30 November 2017

Department of Industry, Innovation and Science

industry.gov.au/digitaleconomy

CFID appreciates this opportunity to join the conversation about the future of Australia's digital economy.

Set out below are some of our proposals for initiatives we believe the Government could usefully pursue as part of the Digital Economy Strategy, and some of our relevant learnings and experiences to consider when doing so.

About the Centre for Inclusive Design

CFIDis a centre of excellence for the advancement of Inclusive Design (ID) thinking and solutions. ID is an approach that harnesses differences – particularly those experiencing disability or disadvantage – when using technology, products, processes and systems. Harnessing these differences helps to innovate, for everyone.

CFID works with creators of products, services and policies to apply the principles and techniques of ID methodology, make new markets, and foster design and innovation skills and culture.

Our heritage

Formerly Media Access Australia, CFID harnesses a long history and rich networks in the traditional disability sector to bring inclusion to the creation of the world we inhabit - physical, cultural and digital.

Media Access Australia was formed out of the Australian Caption Centre (ACC), a not-for-profit organisation founded in 1982. The ACC aimed to promote and produce captioning for Deaf or hearing impaired Australians. At the Centre's inception, captions were non-existent. The organisation grew to provide captioning services on TV, video and DVD. In 2005, the Centre sold its commercial operations including captioning services to Red Bee Media, and became Media Access Australia (MAA).

As MAA, the focus broadened to those disadvantaged in access to media. In the digital age, the role of media and communication grew to include accessibility across digital communication as well as via traditional media.

The future

This organisational trajectory shows that innovation is in our DNA. We now bring that DNA to Inclusive Design, which advances accessibility and removes disability. ID recognises that we aren't all the same, but that those differences are our strength. We can design policies, customer

experiences, processes, infrastructure, technology, buildings and everyday products in ways that embody both ingenuity and inclusion.

This is a world view that is being championed by Microsoft, Apple and many others. There is a strong academic constituency for ID thinking, led globally by the Toronto-based Inclusive Design Research Centre, with which CFID has a strong and evolving partnership.

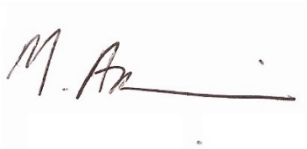
As such, our submission focusses on:

- questions relating to inclusive design and accessibility and support for the standards that stimulate best practice;
- questions that seek creative initiatives and co-creation with industry partners, in cases where we believe the methods and culture of ID can meaningfully improve the quality, ingenuity, usability and export-worthiness of Australian digital product and systems; and
- questions that foreshadow Government policies to which we believe the Centre could make a contribution, and to enhancing the reach and citizen-centricity of any programs or services that result from those policies.

People with an experience of disability are the superheroes of the human-centric digital future – not because they are 'less-than', but because their differences and limitations – when properly harnessed - can make them spurs to innovation that create 'more-than', for everyone.

We are excited about the possibilities raised through this consultation process and look forward to working with the Department and stakeholders to deliver a rich and dynamic digital economy that benefits all Australians, and positions this country for global leadership.

Yours sincerely,



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Consultation questions – Centre for Inclusive Design responses

1. How are advances in digital technology changing the way you work, your industry and your community?

As the convenor of a network of advocacy organisations and service providers, CFID often sees digital advances through the lens of accessibility and inclusion. Our community consists of people and networks whose experience of technology is curtailed in some way. The traditional 'disability' frame is not our focus. Rather, we think that most people experience some form of incomplete experience of digital products and services. Research by Microsoft indicates that some 80% of customer were not able to use that company's products completely.

As a thematic approach, we are seeking advances that will make digital technologies:

- More accessible – able to be used and exploited by a wider range of people
- More affordable
- Normalised and pervasive
- Taught and accepted as standard practice.

By focusing on alleviating the digital exclusion experienced by some, we empower people to seize a positive approach to digital advancement, with full participation, rather than to focus on the negative 'fallout from disruption' experience of digital change.

2. What is your vision for an Australia that thrives in a digital economy? Where would you like to see Australia in five, 10 and 20 years' time?

As the lines between the digital world and the real world become blurred, CFID has a vision whereby everyone can access and participate in their community, employment and environment, irrespective of ability, age, geography or income.

This means that government services, online transactional services, internet enabled products and services need to be developed to be inclusive of everyone's needs. Businesses, government agencies and the third-sector will routinely deliver products and services that reflect inclusive design principles their development processes. This in turn will optimise access and take-up of digital innovation, including by people with disabilities and diverse needs.

We are working towards a society in which disability or disadvantage is non-existent in the digital sphere, as everybody can participate and contribute.

3. What is the role of government in achieving that vision?

We see six key ways in which government can support our vision:

- Develop policies and enact legislation that has been co-created with people experiencing disability or less than full use of technology;
- Supporting awareness of ID issues, particularly among creators and innovators;
- Funding seed initiatives and prototypes that build a network of knowledge about how to harness inclusive design,
- Facilitating independent organisations to accredit process and systems integrity in design thinking;
- Practicing inclusive design in government processes, particularly in stakeholder engagement;
- Mandate technical standards, promote best practice and support appropriate regulatory intervention or industry self-regulation.

4. What key disruptive technologies or business models do you see? What do you predict is on the horizon in five, 10, 20 years' time?

Inclusive design is a methodology that will underpin quality, ingenuity and innovation across technologies, systems and networks, and has already gained traction as a breakthrough methodological approach to solving universally experienced problems in many product and service categories.

Predicting technologies over any horizon more than five years is foolhardy. Rather, we contend that the continuous improvement, market-making and breakthrough innovations we will need in order to compete will come to fruition when inclusive design is applied to all product and service design.

CFID's work is predicated on the well-founded belief that inclusive design – normalising difference, hyper-personalising solutions, responding to design constraints – will be one of the key ways in which we can achieve digital greatness.

5. What opportunities do we have to accelerate the development of technologies that will underpin Australia's digital economy?

We see four key ways in which the government could significantly accelerate technological development:

- Fund skills development in inclusive design, supplying the digital industry with much-needed knowledge and exportable education product;
- Promote rapid prototyping of new products using Inclusive Design methodologies, including consideration of favourable tax treatment of research conducted using ID;
- Mandate and undertake market testing of digital developments among inclusive populations; and
- Foster innovation hubs of creators using ID methodologies.

6. What opportunities do we have in standards development and regulation to:

- enable digital entrepreneurship, innovation and trade?

- mitigate the risks associated with digital disruption?

By focusing on alleviating the digital exclusion experienced by some, we empower people to seize a positive approach to digital advancement, with full participation, rather than to focus on the negative 'fallout from disruption' experience of digital change.

CFID recommends the development and adoption of a standard inclusive design methodology that is required in government-funded or –auspiced digital investments, and recommended for adoption throughout the Australian digital industries.

This would have the dual benefits of (i) improving the quality of digital innovation by harnessing the 'wisdom of difference' available through IDF, and (ii) ensuring digital take-up by people otherwise at risk of exclusion from technological advance.

Were ID methodologies to be successfully funded and championed in the Australian market, we also see significant opportunity for international thought leadership and commercial export value to be created, as many more markets less digitally mature than Australia look to adopt ID as an accelerator of their own digital economies.

7. What digital standards do we need to enable Australian businesses to participate in global supply chains and maximise the opportunities of the digital economy?

There are two aspects to the application of relevant standards. The first is an appropriate governance framework and regulatory interventions; the second is a focus on building industry's capability to apply and enhance the standards.

With respect to regulatory intervention, and notwithstanding standards relating to infrastructure, cybersecurity and privacy, CFID believes Australia can benefit from harmonisation with international standards, and even leadership in the adoption of standards of emerging technology.

We understand that application of mandatory standards in digital environments is difficult to enforce and police. This is why our organisation has played an active role with the second aspect – capability – through promotion and education with the adoption of the Web Content Accessibility Guidelines (WCAG) 2.0 with Australian government agencies and services from 2010 to 2014 under the National Transition Strategy.

Furthermore, we experienced first-hand frustration with all levels of government, with businesses and non-profits where lack of education and training support meant the standard was not understood, ill-applied, abandoned or ignored. A necessary approach in most circumstances was retrofitting the WCAG standard, which applied, was more costly and more difficult to apply at the end of a development process. Whilst this left open the possibility of litigation by a person with a disability through a complaint of discrimination, it is clear that the 'stick' approach alone is not a successful approach to the compliance of standards.

There are also a number of standards the Australian government have committed for use within the public sector, which provide guidance and could be applied across other sectors. The current national-level guidelines for inclusive service design and digital accessibility is the Digital Service

Standard[1], managed by the Digital Transformation Agency. The Agency (formerly known as the Digital Transformation Office) and standard came into effect on 1 July 2015 and set the expectation that digital services supplied by government be both digital by default and accessible to as many people as possible by taking a user-centred approach to product and service design.

Further to this, the Australian Government has adopted Accessibility requirements suitable for public procurement of ICT products and services[2] to mirror the European standard (EN 301 549)[3] and be more consistent with the US Section 508[4] and the Web Content Accessibility Guidelines (WCAG) 2.0[5] reference to this Standard has been included in this report due to its potential impact on accessible procurement for the organisation.

Other emerging digital standards will also need to be considered by the Australian government when they are developed including, Internet of Things, Web of Things, Mobile Accessibility, Virtual Reality, Augmented Reality and Artificial Intelligence.

We believe standards should be adopted to provide strong guidance and ways they can be used to promote best practice. Furthermore, application of standards may ensure access to a broader market and customers, whilst non-application has economic impact and may impair customer experience including people with disabilities, older Australians, remotely located groups, people on low incomes and people where English is a second language.

That is why we are recommending and seeking the Australian Government to fund and support a program of education and training to address the inclusive design knowledge gap and build skills that develop the capacity of Australian companies to provide a competitive advantage to capture the broadest possible Australian and global markets.

8. What opportunities do we have to build trust and community confidence through resilience to cyber threats, online safety and privacy?

This is an opportunity to affect attitudes and skills towards digital technology and build confidence. For people experiencing disability, older Australians and others this means taking part in training and learning about accessibility in the use of digital technology.

CFID has significant experience in the content and skills required to deliver this training, should the government wish to seek industry input.

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[1] Digital Transformation Agency, Digital Service Standard [https://www.dta.gov.au/standard]
[2] Standards Australia, Accessibility requirements suitable for public procurement of ICT products and services [https://infostore.saiglobal.com/en-au/Standards/AS-EN-301-549-2016-1892396/]
[3] European Accessible ICT Procurement Standard. EN 301549 [http://mandate376.standards.eu/standard]
[4] US Government-wide Section 508 Accessibility Program. Section 508. [https://www.section508.gov/]
[5] Web Content Accessibility Guidelines (WCAG) 2.0, [http://www.w3.org/TR/WCAG20/] World Wide Web Consortium (W3C). 11 December 2008.

9. What is holding Australian businesses back in terms of benefiting from digital technologies?

We argue that there are four barriers to Australian digital businesses:

- Market scale – without significant export support and promotion to access non-domestic markets, limits economic scale in commercial enterprise and path-to-impact in social enterprise. Whilst digital industries are still mythically seen as embodying low barriers-to-entry, the days of the garage-based innovator are over. For even the most innovative Australian digital enterprises to cut-through in world markets, some measure of intelligent investment, development and export support will be required;

- The entrepreneur culture and networks required to seed new enterprise and foster talent are largely amateur, and would benefit from overt government support to drive them;

- NBN technical quality and rollout speed and scope has not met industry or community expectations; and

- Regulatory interventions have not kept pace with emerging technology and related social advances.

10. What would help Australian businesses to embrace digital technologies?

Whilst many submitters will speak to the range of government actions to help business embrace digital technologies, CFID would draw the Department's attention specifically to the benefits to be had from inclusive design approaches and principles.

Promoting guidance and practical information on how to engage using best practice inclusive design principles will drive the digital economy by (i) improving the quality and time-to-market of digital innovations, (ii) ensuring equity of access to digital developments, which in turn (iii) deepens market access opportunities for those technologies once developed.

11. What efforts are you or your organisation making to respond to digital transformation? Why?

CFID is promoting ID methodology to normalise bleeding edge design thinking. This augments knowledge about how to address technical, social and behavioural constraints, and gives enterprises and independent digital developers access to ideas that grow the quality of digital solutions and the markets for those solutions.

Through ID methodologies, we can do a great deal more to address individual difference in a way that drives societal value.

12. What opportunities do we have to use digital technologies to improve linkages into export markets and global supply chains?

CFID notes two particular opportunities in this regard:

- Micro-education

- Disability distance education

13. What are the key new growth industries that Australia should be tapping into? In what technologies and sectors should Australian businesses take the lead, and where should we be a 'fast follower' of international trends?

We are focused on three areas in which we believe Australia can create or consolidate a leadership position that would underpin global competitiveness:

- Inclusive design method – given CFID's strong and evolving partnership with the world's leading centre of thought leadership in this field, the Toronto-based Inclusive Design Research Centre, we are in a unique position to foster growth in consulting and innovation services;
- Internet of Things (IOT) – given Australia's history of transformative digital innovations relating to networked devices, most obviously CSIRO's work on wi-fi technology, we believe we are well-placed to invest profitably in IOT; and
- As a recognised leader and exporter of education content and systems, Australia should invest in networked education and digital delivery to capitalise on the expected boon in this industry.

14. What opportunities do we have to equip Australians with the skills they need for the digital economy, today's jobs, and jobs of the future?

A new key growth industry for Australia's Digital Economy lies in education.

Australia currently provides the only university accredited Digital Accessibility qualification in the world. In June of this year, **Knowability USA** awarded the Professional Certificate in Web Accessibility (PCWA) qualification, delivered by CFID in partnership with the University of South Australia, a Heroes of Accessibility 2017 Award for Outstanding Accessibility Education.

Training Australians, and others, to unlock digital barriers to participation and increase engagement can help to maximise our productivity and increase the competitiveness of our digital productivity, on a global scale.

Accessible digital technologies have immense potential to drive competition, inclusion, innovation and productivity. Businesses, such as Microsoft and Uber who prioritise accessible digital technologies and standards, report higher profitability, productivity and engagement than their competitors.

There is a unique opportunity for Australian educators to make the most of training tomorrow's digital developers with accessible skills and communications to support the development of diverse and flexible products and services, so that businesses of all sizes, can seize domestic and international opportunities that play to their competitive strengths.

Accessible digital technologies can also deliver broader cultural benefits by supporting social inclusion and helping government and organisations to address big challenges like looking after our ageing population, driving a culture and mindset that supports lifelong learning that helps us respond positively to change, and addressing nation's 'digital divide' in skills and confidence to help all Australians succeed in an accessible digital economy.

Australia's New Accessible Digital Growth Industry - our next education export

With over one billion people living today with disability, and an increasing ageing population of boomers, leading companies from across the globe are seeking to provide their technology, communications and user design teams with university level qualifications in developing and designing accessible digital technologies. For many leading organisations, the adoption and use of accessible digital technologies is anticipated to be a significant driver of future economic growth.

To date, there is only one organisation that can meet this education standard – Australia's Centre for Inclusive Design.

CFID believes we should focus particularly on:

- TAFE as the delivery system for digital vocational skills and knowledge, and
- Schools – through curriculum co-ordination and development.

Digital accessibility

CFID's Professional Certificate in Digital Accessibility (formerly PCWA) is the world's only university certified qualification in accessible user experience, digital communications and design, and as such is uniquely positioned to maximise Australia's educational contribution to the nation's Digital Economy.

Since its inception in 2012, over five hundred students have completed this qualification and have been drawn from countries as far reaching as the USA, Saudi Arabia, Asia region, UK and New Zealand.

The benefits of this qualification include:

- an internationally recognised university qualification in Digital Accessibility;
- access to the global alumni from North America, South East Asia, UK and more;
- organisations being better equipped to meet their obligations under the *Disability Discrimination Act – Australia* and the *Americans with Disabilities Act* to lessen litigation risk resulting from inaccessibility;
- employees being trained to meet mandated accessibility requirements as outlined by the Digital Transformation Agency (DTA); and
- teams being provided with practical insights on facilitating engagement of people with disability and broader disadvantage when developing new websites, apps and digital communications.

The program can be customised and has been delivered overseas to a delegation in Saudi Arabia.

CFID does not deliver its program in isolation. Through partnering with the following global organisations and thought leaders, it is well able to deliver against its accessible education-for-all mandate:

- University of South Australia (qualification delivery partner)
- Ontario College of Art and Design University in Toronto, Canada
- Kat Holmes, USA
- Microsoft Australia
- Commbank
- Fishburners
- Curtin University (research)

Education – next steps

We invite the Department of Industry, Innovation and Science to meet with CFID to discuss a new co-contribution partnership to ensure the delivery of more jobs nationwide for new digital accessibility educators to expand this significant global training opportunity.

We are aware that businesses worldwide are investing in the development of digital technologies at a challenging and exciting rate. Australian businesses, as well as others must seek new ways to compete in the same global marketplace, as the digital economy breaks down geographic barriers to market entry. With further co-contribution from government by way of financial and broader investment, Australia's Digital Accessibility qualification has the potential to be developed to service an increasing a global market, and provide a competitive advantage for Australian businesses seeking to service a wide range of users, including the aged.

CFID has commenced discussions with seven leading universities including University of Technology (Syd), University of New South Wales, University of Melbourne, Western Sydney University, University of Canberra, University of Queensland and Curtn University, with the aim of equipping more UX, IT and digital designers with leading skills in accessible design and communications.

In addition, we are seeking to further invest in a national delivery partnership with TAFE services across all applicable states, and develop online training modules with Macquarie University.

> *"Adoption and use of digital technologies could contribute between $140B and $250B in Australia's GDP by 2015"*
>
> *McKinsey and Co. Digital Australia:*
> *Seizing the opportunity of the fourth industrial revolution.*

Through the expansion of Australia's international competitive strength into the global Digital Accessibility market, the estimated return could be in the region of $1B by 2025. This includes

value derived from training, as well as subsequent service and product development, and enhancements.

We believe that Digital Accessibility training is a new key growth industry that the Australian government should be tapping into as it seeks to accelerate the technologies that will underpin Australia's Digital Economy Strategy. The Centre for Inclusive Design can provide the government with a unique opportunity to build upon our strength, as an awarded global provider, and demonstrate our future capability as a recognised global leader. Such an expansion would lead to the development of hundreds of new jobs in education nationwide, at all levels, and provide our nation's new UX, IT and web designers with the skills and employment they need to ensure their new product developments are widely accessible to all.

15. What opportunities do we have to bridge the 'digital divide' and make the most of the benefits that digital technologies present for social inclusion?

As a member of the Australian Digital Inclusion Alliance (ADIA) we support the work of the alliance in coordinating general digital inclusion efforts and collaborating with other members to develop integrated solutions to reduce social exclusion through digital technology.

We also support funding of programs such as the *Be Connected* program working to address the digital divide and skills gap with older Australians. However, older Australians are not the only cohort at risk of social exclusion. Australian Bureau of statistics indicated in 2009 there were 38% of people with disabilities in Australia unable to access the internet from home. The Australian Digital Inclusion Index (ADII) 2017 update also noted that, "digital inclusion remains relatively low for people with a disability"[6] despite improved index scores. The Report also importantly identifies digital ability (made up of skills, online activities and attitudes to digital technology), remains an issue of concern and improvement, particularly a need for accessibility training in the use of digital technology.

There is huge potential for digital technologies to help solve issues of access and participation for people with disabilities. As the Centre for Inclusive Design we are in a unique position to identify priorities, foster ideas, co-create, collaborate and partner with researchers and industry; and coordinate activities nationally to reduce duplication and ensure meaningful problems are solved and barriers removed by technology and ensure social impact is measured. We believe we are best placed to perform a centralised, coordinating role as a truly independent, non-profit charitable organisation.

16. What opportunities do we have to ensure digital technology has a positive impact on the cultural practices and social relationships of Australians?

Inclusive Design fundamentally involves and includes the widest range of people, with their divergent experiences (or non-experiences) of technology in the process of developing and using technology.

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[6] Thomas, J, Barraket, J, Wilson, C, Ewing, S, ManDonald, T, Tucker, J & Rennie, E, 2017, *Measuring Australian's Digital Divide. The Australian Digital Inclusion Index 2017*, RMIT University, Melbourne for Telstra.

Digital ability, as it is referred to in the ADII, is made up of skills, online activities and attitudes to digital technology. Whilst there have been some improvements, this comes off a low base, and raises important questions about how vulnerable groups can realise the full benefits of a digital era.

CFID argues that inclusion and active harnessing of difference in digital practice is the best way to promote healthy cultural practices and to promote thriving social relationships.

As Australia's peak association promoting access to media and digital inclusion, CFID would like to discuss with the Department playing a role as the convenor of a national conversation about how best to realise social advancement in digital markets and communities through inclusion principles.

As Australia's digital economy expands and matures, CFID is well placed to provide the government with:

- support for standards and regulation by building community trust and confidence
- identifying core areas of competitive strength to drive productivity and raise digital business capability, and
- empower Australian, and global, students and employees with formal skills and qualifications in digital accessibility and inclusion

The Australia's government's investment in technology will not only transform our business delivery and communications, but it can deliver wider cultural benefits and offer new opportunities for all Australians, including those with disability and those experiencing situational or longstanding disadvantage.

We look forward to commencing discussions with the Department of Industry, Innovation and Science to review the opportunity for a co-contribution partnership to expand and accelerate Australia's current capability in educating for Digital Accessibility world-wide.