

**SUBMISSION**

Submission to the Department of Infrastructure, Transport, Regional Development, Communications, and the Arts

# Submission to the Roadmap for First Nations Digital Inclusion

28 June 2024

**The Australian Academy of Technological Sciences and Engineering (ATSE) is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.**

To create a more inclusive digital landscape, it's essential to focus on coordinated policies, sustainable solutions, and empowerment initiatives that bridge the digital gap and support First Nations communities in embracing advanced technologies. Developing and delivering a Roadmap for First Nations Digital Inclusion provides an opportunity to realise the benefits of digital technologies across a range of Closing the Gap targets as well as provide enhanced opportunities for Aboriginal and Torres Strait Islander peoples and communities to participate equitably in both the digital economy, and – through digital technologies – in the full spectrum of society, including health, education, social, skills, and other aspects of life enabled and underpinned by digital technologies. It is important that the Roadmap for First Nations Digital Inclusion is developed and implemented in genuine partnership with First Nations people and communities. Change and improvement are best achieved from within communities.

ATSE welcomes the First Nations Digital Inclusion Advisory Group's initiative to develop a Roadmap for First Nations Digital Inclusion. ATSE's [Reconciliation Action Plan](#) promotes reconciliation through our sphere of influence, including by publicly celebrating and communicating about Aboriginal and Torres Strait Islander people and organisations innovating and leading in STEM (science, technology, engineering and mathematics). ATSE is now in its second year of recognising excellence through the Traditional Knowledge Innovation Award. Much of this Knowledge is held in regional and remote communities and digital inclusion is a necessity for access, recording and innovating to the benefit of all communities, including those not in metropolitan locations – as well as to Australia as a whole.

This submission draws on the input of ATSE Fellows and participants in our STEM Careers programs – including Aboriginal and Torres Strait Islander people - to put forward the following evidence-based recommendations for developing the Roadmap:

**Recommendation 1:** Foster strong partnerships between government, industry, and First Nations organisations to co-design and co-implement digital inclusion initiatives.

**Recommendation 2:** Implement robust and culturally safe mechanisms for evaluating and monitoring digital inclusion programs.

**Recommendation 3:** Invest in (and encourage state government co-investment in) the implementation of the Roadmap for First Nations Digital Inclusion, including to support infrastructure development and maintenance, affordability, access to devices, and appropriate training and engagement programs.

**Recommendation 4:** Accelerate the development of digital infrastructure in remote First Nations communities.

**Recommendation 5:** Provide programs to support digital literacy of First Nations people and communities, tailored to local languages and cultural contexts.

**Recommendation 6:** Review content on government-provided services to ensure it is accessible and appropriate.

**Recommendation 7:** Deliver digital skills development in schools through curriculum requirements and targeted programs for First Nations students.

**Recommendation 8:** Establish capacity-building programs that support First Nations young people and professionals to develop and succeed in technology, innovation and entrepreneurship careers.

**Recommendation 9:** Include data sovereignty as a principle of the Roadmap.

## Enabling the Roadmap's success with a coordinated approach

The Roadmap will only succeed in making an impact if a consultative and collaborative approach is used. Partnerships between government, industry, and First Nations communities can sometimes be imbalanced, with non-Indigenous entities holding more power and influence. This can lead to solutions that are not fully aligned with the needs and priorities of First Nations communities. Partnerships should leverage local knowledge and expertise to create sustainable and impactful programs, as per international best practice in increasing digital inclusion (Robinson et al. 2020). In alignment with Priority Reform One under the Closing the Gap Agreement, partnerships should be founded on shared decision-making, accountability, representativeness, and with formal agreements in place (Closing the Gap, 2022). New initiatives require consultation with communities to understand their needs and current usage of digital technologies.

There may be opportunities to coordinate with industry and business to deliver the Roadmap's outcomes, such as extending infrastructure and improving accessibility through corporate social responsibility initiatives. The First Nations Digital Inclusion Advisory Group's initial report outlines initiatives by Telstra and Optus to expand remote communities' internet access via Starlink, and Telstra's provision of funding for the Mapping the Digital Gap project (First Nations Digital Advisory Group, 2023). Australia should look to successful international approaches, particularly in Africa, to reducing the digital divide. The expansion of mobile technology and satellite internet in African countries has enabled access for remote communities that lack telecommunications infrastructure (Ariyo, 2024).

Reviewing the impact of the Roadmap will also be important. ATSE recommends creating mechanisms for monitoring the Roadmap's progress, including through setting up independent reviews and involving First Nations researchers (preferably in a leadership capacity) to ensure programs are effective and meet the community's needs. Evaluation mechanisms should be designed in accordance with culturally safe evaluation principles (Gollan & Stacey, 2021).

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## Investing to close the digital divide

Creating a Roadmap for First Nations Digital Inclusion is an important initiative to support equitable universal digital access. ATSE recommends supporting the Roadmap with full funding to address barriers such as access to digital infrastructure and devices, affordability, digital literacy, and culturally relevant content. This follows the 'triple-crown' international best practice of addressing network, device and skill provision to improve digital inclusion (Robinson et al. 2020).

The First Nations Digital Inclusion Plan (FNDIP), developed by the National Indigenous Australians Agency (NIAA), articulates the Australian Government's commitment to achieving equal digital inclusion for First Nations people by 2026. The plan outlines strategies to improve access, affordability, and digital ability, strongly emphasising community consultation and tailored solutions. With digital inclusion not on track by 2026, more action and investment is needed to build on this work and achieve its aims.

Despite some efforts in past decades to improve basic telecommunications infrastructure and provide educational initiatives for remote and rural First Nations communities, there remains a concerning digital divide. The Australian Digital Inclusion Index, launched 2015, provides comprehensive data on digital inclusion across Australia, including specific metrics for First Nations communities. The index evaluates three dimensions: access, affordability, and digital ability. Findings have shown significant gaps between First Nations people and the broader Australian population, scaling with remoteness (ARC Centre of Excellence for Automated Decision-Making and Society, 2023). For First Nations people living in cities, while average digital ability exceeds that of non-Indigenous Australians, there is still a divide in access and affordability (ARC Centre of Excellence for Automated Decision-Making and Society, 2023).

Ongoing under-investment in infrastructure for regional, rural and remote Australia impacts access to digital technologies of Aboriginal and Torres Strait Islander communities. Insufficient funding for building and maintaining infrastructure has resulted in inadequate internet access and unreliable connectivity. Many First Nations communities are located in remote and geographically isolated areas, making deploying and maintaining digital infrastructure challenging. The high costs and logistical difficulties of servicing these areas further exacerbate digital exclusion.

Digital access and utilisation should be available to every Australian no matter where they live. For remote communities, direct cost of hardware, software and internet access and utilisation should not be an inhibitor. Enabling universal access would result in significant economic and social gains, including over many Closing the Gap dimensions.

One component of the Roadmap for First Nations Digital Inclusion should be to review access to government services, and develop program and policy responses accordingly. For example, 21.3% of First Nations people are mobile-only users (ARC Centre of Excellence for Automated Decision-Making and Society, 2023). For this cohort, relevant government services need to be available through a phone app that can be quickly loaded and used despite low internet speeds, or accessed easily through a phone call.

Noting that one device may be shared between multiple people, it is important that government services including apps allow for multiple profiles within a single interface.

**Recommendation 3:** Invest in (and encourage state government co-investment in) the implementation of the Roadmap for First Nations Digital Inclusion, including to support infrastructure development and maintenance, affordability, access to devices, and appropriate training and engagement programs.

**Recommendation 4:** Accelerate the development of digital infrastructure in remote First Nations communities.

## Building digital literacy in communities

Digital Inclusion is one of the gaps to be closed. The Australian Digital Inclusion Index 2023 shows that the gap is narrow for First Nations people in metropolitan areas, but widens significantly in regional, remote and very remote areas (ARC Centre of Excellence for Automated Decision-Making and Society, 2023). Hundreds of communities do not have mobile phone or internet access.

Beyond digital literacy, there is also a need to ensure digital content is relevant and appropriate. Digital content and services often need to be tailored to the cultural and linguistic needs of First Nations people. This includes providing digital resources that use learning design principles accessible to varying levels of English literacy.

The lack of culturally relevant digital literacy programs can hinder effective engagement and utilisation of digital technologies. Providing accurate representations of First Nations cultures is an important first step. This has been showcased in the context of game design by Dr Rhett Loban, who has put forward processes and recommendations on working collaboratively and thoughtfully with community in the development of digital games and media (Loban, 2024). Providing support including grants to First Nations media organisations is another way to promote culturally appropriate and relevant content.

Digital safety and wellness is also a critical component of digital literacy. Closing the digital divide will introduce some people to the Internet to the first time, creating risks including for cybersecurity, bullying, and technology-facilitated abuse. Community programs for building digital literacy can utilise eSafety Commissioner cybersafety resources to empower users to understand and navigate these risks.

**Recommendation 5:** Provide programs to support digital literacy of First Nations people and communities, tailored to local languages and cultural contexts.

**Recommendation 6:** Review content on government-provided services to ensure they are safe, accessible and appropriate.

## Boosting digital literacy through the education system

Disparities in educational outcomes for First Nations people contribute to lower digital literacy and skills levels. This limits their ability to participate fully in the digital economy and access online services. In the long term, closing the gap on educational outcomes, with a focus on English literacy and digital literacy, would support digital inclusion. Using the existing framework of the school system is one mechanism to close the digital divide. For example, New South Wales has introduced data science into the science syllabus, which can be taught in context to students' interests and community or school issues. Embedding [online safety](#) into the Australian curriculum, including resources tailored for Aboriginal and Torres Strait Islander children, is another important existing initiative.

It is important that teachers have the knowledge and confidence to support Aboriginal and Torres Strait Islander students to build digital literacy and other STEM skills. While culturally competency is embedded in teacher training, access to up-to-date resources and programs would be beneficial. The [Deadly Science programs](#), [Indigital Schools](#) program, and [National Indigenous Science Education Program \(NISEP\)](#) are leaders in this space.

Education for digital skills should prepare students for not only being digital consumers, but also provide a foundation for those who wish to become digital producers, innovators and entrepreneurs in their careers. This can be bolstered by programs like [Indigitek](#), which aims to increase technology employment pathways for Aboriginal and Torres Strait Islander people of all ages, and provides community engagement, training

and connecting job opportunities for technology. Developing digital skills can lead to career opportunities in fields such as cybersecurity, web design, and social media marketing. With appropriate infrastructure investment, this can support First Nations people living in regional, rural and remote areas to remain on country and with their communities as they progress their careers. This would align with the proposed principle of innovation and excellence under the Roadmap. There is also scope to foster digital skills for careers outside the tech sector that utilise new innovations. For example, the [Indigenous Australian Datathon](#) has developed machine learning and artificial intelligence projects including detecting and classifying Aboriginal rock art and using drones for wildlife management.

Beyond the school system, First Nations tech professionals can be supported with targeted capacity-building initiatives including university scholarship programs. For example, ATSE's [Elevate](#) program provides scholarships alongside events, networking, mentoring, and wellbeing support for women and non-binary people in STEM. ATSE encourages applications from Aboriginal and Torres Strait Islander participants, with 10% of the current cohort being Indigenous. An important component of the program is 24-hour access to unlimited counselling and personal safety support – this provides additional support for students navigating the university system. Elevate scholar Kiowa Scott-Hurley has shared how the scholarship has enabled her to focus on studying her Master of Cyber Security and flourish as a STEM leader (Scott-Hurley, 2023).

Bolstering capacity can also be achieved through lifelong learning programs, like the recent [AI Adopt Program](#) for small businesses, and grants, incubators, and accelerators targeting First Nations tech entrepreneurs and innovators.

**Recommendation 7:** Deliver digital skills development in schools through curriculum requirements and targeted programs for First Nations students.

**Recommendation 8:** Establish capacity-building programs that support First Nations young people and professionals to develop and succeed in technology, innovation and entrepreneurship careers.

## Embedding data sovereignty into the Roadmap

First Nations people have historically had limited control over how their data is collected, used, and shared. Ensuring data sovereignty is crucial for protecting privacy and cultural integrity. The Advisory Group notes that they have previously heard from stakeholders that data collection should be informed by the principles of data sovereignty and self-determination. ATSE recommends that these principles be embedded in the Roadmap. ATSE has also previously recommended the creation of a regulatory framework for Indigenous Data Sovereignty to support appropriate usage of Traditional Knowledges (ATSE 2022).

Alongside data sovereignty, other key issues for the Roadmap include privacy and the ethical use of Artificial Intelligence and other emerging technologies.

**Recommendation 9:** Include data sovereignty as a principle of the Roadmap.

*ATSE thanks the Department of Infrastructure, Transport, Regional Development, Communications, and the Arts for the opportunity to respond to the consultation on a Roadmap for First Nations Digital Inclusion. For further information, please contact [academpolicyteam@atse.org.au](mailto:academpolicyteam@atse.org.au).*

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