



20 October 2017

## **Telstra submission: Towards a Digital Strategy for the Northern Territory**

Telstra welcomes the opportunity to provide feedback on the Northern Territory Government's discussion paper "Towards a Digital Strategy for the Northern Territory".

Telstra would welcome further discussion with the Government on any aspect of this submission.

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### **Background**

Telstra is an Australian company which employs more than 30,000 people nationally – including about 100 in the Northern Territory. Telstra provides a wide-range of communications and ICT services in line with its publicly stated aim to become a world-class technology company. It is recognised both domestically and internationally as a leader in innovation.

Telstra is a strong supporter of a Digital Strategy for the Northern Territory. The convergence of telecommunications and computing technologies is clearly driving significant changes to service delivery and more importantly community expectations of how and when to access wide ranging services and information. Telstra would like to see local ICT and digital industries grow and diversify across the Territory by benefitting either through direct partnerships with Telstra or through increased activity in the delivery and consumption of ICT services.

### **Networks for the Future**

*Vision: Practices, supports and drives a culture of innovation both within and external to government  
Create safe & vibrant communities*

*Digital drivers: Innovate*

Telstra's commitment to networks infrastructure in the Northern Territory is evident in its recent co-investment programs with the Government bringing new mobile coverage and ADSL2+ services to regional and remote Territory centres. Over the past three years, this successful collaboration has seen 27 communities provided with increased connectivity and opportunities in the digital world.

New telecommunications infrastructure delivered via these co-investment programs has created new opportunities for remote Territory communities to access education, healthcare and business services. It is bringing greater economic activity to the bush and is life changing for many. Telstra is pleased to have commenced discussions on a potential third round of co-investment with the Government.

Telstra's mobile network is Australia's largest network and our customers enjoy Australia's fastest average mobile speeds. Our 4G coverage now reaches 99% of the Australian population.



5G will take us from a world of connecting people to people and people to the internet, to a world that includes connecting machines to machines on a mass scale. This is a technology that will fundamentally change the way our world works, and one that will exist until beyond 2030, so it's important to think ahead about what wireless communications will mean in that time-frame.

Telstra has also activated its Cat M1 capability across its entire 4G coverage footprint, becoming the first telecommunications provider in Australia to offer the technology and accelerating the growth of Australia's Internet of Things (IoT) ecosystem. The activation of Cat M1 has enabled a coverage footprint of around three million square kilometres for compatible Cat M1 devices – easily the largest in Australia and one of the largest in the world.

Telstra's IoT network is unmatched in Australia and is set up to support any IoT solution. This Cat M1 activation is an example of our readiness for the next phase of consumer, government and enterprise demands.

## Digital Inclusion

*Vision:*                      *Improve the lives of Territorians living in the bush*  
*Support our children in their increasingly digital childhood*  
*Create safe & vibrant communities*

*Digital drivers:*            *Enable*  
*Educate*

The need for digital inclusion is based on the premise that to participate effectively in today's society everyone should be able to make full use of digital technologies. People need to manage their health and wellbeing, access education and services, organise their finances, and connect with family, friends and the world beyond. Further, there are significant gains to efficiency and effectiveness available to government, business and not-for-profit organisations through digital service delivery.

The [Australian Digital Inclusion Index 2017 \(ADII\)](#) has been developed as a vital information tool in taking action on digital exclusion and bridging the digital divide. Consistent with Telstra's vision and our values, we commissioned this research because in a connected world, digital inclusion is important to us and it is something we have been focusing on for a long time.

The ADII, designed by Telstra in conjunction with Swinburne University clearly shows that digital inclusion is influenced by differences in income, education levels, and the geography of socioeconomic disadvantage. Some Australian communities are falling further behind. For example, the gap between people in low and high income households is growing, as is the gap between older and younger Australians. The ADII also recognises Indigenous Australians to have a significant gap (17%) in digital inclusion compared with the broader Australian population. It is well known that this gap is much greater for remote Indigenous Australians (CAT, 2016).

While the ADII shows that the Access part of digital inclusion has improved in the NT (from 61.6 in 2014 to 68.8 in 2017), Digital Ability, which is the skills and confidence of individuals to take advantage of the online world, is below the national average (-2.6 point gap). From these results there is a need for additional focus on digital ability programs – particularly for older Australians and Indigenous peoples who are most at risk of falling deeper into the digital divide.



For Indigenous Australians, particularly those living in remote locations, development and continuity of digital literacy programs are critical. A flexible approach and local ownership of these programs is also important, building upon the capacity of existing organisations.

An example of this is Telstra's current program with the Indigenous Remote Communications Association (IRCA). The InDigiMOB project in the Northern Territory is using a culturally appropriate framework and business model for the transfer of digital skills and cyber-safety awareness, while helping to develop locally relevant training resources, tools and content for the community. In FY17, more than 550 community members benefited from the program, which facilitated exposure to technology and skills development through on-the-ground partner organisations, Tangentyere Council and Batchelor Institute.

At the same time, the benefits of digital participation go hand in hand with certain responsibilities and risks. Poor understanding of cyber safety, and a lack of mechanisms to address such issues, can be a barrier to uptake of modern technology. [Research commissioned by Telstra, and focussed in the Northern Territory](#), suggests the main cyber safety issues for remote Indigenous communities are inappropriate content and comments on social media, privacy issues due to phone sharing, lack of PIN protections, and susceptibility to online scams and fraud. Additional research is underway to examine the strategies that individuals, families and Elders use to mitigate problems, including protecting online privacy and identity, and cyber bullying.

### **Backing the next generation of digital makers & citizens**

*Vision:*                                      *Improve the lives of Territorians living in the bush*  
                                                      *Support our children in their increasingly digital childhood*  
                                                      *Create safe & vibrant communities*

*Digital drivers:*                        *Enable*  
                                                      *Educate*  
                                                      *Innovate*

More than ever, technology is an integral part of the lives of young people in Australia. Being a young digital citizen means more than just understanding how to use tech, it means understanding how to create with tech, do it safely and to thrive through this connection.

Telstra supports and invests in digital learning experiences in schools, public libraries and remote Indigenous and regional communities. Our investments focus on collaborations to help young people understand, create and safely engage with technology; and support digital innovations that positively change the lives of young people.

Our programs support young people, particularly regional and remote youth, to create with tech, not just consume it and do it safely. We invest in digital learning experiences focussed on coding, 3D printing, robotics, cyber safety and digital creativity skills.

In FY17 our investment program extended across Australia (including the NT) and empowered more than:

- 70,000 young people to create rather than just consume technology, safely
- 3,000 groups (i.e. non-profits, libraries, schools & community) to provide learning opportunities in digital citizenship, STEAM & digital making
- 6,000 digital guides for young people (i.e. Telstra employees, librarians, teachers & community leaders)



## Cyber Security

*Vision: Restore trust in Government  
Create safe & vibrant communities*

*Digital drivers: Protect*

At Telstra, we want to ensure that everyone has the confidence, knowledge and skills to have a positive experience in the digital world. We recognise that safe behaviour isn't simply about technology, but rather the combination of skills, knowledge and values that are needed for people to be effective, responsible and safe users of digital technology. Our commitment is to:

- Provide networks, products and services that make it easy for customers to stay safe online
- Provide consumers with the information they need to support a positive online experience
- Collaborate with industry, government, academic and non-profit organisations to help create a safer, more trusted internet for everyone.

Telstra brings expert security personnel and a wide network of partner security organisations together to protect customer data, business continuity and brand from the dangers of an ever-changing threat landscape. We understand that cyber-security is about much more than technology - it's about the way individuals interact with the digital world. That's why we offer a holistic, end-to-end approach to cyber-security, starting by analysing and advising on current vulnerabilities and weak points, designing better-protected and better-prepared environments, manage incidents when they happen, and enjoy continuous and comprehensive visibility of the digital and threat landscape.

## Education delivery

*Vision: Practices, supports and drives a culture of innovation both within and external to government  
Support our children in their increasingly digital childhood*

*Digital drivers: Educate  
Innovate*

Education as we know it today will be different in 5-10 years' time. The old model of established brick and mortar buildings to which students and educators travel is being disrupted. Today's technologies (smartphones, video conferencing, online exam verification and identification, remote lectures, virtual reality devices) mean that learners are increasingly able to access high-quality experiences when and where they choose.

In the near future schools will function more as a hub for occasional visits rather than a centre that we rely on to provide a child's full learning experience. Technology-fuelled environments will allow children to learn in new ways, working with physical elements as well as highly interactive digital and virtual components sourced from across the globe, the ocean's depths and outer space. Technology will give learners increasing decision making power over their own education. They will be able to receive education and information from a growing number of 'educators' (including parents) when and where they need it.



## **Partnerships, resources, technologies and the future**

*Vision: Delivers government services more effectively for Territorians  
Create jobs and support economic development*

*Digital drivers: Share*

Telstra is a natural partner to help the Government establish the foundation on which a digital economy can thrive. We are in a unique position to provide:

- Infrastructure co-investment
- Opportunity to increase local capabilities and build strong foundations through partnerships with industry leaders
- Thought leadership
- Education analytics
- People movement analytics
- Strategic advice on Smart Cities
- Projections on skills demand
- Access to established innovation centres and incubators
- Expertise in application development

Telstra's partnership with the Northern Territory Government to build the National Telehealth Connection Service (NTCS) has made it possible for Indigenous and non-Indigenous Territorians to access healthcare locally rather than travel to distant hospital locations. Connectivity has already been established between the Northern Territory Government telehealth network, South Australia Health's telehealth network and 9 different Aboriginal Medical Sites in the Northern Territory.

There are plans to connect the final 6 sites by June 2018 as part of the rollout of \$1.5 million worth of telehealth initiatives funded via Telstra's Reconciliation Action Plan program. The NTCS pilot in three sites (Tennant Creek, Katherine and Alice Springs) from July 2014 to September 2015 kick started the transformation of healthcare delivery in the Northern Territory, helping to grow the number of telehealth consultations in remote communities from the low base of 200 a year to more than 1000, reduced Failure to Attend rates and delivered \$1.1million in savings associated with reduced travel costs. Most importantly, it enabled Aboriginal and Torres Strait Islander people to retain their connection to kin, country and culture whilst accessing specialist care – all of which have been identified as critical determinants of Aboriginal and Torres Strait Islander health and important strategies in 'closing the gap' in life expectancy between Indigenous and non-Indigenous Australians.

Participants of the pilot phase reported a 100% satisfaction rate for the service and delivery of the sessions. High levels of participant satisfaction were associated with:

- Being able to remain on country
- Having Indigenous health workers at the local clinic to liaise and interpret the Telehealth episode which assisted in building confidence and trust in the service and;
- Having the opportunity to improve their health literacy and self-management capability.

Continuing investment in connectivity and infrastructure to amplify and scale the spread of this Telehealth innovation will be vital in helping the NT Government advance the health of Territorians by improving access to healthcare for other rural, remote and vulnerable populations in the Territory and enabling healthcare providers to collaborate more effectively for the benefit of patients.



Governments at all levels need to continue to support innovation in the economy and look at how this can also apply to regional areas. For innovation to take its place as a real driver of Australia's prosperity, the contribution regional communities can play must be recognised. The start-up culture that has helped create many of today's largest and most successful global corporations cannot continue to be isolated to inner-city enclaves.

The Northern Territory needs to prepare for a technology-led future by prioritising STEM education and alongside formal education, initiatives such as Code Club Australia which aims to give every child in Australia the chance to learn how to write code.

We must address the barriers that keep women out of careers in science and technology. Currently women comprise 46% of Australian students working towards a PhD in STEM, but hold just 21% of senior academics positions. Initiatives like Science in Australia Gender Equity (SAGE), which aim to improve the gender equity and diversity of careers in science, require continued support.

Governments, policymakers, and regulatory agencies will need to collaborate closely with business and the public to better understand society's sense of privacy, notions of ownership and consumption patterns. The embedding of sustainable development goals, human rights statutes and other governance instruments need to be at the forefront of digital futures thinking.

### **Summary**

Telstra wishes the Government well in the development of a Digital Strategy for the Northern Territory and would welcome the opportunity for further discussion on any information contained in this submission.