government's plan to build Australia's AI capability to grow the economy, support industry competitiveness, create jobs and improve lives (such as modernising manufacturing and farming activities, improving diagnosis and treatment of diseases, and enhancing our defence capabilities).

A range of funding initiatives (outlined below) will underpin the Action Plan by addressing barriers and encouraging the adoption of AI across the economy.

National AI Centre – Lifting Australian businesses' AI capability

Establishing the National AI Centre alongside four Digital Capability Centres will lay the foundations for an Australian AI and digital ecosystem. These Centres will help drive business adoption and the use of transformative AI technologies to improve productivity and lift competitiveness.



The National AI Centre (within CSIRO's Data61) will coordinate Australia's AI expertise and capabilities, and address barriers that small- to medium-sized enterprises (SMEs) face in adopting and developing AI and emerging technology. The Centre will also:

- support projects that lift AI business capability to use cutting edge technology across multiple sectors, foster collaboration between industry and researchers, and attract investment
- provide a 'front door' for SMEs looking for talent, knowledge and the tools to adopt transformational AI technologies
- work across the entire AI ecosystem to ensure that activities delivered by each of the Capability Centres are strategically aligned.

Four Digital Capability Centres will be appointed through a competitive process that will focus on specific applications of AI, such as robotics or AI assisted manufacturing. These Centres will provide SMEs with:

- connections to AI equipment, tools and research
- access to advice and training to help SMEs confidently adopt AI technologies
- links with the required AI expertise to identify business needs and connect them to leading researchers.

Towards 2030: Food manufacturers increasing output with AI

Local food manufacturer BlueEsy is looking to speed up their operations with AI and robotics. They would like to increase their output, but don't want to build a second factory. Through their local business chamber, they connect with a Digital Capability Centre who introduces them to an AI and robotics department at a partner university that is optimising manufacturing robotics.

BlueEsy partners with the university to test the new technology. This increases BlueEsy's production and allows the university to refine their technology, commercialise it and bring it to the wider manufacturing market quicker. The experience also leads BlueEsy to digitalise other elements of their business, significantly increasing their efficiencies and profits.

Illustrative Example

AI Solutions to Build a Stronger Australia

AI Solutions to Build a Stronger Australia will provide grant funding to businesses to pilot AI projects that address challenges of national significance. These businesses will work with Government to develop AI based solutions to these challenges and that also have benefits for job creation, economic recovery and other social benefits.

Challenges will focus on the industry sectors of AI specialisation identified in the Artificial Intelligence Roadmap, National Science and Research Priorities, CSIRO Missions, as well as supporting the Modern Manufacturing Strategy.

This initiative will provide a pathway to enable agencies to procure the AI solution at the end of the pilot to address the national challenge. Grantees will retain the intellectual property of their solution providing them with an opportunity to commercialise their work.

Towards 2030: Identifying mineral deposits using AI

Australian firm ACMEData secures \$3 million funding through the AI Solutions to Build a Stronger Australia program to work with the government to use AI to predict viable mineral and energy deposits. Together with Geoscience Australia, ACMEData use their novel AI system to interrogate petabytes of digital geoscience data generated over the last 60 years.

Their tool helps predict new economically viable mineral and energy deposits that can open investment opportunities in unexplored areas. Following the pilot, Geoscience Australia purchases the system from ACMEData.

Illustrative Example

Next Generation AI Graduates

The Next Generation AI Graduates Program will attract and train up to 234 home-grown, job-ready AI specialists through competitive national scholarships. The scholarships will be co-funded with universities and industry for study at Australian Qualifications Framework (AQF) Levels 8 (Honours) to 10 (Doctoral). As part of the scholarship, students will also participate in industry-led research projects and placements to build job-ready skills. These graduates will help backfill the shortage of AI specialists which businesses report as the most pressing challenge to adapting and developing AI technologies.

In addition to the AI Action Plan initiatives, a further investment in the Next Generation Emerging Technology Graduates Program will attract and train 234 specialists in other emerging technologies, such as robotics, cyber security, quantum computing, blockchain and data through competitive national scholarships.

By increasing the supply of job-ready AI specialists, business will be better placed to adopt, adapt and deploy new and emerging technologies. Access to this pipeline of home-grown AI talent will help drive the competitiveness of Australian businesses and ensure local talent is available to fill high-skilled AI jobs here in Australia. This complements efforts of the Global Business and Talent Attraction Taskforce to generate quality jobs for Australians and work with businesses to build clusters of skills in priority sectors.

Catalysing the AI opportunity in our regions

The Catalysing the AI opportunity in our Regions grants program will incentivise AI practitioners to engage with regional businesses to develop AI solutions for regional problems. Providing the opportunities to build greater awareness of the benefits of AI throughout regional communities is a step towards supporting trusted, safe and secure online interactions, and increasing the regional opportunities that AI technologies offer.

The program will consist of three rounds with up to 12 co-funded competitive grants per round, delivered on a rolling basis every twelve months. Consortia will be invited to apply, for example a consortia of regional businesses and research institutions. Applicants can include universities and publicly funded research bodies, technology companies and regional businesses, including SMEs and start-ups.

Case Study: AI transforming Kakadu management

The Healthy Country AI partnership in Kakadu National Park is a pioneering program that is mixing responsible AI and science with Indigenous knowledge to solve complex environmental management problems and care for animal species and habitats. The partnership is part of the Australian Government's National Environmental Science Program through its Northern Australia Environmental Resources Hub. It brings together Indigenous Traditional Owners and rangers, CSIRO, Microsoft, Parks Australia, the University of Western Australia, and Charles Darwin University.

Under the direction of Indigenous Traditional Owners and rangers, drones capture video footage in dual World Heritage-listed Kakadu National Park. The data is collected, labelled, and interpreted using a combination of Indigenous knowledge, Microsoft AI, data visualisation, and scientific research.

The models allow rangers to regularly survey large areas that are difficult to access and removes the need for people to review thousands of hours of video to count animals and identify para grass in its different states (burnt, wet, growing, dead). Now rangers can rapidly assesses the impact of reducing para grass weed spread on the abundance of culturally important magpie geese on Kakadu's Nardab floodplain. In 2018, only 50 magpie geese were counted and nine months later, more than 1800 have returned to the wetlands.

Source: CSIRO