



Friday December 20

Ms. Melissa Moroney
Research, Data and Regulation Branch
The Australian Communications & Media Authority (ACMA)
By email: regfutures@acma.gov.au

Dear Ms. Moroney,

Thank you for the extended opportunity to contribute to the ACMA's project to better understand applications of Artificial intelligence (AI) in the communications and media sectors.

By way of background, the Digital Industry Group Inc. (DIGI) is a non-profit industry association that advocates for the interests of the digital industry in Australia, with Google, Facebook, Twitter and Verizon Media as its founding members. DIGI also has an associate membership program and our other members include Redbubble, eBay and GoFundMe.

DIGI's vision is a thriving Australian digitally-enabled economy that fosters innovation, a growing selection of digital products and services, and where online safety and privacy are protected. DIGI's mission is to advocate for policies that enable a growing Australian technology sector that supports businesses and Internet users, in partnership with industry, governments and the community.

We recognise the importance of the issues raised in the ACMA's discussion paper titled *Artificial intelligence in communications and media*. In response to several of the discussion questions posed, this submission offers some considerations and information in relation to AI and digital platforms for the ACMA to consider as it progresses this project.

Should you have any questions about the representations made in this submission, please do not hesitate to contact me.

Best regards,

A handwritten signature in black ink, appearing to read "Sunita Bose", written over a light blue horizontal line.

Sunita Bose
Managing Director
Digital Industry Group Inc. (DIGI)

Broader benefits and applications of AI

DIGI welcomes the ACMA's acknowledgement of the benefits of AI. In general, DIGI believes that AI can support fairer decision-making, public safety and more inclusive and informed societies, in part because algorithms and machine learning are being used by a wide diversity of private sector industries and public sector departments. This is also why AI is by no means a technology that should only be associated with a small set of highly digitised companies.

Some of the myriad of beneficial applications include:

- **Benefits to health:** AI is helping people attain better health and well-being; a report by PwC demonstrates how AI is already transforming eight components of the healthcare system, including preventative health, diagnosis, decision-making, palliative care, research and training¹. As one example, Google's DeepMind Health works in partnership with clinicians, researchers and patients to solve real-world healthcare problems by applying machine learning to develop software to improve clinical outcomes².
- **Disability access and services:** AI is transforming inclusion and access to services for people with disabilities and the elderly. AI-powered devices that use voice commands, such as Amazon Echo and Google Home and Google Assistant technology³ are being used by people with limited sight or mobility⁴, and Facebook uses AI to automatically write photo captions for the blind and visually impaired⁵.
- **The evolution of work:** While there is a fear that AI can result in job losses, research from AlphaBeta actually shows that positive change is happening through workers switching to different tasks within the same jobs, while machines absorb an increasing load of dangerous and repetitive routine work⁶; It predicts that workplace injuries will fall by 11% and job satisfaction will increase among low-skilled workers as dangerous manual tasks are automated.
- **Emergency prevention:** AI is being used in emergency response and conflict prevention. The UK's Turing Institute and the US' Political Instability Task Force have been building AI capable of predicting where future conflicts may occur, drawing upon statistical data, military reports and analysing news reports⁷.

The ways AI to result in social good are countless -- as an example of the possibilities, in response to its AI Impact Challenge, Google received 2602 applications from around the world with different ideas

¹ PwC (June 2017) *What doctor? Why AI and robotics will define New Health*, available at: <https://www.pwc.com/gx/en/industries/healthcare/publications/ai-robotics-new-health/transforming-healthcare.html>.

² DeepMind (2019) *About DeepMind Health*, available at: <https://deepmind.com/applied/deepmind-health/about-deepmind-health/>

³ Feros Care (2019), "MyFeros and Google Assistant are helping seniors live in their homes longer" available at <https://www.feroscare.com.au/feros-stories/articles/myferos-and-google-assistant-are-helping-seniors-live-in-their-homes-longer>

⁴ The Tipping Foundation (2018) *6 ways smart home technology is benefitting people with disability*, available at: <https://www.tipping.org.au/6-ways-smart-home-technology-is-benefitting-people-with-disability/>

⁵ Matt Burgess (April 5, 2016) "Facebook's AI now writes photo captions for blind users", *Wired UK*. Available at <https://www.wired.co.uk/article/facebook-ai-image-recognition-caption-accessibility-blind-users>

⁶ AlphaBeta (2017), *The Automation Advantage*, available at <https://www.alphabeta.com/wp-content/uploads/2017/08/The-Automation-Advantage.pdf>

⁷ Weisi Guo (October 15, 2018) 'Retool AI to forecast and limit wars', *Nature: International Journal of Science*, available at: <https://www.nature.com/articles/d41586-018-07026-4>

for how AI to help address societal challenges⁸. Yet Australia currently lags among global leaders across the G20 in the adoption of automation, with 50 per cent fewer Australian firms actively investing in automation compared to firms in comparable economies. Only 9% of ASX companies are making sustained investments in automation, compared with more than 20% in the US and 14% in leading automation nations globally⁹. The immense potential for social good from AI and Australia's relative global standing in this area of global growth needs to be taken into account in the consideration of any new regulatory frameworks.

Mitigating unintended consequences

At the same, we do acknowledge and take extremely seriously AI's capacity for unintended negative consequences, and the need for effective solutions to mitigate against potential harm. Many DIGI members are leading important, multi-stakeholder industry initiatives to ensure ethical considerations are taken into account in the development and application of AI. For example, several DIGI members are partners of the Partnership on AI, a multi-stakeholder organisation that brings together academics, researchers, civil society organisations and companies that build and use AI technology. The partnership is developing best practices in "fairness and inclusivity, explanation and transparency, security and privacy, values and ethics, collaboration between people and AI systems, interoperability of systems, and of the trustworthiness, reliability, containment, safety, and robustness of the technology."¹⁰ The benefits of multi-stakeholder industry partnerships are already emerging; as one example, Facebook worked with researchers from the algorithmic fairness community to develop an internal tool called "Fairness Flow". It measures an algorithm's fairness across a growing number of parameters, and has been incorporated into Facebook's internal machine learning platform and is being further scaled so that the company can use it to evaluate the personal and societal implications for each product they build¹¹.

DIGI also recognises the important role for governments in ensuring the ethical application of AI in addition to such initiatives, ensuring that existing laws relating to discrimination and privacy can be applied to this emerging use of technology, while also fostering innovation in this important area. We welcome the release of the Australian Government's AI Ethics Principles that provide guidance to a wide range of companies using AI to prevent unintended consequences and ensure the highest standards of ethical business and good governance¹². These provide a helpful framework for companies across a wide range of sectors to ensure the ethical application of AI, and we believe they are relevant to the digital platforms and services operating in the communications and media landscape.

AI & communications advantages

In this section, we outline how AI is used in digital products and services to ensure information is discoverable, safe and relevant.

⁸ Google AI blog (2019), "2,602 uses of AI for social good, and what we learned from them", available at <https://www.blog.google/outreach-initiatives/google-org/2602-uses-ai-social-good-and-what-we-learned-the-m/>

⁹ AlphaBeta (2017), *The Automation Advantage*, available at <https://www.alphabeta.com/wp-content/uploads/2017/08/The-Automation-Advantage.pdf>

¹⁰ Partnership on AI (2018) "About Us", available at <https://www.partnershiponai.org/about/>

¹¹ Stephen Shankland (2019) 'Facebook starts building AI with an ethical compass', CNet, available at <https://www.cnet.com/news/facebook-starts-building-ai-with-an-ethical-compass/>

¹² Department of Industry, Innovation & Science (2019), *AI Ethics Principles*, available at <https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework/ai-ethics-principles>

On digital platforms, AI and algorithms play an important role as a sorting mechanism for the millions of terabytes of information online, enabling people to readily obtain relevant content and information. For example, machine learning enables Google's understanding of the use of varied language in search, to ensure user queries yield relevant information¹³. This technology is constantly evolving to meet changing user expectations -- for example, last year Google introduced an open-sourced neural network-based technique for natural language processing (NLP) that increases its search engine's understanding and actioning of longer and conversational user queries allowing people to use language more naturally.

Data collection and algorithm use are also central to how digital service providers guard the safety and security of Internet users, and address harmful content. Such technology is having a great effect; today, 67.8% of videos taken down for policy or legal violations on YouTube are removed through a combination of "automated flagging" and human review before they receive a single view¹⁴. On Facebook in the last quarter, 99.5%, 98.6%, 98.5% and of child nudity and sexual exploitation content, violent and graphic content and terrorist content respectively were proactively removed before being reported by the public¹⁵. This is well aligned with the Government's recommended approach in relation to specific types of harmful content. For example, the Government's recently released Online Safety Charter, which is in immediate effect, outlines expectations of the industry in relation to online safety; It includes a requirement that content hosts and other relevant technology companies "Put processes in place to detect, surface, flag and remove illegal and harmful conduct, contact and content with the aim of preventing harms before they occur"¹⁶

Machine learning also helps detect varying patterns of online abuse. For example, Twitter uses behavioural signals to identify users who target others with abuse or harassment and limits the visibility of their tweets. Facebook uses machine learning and a range of signals to identify posts from people who might be at risk of suicide, such as phrases in posts and concerned comments from friends and family, which involves a complex exercise in analysing human nuance, including analysis of the text in the post and the comments under the post. Once a cry for help is identified, Facebook may present the person with support options, including resources for help, help-line phone numbers, and ways to connect with loved ones. This speaks to a larger point that algorithms do not operate in isolation from human intervention; in relation to content removal, it is often the case that AI surfaces problematic content for a human moderator to review for context and accuracy, and to guide the most effective decision. AI plays an important role in scanning content at a scale that humans could never achieve (to prioritise suspicious content for further review by a human), at a speed which was previously not possible.

Finally, AI can also be used to ensure the personalisation and relevance of information that a digital platform user sees. However, for most digital platforms, users exercise a level of control over the information that is displayed to them. For example, Twitter's news algorithm is dictated by the user's choices on which other Twitter accounts they choose to follow. Organic content in a Facebook News Feed is a reflection of the friends, family, groups and pages a user chooses to connect with or follow. In both examples, users have control over content by choosing to unfollow or unfriend other user accounts and often other tools offered (for example, Facebook makes available tools like See First or

¹³ Google AI Blog (2019), Understanding searches better than ever before, available at <https://www.blog.google/products/search/search-language-understanding-bert/>

¹⁴ YouTube (2019), [YouTube Community Guidelines enforcement](https://transparencyreport.google.com/youtube-policy/removals), available at <https://transparencyreport.google.com/youtube-policy/removals>

¹⁵ Facebook (2019), Community Standards Enforcement Report, available at <https://transparency.facebook.com/community-standards-enforcement>

¹⁶ Australian Government (2019), *Online Safety Charter*, p.3. Available at: <https://www.communications.gov.au/file/48925/download?token=qjh8NOGg>

Snooze which gives greater control to users over what they see in News Feed). Where practical, users can be afforded choices in relation to the display of information; for example, Twitter users also have the option of viewing their feed in reverse chronological order. Youtube’s recommendation engine works by surfacing recommendations for content that is similar to the content you have selected or is popular on the site. Over the past year, Youtube has made a number of improvements to these recommendations, including prioritising content from authoritative sources when people are coming to YouTube for news, as well as reducing recommendations of content that comes close to violating their policies or spreads harmful misinformation. In the US, these changes have resulted in a 50% decrease in the views of such content, and similar improvements are being tested in other markets including Australia.

Governing AI

In exploring new regulatory frameworks for AI, it is important that the policy problem that the framework is designed to solve is extremely clear. As indicated in the table below, many of the identified potential problems related to AI use and digital platforms have emerging or new regulatory frameworks announced or in place that are designed to address these specifically. It is important that these are closely examined and assessed over time, and that any new solutions are only proposed in relation to defined gaps in AI harm mitigation.

Potential problem associated with AI & digital platforms	Australian Government proposed or existing solution
Discrimination and bias	<ul style="list-style-type: none"> Federal anti-discrimination legislation already protects people from discrimination and from breaches of their human rights, in relation to age, disability, racial and sex discrimination¹⁷. In addition to the federal legislation, each state and territory in Australia has established equal opportunity and anti-discrimination agencies, with statutory responsibilities¹⁸. The Department of Industry Innovation & Science’s AI ethics principles outline eight principles when using AI, including one on “fairness” which indicates that “AI systems should be inclusive and accessible, and should not involve or result in unfair discrimination against individuals, communities or groups¹⁹”
Privacy (i.e. the privacy of information collected by algorithms)	<ul style="list-style-type: none"> There are State and Federal Privacy Commissioners monitoring compliance

¹⁷ Australian Human Rights Commission, “Legislation”, available at <https://www.humanrights.gov.au/our-work/legal/legislation>

¹⁸ Australian Human Rights Commission, “A quick guide to Australian discrimination laws” available at <https://www.humanrights.gov.au/our-work/employers/quick-guide-australian-discrimination-laws>

¹⁹ Department of Industry, Innovation & Science (2019), *AI Ethics Principles*, available at <https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework/ai-ethics-principles>

	<p>with the State and Federal Privacy Acts.</p> <ul style="list-style-type: none"> • As part of its roadmap in response to the ACCC Digital Platforms Inquiry, the Government will commence an economy-wide review of the Privacy Act in 2020. • As announced in March 2019, the Government announced a digital platforms specific privacy code, to be administered by the Office of the Australian Information Commissioner²⁰. • The Department of Industry Innovation & Science's AI ethics principles outline eight principles when using AI, including one on "Privacy protection and security" where "AI systems should respect and uphold privacy rights and data protection, and ensure the security of data."²¹
Competition	<ul style="list-style-type: none"> • As part of its roadmap in response to the ACCC Digital Platforms Inquiry, the Government will establish a special unit in the ACCC to monitor and report on the state of competition and consumer protection in digital platform markets.
Distribution of news and harmful content	<ul style="list-style-type: none"> • As part of its roadmap in response to the ACCC Digital Platforms Inquiry, the Government will ask the major digital platforms to develop a voluntary code/s of conduct on disinformation and news quality, to be overseen by the ACMA. • As part of its roadmap in response to the ACCC Digital Platforms Inquiry, the Government will address bargaining imbalances between digital platforms and news media businesses by asking the ACCC to work with the relevant parties to develop and implement a voluntary code to address these concerns.
Online safety	<ul style="list-style-type: none"> • The Government established an eSafety Commissioner in 2015. • As noted, algorithm use to protect online safety is encouraged by the Australian Government through its Online Safety Charter. • The eSafety Commissioner's

²⁰ Attorney General's Department (2019), "Tougher penalties to keep Australians safe online", available at <https://www.attorneygeneral.gov.au/media/media-releases/tougher-penalties-keep-australians-safe-online-24-march-2019>

²¹ Department of Industry, Innovation & Science (2019), AI Ethics Principles, available at <https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework/ai-ethics-principles>

	<p>Safety-by-design processes similarly encourages the use of technology to proactively detect harmful and illegal content²².</p> <ul style="list-style-type: none"> • As part of its Taskforce to Combat Terrorist and Extreme Violent Material Online, designated digital platforms are required to review the operation of algorithms and other processes that may drive users towards (or amplify) terrorist and extreme violent material and to better understand possible intervention points²³.
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DIGI considers that the majority of potential problems associated with AI lie in the contextual application of the technology in a variety of sectors, and therefore caution against recommendations for regulatory or centralised bodies focused on reviewing the technology of AI itself, such as the recommendation by the Australian Human Rights Commission (AHRC) for an “AI Safety Commissioner”²⁴. Setting standards of acceptability for the real-world outcomes of algorithmic applications is a more effective way to assess their impact than examining the algorithm itself, and will also be more effective in mitigating harm.

Secondly, requirements to disclose specific technical details of the way in which algorithms operate, such as detailed information on the signals and predictions used, would not provide meaningful transparency to people. However, it would enable third parties more easily to game the system. Furthermore, making algorithms public that are used to detect and remove harmful content would allow bad actors to manipulate posts to evade algorithm changes. We saw this phenomenon take place in the immediate aftermath of the terrorist attacks in Christchurch in March 2019 where an unprecedented number of people were actively manipulating the livestreamed footage of the attacks to avoid detection by algorithms.

Thirdly, a focus on AI outcomes would also serve to avoid problems related to the protection of valuable commercial intellectual property. The finer details of how algorithms and AI work constitute highly sensitive commercial information for any company using proprietary technology. The prospect of having to disclose such sensitive information for monitoring will serve as a deterrent to digital services, startups or any company initiating or expanding their investment in AI in Australia, particularly as this technology is rapidly evolving. This could ultimately negatively affect the variety and quality of AI-enabled products and services available to Australian consumers.

Finally, any centralised AI review organisation, as proposed by the AHRC, may face significant human resources challenges, as an extremely high level of both technological expertise in relation to AI would be required alongside highly in-depth, sector-specific knowledge of every industry and

²² Office of the eSafety Commissioner (2019), *Safety by Design: Placing user safety at the forefront of online service design*, available at <https://www.esafety.gov.au/sites/default/files/2019-10/SBD%20-%20%20Principles.pdf>

²³ Australian Government (2019), Report of the Australian Taskforce to Combat Terrorist and Extreme Violent Material Online, available at <https://www.pmc.gov.au/sites/default/files/publications/combat-terrorism-extreme-violent-material-online.pdf>

²⁴ Australian Human Rights Commission, *Human Rights and Technology Discussion Paper*, available at https://tech.humanrights.gov.au/sites/default/files/inline-files/TechRights2019_DiscussionPaper_Summary.pdf

government vertical where AI is applied, again noting that these technologies will be used across the economy, not just by a small number of highly digitised companies.

It is for these reasons that principles-based government approaches such as the AI Ethics framework are effective and practical solutions to AI risk mitigation because of their outcomes focus on encouraging “organisations using AI systems to strive for the best outcomes for Australia and Australians”. This framework is extremely applicable to applications of AI in the communications and media sectors. However, the ACMA may like to consider whether work needs to be done to socialise these principles in the communications and media sector, and to provide examples of their applicability in relation to communications-specific applications of AI.