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Mr Adrian O'Connell
Acting CEO
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Dear Mr O'Connell

STANDARDS AUSTRALIA DISCUSSION PAPER ON DEVELOPING STANDARDS FOR ARTIFICIAL INTELLIGENCE

The Australian Industry Group (Ai Group) welcomes the opportunity to comment on Standards Australia's Discussion Paper about developing standards for Artificial Intelligence (AI) in Australia.

1. Introduction

Ai Group's membership comes from a broad range of industries and includes businesses of all sizes. Rapidly advancing technologies including AI are producing waves of wider innovation across the economy as businesses and individuals build new social practices and business models upon them. Ai Group's members are grappling with these changes in different ways and with different levels of readiness and capability. The collective impact of these changes is part of the Fourth Industrial Revolution.

There is growing discussion among our members of the impact of the Fourth Industrial Revolution on their businesses and workforce. Like previous advances, new technology is enabling improvements in speed to market, quality and cost effectiveness. But the latest revolution also presages more flexibility and individualisation – a customer-oriented approach that provides a social value.

The history of previous economic disruptions suggests that if factors related to social inequality are not appropriately addressed, there is a risk that large sections of the community can be left behind. Public policy such as around inclusiveness and education impacts on the social divide as well as the digital divide. In recent decades, we have seen the effects of poor management in other countries where these divisions are growing.

According to the 2018 Australian Digital Inclusion Index report, the socio-demographic groups that were most digitally excluded in Australia in 2018 included: people in low income households; mobile only users; people aged over 65; people who did not complete secondary school; and people with a disability.[1] While there appears to be improvement in some areas (such as digital access, digital ability, value of internet services, and Indigenous inclusion), there still remains a gap between the digitally included and excluded.

We, as a community, need to re-examine how change is managed. We should neither hold back the tide nor be indifferent to change. However, the ultimate benefits of technological change do not erase the transitional costs to disrupted industries and displaced workers.

Businesses have responsibilities to recognise and respond to transitional costs, not just the benefits of an exciting new direction. And some are already demonstrating leadership in this area.

Overall, industry recognises the importance of the work of various stakeholders including Standards Australia, as well as other bodies such as the Australian Human Rights Commission (AHRC) and Data61.

[1] Roy Morgan Research, "Measuring Australia's digital divide: Australian Digital Inclusion Index 2018" (Report, October 2018), pp. 5-6.

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In this regard, we have recently made submissions to the AHRC's consultation on its White Paper about AI governance and leadership, and Discussion Paper (prepared by Data61) by the Commonwealth Department of Industry, Innovation and Science (Department) on Australia's AI ethics framework.

Interrelated to discussions about AI, there are other consultations such as the ACCC's Digital Platforms Inquiry and the Digital Economy Strategy. Our submissions to these consultations cover broader public policy issues relating to Industry 4.0, cyber security, privacy and the digitally enabled economy more broadly.

We consider that issues and comments raised in these past submissions are equally applicable to general questions about AI raised in the Discussion Paper, which we discuss further below.

We also note that the Discussion Paper also includes questions about the role and value of standards in the context of AI. At this stage of the consultation, we offer high level comments, which are covered in the remainder of this submission.

We have also included comments from one of our members in direct response to the specific questions about AI raised in the Discussion Paper in Appendix A.

In addition to this submission, we would welcome the opportunity to consider any draft recommendations that may arise out of this consultation and assist to bring together a range of industries who may be interested in being further consulted by Standards Australia.

2. General comments

General questions about AI raised in Discussion Paper:

1. *Where do you see the greatest examples, needs and opportunities for the adoption of AI?*
2. *How could Australians use or apply AI now and in the future? (for example, at home and at work)*
3. *How can Australia best lead on AI and what do you consider Australia' s competitive advantage to be?*

As noted above, the general questions about AI in the Discussion Paper are interrelated to issues and comments that we have raised in our previous submissions. For Standards Australia's consideration, we would therefore like to share the following links to these submissions, which should be treated as general comments:

1. Submission to the Australian Government's Discussion Paper on an Australian AI Ethics Framework (June 2019):
https://cdn.aigroup.com.au/Submissions/Technology/Ai_Group_submission_AI_Ethics_Framework_Discussion_Paper.pdf

2. Submission to the AHRC and World Economic Forum's White Paper on AI Governance and Leadership (March 2019):
https://cdn.aigroup.com.au/Submissions/Technology/AiGroup_submission_AHRC_Whitepaper_AI_Governance_and_Leadership.pdf

3. Submission to the ACCC's Digital Platforms Inquiry Preliminary Report (February 2019):
https://cdn.aigroup.com.au/Submissions/Technology/AiGroup_submission_ACCC_Digital_Platforms_Inquiry_Preliminary_Report_.pdf

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4. Submission to the Australian Government's Digital Economy Strategy Consultation Paper (November 2017): http://cdn.aigroup.com.au/Submissions/Technology/AiGroup_submission_Digital_Economy_Strategy_Paper_30Nov_2017.pdf

Key points from some of these previous submissions are worth highlighting:

- At this early stage of Australia's involvement in AI, positive measures from Government are critical. More can be done to make us globally competitive. Regulation is an important area that could make or break the growth of an industry at its early stages of development. The extent to which AI is regulated can act as an investment barrier and diminish our attractiveness relative to other jurisdictions.

- In some areas of regulation in response to modern technology, we have been alarmed by heavy handed interventions that seek to eliminate some forms of risk rather than manage them, while ignoring the risks and costs to innovation and the economy. For example, the recently passed *Assistance and Access Act 2018* (Cth) (Anti-Encryption Act) risks substantial damage (both real and perceived) to the security, credibility and reputation of Australia's connected systems and products and the businesses and people who use them.[2] Such measures not only add costs to international business, but risk curtailing innovation and limiting the benefits of digitalisation to businesses and their customers. For instance, this has already led to other unintended consequences, including Australia's image overseas in relation to trust in Australian products.[3] Significant lessons should be learnt from the negative industry and public experience with the Australian Anti-Encryption Act, and avoid repeating them again in relation to AI.

- Before developing potential solutions to tackle concerns with AI, it is critical that any issues around AI are properly understood and developed further before an appropriate policy response can be considered. Depending on the identified policy issue, regulation may be an option to address that issue, as well as non-regulatory measures.

- When comparing jurisdictions on aspects of AI such as ethics, governance and regulation (and even standards), we emphasise the need to also consider the level of investment in developing an AI industry and the workforce. In other words, different aspects of AI cannot be considered, developed and implemented in isolation, without understanding how it fits into part of a broader national strategy. Australia is a relatively small investor in AI and success will need considerable support from Government – not through free rein for rogue AI

[2] The new Anti-Encryption Act was rushed through Australian Parliament last year without full consideration of the impact that this could create for a broad range of stakeholders. Legitimate concerns about the legislation were raised from a broad range of stakeholders including industry, civil society, and technical and privacy experts. However, the Government response largely ignored the issues raised by passing the Anti-Encryption Bill without reflecting stakeholder concerns. This has led to an outcome where businesses are facing a heavier degree of regulatory burden and uncertainty compared to their competitors operating in overseas jurisdictions, with smaller businesses likely to be relatively worse off. Most importantly, we are concerned that the legislation could lead to the weakening of existing cyber security of businesses and its customers.

[3] According to an Australian Strategic Policy Institute Perceptions survey about industry views on the economic implications of the Anti-Encryption Act, it found that the third highest ranked concern (71%) was the perception that a company's product might be less secure as a result of the legislation. Not surprisingly, the survey also found that 65% of exporting respondents expected a negative impact on their business activities outside Australia. Concerns remain high for businesses with operations within Australia (57%). This issue goes beyond a global misunderstanding of the workings of the legislation as some might argue. The damage being done to Australian industry is due to technology buyers and investors around the world having listened to the strong body of international and Australian expert opinion on the risks that the legislation creates for the security of Australian-manufactured technology equipment and systems. For further details, see: Joint submission by Communications Alliance, Ai Group, AIIA, AMTA, DIGI and ITPA to the Parliamentary Joint Committee on Intelligence and Security on "Review of the amendments made by the Telecommunications and Other Legislation Amendment (Assistance and Access) Act 2018" (Submission No. 23, July 2019), Link: https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Intelligence_and_Security/AmendmentsTOLAAct2018/Submissions; Australian Strategic Policy Institute, "Perceptions survey: Industry views on the economic implications of the Assistance and Access Bill 2018" (December 2018), p. 3.

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operators, but careful consideration of any domestic practices against global best practice approaches and the extent of AI industry support overseas.

- There may already be existing frameworks (laws, regulations and standards) in relation to privacy and data that could also apply to the uses of AI. Another example is in the area of industrial relations including the *Fair Work Act 2009* (Cth) that provide comprehensive protections for employees, such as in relation to termination of employment and the already complex anti-discrimination legislation framework. To introduce new laws and standards for AI where there is an existing framework would risk introducing additional regulatory complexity, which will make implementation more difficult and provide no clear benefit to consumers.

- Like other types of emerging technologies, various issues could arise from AI including with respect to standards, education and skills, cyber security and privacy, and innovation. In this regard, there will be a need for more collaboration or integration of work between the relevant bodies, industry and the community on AI. As noted above, there are various consultations about AI under way or planned for and it is important that these activities are brought together as part of a broader national strategy. In the context of this submission, what role does standards play in these other discussions about AI ethics and human rights, and other wider range of possible concerns such as economic disruption and resulting social impact, existential threats and transhumanism?

3. Role and value of standards

Questions related to standards raised in Discussion Paper:

4. *What extent, if at all, should standards play in providing a practical solution for the implementation of AI? What do you think the anticipated benefits and costs will be?*
5. *If standards are relevant, what should they focus on?*
   a) *a national focus based on Australian views (i.e. Australian Standards)*
   b) *an international focus where Australians provide input through a voice and a vote (i.e. ISO/IEC standards)*
   c) *any other approach*
6. *What do you think the focus of these standards should be?*
   a) *Technical (interoperability, common terminology, security etc.)*
   b) *Management systems (assurance, safety, competency etc.)*
   c) *Governance (oversight, accountability etc.)*
7. *Does your organisation currently apply any de facto 'standards' particular to your industry or sector?*
8. *What are the consequences of no action in regards to AI standardisation?*
9. *Do you have any further comments?*

Overall, standards are as relevant to AI as any other product or item used by Australians. There should be a national focus in standards on AI through Standards Australia. Standards Australia can also provide a gateway to international involvement (ISO/IEC) and it is the most logical pathway to it. Finally, standards can play a role in multiple areas including technical, management and governance.

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More broadly, standards are fundamental to promoting digitalisation because they can enable an ecosystem for technological innovation, competition, international trade and interoperability. Standards, when called up by regulation, offer a mechanism to quickly respond to changing markets. Australia's regulatory and standards framework needs to be sufficiently flexible to accommodate rapid changes in technologies that lead to new types of business models and competition, while also protecting consumers' interests.

Much global standards work seeks to address broad systems approaches to significant challenges, including AI, as well as other related topics such as smart factories, smart grids, smart cities, Internet of Things and Industry 4.0. These challenges require a new level of coordination and effort, and development of new ways to exchange knowledge between the public and private sectors, academia, standards and conformity institutions.

It is vital that Australian industry and consumers have support and access to all international fora involved in standards development (particularly the International Electrotechnical Commission (IEC)) to ensure our national interests are preserved. This will allow for effective contribution to standards development at an ideal stage in which products and services are still under development. Australia is generally known to play a strong role in standards development. Accelerating technological change makes this role even more important to facilitate fast adoption of new technology and realisation of its benefits.

More generally, Australia should strive for a more judicious and effective mix of standards and regulation in lifting public safety, consumer confidence and business performance.

There is considerable potential for the more effective use of consensus-developed standards in addressing a range of economic and social opportunities and challenges. In some cases, standards can work alongside formal regulatory approaches (such as when standards are called up in regulatory instruments) and at other times as a lower-cost substitute for formal regulation.

There has been a tendency for government to move away from the use of Australian standards. While international consistency and efficiency have clear value, international standards development processes may be unduly influenced by particular interests without adequate opportunities for Australian input reflecting domestic expertise, local conditions and needs. The Australian Government should continue to help fund Australian involvement in international standards development and it should ensure that an Australian filter is applied before the adoption of international standards in Australia.

There is also a disturbing tendency for Australian government agencies to forego the well-regarded model of the transparent, consensus approach to the development of standards in favour of rules and regulations developed by the agencies themselves, including with respect to product energy efficiency. Government agencies typically do not have the technical expertise, the practical experience or the proficiency in effective and structured consultation with industry and others in the community. The result is often sub-standard, and government should be more willing to back and expedite the use of the more transparent consensus driven standards development model.

Should Standards Australia be interested in discussing our submission further, please contact Charles Hoang (Digital Capability and Policy Lead, 02 9466 5462, charles.hoang@aigroup.com.au) or James Thomson (Senior Adviser – Standards and Regulation, james.thomson@aigroup.com.au).

Yours sincerely,

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Appendix A: Comments from an Ai Group member

1. Where do you see the greatest examples, needs and opportunities for the adoption of AI?

Apart from the uses we are already seeing in technologies related to anomaly detection, pattern recognition, classification, and decision making, and robotics, perhaps the greatest needs, and therefore opportunities, for the deployment of AI technology may lay in the management of complexity associated with systems at scale. This could help us understand and improve the performance, safety, and sustainability of critical infrastructure that supports our society and the environment: water, food, energy, transport, heath, communications, national security, and defence. Such infrastructure is characterised by systems made of a large number of interacting entities with distributed decision-making capability that interact through uncertain and constrained information structures. To date, we have few tools to tackle the monitoring and management at scale of such systems, and AI could provide some of these tools.

2. How could Australians use or apply AI now and in the future? (for example, at home and at work)

This is a very open question. Australians, like any other developed society, will be using AI-related technologies in many aspects of their lives, but in many cases they will not be aware of the underlying AI. AI is becoming an enabler for other more human-facing technologies. For example, the use of personal air vehicles and driverless cars will be underpinned by AI, but most of the AI related to the vehicle technology and the traffic network management will be hidden from the users. Perhaps the best preparation to use AI is a basic ability to adapt - as we adapted in the past to the use of the internet and smart phones.

The issue of deploying AI will require much more careful consideration and increased education. AI, like any other technology, offers utopian uses, but also potential dystopian uses. Much is currently being written about AI being unethical and biased. However, these characterisations are mostly related to AI being deployed without understanding of the fundamental limitations of the technology, its consequences, and the assurances needed for appropriate use. Perhaps future deployment of AI would require licensing in order to demonstrate understanding of the risks that different AI tools may pose in different applications. There are currently many tools associated with AI such as different types of machine learning (supervised, unsupervised, reinforcement), probabilistic reasoning, uncertain sequential decision processes, and game theory to mention a few. The use of these technologies in different applications pose different levels of risk. To avoid undesirable outcomes, it is important to understand both the type of AI technology and how it is being deployed.

For example, the use of reinforcement learning as a decision-making component of an autonomous agent may pose higher risks than the application of supervised learning for handwriting recognition or the use of unsupervised learning to detect irregular patterns in credit-card use. All these examples pose different levels of risks.

3. How can Australia best lead on AI and what do you consider Australia's competitive advantage to be?

Australia seems to be lagging in investment in education, research, and industry R&D in this area. Australia offers unique opportunities to develop and test these new technologies due to a developed society, solid education sector, a relatively geographically isolated economy, diversity of populated areas, a progressive regulatory environment, and advanced industry.

The work required to put Australia in the map on AI in terms of education is significant. The deployment of AI is not simply a software-engineering exercise, rather it requires a trans-disciplinary approach, which follows from the type of systems that AI will be part of in the future as part of critical infrastructure underpinning our society as discussed in the answer question 1) above.

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4. ***What extent, if at all, should standards play in providing a practical solution for the implementation of AI? What do you think the anticipated benefits and costs will be?***

Flexible standards that provide guidelines on best practices for developing applications of AI in different areas will be very useful, and may be adopted as requirements by various stakeholders such as regulators, actuaries, end-user industries and defence. As mentioned in the answer to question 3), the deployment of AI is not simply a software exercise. Therefore, standards of best practice should address broader aspects beyond software implementation; hence current activity in Australia and globally regarding ethical and legal aspects of AI.

5. ***If standards are relevant, what should they focus on?***
    a. ***a national focus based on Australian views (i.e. Australian Standards)***
    b. ***an international focus where Australians provide input through a voice and a vote (i.e. ISO/IEC standards)***
    c. ***any other approach***

Given the amount of international activity, standards should look at both national interest and international alignment. For example, Australia is a member of the International Maritime Organisation, however, it does not support current work being undertaken by a special task group in regard to guidelines for trials of maritime autonomy since this does not satisfy the specific needs of Australia.

6. ***What do you think the focus of these standards should be?***
    a. ***Technical (interoperability, common terminology, security etc.),***
    b. ***Management systems (assurance, safety, competency etc.),***
    c. ***Governance (oversight, accountability etc.)***

Standards in all these three areas would be of benefit to guide the development, deployment, and assurance of AI-enabled technologies leading to appropriate use and safety.

7. ***Does your organisation currently apply any de facto 'standards' particular to your industry or sector?***

We do not apply standards specific to AI, but rather consider extensions to adopted standards for quality and safety in the development of all our technologies. Standards for the development of AI would, therefore, be useful.

8. ***What are the consequences of no action in regards to AI standardisation?***

The potential consequences of a lack of standards could be the misuse and mis-development of AI for particular applications leading to adverse outcomes. Also if Australia is not actively participating in the development of standards, it is likely that, due to globalization, standards that do not fulfil all the needs of Australia may end up being adopted by industry.

9. ***Do you have any further comments?***

The approach to standards development should perhaps be done in collaboration between industry and government through the use of expert reference groups that can assist Standards Australia. There is currently a significant gap between what the general public thinks that AI can do, the aspirations of researchers at universities, and the real capabilities of current AI technologies.