NSW Government AI Strategy

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Foreword

Over the past eight years, the NSW Government has made great progress in improving customer service delivery to citizens through digital service offerings and use of data and insights. Service NSW, Fuel Check, Easy to do Business, ePlanning and the Digital Driver Licence are just some examples of how we are delivering better outcomes for citizens through digital transformation.

The NSW Government Artificial Intelligence (AI) Strategy builds on this work and signals that we are ready to embrace the next step in emerging technology. It is a clear statement to government, business and citizens that we are focused on innovative and data-driven solutions for everyday and complex problems, and providing a better experience for our customers and communities.

Our approach, incorporating a whole of government AI Policy and User Guide, recognises that there are risks associated with the use of AI in relation to privacy, security, data bias and ethical considerations. It calls out the need to ensure that personal information is secured at the highest level to ensure safety of our citizens. It outlines the risks of unintended outcomes and stresses the importance of accountability for AI-informed decisions or outcomes and that systems must be subject to regular review.

It is the Government's responsibility to address these issues to ensure high quality outcomes and customer confidence in our use of this emerging technology. The AI Policy and User Framework are the first steps in setting clear standards that all agencies must follow to ensure the use of AI is safe and secure, and that we are accountable for the design of our AI solutions.

Looking to the future, the *NSW Government AI Strategy* sets out the first, practical steps the NSW Government will take to scale up our adoption of AI. It is based on detailed consultation with the community, non-government organisations, AI experts and users in government, industry and academia. The Strategy recognises we have important work to do to encourage public trust in AI, by ensuring Government is transparent and accountable, and that AI delivers positive outcomes to citizens.

Importantly, as part of our consultation, over one thousand members of the public, as well as non-government organisations and community groups, were asked about their perceptions and understanding of AI. There was a strong interest in AI for improved services, but many people were not clear what it meant for them personally and how their personal data would be used. One of the primary aims of this Strategy is to build confidence within the community that the NSW Government will safely use AI to deliver better services for its customers and to inform better decision-making.

The NSW Government is proud of its record of achievement in customer and digital transformation, but we need to keep looking to the future as an early adopter of emerging technologies that deliver tangible benefits. AI is that next frontier. I look forward to taking this next step and reporting back on progress.

I am grateful to those who gave their invaluable insights to the development of the Strategy.

Introduction

Artificial Intelligence, or AI, is intelligent technology, programs and the use of advanced computing algorithms that can augment decision making by identifying meaningful patterns in data. AI in this context should aim to help the NSW Government free up our workforce for critical and frontline tasks, cut costs and enable us to deliver better, more targeted services.

AI has the capacity to quickly process large amounts of data and provide data-driven insights, supporting problem solving and decision-making to maximise efficiency and service delivery.

AI is already here and embedded in many parts of our society, in our households, businesses and governments. The banking sector has used AI to detect fraud and alert customers to suspicious activity for some time, and AI is increasingly used in marketing campaigns and tailored communications.

AI provides us with significant potential to transform society and the economy. AI will impact all sectors of the global and Australian economy, help businesses grow and create new revenue streams, and enable us to solve some of our most complex challenges.

However, because of the speed of technological evolution, the need to meet the highest privacy standards and to address ethical considerations, AI also presents new challenges. These include biases that AI can perpetuate when datasets are used without close examination, the legal complexities of AI being used to assist in decision-making, and the ability of certain AI technologies to self-learn.

For these reasons, AI needs to be developed responsibly and with a clear focus on outcomes so that the community has trust that the technology is being used appropriately, and that any unintended consequences are avoided or remedied quickly and effectively.

The NSW Government AI Policy and User Guide will provide clear guidance on the safe use of AI, finding the balance between opportunity and risk, while putting in place those protections that would apply for any service delivery solution. A new body, the AI Review Committee, chaired by the NSW Government Chief Data Scientist, will review initial AI project plans to ensure consistency with the AI Ethics Policy.

The NSW Government is already using AI to deliver great results for our customers. We should be ready to step up use of emerging technologies where they have the greatest potential.

There are three key components of the Government's overarching approach to AI:

- The NSW Government AI Ethics Policy
  Requires all public servants to implement AI in a way that is consistent with key ethical principles and the AI User Guide.
- The NSW Government AI User Guide
  Sets out guidance that agencies are required to use for AI project design and implementation.
- The NSW Government AI Strategy
  Sets out a way forward for AI adoption by Government, to help deliver world-class services for the people of NSW.

NSW Government AI in action

AI-informed service delivery and analysis is already a feature of some government agencies' work. The case studies below illustrate what NSW Government is already doing successfully with AI, in areas of transport, environment, revenue and health.

There is a key role for us to play in making sure lessons learned, successes and risk management strategies are shared across the sector as we put the Strategy's principles and guidance into action.

TrainDNA: Downer is using AI to support and maintain Sydney trains

As each of the new Waratah Series 2 trains pulls in and out of a Sydney station, around 90 cameras and 300 sensors capture data and record video about the train's vital signs. Every 10 minutes, the train sends out 30,000 signals to Downer engineers.

TrainDNA is an AI program that gathers and uses data, helping to automate maintenance inspections, improve operations and introduce predictive maintenance, reducing risk and saving time and money.

AI in action

Downer is contracted to manage and maintain the NSW Government's fleet of 78 Waratah trains that service the greater Sydney metro area. It is using sensors to predict Sydney Trains maintenance requirements, capturing Internet of Things (IoT) data, and using advanced data analytics and visualisation tools to make sense of it.

Machine learning and intelligent data analysis allow Downer to predict the likelihood of failures, sometimes months in advance – and schedule timely preventive maintenance and parts supply.

Large amounts of real-time data will help to identify trends, predict failures in advance and calculate the remaining life of an asset more effectively. This takes place whilst the trains are running and improves worker safety by reducing high risk inspections.

The benefits

TrainDNA improves safety, streamlines processes and reduces the risks of miscommunication or delay. By scheduling downtime for maintenance ahead of time, TrainDNA helps provide a safe, reliable train journey.

Digital Owl: Using Drones and AI to identify and protect threatened plants and animals (NSW Department of Planning, Industry & Environment, Saving our Species program)[1]

Finding threatened species in the rugged mountains of NSW, on foot or by helicopter, is challenging and resource intensive. Saving Our Species (SoS) – the NSW Government's threatened species program – is collaborating on world-leading AI science, to find smarter ways to survey, target resources and improve conservation outcomes.

For example, SoS and Fujitsu are using drones and AI data analytics to identify and monitor threatened species more efficiently. This saves time, money and effort in the field, and gives rangers and scientists a clearer picture of where species are, and how to protect them.

AI in action

Fujitsu and SoS worked with drone specialist, Carbonix, to dispatch a drone fitted with an advanced video camera that can see through the tree canopy and take five photos a second. The drone surveys remote areas of national parks then connect with AI image recognition software. The AI program can quickly process thousands of location-tagged images and teach itself to recognise and detect the threatened plants being surveyed.

The AI image analysis gives an instant view of specific plants, and a baseline for future monitoring. It also shows the broader habitat where the plants are found, helping to inform management actions.

The benefits

The Digital Owl has helped detect threatened species in rough terrain, incurring significantly lower costs and producing fewer greenhouse gas emissions than using a helicopter.

It provides an efficient, cost effective and accurate way to survey for threatened plants and animals, giving the NSW Government a better chance of protecting them into the future.

The use of drone monitoring and AI technology continues to be explored across the SoS program and could one day become a standard approach to species monitoring.

[1] Fujitsu, Customer Case Study - NSW Government Saving Our Species: https://www.fujitsu.com/au/about/resources/case-studies/cs-2019apr-nsw-government-digital-owl.html.

Revenue NSW: Using AI to ease the burden on vulnerable customers

With the help of AI, Revenue NSW is using a range of indicators to identify and support vulnerable customers early and better target fine enforcement action.

Revenue NSW is diverting vulnerable customers away from enforcement action and providing alternative resolution options, such as talking to customers about participating in the work and development order program, debt write-off or other outreach programs.

AI in action

Revenue NSW developed a machine learning model to predict the potential vulnerability of customers with overdue fines. The model identifies patterns in indicators for known vulnerable customers. This information is then applied across the active database (over 500,000 customers) to predict, with over 97% accuracy, which other customers may be experiencing hardship.

The model is regularly updated with new data for identified vulnerable customers to improve accuracy. More work is being done to add new customer attributes and datasets to further refine the model's accuracy.

The benefits

Using AI in this way means fewer vulnerable people may face a garnishee order (a legal notice to recover fines directly from a customer's bank account) during the debt recovery process. In the past year, the AI model has enabled Revenue NSW to redirect around 15,000 customers away from bank garnishee enforcement.

Since the vulnerability model was introduced Revenue NSW has also observed a reduction in both refund requests and inbound contacts from garnishee orders, and an increase in overall effectiveness of the garnishee process. The AI model has therefore provided mutual benefits for vulnerable customers and Revenue NSW.

NSW hospitals are piloting AI to reduce the risk of sepsis in emergency departments

The State's digital health agency, eHealth NSW, is leading efforts to develop a new sepsis detection tool which uses AI to better detect patients with sepsis in hospital emergency department waiting rooms.

Sepsis is a condition in which the body responds so severely to an infection that it starts to attack and injure its own tissues and organs. It causes an estimated 5,000 deaths in Australia each year.[2] Slow identification and time to treatment increases a patient's risk of death, serious illness and long-term disabilities.

AI in action

The sepsis detection tool uses AI to analyse information as it is entered into a patient's electronic medical record[3], providing clinicians who are monitoring waiting rooms with a list of patients most at risk of sepsis.

Given that the early signs of sepsis are not easy to identify, this list augments what clinicians are seeing, so that sepsis can be more readily detected.[4]

NSW Health Pathology is supporting the project to integrate data with Internet of Things (IoT) enabled devices. Vital-sign information, collected by these devices in the emergency department, will be transmitted directly into the electronic medical record. This significantly improves the timeliness and accuracy of information available for the AI.

An AI algorithm uses data in electronic medical records to move detection from a single 'safe range' for all patients, to personalised predictions based on each patient's unique circumstances.

The tool's co-design and development process will conclude in early FY20/21, with pilot sites going live shortly after.

The benefits

The project aims to reduce time to identify sepsis for patients in emergency department waiting rooms. If sepsis can be treated sooner, this should lead to fewer sepsis-related deaths, intensive care admissions, and sepsis-related hospital re-admissions. This improves outcomes for patients, as well as the effectiveness and efficiency of NSW Health.

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[2] https://www.slhd.nsw.gov.au/SydneyHealthPartners/news/news-Augmented-intelligence-improves-detection-of-sepsis.html.

[3] The electronic medical record is used by NSW Health clinicians to treat patients in NSW public hospitals. See: http://www.ehealth.nsw.gov.au/programs/clinical/emr-connect.

[4] https://www.abc.net.au/news/2019-09-12/artificial-intelligence-diagnoses-sepsis-in-australian-first/11495772.

Strategy overview

The role of AI in NSW Government

The NSW Government AI Strategy is focused on improved service delivery and government decision-making. AI has the capability to play a key role in automating inefficient and manual processes to deliver better value to our customers and free up time for more critical or frontline work. AI can also assist in decision-making in relation to resource allocation based on community need.

AI will not be used to make unilateral decisions that impact our citizens or their human rights. We need to carefully monitor the consequences of decisions that AI might inform. AI is a tool to assist in decision-making, and service delivery, but any AI-informed decision remains the responsibility of the agency using the technology. Further, the NSW Government approach is clear that no AI-informed decision will be made without those impacted being able to access a quick and efficient review. Citizens should be able to understand how their data is being used and for what purpose.

Often, additional safeguards will need to be in place to ensure the right questions are being asked of the technology and that the correct legislative interpretation is informing the AI solution.

Delivery plan

Recognising the speed at which technology develops, and the need to build our AI maturity, the NSW Government approach is an iterative one. The actions to be delivered over the next 12-18 months aim to build maturity in our use of AI and community understanding of its use before we review our approach and identify further improvements.

For example, we will provide information about AI, its use in government and how risks are managed. The immediate implementation of a mandatory AI Policy and User Guide aims to ensure a consistent approach to privacy, security, transparency and procurement of AI solutions. The Policy sets clear requirements that agencies must address before sourcing and using AI. The Policy and User Guide will be tested and refined over the next 12 months.

Consultation

The Strategy has been informed by in-depth consultation with industry, university, government and non-government organisations. Feedback has been grouped into five key areas, each of which will be supported by an action plan.

Building public trust: Delivering and showcasing positive outcomes for the community will contribute to public trust, and trust will be strengthened by openly acknowledging the strengths and weaknesses of AI and managing potential risks.

Digital uplift: Building public sector digital skills: There should be a broad program of digital capability uplift for the NSW public sector which also incorporates upskilling on emerging technologies.

Building data capability: NSW citizens must have confidence that data for AI projects is used safely and securely, and in a way that is consistent with privacy and data sharing frameworks, and community expectations.

Procurement: We must leverage opportunities to update procurement frameworks through innovation and proofs of concepts to take more timely advantage of emerging technologies.

Innovation and collaboration: We must explore working closer with industry and academia to drive better service delivery and solve some of our most complex problems.

The themes are accompanied by NSW Government commitments against each. It is important to note that AI is a relatively new technology for government and that this Strategy outlines the first steps in building a consistent approach across the sector. We will further refine our approach as we test the AI Policy and User Guide and identify new actions we can take at the whole of government level.

Our success measures

The NSW Government approach is based on an initial 12-18-month timetable, the measurement of which will inform our next AI work program. We will monitor AI projects to understand what is working and where we need to improve. For example, testing the AI Policy and User Guide to ensure they are achieving what is intended - a consistent, transparent and secure approach to AI across the sector. Further, all Strategy commitments to build maturity and capability will be measured and assessed.

In 12 months' time we will:

- measure implementation of our commitments
- assess how these commitments have delivered value
- assess agency confidence in procuring and using AI solutions
- publish case studies of AI projects and the application of the Policy and User Guide
- gather feedback from our customers about AI-informed service delivery.

Building public trust

It is Government's responsibility to use smart technologies to deliver better services, and to identify and respond to community concerns, including those relating to privacy, security and ethical considerations.

There are already many applications of AI in government that benefit citizens, including for traffic management, chatbots in customer service centres and better designed health services. The private sector routinely uses data for targeted service delivery and marketing purposes. Often, the public may not be aware that their data is being used for AI solutions that have direct and demonstrable benefits.

The AI User Guide, a key part of the Government's approach, sets out clear guidance for agencies on how to use AI solutions safely and securely. The Guide sends a strong message that NSW Government use of AI will always put the customer first, be outcomes-focused, fair and transparent, and that decision-making remains the responsibility of agencies and project leaders.

To this effect, the NSW Government will establish a new AI Review Committee that will review project plans and assist with implementation to ensure solutions meet the government's high ethical standards.

This Strategy recognises that more needs to be done to provide assurance to the community that Government will always strive to ensure the safe use of AI, finding the balance between opportunity and risk, and protecting customers and citizen's privacy and security.

What we heard

The key messages received from stakeholders about building public trust were:

- *There is a low level of awareness of what AI is and what it means to the citizen and community*

It is Government's role to raise public awareness of what AI is, what it isn't, and what it can be used for. This is key to developing public acceptance and understanding of the technology.

- *AI projects must produce demonstrable beneficial outcomes*

Demonstrating the use of AI to improve social outcomes such as promoting more equitable access to resources and services, and promoting successes, will have positive impacts on community understanding of AI and its benefits.

- *Government AI projects should be, where appropriate, co-designed and always with users and community outcomes as the priority*

Community consultation and collaboration on service design is essential. Communities have the right to influence government decision-making where those decisions, and the data on which they are based, will have an impact on them. Explainability of how AI solutions are used, and for what purpose, will help build confidence and transparency. Citizens must also have access to appropriate and efficient mechanisms should they wish to seek a review of an AI-informed decision.

- *AI needs to have strong privacy and data management safeguards in place*

Citizens need to be aware of how their data is being used and for what purpose. They need confidence that data is being used within the robust privacy framework provided by the range of privacy and information access legislation provided by the *Privacy and Personal Information Protection Act 1998, Government Information (Public Access Act) 2009,* and the *Health Records and Information Privacy Act 2002,* among other statutes. Without public trust in the systems Government develops, it will lack the social licence to use data to deliver better outcomes for customers.

- *Accountability for AI decisions remains with agencies*

The Government's approach to AI, and other technologies, must assure the community that accountability remains with Government and that it will be used in accordance with NSW regulatory privacy and data sharing frameworks.

- *No person will ever lose a right, privilege or entitlement without right of appeal*

As for any Government decision, an individual should be able to question a decision or outcome and understand the basis on which that decision was made. Agencies need to factor in review processes in their project planning to ensure no person shall lose a right, privilege or entitlement without access to a review process. Agencies must have mechanisms in place to be able to explain a decision or outcome that is informed by AI.

Actions

The NSW Government will make clear that use of AI is to improve services and decision-making, and carefully managed in accordance with privacy and broader legal frameworks:

Action	Responsibility	Timeframe
Develop an AI User Guide to guide agencies on transparency, and explainability of AI solutions	DCS	Complete
Public, industry, academia forum to showcase the NSW Government's AI Strategy	DCS	Q3 2020
Deliver online platform that informs the public about AI and allows the public to ask questions about the technology and how it is used	DCS	Q4 2020
Establish an AI Advisory Committee, to be chaired by the NSW Government Chief Data Scientist, to provide expert advice to NSW government on the use of AI	DCS	Q4 2020
Community engagement pulse checks on AI use in government	DCS	Q4 2021
Develop repository of reusable patterns for AI and automated decisions – for example explainability, decision review and consent for data use	DCS – Data Analytics Centre	Q4 2021

Digital uplift

AI can play a key role in delivering effective solutions for the communities we serve. There are a number of examples across NSW Government where AI innovation is leading to improved customer outcomes, and some of these are outlined in the case studies section of this Strategy. However, there is an overall need to raise digital capability across the NSW public sector, including in the understanding of and use of AI.

The Public Service Commission (the Commission) is the Government agency responsible for the public sector workforce and its culture, accountability and integrity. Its role is to ensure the overall capability of the NSW Government workforce can consistently deliver strategic and innovative policy and operational advice and meet the high expectations of our customers.

The Commission is developing a high value program to prepare the NSW Public Service workforce for the future. One element of this is raising digital capability, including for enabling technologies like AI.

The NSW Government has selected a world recognised framework, the Skills Framework for the Information Age (SFIA) as the occupation specific capability set for ICT professionals in the public sector. The NSW Public Sector Capability Framework and SFIA are used together to define capabilities required of the ICT workforce and provide a common set of expectations of ICT professionals across the sector.

This Strategy provides an opportunity to test whether SFIA needs to be updated to reflect skills required for AI.

What we heard

During consultation we heard that government needs to work harder on building internal capability and understanding of how AI solutions can deliver better outcomes. The key messages were:

- *The public sector needs to know enough about AI solutions to make informed decisions on how to build, maintain and best use AI systems*

There are a range of capabilities required to make best use of AI – from an understanding of its potential at the executive decision-making level, to deep AI and data analysis expertise to get the best from the AI solutions government procures. Opportunities may be missed without these capabilities and implementation of AI solutions may not realise their full potential.

- *Government needs strong competency to implement and manage AI in the longer term and collect and analyse AI-informed data. Once government has those competencies, it needs to create the right environment to retain that talent*

Project teams wanting to use AI-enabled technology should be multidisciplinary and involve those with specific AI expertise (i.e. data analysts, programmers). Collaboration with academia offers significant opportunities to source and retain talent.

- *Government must have confidence in its ability to understand what the right AI solution is (or even if AI is the best solution) and how the technology works*

Capability is not just about technical ability and deep knowledge of the technology. It is also about equipping senior decision-makers with the fundamentals to understand AI's potential and its risks.

The capability is required for the integration of AI into public service delivery and should be incorporated into our overall digital uplift program.

Actions

Action	Responsibility	Timeframe
Leverage the ICT Professionals Community of Practice for professional development on emerging technologies like AI	ICT CoP	Ongoing
Engage with the SFIA foundation regarding updating its framework to include AI-related technical capabilities	PSC	Q1 2021
Leverage case studies to inform skills requirements related to AI capabilities and workforce planning	PSC/DCS	Q1 2021

Building data capability

Data is the foundational element that makes AI so powerful. The combination of data and AI has the potential to unlock significant value in informing the design, development and delivery of government policy and services for better customer outcomes.

In recognition of the fact that Government is the custodian of highly valuable data with the potential for innovation in service design and service delivery, there was a strong interest in making more Government data available to solve complex problems. However, this is dependent on the quality of the data, the appropriateness of the data model and ensuring the right data safeguards are in place.

As for any use of data, robust governance must be in place to manage and store it, comply with policies/regulatory obligations, be clear on ownership and use and, particularly for AI, ensure transparency regarding data use and decision-making. As a core principle, personal or sensitive information should be removed from datasets before they are made available for analysis. Where it is not possible to completely de-identify or de-sensitise a dataset, appropriate protection controls should be put in place.

Data cleansing and integration are very important, but care needs to be taken to ensure features that might be useful in AI models are not removed. Decisions about the data that can be shared and for what purpose are generally made on a case by case basis. Cleansed datasets may be able to be made available more widely for a broader range of purposes but may have less utility than the original.

NSW citizens must have confidence that data used for AI projects is used safely and securely, and in a way that is consistent with privacy and data sharing requirements. Government use of emerging technologies based on access to data will be undermined by lack of public trust if the risk of a data breach is not managed effectively.

Lack of public trust with respect to emerging technologies is not limited to data breaches. It is also about the decisions that are made using the outputs from these technologies and the appropriateness of the underlying data and its use in making these decisions. This is what differentiates AI from other forms of analytics. Therefore, we need to ensure that the data model we use is free of bias and we need to check the outputs for results that may lead to unintended consequences.

What we heard

Feedback from government, industry and universities, from both expert and new users of AI, was broadly consistent in relation to developing data capability. The key messages were:

- *Government-generated data is a public asset and should, where appropriate, be made available as widely as possible*

While the NSW Government has put in place mechanisms that encourage open data, data sharing and data curation, government and industry stakeholders wanted more clarity on what data can be shared and for what purpose.

- *Data must be used safely, securely and consistent with privacy considerations*

Stakeholders sought guidance on privacy risks around the use of government data. Robust data governance and sound data management practices are required to ensure data availability,

accessibility, quality, privacy and security. The NSW Government AI User Guide provides guidance to agencies on how to approach AI projects and data governance and reflects the information available through the Information and Privacy Commission.

- *Data quality for AI projects needs to be understood and be fit for purpose*

It is important to maintain the richness of a dataset. Datasets should be accurate, appropriate, complete, timely, representative and consistent. However, there is a trade-off between making a dataset "safe" and its utility. Sometimes, poor quality (incomplete or inconsistent) data can be predictive of an outcome. Projects should determine an outcome and only then gather and analyse various datasets to understand which are appropriate.

- *There needs to be AI-specific guidance on risks in the context of using data and safeguards must be put in place to manage data bias risks*

It is important to understand the appropriateness of the underlying data and its use in making decisions. Elements of bias can emerge during the collection, collation, analysis and eventual use of data. Bias cannot be completely removed (and can sometimes be necessary) but government needs to ensure that bias that can harm individuals is limited as much as possible. Outputs should then be carefully monitored and tested for results to ensure there are no unintended consequences.

- *Assurance mechanisms must be implemented to ensure regular testing of outcomes and recommendations*

Government must verify data sources, and constantly test and retest instead of 'set and forget'. AI solutions should be designed with and monitored against explicit standards for performance, reliability, robustness and auditability – and the NSW Government Ethical AI Principles. Systems should be tested rigorously prior to release.

- *NSW needs data standards, preferably consistent with international standards to ensure consistent approaches across Australia and internationally*

There is a great deal of work being undertaken by Standards Australia, other jurisdictions and internationally on development of data standards. These would assist with AI implementation and sourcing. NSW should align this work with that being undertaken more broadly, rather than develop its own standards.

As International Standards, through ISO and IEC, are developed and adopted through Standards Australia over the coming years, agencies might wish to adopt or use these as guidance, to prevent 'set-and-forget' mentalities. These Standards are likely to span governance, through to a management system approach and more granular guidance on bias within machine learning environments.

Actions

Commitment	**Responsibility**	**Timeframe**
Participate in shaping International Standards for AI being developed by ISO/IEC/JTC 1, through Standards Australia's AI Committee	DCS – Data Analytics Centre	Immediate and ongoing

Develop a Data Governance Toolkit to support good data governance and best management practices	DCS – Data Analytics Centre	Q4 2020
Undertake stocktake of key data assets across government that may inform development of algorithms	DCS – Data Analytics Centre	Q4 2021
Develop practical resources to increase awareness of data policy issues specific to AI, highlighting likely risks and mitigation strategies in AI projects	DCS – Data Analytics Centre	Q4 2021 (and to be incorporated in revised AI User Guide)
Develop an assurance mechanism for AI projects that are under $5m to ensure projects are consistent with AI principles	DCS	Q4 2021
Review the ICT Assurance Framework and add requirements specific to assurance of AI projects	DCS	Q4 2021

Procurement

Stakeholders acknowledged the unique challenges presented by AI, and highlighted procurement as an area of opportunity and future growth. Guidance on effective procurement practice in the context of emerging technology and AI would be crucial in sourcing the right solution and for consistent approaches across the sector.

What we heard

The key messages were:

- *The NSW Government procurement process can be slow, and frameworks and policies should make it easier for start-ups and innovators to do business with the NSW Government*

Stakeholders expressed the view that, while appreciating there are sound reasons for government procurement processes being robust, fair and impartial, there may be opportunities to reform procurement policies to allow for more timely adoption of emerging technologies. Overall, feedback on procurement reflected a lack of confidence in the ability to innovate and test solutions through proofs of concept.

- *Assistance is required in identifying and engaging AI-based technology solution suppliers with the right experience and capabilities, that meet certain standards*

Government stakeholders expressed uncertainty about who the right or best suppliers are when sourcing AI-based technology solutions and which suppliers will deliver best value for money. This can be the case when sourcing any product. However, given the emergence of AI as a relatively new technology, this was considered an important factor.

There is a need to be able to identify suppliers that offer technology solutions and services that encompass AI capabilities. This would assist agencies in choosing the right supplier with appropriate AI-based technology solutions and with a track record in delivery.

- *There is a need to address concerns regarding off-the-shelf solutions and whether they can deliver the desired outcomes*

Agencies wanted to be able to establish how well ‘off the shelf’ solutions can deliver their desired outcomes, whether they are fit for purpose, and whether they can be tested in a safe environment. Given the nature of AI and the need for ongoing refinement and adaptation of solutions, agencies were also keen to use suppliers who could stay with the project for continued testing and development.

- *Guidance and tools to ensure ICT/Digital Sourcing is best practice and minimises risks should be developed*

The ICT Services Scheme has several tools and resources available to all eligible buyers and sellers, however consolidated guidance could benefit Government buyers to provide best practice and minimise risk. More work could also be undertaken to help agencies address data management, privacy, sovereignty and intellectual property that relate to AI and other emerging technologies.

Actions

The NSW Government will make access to AI-based technology solutions easier and more efficient:

Commitment	**Responsibility**	**Timeframe**
Develop guidance on procurement of emerging technologies, including through the AI User Guide	DCS	Immediate and ongoing
Explore the development of a supplier panel for AI assurance	DCS	Q2 2021
Identify AI-enabled technologies on buy.nsw	DCS	Q3 2021
Merge emerging tech buying guidance into the ICT Procurement Guided Buying product	DCS	Q4 2021

Innovation and collaboration

To advance and excel as a public service, Government should always develop new ideas, methods and processes as part of business as usual. Government can collaborate more with industry and academia, and the public, to better understand and help solve its problems.

Stakeholders noted the need for government to collaborate with the public and users of its services. They reiterated the importance of designing for and with users of government services. These users include multicultural communities, young people, people with disability, mature-aged and senior citizens, and LGBTQIA+ communities.

What we heard

Stakeholders identified a range of barriers that may prevent us from adopting AI technologies. The key messages we heard were:

- *Experts outside government are focused on understanding what Government's needs and priorities are*

Stakeholders expressed a strong willingness to leverage their considerable technology expertise to listen to and understand government challenges, and work with government to solve them. Government needs external expertise to innovate and solve 'wicked' problems. Government needs to facilitate this collaboration.

- *Insights from stakeholders within government focused on how we can create a discipline of testing and failing fast and how we can share data to work together to create better services*

Government should start small, test continuously and scale to ensure services are meeting user needs. Government should also work to share more data with industry and academia to generate innovative ideas and create better services.

- *Insights from community organisations stressed the need to collaborate, test, and co-design with the community*

Stakeholders reiterated the importance of testing with and designing for users. Communities are the recipients of the services we design. If we do not design and test ideas with them, we run the risk of designing services that out of step with community expectations.

Actions

The NSW Government will focus on AI innovation and collaboration through the following actions:

Commitment	**Responsibility**	**Timeframe**
Partnership with UNSW on use of automated technology	DCS	Q3 2021 and ongoing
Work with academia and non-government organisations to propose mechanisms by which use of AI in government can be independently reviewed	DCS	Q4 2021
Deliver a 2nd AI Summit to review progress and recommend next steps	DCS	Q4 2021