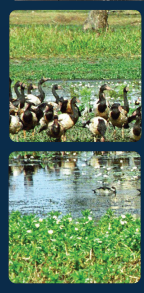
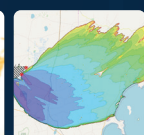
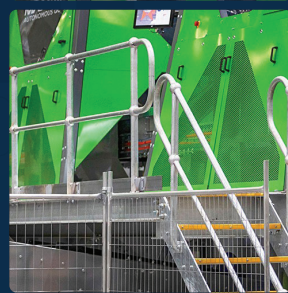




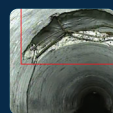
Australian Government

# AUSTRALIA'S AI ACTION PLAN

JUNE 2021



[industry.gov.au/ai-action-plan](https://industry.gov.au/ai-action-plan)





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# MINISTER'S FOREWORD

Artificial intelligence (AI) presents incredible opportunities to grow our economy, create jobs, stimulate businesses, and by doing so, can also improve our day to day lives. Australians are already using AI every day. We're organising our daily schedules using voice assistants and taking recommendations on the movies we should watch. AI helps our manufacturers create new and better products. It helps predict and prevent the spread of bushfires. It also helps speed up our ability to diagnose and treat diseases such as COVID-19.

It has been estimated that AI could contribute more than \$20 trillion dollars to the global economy by 2030. To take advantage of the opportunities AI presents, it is vital that as a nation we harness our collective capabilities, talent and resources to be both early adopters of AI, but also significant contributors to the progress of this technology.

Australia's AI Action Plan sets out the Australian Government's path forward to ensure we responsibly leverage AI to further strengthen our economy and lift the quality of life for all Australians. The new actions in this plan build on the strong foundations the Australian Government has previously put in place to grow our digital and broader economy.

This plan will ensure AI is used and developed to practically improve our lives, guided by appropriate security and ethical considerations. We are committed to ensuring everyone has an opportunity to benefit from these new technologies, and that their use and development reflects Australia's diverse community.

As a key part of the Australian Government's Digital Economy Strategy, the AI Action Plan will support businesses to enter new markets, invest in their own digital transformation, and deliver globally competitive products and services.

This will in turn uplift businesses across the economy, boosting their productivity and competitiveness, helping them to increase revenue and employ more Australians. To ensure those benefits can be fully realised, there is a need for collaboration between our researchers, academics and our industries. For that reason, it is important that many of the initiatives being pursued have increasing commercialisation as a central principle.

Building our domestic capability in AI also ensures we are well prepared to counter national security threats, while simultaneously supporting innovation and developing Australia's AI expertise in areas of competitive strength. For instance, it is clear that AI has great potential and an important part to play in Australia's manufacturing sector and especially for Australia's 6 National Manufacturing Priorities under our Modern Manufacturing Strategy. Whether it is in the areas of resources and critical minerals, medical products, or the opportunities of space, we have already seen the enhancements to productivity and enterprise that AI brings, and the government is intent on seeing that continue.

The AI Action Plan brings the Australian Government's direct investment in AI to almost half a billion dollars since 2018. The government is committed to elevating Australia to a world leading digital economy and a global leader in the development and adoption of AI.

## **The Hon Christian Porter MP**

Minister for Industry, Science and Technology



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# STRATEGIC VISION

Our vision is to establish Australia as a global leader in developing and adopting trusted, secure and responsible AI.

Artificial intelligence is having an impact on how we work, live and play. AI technologies already enable our phones and power our online searches. Farmers use AI solutions to inform how to tend to their crops. Small businesses use AI to better understand their customers. Builders use it to monitor compliance. AI helps us to screen for cancer, detect COVID19 and treat anxiety disorders. On a national level, AI is keeping us safe and secure by helping counter national security threats.

This is just the beginning. We're in the early stages of a major technological transformation. If Australia captures the benefits of this transformation, the opportunities are immense. Innovations driven by digital technologies, including AI, could add up to \$315 billion to our economy by 2028 (Alpha Beta 2018). AI will continue to bolster other digital technologies and elevate human knowledge and capability to new levels. New jobs can flow from this growth, with estimates that by 2034, there could be 1.2 million new technology jobs realised (Faethm 2020:11).

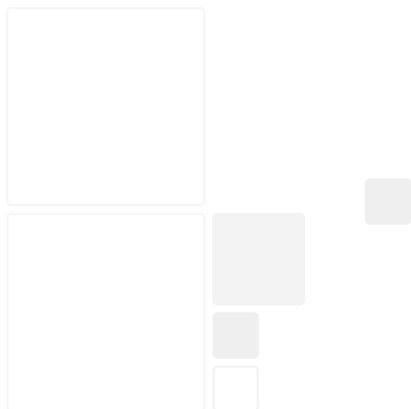
Australia is well placed to seize these opportunities and achieve our vision. Australia is already a leader in strategic fields of AI like computer vision, deep learning, field robotics, neural networks and machine learning. Globally, Australia is a leader in AI research with our academic publications having more impact in terms of frequency of citation than research from many other countries (Zhang et al. 2021). These strengths provide a solid foundation for an increasingly AI-enabled economy.

Australia also has the right whole-of-economy settings in place. We have the right foundations for growing our digital economy. Australia has a competitive, market driven economy with free and open trade, strong digital infrastructure and a pipeline of skills that creates the right environment for firms to adopt AI as more products come on to market.

This suite of policies provide support for business adoption of emerging technologies. These broader policies, whether specific or more structural, are supporting adoption of emerging technology like AI in Australia.

The new measures announced in the 2021-22 Budget and outlined in this Action Plan build on these existing policies by providing targeted assistance to specifically support the adoption and development of AI in Australia, to drive a range of desired outcomes.

The time for further action is now. We are not alone in recognising the enormous economic, scientific, social, and environmental benefits AI provides, with global investment in AI continuing to increase, and the pace of AI product development accelerating. To capture these benefits, the AI Action Plan will coordinate the efforts and focus of government, businesses, researchers and the community.





## What is artificial intelligence (AI)?

AI is a collection of interrelated technologies that can be used to solve problems autonomously and perform tasks to achieve defined objectives. In some cases, it can do this without explicit guidance from a human being (Hajkowicz et al. 2019:15). AI is more than just the mathematical algorithms that enable a computer to learn from text, images or sounds. It is the ability for a computational system to sense its environment, learn, predict and take independent action to control virtual or physical infrastructure.

Farmers use AI solutions to inform how to tend to their crops. *Image credit: Getty*

# AUSTRALIA'S AI ACTION PLAN

The AI Action Plan is a key feature of the Australian Government's Digital Economy Strategy.

The Digital Economy Strategy aims to deliver on the Australian Government's ambition for Australia to be a leading digital economy and society by 2030. Building capability in emerging technologies within the digital economy, such as AI, will:

- drive productivity and prosperity
- create jobs
- enable us to solve the real-world problems of today
- grow the businesses and sectors of tomorrow.

The AI Action Plan contributes to this by setting out the Australian Government's vision for Australia to be a global leader in developing and adopting trusted, secure and responsible AI. It outlines the actions the government is taking to realise this vision and ensure everyone will share the benefits of an AI-enabled economy. Taking these steps will lift our competitive capabilities, enable industry-wide transformation and secure Australia's future prosperity by unlocking local jobs and economic growth.

Australian Government support for AI adoption and development is not new. The AI Action Plan represents a focusing of new and existing initiatives and policy settings, and draws together a range of actions across government. This includes a combination of:

- **AI direct measures**, including those announced in the 2021–22 Budget
- **Programs and incentives that drive the growth of technology and digital skills**, where AI can be a key or crucial component
- **Foundational policy settings** that support business, innovation and the Australian economy, where the benefit extends to driving the development of AI.

The development of the AI Action Plan complements the work of state and territory governments and has drawn on:

- nearly 90 public submissions to the discussion paper
- multiple stakeholder workshops and consultations
- insights from the government's 2019 national AI summit (*Tectonic*).

It also aligns with other priority areas of government, including our Modern Manufacturing Strategy. This strategy will see Australia be recognised as a high-quality and sustainable manufacturing nation, and create jobs for now and future generations. It is also consistent with:

- our commitment to creating a safer online world for Australians through our Cyber Security Strategy 2020
- our desire to create a high-skilled workforce for jobs of the future
- the government's commitment to provide the right incentives to businesses and innovators through lower taxes.

Realising the Australian Government's vision for AI will require governments, businesses, researchers and individuals to work together.

## Action plan focus areas

The AI Action Plan will be implemented under 4 focus areas.

- **Focus one: Developing and adopting AI to transform Australian businesses** – support to help businesses develop and adopt AI technologies to create jobs and increase their productivity and competitiveness
- **Focus two: Creating an environment to grow and attract the world's best AI talent** – support to ensure our businesses have access to world-class talent and expertise
- **Focus three: Using cutting edge AI technologies to solve Australia's national challenges** – support to harness Australia's world-leading AI research capabilities to solve national challenges, and ensure all Australians have an opportunity to benefit from AI
- **Focus four: Making Australia a global leader in responsible and inclusive AI** – support to ensure AI is inclusive and technologies are built to reflect Australian values

# ACTION PLAN OVERVIEW

Australia's AI Action Plan aims to establish Australia as a global leader in developing and adopting trusted, secure and responsible AI.

FOCUS AREA				
	DEVELOPING AND ADOPTING AI TO TRANSFORM AUSTRALIAN BUSINESSES	CREATING AN ENVIRONMENT TO GROW AND ATTRACT THE WORLD'S BEST AI TALENT	USING CUTTING EDGE AI TECHNOLOGIES TO SOLVE AUSTRALIA'S NATIONAL CHALLENGES	MAKING AUSTRALIA A GLOBAL LEADER IN RESPONSIBLE AND INCLUSIVE AI
AI DIRECT MEASURES	Establish the <b>National AI Centre and 4 AI and Digital Capability Centres</b> to drive a national approach to AI and support adoption	Train the <b>next generation of industry ready AI Graduates</b>	Develop <b>new AI solutions that make Australia stronger</b>	Progress the implementation of <b>Australia's AI Ethics Principles</b>
	<b>Catalyse the AI opportunity in our regions</b> by funding AI projects tailored for regional areas of Australia	<b>Australian Research Council projects, linkages and fellowships</b> that involve AI	<b>CSIRO's Machine Learning and AI Future Science Platform</b> to turn future challenges into opportunities to invent a better future through AI	<b>Support Australia's AI values internationally</b> within international forums
	Supporting industry-led AI focused <b>Cooperative Research Centres Projects</b>	Establishing the <b>Centre for Augmented Reasoning</b> at the University of Adelaide	Funding AI-focused projects under the <b>Medical Research Future Fund</b>	<b>Promote the benefits of AI</b> through engagement with business and the Australian public
			<b>Invest in Defence AI</b> to develop applications for intelligence mission data, and virtual reality and graphics applications.	
DRIVING THE GROWTH OF TECHNOLOGY AND DIGITAL SKILLS	<b>Modern Manufacturing Strategy</b> to help Australian manufacturing scale-up and become more competitive and resilient	<b>Next Generation Emerging Technology Graduates Program</b> to meet advanced technology needs	<b>National Digital Health Strategy</b> with digital information as the bedrock of high quality healthcare	<b>Review of the Privacy Act</b> to ensure privacy settings empower consumers, protect their data and best serve the Australian economy
	Provide advice to Australian small businesses through the <b>Digital Solutions – Australian Small Business Advisory Services program</b>	<b>Digital Skills Cadetship Trial</b> to support innovative approaches to cadetships for digital career paths	<b>Business Research and Innovation Initiative</b> to address challenges faced by government in policy and service delivery areas	Setting standards for the <b>safe and transparent sharing of public sector data</b>
	<b>Digital Business-to-Business (B2B) Partnerships Initiative</b> to capitalise on the extensive expertise, scale and service offerings provided by large corporates to drive the digital transformation of Australia's SMEs.	Establishment and expansion of the <b>Cyber Security Skills Partnership Innovation Fund</b> to increase the quality and quantity of cyber security professionals, and our broader <b>Cyber Security Strategy 2020</b>		<b>Boosting Female Founders</b> for startup businesses to scale their startups into domestic and global markets
	<b>Digital Foundations for Agriculture Strategy</b> to address the major barriers to uptake of digital technologies	The <b>Foundation Skills for Your Future Program – Digital Project Rounds</b> is prioritising projects with a digital skills focus		<b>Boosting the Next Generation of Women in STEM</b> program to increase diversity and support the next generation of women in STEM
	<b>Entrepreneurs' Programme</b> helps businesses innovate and grow	Scoping a <b>Research Commercialisation Scheme</b> to better translate and commercialise university research	<b>Digital Atlas of Australia</b> will allow us to draw unique insights into the Australian economy	<b>Australian Data Strategy</b> to set out how the Australian Government will enhance the effective, safe and secure use of data and provide greater understanding of the government's policy settings
FOUNDATIONAL POLICY SETTINGS	The <b>Research and Development (R&amp;D) Tax Incentive</b> encourages companies to engage in R&D benefiting Australia	Actively targeting global talent who can drive innovation through the <b>Global Business and Talent Attraction Taskforce</b>		The <b>Consumer Data Right</b> gives consumers more choice and control about how their data is used and shared
	<b>Tax Incentives for early stage investors</b> in early stage innovation companies	The <b>Job-Ready Graduates package</b> to deliver job-ready graduates in the disciplines needed most, and the <b>JobTrainer Fund</b> is providing additional training places in areas of identified skills need for job seekers and young people		
	<b>Early Stage Venture Capital Limited Partnerships (ESVCLP)</b> and <b>Venture Capital Limited Partnerships (VCLP)</b> to increase venture capital investment in Australia	The <b>Boosting Apprenticeship Commencements</b> wage subsidy to support businesses take on apprentices		
	Allowing <b>self-assessment of the effective life of certain intangible assets</b> to grow investment in digital technologies			



# HOW AI IS TRANSFORMING AUSTRALIA



Driving monitoring system technology developed in Australia. Image courtesy of Seeing Machines.

## Logistics

### Seeing Machines

Truck drivers and logistic companies are safer on our roads thanks to Canberra-based Seeing Machines. By using computer vision to detect fatigue and provide alerts to reduce accidents, they have kept drivers safe for over 6.5 billion kilometres and created over 100 direct jobs since 2015.

📍 **IMPACT:** reduced fatigue events by more than 90%

## Utilities

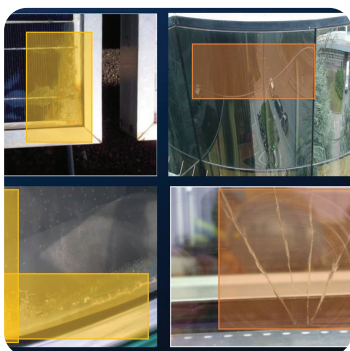
### VAPAR

Sydney-based VAPAR is revolutionising how water and sewage pipes are maintained. Its technology solution analyses video footage from pipe inspections to detect cracks and blockages, an error-prone task that takes hours when done manually.

📍 **IMPACT:** identified 15% more defects



VAPAR's AI models process pipe inspection video footage to detect various issues in pipes. The issues found are then used to grade the pipe's health on a 1-5 scale. Image courtesy of VAPAR.



AI algorithm assigned defect identification. Image courtesy of Voltin.

## Construction

### Voltin

Brisbane-based Voltin is bringing a 21st century solution to building façade inspections. Using machine learning and high-resolution cameras, its solution is automating inspections whilst keeping workers safer, reducing costs and speeding up accurate assessments.

📍 **IMPACT:** reduced costs by 30%

## ■ Food and beverage

### Green Atlas

Green Atlas is dedicated to assisting tree-crop growers in managing the life-cycle of each and every fruit on every tree in their orchards. Its product, Cartographer, uses an innovative combination of hardware and AI software that allows buds, flowers, fruitlet and fruit counts to be quickly and accurately mapped over entire orchards. Growers and agronomists can access an unprecedented level of detail, unmatched by manual methods, allowing crop management to be tailored to every tree.

📍 **IMPACT: 6000x faster**

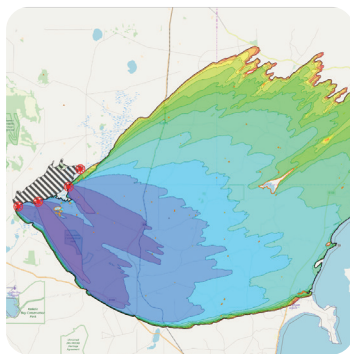


**A team of 5 Cartographers map 15,000 hectares of almonds in 3 weeks.**  
*Image courtesy of Green Atlas.*

## ■ Emergency services

### Spark by CSIRO's Data61

Spark is a toolkit for the end-to-end processing, simulation and analysis of bushfires. The need for a flexible and customisable bushfire prediction tool motivated its development.



Spark uses a hybrid modelling approach to predict how and where bushfires might spread. AI plays a key role in this modelling process, deriving fuel and vegetation information from remotely sensed data sources. It then integrates this with weather data from the Bureau of Metrology and physics-based modelling to develop a range of simulations.

It was piloted in the 2019–20 bushfire season to help firefighters on the ground, and is now being scaled for nation-wide use (Donnellan 2021).

📍 **IMPACT: fighting bushfires**

**A simulated bushfire in Spark informing users of the spread of a fire if a wind change was to occur and the growth and speed at which it would burn.**  
*Image courtesy of the CSIRO's Data 61.*

## ■ Medical products

### Coviu PhysioROM

**Brisbane-based digital health business.** Coviu, is currently in clinical trials for an AI-powered tool that measures a patient's range of motion over video telehealth systems. The tool supports physiotherapists to free up hospital beds.

📍 **IMPACT: freeing up hospital beds**



**Recording of a patient for range-of-motion analysis using a Webcam and a 3D motion capture system to validate algorithm accuracy.** *Image courtesy of Coviu.*

## Human resources

### SafetyCulture



SafetyCulture iAuditor product in use.  
Image courtesy of SafetyCulture.

SafetyCulture is the operational heartbeat of working teams around the world. Its mobile-first operations platform leverages the power of human observation to identify issues and opportunities for businesses to improve every day. More than 28,000 organisations use its flagship products, iAuditor and EdApp, to perform checks, train staff, report issues, automate tasks and communicate fluidly. SafetyCulture powers over 600 million checks per year, approximately 50,000 lessons per day and millions of corrective actions. It gives leaders visibility and workers a voice in driving safety, quality and efficiency improvements.

📍 **IMPACT: more than 600 checks per year**

## Clean energy

### Syngenco

Brisbane-based engineering business, Syngenco, built a 'digital twin' of an infrastructure, which serves as a real-time digital counterpart of the physical infrastructure. This digital twin allows the business to model and evaluate the impact of major business decisions. It has deployed this solution to one of Australia's largest power generators to reduce costs and extend asset life.

📍 **IMPACT: \$8 million fuel savings per year**



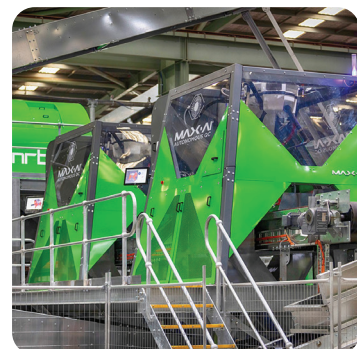
A digital twin is an exact virtual representation, or a virtual clone, of a physical asset (such as a building or power station). It is designed with advanced modelling and analytics capabilities, self-learning from the actual operation. The digital twin monitors the physical asset across its lifecycle. It provides real-time data to predict and prevent issues or costly downtimes and help optimise the lifespan of the asset. Image courtesy of Syngenco.

## Recycling

### Advanced Circular Polymers

Advanced Circular Polymers (ACP) runs Australia's largest plastic recycling facility with a massive capacity of 70,000 tonnes per year. The recycling facility sorts the waste plastics using advanced AI-enabled robots. ACP is also developing advanced AI-enabled autonomous technologies needed for waste sorting, with financial support from the Cooperative Research Centres Projects initiative, ACP and the University of Melbourne.

📍 **IMPACT: AI-enabled autonomous sorting for plastic recycling**



A robotic unit that helps identify individual polymers and colour. Image courtesy of ACP.

## Environment

### Healthy Country AI Partnership

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). Rangers can now rapidly assess 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. Nine months later, more than 1,800 have returned to the wetlands.

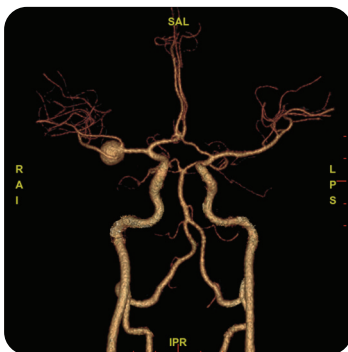
The Healthy Country AI partnership represents an end-to-end solution to support adaptive co-management to solve complex environmental problems, create jobs and care for significant species and habitats.

**IMPACT:** using AI to monitor precious habitats



Magpie geese are 'specialised feeders' – they eat wild rice, spike rush and two other aquatic plants. But when para grass takes over a wetland, it out-competes these plants, leaving less food and less space for the male bird to build the nest. *Image credit Rita Willaert via Flickr.*

## Healthcare



CT scan of the brain showing the circle of Willis. *Image courtesy of Fujitsu Australia Limited.*

### Project Sagasu

Fujitsu Australia, GE Healthcare, Macquarie University and Radian Network are collaborating to develop an AI solution to detect and monitor brain aneurysms on scans faster and more efficiently. The collaboration brings together their individual strengths and expertise. The project is refining the technology to create a fully commercialised solution. It aims to better equip radiologists to make early, potentially life-saving diagnoses and improve the quality of life for patients with aneurysms around the world.

**IMPACT:** working to detect brain aneurysms with AI

# FOCUS ONE: DEVELOPING AND ADOPTING AI TO TRANSFORM AUSTRALIAN BUSINESSES

## Creating jobs and increasing the productivity and competitiveness of Australian businesses

We use AI every day in products and services that help us manage businesses, make office work productive and increase efficiencies on factory floors and farms. It enables us to introduce incremental efficiencies into our routine tasks. But AI can do much more – AI can transform the way we do business and lock in our future competitiveness.

AI technologies are facilitating data-driven business models (Seagate 2018) that enable businesses – from local cafés to advanced manufacturers to:

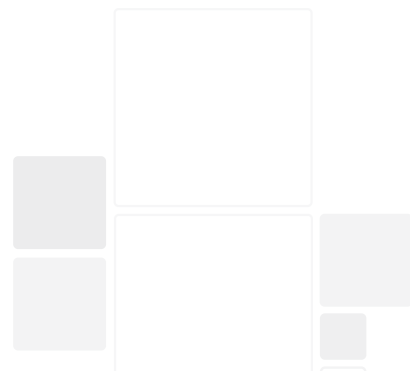
- provide customised products and services
- expand into new industries and markets
- enhance business efficiencies.

AI is presenting new opportunities for businesses to adopt and use AI technologies to increase their productivity and competitiveness, and generate jobs. The Australian Computer Society (ACS) anticipate that AI and digital innovation will create up to 1.2 million new ‘technology’ jobs across our economy by 2034 (Faethm 2020:11). Overall, ACS projects that 5.3 million new jobs may be created by 2034 in the Australian economy due to technological advancements (Faethm 2020:10).

While 80% of industry leaders believe that AI will have a transformative impact on their business, 63% of businesses have difficulty knowing where to start when implementing AI technologies (Seagate 2018). The Australian Government is committed to ensuring that businesses have the knowledge, tools, talent and support to capitalise on AI’s potential. It has included a series of new measures in this Action Plan to support this.

Our Action Plan will support those businesses starting out in AI, and it will also support our advanced manufacturing sectors. Enabling digital technologies, such as AI, will help our manufacturers to create entirely new products, processes and business models. The use of AI is likely to have significant benefits to each of our 6 National Manufacturing Priorities under our Modern Manufacturing Strategy. Evidence of AI’s application is already seen among the industries included in the manufacturing priorities.

These measures build on a range of other measures already driving adoption of technology in Australia. These other measures include those with a technology focus, as well as broader settings, including getting our tax settings right.



# Actions

## ■ AI DIRECT MEASURES

The Australian Government will provide \$53.8 million to establish a **National AI Centre** within CSIRO's Data61, as well as 4 **AI and Digital Capability Centres** (Capability Centres). The National AI Centre will coordinate Australia's AI expertise and capabilities. It will also address barriers that small and medium enterprises (SMEs) face in adopting and developing AI and emerging technologies. The Capability Centres will help SMEs to adopt AI by providing access to cutting edge AI technology and experts. SMEs will connect with AI practitioners, access AI tools and facilities, and benefit from services and training to help them confidently adopt AI. This initiative will make it easier for these businesses to innovate and remain competitive. It also complements the broad range of targeted, government-funded support available to SMEs.

The Australian Government will provide \$12 million to establish the **Catalysing the AI Opportunity in our Regions** program. This program will co-fund competitive grants to deploy AI in regional areas and support participation by diverse cohorts. These projects will help build awareness of AI applications to regional challenges and ensure that the benefits are spread evenly around Australia. Crucially, this program will build regional communities' trust in AI technologies. It will ensure that the design and implementation of responsible AI technologies reflects the values of both urban and rural Australia.

The **Cooperative Research Centres Projects** (CRC-P) program provides funding for short-term research collaborations to develop new products, services or technologies (including AI). The projects facilitate industry-research collaboration that delivers real outcomes, benefits SMEs and provides education and training activities. Since 2018, the CRC-P program has provided \$43.7 million to support 21 industry-led AI-focussed projects. For example, the CRC-P program has helped Australian company, Seeing Machines, in partnership with Monash University, Ron Finemore Transport and Volvo Australia to develop computer vision technology. This technology helps prevent driver fatigue and helps monitor drivers for the commercial transport sector.

## ■ DRIVING THE GROWTH OF TECHNOLOGY AND DIGITAL SKILLS

The Australian Government's \$1.5 billion **Modern Manufacturing Strategy** is funding projects that will transform manufacturing businesses. This strategy will help businesses to scale up, translate ideas into commercial successes, and integrate into local and international value chains.

An expanded **Digital Solutions – Australian Small Business Advisory Services** will invest \$12.7 million to provide 17,000 small businesses access to high quality, low cost and independent advice to adopt digital technologies. This measure also includes funds to conduct a pilot to provide services to select not-for-profit organisations.

The **Digital Business-to-Business (B2B) Partnerships Initiative** will leverage the trusted relationships that Australia's corporate sector has with SMEs to promote the adoption of and access to digital products and services. This initiative was announced as part of the Digital Economy Strategy.

The **Digital Foundations for Agriculture Strategy**, under the National Agricultural Innovation Agenda, will help promote AI in Australia's agriculture and Agtech industries. Together with the new priorities set out in the National Agricultural Innovation Policy Statement, the strategy sets out a pathway for driving development and widespread uptake of digital technologies including AI.

## ■ FOUNDATIONAL POLICY SETTINGS

The **Entrepreneurs' Programme** (EP) helps Australian businesses to grow, strengthen, innovate and commercialise both nationally and globally. The program provides businesses with access to expert advice and financial support that will take them to the next level, including assisting businesses to digitise their operations. For example, FluroSat received an Accelerating Commercialisation Grant from EP which helped it commercialise a platform. The platform combines machine learning, agricultural modelling and remote sensing imagery (from drones, planes and satellites) to detect early signs of plant stress. The platform is helping crop agronomists and farmers make better-informed decisions and improve crop yields by 10–25%.

The **Research and Development Tax Incentive** (R&DTI) reduces R&D costs by offering generous tax offsets for companies conducting eligible R&D activities. The program aims to encourage companies to invest more in these activities to generate benefits for the broader Australian economy. The R&DTI provides over \$2.5 billion to over 11,000 businesses every year. The Information and Communication Technology (ICT) field of research comprises around 40% of all R&DTI registrations across all sectors. However, not all software development meets the requirements of the program. This has led technology sector stakeholders to seek greater clarity around how the R&DTI applies to their activities. To address these concerns, the Australian Government is working with technology sector representatives to improve guidance, including through consultation on new software specific guidance material.

The **Tax incentives for early stage investors** provide tax concessions to investors in qualifying Early Stage Innovation Companies. These investors will often bring business experience to the business in addition to capital.

The **Early Stage Venture Capital Limited Partnerships** (ESVCLP) and **Venture Capital Limited Partnerships** (VCLP) programs are designed to increase venture capital investment in Australia. The ESVCLP program aims to increase investment in startups through Australian early stage venture capital funds by providing tax offsets and capital gains tax exemptions on eligible investments. The VCLP program is also aimed at increasing investment through Australia's venture capital sector by providing tax concessions to eligible foreign investors.

The Australian Government is also **allowing taxpayers to self-assess the effective life of depreciating intangible assets** such as patents, registered designs, copyright and in-house software for tax purposes. This change reduces the cost of investment for business and aligns the tax treatment of these intangible assets with the treatment of tangible assets.

# FOCUS TWO: CREATING AN ENVIRONMENT TO GROW AND ATTRACT THE WORLD'S BEST AI TALENT

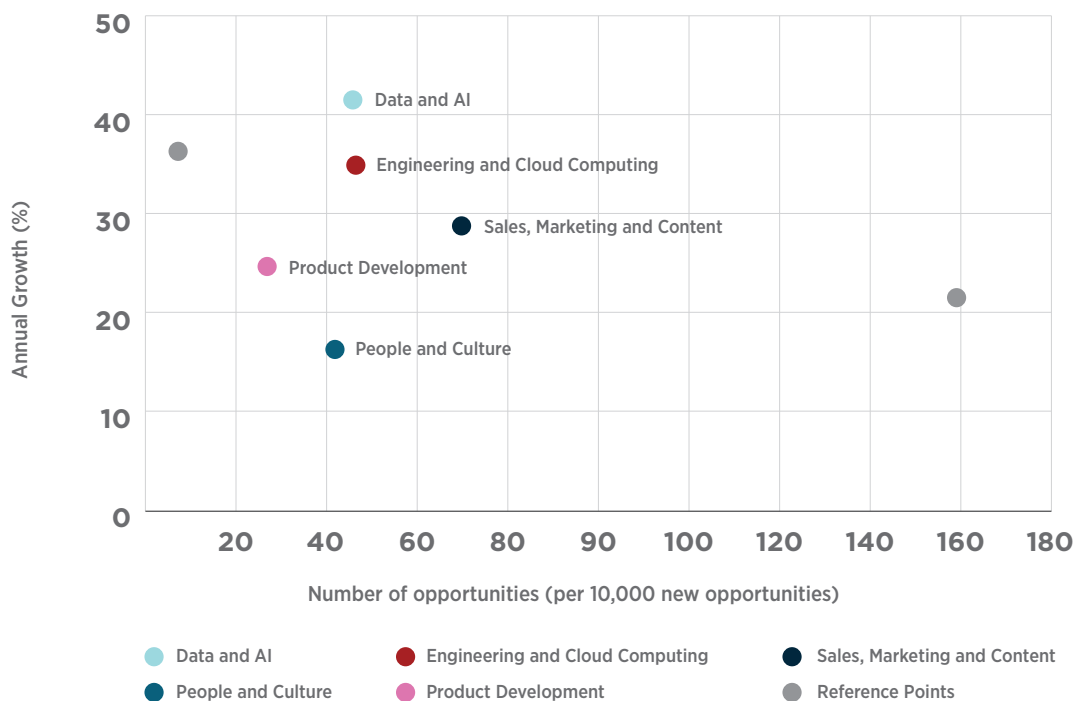
## Ensuring that Australian businesses have access to world-class talent

Australia has produced some of the world's finest AI minds and is an attractive destination for global AI talent. To remain competitive and realise the benefits of an AI-economy, our workforce must constantly retool and reskill (RMIT 2021).

Technological change is creating new types of job opportunities. From 2014 to 2019, emerging professions associated with data and AI grew faster than other types of professions in 20 major economies, including Australia (Figure 1). Shortage of high-end AI talent is one of the most pressing challenges for businesses looking to deploy AI technologies (Silverpond 2019). The CSIRO's Data61 estimates that industry will need up to 161,000 additional AI specialist workers by 2030 (Hajkowicz et al. 2019:iv).

Preparing our existing workforce and society for an AI-enabled economy requires a system-wide approach. This is why the Australian Government is taking meaningful steps to help ensure all Australians have the skills to engage with the digital economy and are ready for the jobs of the future. The Australian Government's investment starts in schools and carries through to on-the-job training, and is being advanced through a raft of different initiatives. It recognises both the hard and soft skills necessary to participate in a digital economy and required in the development of AI.

**Figure 1:** Annual growth and number of opportunities of selected professional clusters from 2014 to 2019 in 20 major economies



Source: World Economic Forum (2020:9), used with permission.



# Actions

## ■ AI DIRECT MEASURES

The **Next Generation AI Graduates** program will provide \$24.7 million to increase Australia's specialist AI talent through targeted scholarships. It will address industry skills shortages and train diverse cohorts of AI students on industry projects desired and needed by industry.

Since 2018, more than \$200 million has been awarded by the **Australian Research Council on projects, linkages and fellowships** that involve AI. In particular, the **ARC Linkage Program** promotes national and international research partnerships between researchers and business, industry, community organisations and other publicly funded research agencies. The research projects funded through this program encourage the transfer of skills, knowledge and ideas as a basis for securing commercial and other benefits of research. Grant opportunities are made available through a number of schemes under the Linkage Program. Funding is awarded to support the highest quality applied research through national competition across all disciplines.

In October 2020, the Australian Government committed \$20 million to **establish the Centre for Augmented Reasoning at the University of Adelaide**. The centre will support Advanced Reasoning research through PhD scholarships and will increase AI literacy and engagement in Australia.

## ■ DRIVING THE GROWTH OF TECHNOLOGY AND DIGITAL SKILLS

The **Next Generation Emerging Technology Graduates Program** will provide \$22.6 million to deliver more than 200 competitive national scholarships in emerging technologies to meet our advanced technology needs. This initiative will build on and complement the new Next Generation AI Graduates program.

The **Digital Skills Cadetship Trial** is providing \$10.7 million to support innovative trials of cadetships for digital careers to increase the number of Australians with high-level digital skills. This aims to deliver digital skills in a more flexible and timely way through a 4–6 month cadetship comprising formal training with on-the-job learning.

Additional funding of \$43.8 million is being provided to expand the **Cyber Security Skills Partnership Innovation Fund**. The fund is for industry and education providers to deliver more projects that meet local requirements to quickly improve the quality and quantity of cyber security professionals in Australia. The fund builds on the broader Cyber Security Strategy 2020. This strategy is creating a more secure online world for Australians, our businesses and the essential services upon which we all depend. It included an initial \$26.5 million for the Cyber Security Skills Partnerships Innovation Fund.

The **Foundation Skills for Your Future Program – Digital Project Rounds** is providing \$5 million to prioritise projects with a digital skills focus to improve foundational skills for employed or recently unemployed Australians. The program supports Australians who need flexible training in reading, writing, maths, English language and digital skills.

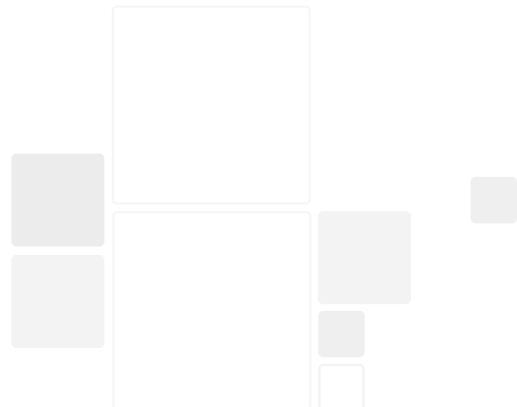
## ■ FOUNDATIONAL POLICY SETTINGS

The Australian Government is providing \$5.8 million to scope a **University Research Commercialisation Scheme** to better translate and commercialise university research outputs. The scoping study will develop options for the establishment of the scheme, drawing on advice from universities, industry and other experts.

The **Global Business and Talent Attraction Taskforce** is actively targeting exceptional global talent. This includes academics, researchers and experts at the top of their field who can drive innovation in future-focused industries to come to Australia and develop their ideas here. The initiative aims to fill critical skills gaps and bring new technologies, cutting edge research and development, as well as IP and capital to our shores.

The government's demand-driven skills system is supporting Australians to acquire the skills and training they need to meet the needs of the modern Australian workplace. The **Job Ready Graduates** package and **JobTrainer Fund** are ensuring Australians can skill up for their future. They are also ensuring we build the right mix of skills needed to enable business to adopt and develop emerging technologies. The Job-Ready Graduates package is delivering more job-ready graduates in the disciplines and regions where they are needed most. The package is helping to drive the nation's economic recovery from the COVID-19 pandemic. The JobTrainer Fund is providing additional training places in areas of identified skills need such as health, aged and disability care, IT and trades for job seekers and young people, including school leavers.

The **Boosting Apprenticeship Commencements wage subsidy** is supporting businesses and Group Training Organisations to take on new apprentices and trainees to build a pipeline of skilled workers to support sustained economic recovery. As part of this measure, the Australian Apprenticeship Support Network will deliver additional Gateway Service places and enhanced In-Training Support for women interested in, or starting, an apprenticeship in a non-traditional trade occupation.



# FOCUS THREE: USING CUTTING EDGE AI TECHNOLOGIES TO SOLVE AUSTRALIA'S NATIONAL CHALLENGES

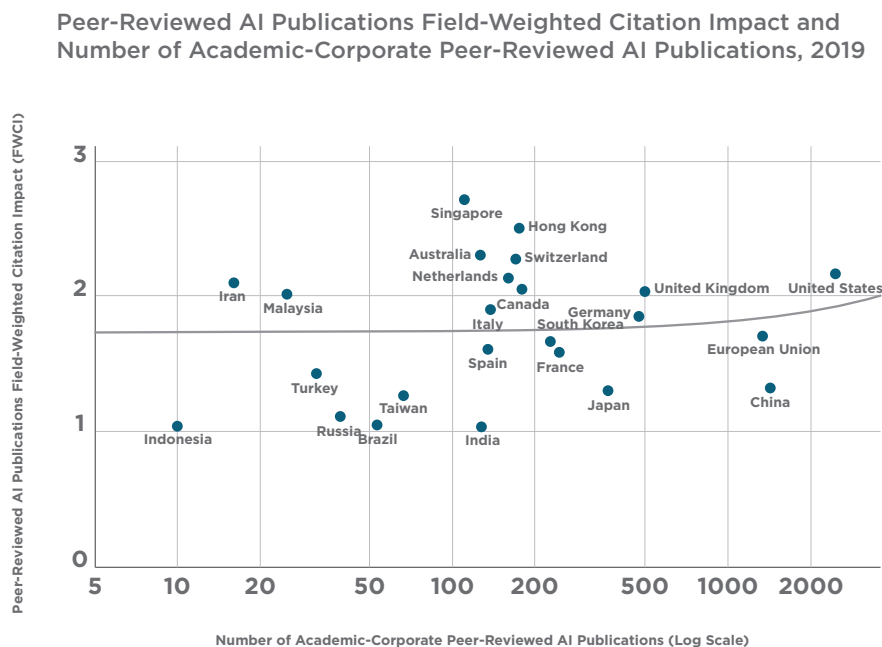
## Delivering the benefits of AI to all Australians

AI-powered solutions can help overcome some of our nation's greatest challenges. The CSIRO's Data61 outlined how AI can help lower energy costs, improve health outcomes and protect our environment (Hajkowicz et al. 2019). New measures in this action plan will help to unlock these opportunities.

We have strong foundations to support our AI ambition. Australia possesses world-leading capabilities in AI research. As shown on Figure 3, Australian AI publications are being cited more than the world average. We can leverage our world-leading capabilities to build competitive advantage. The CSIRO's Data61 enables collaboration between a global network of partners in government, industry and academia with an applied R&D focus in data science and engineering.

The Australian Government is committed to supporting a respected and coordinated AI ecosystem. One that can translate Australia's capabilities and strengths into real-world solutions and create new opportunities for commercialisation and export (Industry Innovation and Science Australia 2021). Australia is already a leader in AI research, placing third in the world (following Singapore and Hong Kong, respectively) according to peer-reviewed AI publications, when citation impact is field-weighted (Figure 3; Zhang et al. 2021:24). A coordinated AI system will help Australia realise this competitive advantage, and turn that into commercial ideas, economic growth, jobs, and a better world.

**Figure 2:** Comparison of AI publications citations by country



A Field-Weighted Citation Impact (FWCI) greater than one shows that publications have been cited more than the world average for similar publications and provides a useful way to determine the prestige and quality of a researcher's citation performance.

Source: Zhang et al. (2021:24), used with permission

# Actions

## AI DIRECT MEASURES

The Australian Government will provide \$33.7 million to establish the **AI Solutions to Build a Stronger Australia** program. This program will work in partnership with industry to leverage private expertise to solve national challenges. We will jointly develop and deploy AI-enabled solutions to address economic, health, social, infrastructure and environmental challenges of national scale.

The CSIRO's **Machine Learning and AI Future Science Platform** is exploring questions such as how we can provide explainable AI for decision-making to protect the Great Barrier Reef. The Future Science Platforms are an investment in frontier science that underpin innovation with the potential to help reinvent and create new industries for Australia. These multidisciplinary investments are turning challenges into opportunities where innovative science and technology is breaking through seemingly impossible problems to improve Australia's prosperity and sustainability.

The **Medical Research Future Fund** (MRFF) is a long-term investment supporting Australian health and medical research. The MRFF aims to transform health and medical research and innovation to improve lives, build the economy and contribute to health system sustainability. Through the MRFF, the Australian Government awarded \$19 million in transformative medical research projects using AI. This included projects using AI to:

- improve mental health treatments for Australians
- understand and optimise treatments for stress, anxiety and depression
- understand the vital interventions or components of therapies and why they are effective for some patients and not others.

**Invest in Defence AI** – The Department of Defence is coordinating research and investment in AI capabilities to strengthen capability across the information and cyber, maritime, air, space and land domains. This includes a \$10 million initiative to support Australian industry to develop AI applications for intelligence mission data, and virtual reality and graphics applications.

## DRIVING THE GROWTH OF TECHNOLOGY AND DIGITAL SKILLS

The **National Digital Health Strategy** sets the direction for the digital health system. It supports national coordination, investment and collaboration in national health information and systems development. The aim of the strategy is to achieve better health for all Australians. This will be enabled by seamless, safe, secure digital health services and technologies that provide a range of innovative, easy to use tools for both patients and providers.

The **Business Research and Innovation Initiative** (BRII) aims to drive innovation that addresses Australian Government policy and service delivery challenges, with the help of startups and SMEs. The BRII challenges are set by different government agencies and have covered topics ranging across biosecurity, child protection, water markets and policy design.

## FOUNDATIONAL POLICY SETTINGS

The **Digital Atlas of Australia** will bring together crucial datasets, allowing us to draw unique insights into the Australian economy. By combining a range of sources including infrastructure, environment, health and employment datasets, this national platform will facilitate new, detailed analyses of Australia's demographics.

# FOCUS FOUR: MAKING AUSTRALIA A GLOBAL LEADER IN RESPONSIBLE AND INCLUSIVE AI

## AI needs to be built to reflect the values of the Australian community

The Australian Government recognises that to reap the benefits of AI it is vital that all Australians, from businesses to consumers, have trust in the technology. Australians need to be able to trust that the technology will be used responsibly and safely, and that AI promotes and improves inclusivity. As shown in Figure 3, while public acceptance of AI is trending positively, there is still a significant proportion of Australians who are hesitant about these new technologies (Lockey et al. 2020). Unless negative outcomes are minimised, lack of trust in AI technology will continue to be a major barrier to adopting and applying AI.

The Australian Government released the AI Ethics Framework in 2019 to guide businesses and governments developing and implementing AI in Australia. The framework includes 8 AI ethics principles to:

- help reduce the risk of negative impacts from AI
- ensure the use of AI is supported by good governance standards.

The AI Ethics Framework affirms our commitment to the OECD Principles on AI – to promote AI that is innovative, trustworthy and that respects human rights and democratic values. The release of the AI Ethics Framework also reflects our decision to become a founding member of the Global Partnership on Artificial Intelligence (GPAI). Widespread adoption of the framework's principles among business, government and academia will build trust in AI systems.

Government can also support businesses, consumers and the broader public to have the confidence to actively participate in the digital economy. It can do this by providing regulation that is clear, proportionate and fit-for-purpose. The Australian Government is undertaking a range of initiatives that review existing regulations and develop meaningful guidance on the sharing and use of data. These include:

- reviewing the *Privacy Act 1988* to ensure that it is fit-for-purpose in the context of more personal information about individuals being captured and processed
- delivering the forthcoming Australian Data Strategy to set out the government's objectives on enabling safe and secure data use across the economy
- setting standards for the safe and transparent sharing of public sector data, as authorised under the *Data Availability and Transparency Bill 2020*.

The National Cabinet also agreed to develop an intergovernmental data-sharing agreement to ensure jurisdictions can capitalise on the value of public data to achieve better outcomes for Australians.

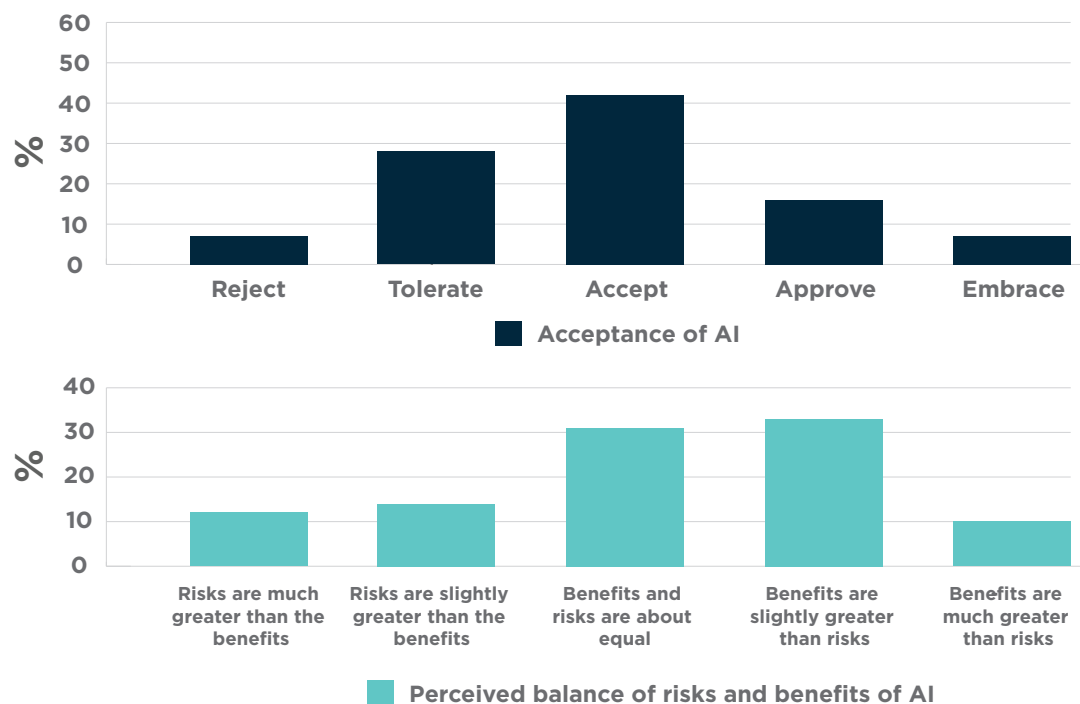
The government will also consider the recently completed report of the Australian Human Rights Commission into *Human Rights and Technology*, which considered the human rights implications of new technology.

To be a global leader in AI, it is also important that all Australians have the opportunity to be involved. The Australian Government recognises the need for this effort to be inclusive. For example, women made up just 19% of domestic ICT enrolments in 2019 (DESE 2020). A diverse and inclusive AI workforce will mean that Australia is better able to benefit from varied approaches to problem solving (UNESCO 2020). It will promote Australia as a destination for responsible and ethical AI. As such, the government continues to promote avenues to increase the diversity and representation in the AI workforce. The government's Next Generation Women in STEM measure will provide scholarships for women studying STEM courses, including AI. This measure builds on other initiatives the government has undertaken to increase the proportion of women in STEM professions and studies.

Australia's trade links with neighbouring countries are a major factor in our economic success, and there are rapidly increasing digital export opportunities in the region. International cooperation plays an important role in shaping technology standards, norms and ethics in line with our values. Building on partnerships and collaborations will help grow international trust in Australian AI products. These will also ensure our interests are supported through our involvement in international standard setting.

This leadership will ensure that as we develop our AI capability, it will align with our values. It will also ensure all Australians share the opportunities and benefits.

**Figure 3:** Trust in AI



Source: Lockey et al. (2020), used with permission.

## Actions

### AI DIRECT MEASURES

**Progress the implementation of Australia's AI Ethics Principles** – Some Australian Public Service (APS) agencies are already considering the AI ethics principles when applying AI. In addition, the Australian Government will publish case studies from its pilot of the principles with industry. The case studies will share lessons learnt to help other businesses to apply the principles and to inspire more businesses to do this. The businesses that participated in the pilot were Commonwealth Bank of Australia, Flamingo AI, Insurance Australia Group, Microsoft, the National Australia Bank and Telstra.

**Continue to support Australia's AI values internationally** – The Australian Government will continue to ensure that Australia is represented internationally in multilateral and multi-stakeholder forums and processes. This includes:

- our representation on the Global Partnership on AI (GPAI)
- standards setting
- through our wider implementation of the International Cyber and Critical Technology Engagement Strategy.

These processes can shape global standards, including ethical principles and frameworks on AI in ways that are consistent with Australian values.

**Promote the benefits of AI through engagement with business and the Australian public** –

The Australian Government will continue to engage and have transparent and open conversations around the use of AI. Forums, such as *Tectonic*, will provide mechanisms where the benefits and uses of AI can be promoted and shared.

## ■ DRIVING THE GROWTH OF TECHNOLOGY AND DIGITAL SKILLS

The review of the *Privacy Act 1988* will ensure that its privacy settings empower consumers to protect their data and best serve the Australian economy. The review is part of the government's response to the Australian Competition and Consumer Commission's Digital Platforms Inquiry. The review seeks to:

- bring Australia's privacy laws into the digital era
- strengthen privacy protections for individuals
- streamline compliance for businesses working across international borders.

The appropriate settings for the safe and transparent sharing of public sector data will be established and authorised under the *Data Availability and Transparency (DAT) Bill 2020*. The DAT Bill will modernise government data sharing and use. It will improve how the Australian Government shares and uses its data to benefit Australians through more effective policies, programs, and improve service delivery and research outcomes. The DAT Bill will also enable greater sharing of government data with researchers and businesses for the purposes of improving policy, program and research and development outcomes.

The **Boosting Female Founders** Initiative supports startups founded by women to grow and scale into domestic and global markets by providing access to early stage capital. The program also provides expert mentoring and advice to applicants. This in turn boosts the economy by increasing the diversity of startup founders.

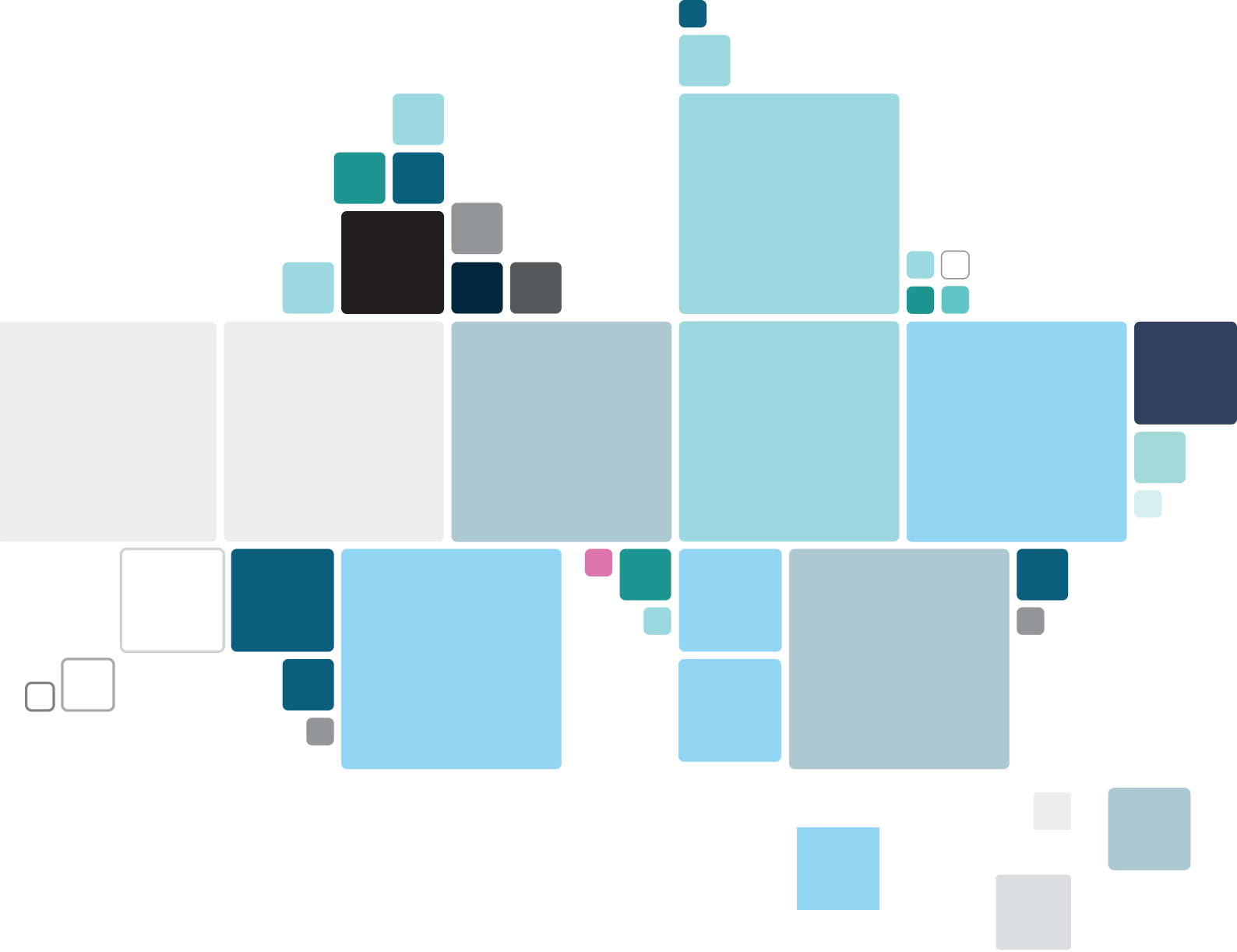
The **Boosting the Next Generation of Women in STEM** program is providing \$42.4 million to support up to 500 industry co-funded scholarships for women in science, technology, engineering and mathematics (STEM) disciplines. Women are significantly underrepresented in STEM education. The scholarships will:

- support women to build the cross-cutting and multi-disciplinary skillsets sought by industry
- foster the next wave of mentors and role-models
- support women to re-tool and re-enter the workforce.

## ■ FOUNDATIONAL POLICY SETTINGS

The **Australian Data Strategy** will outline a clear vision for maximising data-driven innovation across the economy by improving access to data, data sharing arrangements, data asset management and strengthening collaboration on data. This will provide greater access to uniquely Australian datasets and ensure that AI technologies are optimised for use in the Australian context.

The **Consumer Data Right** gives consumers greater access to and control over their data. By improving consumers' ability to compare and switch between products and services, it encourages competition between service providers and drives innovation.



## DIRECT AI 2021-22 BUDGET MEASURES: IMPLEMENTATION AND NEXT STEPS

The AI Action Plan includes a targeted \$124.1 million Australian Government investment to strengthen Australian leadership in developing and adopting responsible AI.

It leverages our competitive strengths, drives technological transformation and economic growth while ensuring all Australians have an opportunity to benefit from AI. This will increase the productivity and competitiveness of Australian businesses and create new, high-paying jobs.

The plan will support Australian businesses to operate at the digital frontier, enter new markets and scale their operations. Globally, it will help position Australia to be a leading digital economy and society by 2030.

Our future pathways for success will depend on government, industry, researchers and civil society working together across the ecosystem. Where possible, we will measure our progress and report on implementation of the action plan each year.



# National Artificial Intelligence Centre

Establishing the National AI Centre alongside 4 Digital Capability Centres (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. It will address barriers that 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
- work across the entire AI ecosystem to ensure that activities delivered by each of the Capability Centres are strategically aligned

Four Capability Centres will be appointed through an open competitive process that will focus on specific applications of AI, such as robotics or AI-assisted manufacturing. These centres will provide:

- a 'front door' for SMEs looking for talent, knowledge and the tools to adopt transformational AI technologies
- access to advice and training to help SMEs confidently adopt AI technologies
- links with the required AI expertise to identify business needs and connect SMEs to leading researchers.

A key focus of this measure will be increasing commercialisation of Australia's AI expertise and capabilities. This will require collaboration between research organisations, businesses and industry to create a thriving digital ecosystem.

The program will be open for applications in coming months.



## Implementation timeline - new AI Actions

### 2021-2022

- National AI Centre launched
- Open competitive process to establish 4 Capability Centres
- Four Capability Centres launched



## Signs of success

### Action

- National Artificial Intelligence Centre

### Focus Area

- Developing and adopting AI to transform Australian businesses

### Signs of success

- We have the foundations for a strong and connected Australian AI and digital ecosystem, which accelerates the development and adoption of transformative AI technologies in Australia.

### Action

- AI and Digital Capability Centres

### Focus Area

- Developing and adopting AI to transform Australian businesses

### Signs of success

- Australian businesses adopt, adapt, develop and export safe and secure AI technologies, lifting productivity, increasing commercialisation, boosting competitiveness and creating jobs.

# 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 opportunities to build greater awareness of the benefits of AI throughout regional communities is a step towards:

- supporting trusted, safe and secure online interactions
- increasing the regional opportunities that AI technologies offer.

This measure will support businesses that operate in regional Australia. It can potentially benefit those in key manufacturing industries, such as those included in the National Manufacturing Priorities under our Modern Manufacturing Strategy.

The program will consist of 3 rounds with up to 12 co-funded competitive grants per round, delivered on a rolling basis every 12 months. Successful applicants will receive competitive, cofunded grants of \$250,000 to \$1,000,000. Joint applicants will be invited to apply – for example, a joint application with regional businesses and research institution partners. Applicants can include universities and publicly funded research bodies, technology companies and regional businesses, including SMEs and startups.



## Implementation timeline – new AI Actions

### 2021–22

- First round of grants for Catalysing the AI Opportunity in our Regions program opens

### 2022–23

- Second round of grants for Catalysing the AI Opportunity in our Regions program opens

### 2023–24

- Third round of grants for Catalysing the AI Opportunity in our Regions program opens



## Signs of success

### Action

- Catalysing the AI Opportunity in our Regions

### Focus Area

- Developing and adopting AI to transform Australian businesses

### Signs of success

- Australian regional businesses adopt, adapt, develop and export safe and secure AI technologies, lifting productivity, increasing commercialisation, boosting competitiveness and creating jobs.

# Next Generation AI Graduates

The Next Generation AI Graduates Program will attract and train at least 234 home-grown, job-ready AI specialists through competitive national scholarships.

The scholarships will be co-funded with universities and industry to support students to pursue an Australian Qualifications Framework (AQF) Levels 8 (Honours) to 10 (Doctoral) qualification. Students will also participate in tailored training and professional development to build job-ready and complementary 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.

The Next Generation AI Graduate program is designed so that cohorts of high-performing students undertake industry-focused research projects and placements to build real-world experience. This will bridge the research-industry divide by focusing research on industry-specific topics, translating research directly into industry and developing students with industry-ready experience. This would be expected to include experience in key sectors where Australia has a comparative advantage, including the 6 National Manufacturing Priorities under the Modern Manufacturing Strategy.

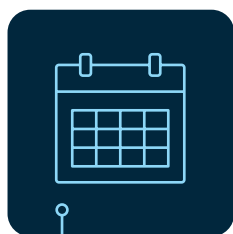
In addition to the AI Action Plan initiatives, a further investment in the Next Generation Emerging Technology Graduates Program will attract and train a further 234 specialists through competitive national scholarships. The specialists will be in other emerging technologies, such as robotics, cyber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

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
- 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.

CSIRO will deliver the Next Generation AI Graduate program. It will work with universities, industry partners and other stakeholders in the development and implementation of this measure. The measure will include mechanisms that best ensure Australia retains students onshore following the completion of their studies.



## Implementation timeline – new AI actions

### 2021-22

- Engagement with industry partners, universities and stakeholders
- First round of cohorts under the Next Generation AI Graduates Program commence

### 2022-23

- Second round of cohorts under the Next Generation AI Graduates Program commence
- Third round of cohorts under the Next Generation AI Graduates Program commence

### 2023-24

- Fourth round of cohorts under the Next Generation AI Graduates Program commence
- Fifth round of cohorts under the Next Generation AI Graduates Program commence



## Signs of success

### Action

- Next Generation AI Graduates program

### Focus area

- Creating an environment to grow and attract the world's best AI talent

### Signs of success

- There is a skilled AI talent pool in Australia.
- Australians possess the skills and capabilities to benefit from and participate in an AI-enabled society, making our lives better and more prosperous.

# AI Solutions to build a stronger Australia

AI Solutions to Build a Stronger Australia will support businesses to partner with government to pilot AI projects that address challenges of national significance. These businesses will develop AI-based solutions to these challenges that will lead to job creation, economic recovery and other social benefits.

Challenges will focus on areas of AI specialisation identified in the Artificial Intelligence Roadmap, National Science and Research Priorities, CSIRO Missions, and areas supporting the Modern Manufacturing Strategy. These challenges will combine private sector expertise and government data to solve challenges that tangibly improve the lives of Australians.

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

This measure will be delivered through a challenge-based competitive grants process. In each round of the program, challenges will be put forward by the Australian Government. Those that believe they can provide a solution to the challenge will have the opportunity to submit a proposal for consideration by government. It will be expected that any grantees will abide by Australian principles and legislation on privacy, data sharing and other relevant requirements. Grantees are also expected to adopt Australia's AI Ethics Principles in their solutions.

Developing AI-based solutions will also provide an opportunity to demonstrate the application and potential of AI technologies, encouraging greater adoption across the economy.



## Implementation timeline – new AI actions

### 2021–22

- First round of grants for AI Solutions to Build a Stronger Australia program opens

### 2022–23

- Second round of grants for AI Solutions to Build a Stronger Australia program opens



## Signs of success

### Action

- AI Solutions to build a stronger Australia

### Focus area

- Using cutting edge AI technologies to solve Australia's national challenges

### Signs of success

- Australian businesses and researchers collaborate to develop and apply AI to national problems.
- Australian Government fosters adoption of trusted AI as a 'first-adopter' procurer, standard-setter and exemplar of ethical development and use of AI.

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