



ACS Response to Data and Digital Government Strategy

July 2023

Australian Computer Society Inc. (ACT)

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To the Australian Government and Minister for Finance

**ACS response
Data and Digital Government Strategy**

25 July 2023

Dear Minister

Thank you for the opportunity to contribute to this discussion.

The Australian Computer Society (ACS) is the peak professional association for Australia's information and communications technology sector. We represent over 40,000 members working in all sectors of the economy and in all states and territories across the nation.

The ACS works to grow the technology sector while making sure IT professionals act ethically, responsibly, and in keeping with the best interests of not only their employers, but the wider community. We assist in setting standards for IT education and accreditation across Australia, and engage on behalf of the profession with the Professional Standards Councils.

As you might expect, the digital strategy for the government's workforce is of keen interest to us and our members. The Australian Public Service (APS) is not only one of the largest IT workforces in the country, but it often sets the standards for the more than two million strong public workforce, as well as diffuses skills and professionalism into the broader private sector workforce.

We are excited and enthused by what the Minister and APS is proposing here, and are prepared to do everything we can to help improve the professionalisation of the APS and help resolve issues around data sharing, workforce development and standards of practice.

In the following pages we have provided some commentary on the government's discussion paper, and offered some insights we hope will be helpful.

We would be happy to discuss it further. If you would like to discuss any part of this response or simply seek further clarification or input, please feel free to contact myself by email at troy.steer@acs.org.au or by phone on 0417 173 740.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Troy Steer', is written over a light blue circular stamp.

Troy Steer
Director of Policy, Advocacy and Communications
Australian Computer Society



Introduction

The Australian Government's Data and Digital Government Strategy (Strategy) is an excellent first step in improving public services for all Australians. Even incremental improvements at federal and state levels have shown to be of enormous benefit to Australian citizens, and we welcome increased commitments to transparency and accountability.

We are also pleased to see a commitment to upskilling the Australian Public Service (APS) workforce, and we would be happy to work further with the APS and other public sector workforces to develop a common framework for professional recognition and upskilling. We can also help ensure alignment of APS, vocational and higher educational standards.

Below, we have made some additional notes and recommendations above those observed in the discussion paper.

Summary and key recommendations

This response makes six key recommendations:

1. Increasing the skills base of the public sector workforce to ensure native capability – including in 'professional' skills such as risk management and governance.
2. Agree on the use of and interoperability of common industry frameworks for professional development and professional recognition.
3. Extending inclusivity policies to industry partners and contractors.
4. Continuing work on extending government contracting opportunities to Australian organisations, including amending procurement frameworks to encourage it.
5. Adopting the NSW AI Assurance Framework as a first step to a common approach to AI.
6. The adoption of common data sharing frameworks and standards to take the 'guess work' out of data sharing. This includes:
 - ensuring the Strategy explicitly refers to, and draws on, relevant international data and digital standards (including ISO/IEC/JTC1)
 - where international or Australian Standards do not exist, the Strategy should explicitly seek to identify or facilitate nationally consistent approaches to use of data and digital services
 - the Strategy should refer to, and draw on, relevant data sharing frameworks such as those published by the ACS
 - the Strategy should seek to mandate a minimum skillset for all APS in the use of data and digital technologies
 - the Strategy should be tested against established principles of Indigenous Data Sovereignty.



1

Professionalisation and the internal skills gap

There is an established need within the APS to increase its internal technical skills base and reduce reliance on external contractors, breaking the cycle of outsourcing that is causing the skills debt within the APS.

That will likely require a substantial skilling up and overhauling of the current workforce. ACS believes, however, that 'skilling up' extends beyond purely technical skills and extends into professional capabilities, ensuring that people engage in proper risk management, procurement practices and ethical delivery.

Professionalism is about delivering on promises, accountability for societal impact, applying proper ethical and risk management principles, about project management and governance and effective engagement of stakeholders. Professionalism is the difference between a project that sets and meets its goals and one with cost and time overruns and unintended outcomes.

The recognised professionalisation of the IT workforce within the APS will be a key driver for the success of the government's digital strategy. The ongoing professionalisation of that workforce will help ensure:

- the proper application of standards of ethics and conduct
- lifelong learning and professional development
- the diffusion of skills and knowledge across the workforce
- superior outcomes with respect to project management, risk management and delivery
- recognition and credentialing of IT professionals
- effective and appropriate use of external expertise
- increased trust in both the APS and the professionals that come through the APS.

The Australian Public Service Commission (APSC) started work on such a program in 2020 with the Digital and Data Professional Streams, and we're pleased with the commitment to those streams.

These streams offer opt-in career planning, professional networking and digital upskilling tools but are currently unclear on professional recognition. It is also not clear how these Professional Streams will incentivise IT excellence or open up senior roles for professional specialists or facilitate mobility between industry and public service. This could be invigorated by engagement with ACS and the broader industry and agreeing common or interoperable approaches to workforce development, skills identification and professional recognition.

The APS can potentially be the driver behind a common skills framework that can be applied across the entire industry – which is an exciting prospect for both employers and employees. But the APS has to work with businesses and industry bodies to develop a platform that is recognised, useful and transferrable. It can be based on the Skills Framework for the Information Age, the Australian Skills Classification or other taxonomy, but should include ethics and professionalism.



It should be noted that the Australian Government is already sponsoring the Australian Cyber Security Professionalisation Program (ACSP)¹, coordinated by AustCyber in collaboration with industry representatives including ACS. The program team is focussing on the role of cyber security career and education pathways, approaches to professional recognition, and consistency of role definitions.

2

Addressing the data sharing problem

The Data and Digital Government Strategy correctly makes note of the enormous opportunities of data sharing between government agencies as well as with the broader public. As of now, data sharing tends to be stifled due to concerns about risk, creating data silos within government agencies, often with replicated data.

The Strategy is a principles-based document. While principles are the appropriate starting point, without practical guidance to bring the principles to life, the remains are a high-level guidance document.

It also does not reflect the reality of the barriers to data sharing and use: “unwilling” (cultural), “unable” (frameworks), “not allowed” (authorising framework). Strategies like this help with the “unwilling” but unless there are data sharing frameworks, people remain “unable” and will often argue “not allowed” as a reason to not share data.

We recommend the development and formal adoption of data sharing frameworks within government, including standards for ‘reasonable’ levels of de-identification. ACS has been working with many of Australia’s leading data scientists on such frameworks since 2017, detailed in a series of papers:

- *Data Sharing Frameworks* (2017)²
- *Privacy in Data Sharing: A Guide for Business and Government* (2018)³
- *Privacy-Preserving Data Sharing Frameworks* (2019)⁴
- *Sharing Data in Trusted Frameworks* (2021)⁵

¹ <https://www.austcyber.com/acsp>

² Available at <https://www.acs.org.au/insightsandpublications/reports-publications/data-sharing-frameworks.html>.

³ Available at <https://www.acs.org.au/insightsandpublications/reports-publications/privacy-in-data-sharing.html>.

⁴ Available at <https://www.acs.org.au/insightsandpublications/reports-publications/privacy-preserving-data-sharing-frameworks.html>.

⁵ Available at <https://www.acs.org.au/insightsandpublications/reports-publications/sharing-data-in-trusted-frameworks.html>.



- *Frameworks and Controls for Data Sharing (2023)*⁶

This framework has already been applied by the CSIRO in the development of its Personal Information Factor (PIF) tool⁷, which was used for data sharing in NSW during the COVID crises.

Using this as the foundation for a common framework within the APS and the broader public sector workforce will go at least part ways to breaking down barriers between agencies with respect to sharing datasets. ACS would welcome working with the APS on this.

2.1 Data Sharing Frameworks

There is an increasing body of relevant standards for Data, AI and related digital technologies which would help to bring this Strategy to life. In mid-2022, Standards Australia published a landscape map of relevant standards:

<https://www.standards.org.au/documents/data-digital-standards-landscape>

There is an important standard nearing completion on data sharing and use (from ISO/IEC/JTC1 SC32). This draws on data sharing frameworks from the Australian Computer Society (ACS), noted above.

2.2 Data as an Asset

There are many elements to treating data as an asset. They include actions to “care” for data over time. This includes investing in:

- creating and maintaining access mechanisms
- metadata capture and curation
- improving data quality over time
- maintaining records on access of data / derived data products
- requirements versus recommendations (must v should).

There is no explicit reference in the Strategy to mandated (regulated) versus encouraged (best practice) use of data and digital. Some of the most complex and intractable issues will require mandated elements in terms of use of data and digital.

⁶ Available at [https://www.acs.org.au/insightsandpublications/reports-publications/Industry Insights Frameworks and Controls for Data Sharing.html](https://www.acs.org.au/insightsandpublications/reports-publications/Industry%20Insights%20Frameworks%20and%20Controls%20for%20Data%20Sharing.html)

⁷ See <https://www.csiro.au/en/news/all/articles/2021/january/this-new-data-privacy-tool-is-ensuring-anonymous-covid-19-data-stays-secure-and-private>



2.3 Outcomes and data to understand life journeys

Governments are increasingly pursuing joined-up service delivery in health and human services (including NDIS), which require commonly agreed outcomes, fine grained understanding of the “life journey” of people in the NDIS and data driven evidence as to what moves individuals or groups towards or away from those outcomes. The Strategy should be tested against a number of “life journey” use cases.

2.4 Developing a minimum viable data literacy for everyone in the APS

There should be an explicit statement that everyone in the Australian Public Service requires a minimum viable understanding of aspects of data use and digital services, including when to seek greater expertise. This minimum viable understanding should be backed by the minimum viable toolset of resources (including awareness of standards and frameworks).

2.5 Indigenous data (sovereignty)

There is no explicit mention of engaging with (or using data of) indigenous communities in the Strategy. The Maïam nayri Wingara Indigenous Data Sovereignty Collective and the Australian Indigenous Governance Institute met in Canberra in 2018 and confirmed that data is a cultural, strategic and economic asset for indigenous peoples, stating that indigenous Australians have the right to:

- control in the data ecosystem, including creation, development, stewardship, analysis, dissemination and infrastructure
- data that is contextual and disaggregated (available and accessible at individual, community and First Nations levels)
- data that is relevant and empowers sustainable self-determination and effective self-governance
- data structures that are accountable to Indigenous and First Nations peoples
- data that is protective and respects individual and collective interests.

3

Inclusivity

It’s pleasing to see the APS put a high priority on diversity and inclusivity, for both the internal workforce and in the services it provides.

We would recommend, given the APS will likely continue to use external contractors for many projects, that inclusivity also be a requirement for said contractors.



Supplier relationships are an integral part of diversity and inclusivity (D&I) strategies. Supplier diversity refers to the promotion and nurturing of a diverse supplier base such as from the marginalised, underrepresented, minority, indigenous, LGBTIQ+ and/or people with disabilities. It also encourages suppliers to advocate for D&I.

A sound ICT procurement framework must be part of a broader D&I strategy. The Digital Transformation Agency (DTA) Digital Sourcing Framework is “one of the whole-of-government digital policies and standards that the APS uses to assess whether a digital or ICT-enabled investment proposal is robust, of high quality.”

The Framework includes a number of policies, principles and guidance aids (eg. information and checklists). For an ICT procurement framework to be ‘sound’, it must consciously include considerations of inclusivity and diversity.

The Global Diversity and Inclusion Benchmarks (GDIB) Model (referenced above) is one of many tools that can be used to assess D&I and supplier diversity.

The Model provides benchmarks that range from inactive (Level 1) to best practice (Level 5). In terms of best practice supplier diversity (Level 5), the GDIB Model suggests a significant percentage of the organisation’s suppliers should themselves have diverse suppliers and be able to provide evidence of their D&I commitment.

4

Procurement

Recent world events have highlighted the need for greater sovereign capability, and this should be a consideration for procurement going forward. We respect that the DTA and other government agencies have been working to break down barriers for Australian suppliers in recent years, and that work should continue.

We would recommend initially that the APS perform a comprehensive review of current contracts to examine sovereign risks and the proportion of contracts going to Australian suppliers. Such analysis should include an evaluation of the use of in-country professionals, since an Australian-domiciled company may still use offshore teams. We note that there are currently eight companies with whole-of-government arrangements, and none of them are Australian.

The use of Australian suppliers (particularly those with in-country teams) should be included as an important consideration in the Digital Sourcing Policy Guidance for all agencies.

An increase in the use of Australian suppliers not only ensures Australia is protected from sovereign risk, but will encourage development of more local capability for the future.

4.1 Digital certification for suppliers

The DTA through the Digital Marketplace has been seeking greater reliability in meeting its needs with the IT skills of contractors and consultants. Self-ratings against



the Skills Framework for the Information Age (SFIA) are currently being accepted. This is a good initial step and market signal but will be unreliable, particularly from those new to SFIA.

Certain independent third-party skill assessments, digital badges, micro-credentials or certifications from ACS and other credible sources could be recognised in preference to self-assessments. This would improve procurement outcomes and would help to drive IT professionalisation in industry in line with professionalisation within the public service.

In response to the needs of the Digital Marketplace and to support suppliers, ACS has developed a digital badging product for SFIA skills, based on formal assessments. We are awaiting final authorisation from the international SFIA Council and input from DTA before launching. We believe that this could improve procurement outcomes but will have limited uptake and impact unless given preference over self-assessments.

5

Privacy and cyber security

While the Australian Government is already engaging in legislative overhauls directed at privacy and cyber security, the APS should already be attempting to hold itself to the highest standards of both. There is an opportunity lead by example, and a comprehensive, organisation-wide review of data retention practices and cyber security standards across the APS would be welcomed by all.

Recent breaches have highlighted that organisations are keeping too much data and not securing it effectively. By its nature, the APS does need to store substantial personal data, and all agencies should at least meet the standards mandated by the Australian Cyber Security Centre (ACSC).

6

Artificial intelligence

The use of AI is growing within governments across Australia. This is true of a range of project areas including those where governments:

- plan to use AI capability for narrowly defined purposes (such as insights generation or alerting)
- use general AI platforms (such as large language models and generative AI)
- have systems with embedded AI ('smart') tools.

6.1 AI is different to other technologies

Some of the concerns that have been raised about AI could just as readily be applied to other technologies when they first arose. When thinking about concerns associated



with use of AI, if the technology being referred to was “quantum”, “laser”, “computer” or even “calculator”, some of the same concerns would arise about appropriate use, safeguards, fairness, contestability. What is different about AI is that it allows systems, processes and decisions to happen much faster and on a much grander scale. AI is an accelerant and an amplifier. In many cases, it “adapts”, meaning what we design at the beginning is not how it operates over time.

A Digital and Data Strategy should specifically be tested to see if it presents potential harms and concerns associated with those unique attributes. If use AI also “generates” or synthesises, then additional tests are needed as “generation” goes well beyond what you can expect from your desktop calculator.

AI is no longer explainable. Except in the most trivial cases, the depth and complexity of the neural networks (number of layers and number of weights), coupled with the incomprehensibly large training data sets means there is no meaningful way of describing how an output was derived even if it were possible to unpick all of the levels and the impact of each training element.

For any decision which has non-trivial consequences, the Digital and Data Strategy must state that there must always be an empowered, capable, responsible human in the decision-making process.

6.2 Drawing on existing AI standards and frameworks

While there are published and developing international standards (ISO/IEC/JTC1) for some elements of AI (such as data quality), there is currently no international standard which can be applied to assure appropriate use of AI. There are also no nationally consistent approaches for the use of AI in Australia. Such a nationally consistent approach is needed.

NSW developed an AI Strategy and AI Ethics policy in 2020. The Strategy and policy apply across NSW Government. With the assistance of the ACS, in 2021, NSW developed, tested and mandated the use of an AI Assurance Framework that was endorsed by NSW Cabinet in December 2021. This framework has been mandatory to apply it to NSW Government use of AI since March 2022.

The publicly available AI Assurance Framework is based on international standards and draws on the data sharing frameworks developed by the ACS.

The NSW AI Assurance Framework is a self-assessment tool supported by an expert AI Review Committee (AIRC) that is tasked to review AI projects with an estimated total cost of \$5 million or those for which certain risk thresholds have been identified during the Assurance framework’s self-assessment process.

The Framework assists project teams using AI to analyse and document a project’s specific AI risks. It also helps teams to implement risk mitigation strategies and establish clear governance and accountability measures.



The Strategy should consider adopting the NSW AI Assurance Framework and AI Ethics principles as a first stage of developing or enabling a national approach to AI Assurance.

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