

Consultation Paper

# **A case study of the Finance, Technology and Business workforce in the Northern Territory**



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## Executive Summary

The geographical and cultural landscape of the Northern Territory (NT) of Australia presents unique challenges and opportunities for its Finance, Technology, and Business (FTB) sectors. The NT's extensive rural and remote areas can be a significant logistical challenge, affecting access to workers, training, goods, and services, which in turn increases the cost of living and doing business in the region. Despite these challenges, the NT is poised to leverage its strategic location and emerging digital infrastructure to drive economic growth and development.

Workshops conducted in Darwin and Alice Springs by the FSO, with support from the Industry Skills Advisory Council NT (ISACNT), identified key areas for development. These include the growth of the First Nations business sector, addressing skills shortages and talent retention, overcoming obstacles to employment, and enhancing the flexibility of vocational education and training (VET) programs. The First Nations business sector, recognised as the fastest-growing sector in the NT, presents a significant opportunity to integrate First Nations entrepreneurship into the broader economic framework.

Digital skills and capabilities are crucial for the NT's future. The NT Government's Digital Transformation Plan outlines a roadmap for modernising government services through digital technologies, emphasising the importance of developing digital skills across the public sector to streamline access to government services, reduce operational costs, and enhance service quality. However, remote and very remote regions, especially First Nations communities, face limited internet connectivity, affecting access to essential services and economic opportunities. Remote and very remote local students and jobseekers experience challenges due to a lack of digital skills and industry-specific educational programs.

To address these issues, strategic investments in digital infrastructure and educational initiatives are important. Improving broadband access and internet coverage, particularly in remote and very remote areas, will strengthen connectivity, enabling better access to online education and remote work opportunities, and help bridge the digital divide in the NT. The federal government has committed significant funding to improve internet and mobile services in remote communities, including 44 First Nations communities, as part of the Regional Connectivity and Mobile Black Spot programs<sup>1</sup>.

The NT's strategic approach to digital transformation and skills development aims to create a more connected and inclusive NT. By investing in digital infrastructure, skills, and services, the NT aims to attract and retain talent, support local businesses, and establish itself as a leader in digital innovation. This comprehensive strategy reflects a commitment to creating a vibrant digital economy that empowers individuals, businesses, and communities to reach their full potential.

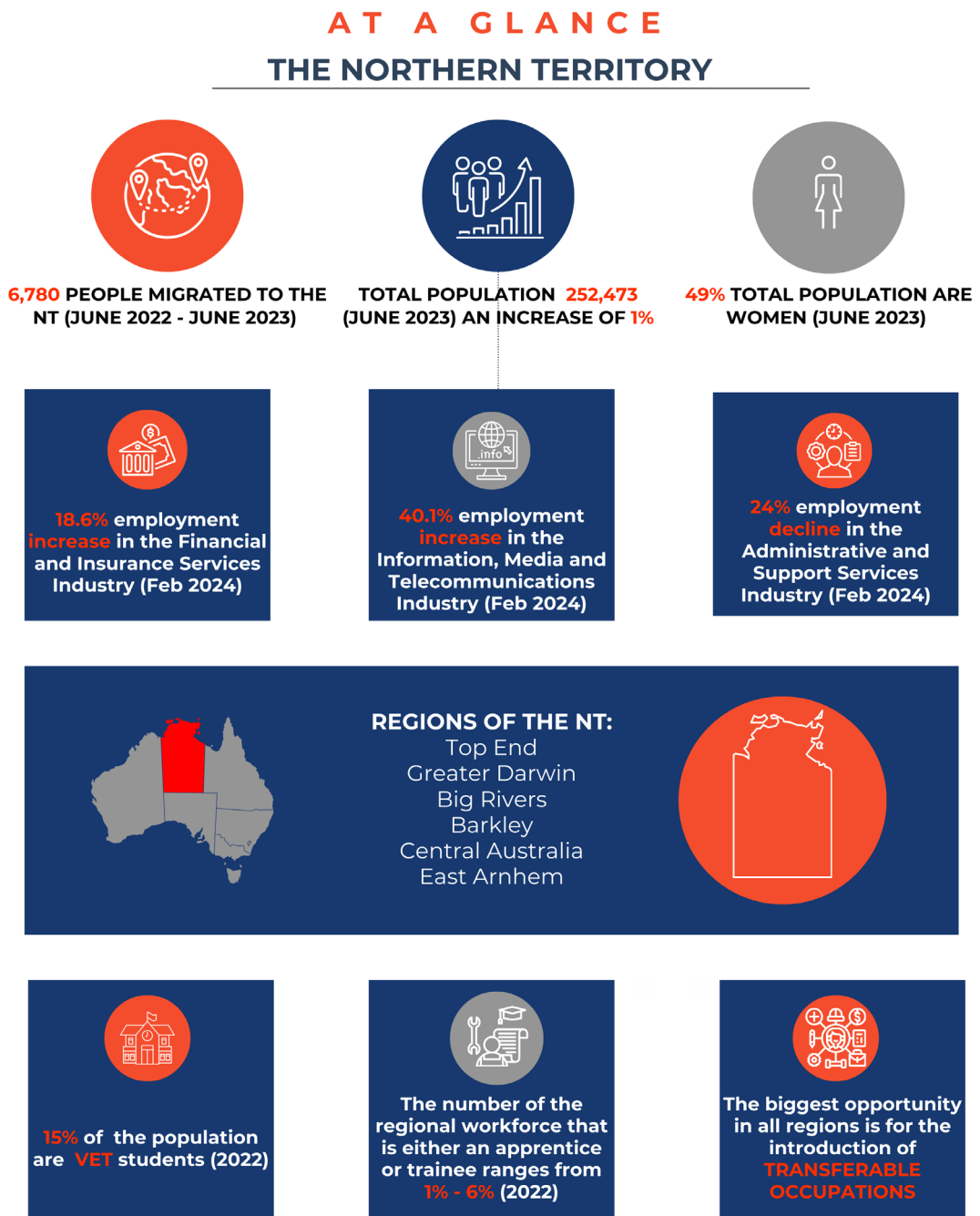
<sup>1</sup> Department of Infrastructure, Transport, Regional Development, Communications and the Arts (2023). "Regional Connectivity Program." Australian Government, <https://www.infrastructure.gov.au/media-communications-arts/internet/regional-connectivity-program>.

# NT Key Insights

## NT Labour Market and Industry Context

The Northern Territory (NT) had a total population of 252,473 as of June 2023, with a 1% increase from the previous year. Women make up 49% of the population, and the unemployment rate stands at 4.3%. The total workforce in the NT as of March 2024 was 139,600, with women comprising 51% of the workforce, representing a 2% increase from March 2023.<sup>2</sup>

### Graphic 1: NT Snapshot



Source: IASCNT Leaders in industry skills advice, Labour Force - Northern Territory Economy & Industry and Employers data from [www.isacnt.org.au](http://www.isacnt.org.au) accessed using sources: Department of Treasury and Finance; Australian Bureau of Statistics; Jobs and Skills Australia accessed 5th April 2024

Note: Transferable Occupations are defined as jobs or careers that an individual can transition to from their previous work experience, utilising the skills and knowledge they have acquired.

<sup>2</sup> Industry Skills Advisory Council NT (2024). "NT Workforce Snapshot." Accessed: <https://www.isacnt.org.au/nt-indigenous-workforce-snapshot>.

The NT is divided into six regions, each with its unique demographic and labour market characteristics. Here's a summary of the key points for each region<sup>3</sup>:

Region	Population (2021)	Workforce (2023)	Unemployment Rate (March 2023)	VET Students (2022)	
Top End	12,878, with 69% identifying as First Nations people	5,538, a 27% increase since 2021, with 95% aged between 15-65 years	8.3%, a decrease from the previous year	1,915, a 2% decrease since 2021, with 45% women and 47% aged 25-44 years	First Nations students make up 53% of enrolments, and 45% are government-funded
Big Rivers	18,944, with 49% identifying as First Nations people	10,734, a 14% increase since 2021, with 95% aged between 15-64 years	4.9%, a decrease from the previous year	3,625, an 8% increase since 2021, with 45% women and 48% aged 25-44 years	First Nations students make up 34% of enrolments, and 46% are government-funded
Central Australia	32,251, with 37% identifying as First Nations people	25,549, with 95% aged between 15-64 years	2.9%, a decrease from the previous year	6,940, a 2% decrease since 2021, with 46% women and 50% aged 25-44 years	First Nations students make up 26% of enrolments, and 35% are government-funded
Greater Darwin	139,902, with 11% identifying as First Nations people	87,252, a 1% decrease since 2021, with 96% aged between 15-64 years	3.4%, a decrease from the previous year	28,610, a 3% increase since 2021, with 46% women and 51% aged 25-44 years	First Nations students make up 11% of enrolments, and 26% are government-funded
Barkly	6,316, with 71% identifying as First Nations people	2,746, a 4% decrease since 2021, with 94% aged between 15-64 years	6.5%, a decrease from the previous year	950, a 2% increase since 2021, with 41% women and 49% aged 25-44 years	First Nations students make up 38% of enrolments, and 55% are government-funded
East Arnhem	8,778, with 90% identifying as First Nations people	6,167, a 7% increase since 2021, with 96% aged between 15-64 years	6.7%, a decrease from the previous year	2,220, an 8% increase since 2021, with 43% women and 47% aged 25-44 years	First Nations students make up 47% of enrolments, and 43% are government-funded

<sup>3</sup> Industry Skills Advisory Council NT (2024). "Regional Snapshots." Accessed: <https://www.isacnt.org.au/regional-snapshots>



## Industry snapshots

The NT is currently grappling with a shortage of skilled professionals and technicians across various sectors, particularly in finance, technology and business support industries. Key roles such as those below are in high demand:

- Accountant (General).
- Systems Administrator.
- Computer Network and Systems Engineer.
- Finance Manager.
- ICT Support Technician.
- Sales Representatives (Business Services).
- ICT Business Analyst.
- Research and Development Manager.
- Sales and Marketing Manager

This shortage has led to understaffing, delays in services, and project completions, primarily due to the need for higher wages, access to local training, and industry-specific training to attract and retain talent.<sup>4</sup>

To address these challenges, there is a strong emphasis on enhancing Vocational Educational Training (VET) programs focused on developing digital skills. These programs are seen as crucial for meeting future economic demands and preparing the local workforce to become digitally skilled and capable.<sup>5</sup>

<sup>4</sup> Northern Territory Government of Australia (2024). "Hard to Fill Jobs in the NT." Accessed: <https://nt.gov.au/employ/for-employers-in-nt/skills-existing-and-needed/hard-to-fill-jobs-in-the-nt>;

<sup>5</sup> Industry Skills Advisory Council NT (2024). "Fee-Free TAFE in the NT - VET Bulletin." Accessed: <https://www.isacnt.org.au/fee-free-tafe-in-the-nt-vet-bulletin>; Northern Territory Department of Education (2024). "VET for Secondary Students (VETfSS)." Accessed: <https://education.nt.gov.au/support-for-teachers/vetfss>

## Finance sector in the NT

The NT has a dynamic Financial and Insurance Services sector supporting the region's economic activities. With increasing digitisation in the sector, NT businesses and the NT government report rising demand to upskill the workforce with current digital skills.<sup>6</sup>

The industry contributes 2% of the Gross State Product (2021-22) and employs 900 people (<1% of the NT workforce as of May 2023). It comprises finance, auxiliary finance and insurance services, and insurance and superannuation funds and has a predominantly full-time workforce (91%), which is relatively young (37% of the workforce is aged between 15 and 34 in 2021), and gender balanced (56% female). In 2023, Darwin accounted for 79% of the Finance and Insurance Services industry workforce.<sup>7</sup>

Key challenges identified for the Finance sector include:

- Lengthy training periods
- High relocation costs
- High salary expectations
- Shortage of skilled workers<sup>8</sup>

There are currently nine finance occupations in shortage in the NT according to the 2023 Skills Priority List.<sup>9</sup> Occupations in shortage:

- Accountants (General)
- Accounts Clerk
- Bookkeeper
- External Auditor.
- Finance Manager.
- Financial Investment Adviser.
- Insurance Broker.
- Internal Auditor.
- Taxation Accountant.

<sup>6</sup> Industry Skills Advisory Council NT (2024). "Business, Financial and Professional Services." Accessed: <https://www.isacnt.org.au/business-financial-and-professional>.

<sup>7</sup> ISACNT (2024). "Financial and Insurance Services Snapshot 2023". Accessed: <https://irp.cdn-website.com/f8083e7c/files/uploaded/Financial%20and%20Insurance%20Services%20Snapshot%202023.pdf>

<sup>8</sup> Ibid

<sup>9</sup> Jobs and Skills Australia, Skills Priority List, 2023.

## Business sector in the NT

The Professional, Scientific and Technical Services sector contributes 3% of Gross State Product (2021-2022) and employs 7,400 (5% of the NT workforce as of August 2023). The workforce is predominantly full time (84%), relatively young (36% of the workforce are aged between 15 and 34 years) and 42% of workers are female (August 2023). Darwin accounts for 67% of the industry workforce.<sup>10</sup>

Of note, the Professional, Scientific and Technical services sector is forecast to grow strongly, primarily driven by agricultural expansion, defence spending, and infrastructure investments including:

- Darwin ship lift facility.
- Darwin Education and Community Precinct.
- Civic and State Square Revitalisation stage 2, including the Northern Territory Art Gallery.
- D1 Data Centre in Darwin.
- Lasseters Hotel Casino redevelopment in Alice Springs.<sup>11</sup>

The Administrative and Support Services sector contributes 1.5% of Gross State Product (2021-2022) and employs 4,400 (3% of the NT workforce as of August 2023). The workforce is predominantly full time (80%), relatively young (34% of the workforce are aged between 15 and 34 years) and 53% of workers are female (August 2023). Darwin accounts for 61% of the industry workforce. Of note, 70% of this sector works purely within Administrative Services, with a projected employment growth of 8% (2020-2025).<sup>12</sup>

There are currently 19 business occupations in shortage in the NT according to the 2023 Skills Priority List.<sup>13</sup> Occupations in shortage are:

- Chief Executive or Managing Director
- Clerical and Administrative Workers
- Conveyancer
- Corporate Services Manager
- General Managers
- Hotel or Motel Receptionist
- Human Resource Advisor
- Human Resource Manager
- Legal Secretary
- Liaison Officer
- Management Consultant
- Marketing Specialist
- Medical Receptionist
- Receptionist (General)
- Recruitment Consultant
- Research and Development Manager
- Solicitor
- Training and Development Professional
- Workplace Relations Adviser

<sup>10</sup> ISACNT (2024). "Administrative and Support Services Snapshot 2023". Accessed: <https://irp.cdn-website.com/f8083e7c/files/uploaded/Professional-%20Scientific%20and%20Technical%20Services%20Snapshot%202023.pdf>

<sup>11</sup> Northern Territory Government (2023). "2023-24 Industry Outlook." Accessed: [https://budget.nt.gov.au/\\_data/assets/pdf\\_file/0019/1224118/2023-24-industry-outlook-book.pdf](https://budget.nt.gov.au/_data/assets/pdf_file/0019/1224118/2023-24-industry-outlook-book.pdf).

<sup>12</sup> ISACNT (2024). "Administrative and Support Services Snapshot 2023". Accessed: <https://irp.cdn-website.com/f8083e7c/files/uploaded/Administrative%20and%20Support%20Services%20Industry%20Snapshot%202023%20Updated.pdf>

<sup>13</sup> Jobs and Skills Australia, Skills Priority List, 2023

## Technology Sector in the NT

The technology sector in the NT is undergoing a period of significant growth and transformation. With a strong local telecommunications and data storage industry at its core, the sector contributed \$425 million to the NT economy in 2022-23 and is home to over 500 businesses. There are 5,300 people employed in tech jobs, with more than half working outside the direct ICT sector, and it's growing at a rate well above the national average.<sup>14</sup>

Within the Information, Media and Telecommunications workforce, there is an expected employment growth of 7% (2023-2025) with Telecommunications Services making up 30% of the workforce (2023). However, there are currently 34 technology occupations in shortage in the NT according to the 2023 Skills Priority List.<sup>15</sup> Occupations in shortage are:

- Analyst Programmer
- Cabler (Data and Telecommunications)
- Computer Network and Systems Engineer
- Cyber Governance Risk and Compliance Specialist
- Cyber Security Advice and Assessment Specialist
- Cyber Security Analyst
- Cyber Security Architect
- Cyber Security Engineer
- Cyber Security Operations Coordinator
- Developer Programmer
- Devops Engineer
- Electrical Engineer
- Electronics Engineer
- Electronic Equipment Trades Worker
- Engineering Manager
- Engineering Professionals
- Graphic Designer
- ICT Business Analyst
- ICT Customer Support Officer
- ICT Managers
- ICT Project Manager
- ICT Quality Assurance Engineer
- ICT Support Engineer
- ICT Support Technicians
- ICT Systems Test Engineer
- Penetration Tester
- Multimedia Specialists
- Software Engineer
- Software Tester
- System Analyst
- Telecommunications Cable Jointer
- Telecommunications Linesworker / Telecommunications Line Mechanic
- Telecommunications Technician
- Web Developer

<sup>14</sup> Digital Territory. (2024). Industry. Retrieved from <https://digitalterritory.nt.gov.au/industry>

<sup>15</sup> Jobs and Skills Australia, Skills Priority List, 2023

Investment in technology in the NT is projected to increase from \$1.5 billion in 2022 to \$2 billion by 2030, with critical technologies such as artificial intelligence, advanced robotics, and the Internet of Things becoming increasingly essential. These technologies are expected to affect over 130,000 workers in the NT, necessitating an additional 13,700 critical technology skills by 2030. Based on current estimations, outdated digital skills are costing NT businesses \$14 million per year, indicating a significant opportunity for growth through digital technology.<sup>16</sup>

The NT's tech workforce is expected to grow considerably by 2030<sup>17</sup>. Telecommunications plays a vital role in connecting residents across the NT. Darwin is on track to become a leader in international telecommunications, transitioning to a [Terabit Territory](#)<sup>18</sup> with a high-speed network that enhances connectivity and communication capabilities regionally.<sup>19</sup>

Technology is key to empowering rural communities. Telecommunications technologies are critical as enabling infrastructure and connecting communities in the NT, providing access to global markets, financial services, and knowledge enhancement, and overcoming traditional barriers such as geographical isolation.

### FSO Activity Update

The FSO is undertaking a comprehensive needs and gaps analysis of the ICT Training Package in response to IWP findings. Industry and learners reported gaps between taught skills and entry-level ICT needs, with declining VET completions. The analysis will examine alignment with current and emerging pathways, job roles, and skills, including cybersecurity and emerging technologies. The FSO is also exploring uplifting digital capability in the Business and Finance sectors through accredited training and the Australian Digital Capability Framework.

The FSO is responding to the need for updated telecommunications training by revising the ICT30519 Certificate III in Telecommunications Technology and is proposing a more in-depth analysis of the ICT TP Telecommunications Technology to align with current industry standards and address the evolving requirements of the telecommunications sector.

<sup>16</sup> Deloitte Access Economics. (2023). Australia's Digital Pulse: A new approach to building technology skills - Northern Territory edition. Australian Computer Society

<sup>17</sup> Australian Computer Society. (2023, March 5). Over 5,000 Territorians now work in tech [Press release]. Retrieved from <https://www.acs.org.au/insightsandpublications/media-releases/Media-Release---Over-5,000-Territorians-now-work-in-tech.html>

<sup>18</sup> Invest Northern Territory. (2023). Terabit Territory. Retrieved from <https://invest.nt.gov.au/news-and-insights/terabit-territory>

<sup>19</sup> Australian Computer Society. (2022). Digital Pulse 2022. Retrieved from <https://www.acs.org.au/insightsandpublications/reports-publications/digital-pulse2022.html>

## Digital Skills

Digital transformation alongside the development of digital skills can address many of the unique challenges posed by the region’s remoteness and relatively small population.

Recent NT Government reports, including the [Territory Economic Reconstruction Commission Final Report \(TERC Report\)](#)<sup>20</sup> reinforces the importance of digital skills and capabilities in achieving the NT’s future vision. The report advocates for investments in skills and education, improvements in infrastructure, and the development of a robust local digital services industry. These recommendations align with the goals of the [Digital Territory Strategy](#)<sup>21</sup> blueprint, which focuses on growing jobs and business, building digital skills, and enabling smarter communities. The strategy aims to leverage digital technologies to tackle geographical challenges, drive economic growth, and foster community resilience.<sup>22</sup>

The Northern Territory Government has an ambitious goal of a \$40B economy by 2030, leading to more jobs and higher living standards for all Territorians.

Source: Northern Territory Economic Reconstruction Commission. Final Report. Available at [https://invest.nt.gov.au/\\_data/assets/pdf\\_file/0019/1284121/terc-final-report.pdf](https://invest.nt.gov.au/_data/assets/pdf_file/0019/1284121/terc-final-report.pdf)

The NT Government has embarked on a comprehensive digital transformation journey, as outlined in its [Digital Transformation Plan](#).<sup>23</sup> This plan is a five-year roadmap to modernise and improve government services through digital technologies. It was developed through extensive research and stakeholder engagement. Key priorities include delivering an online service portal, implementing a digital identity solution, harnessing data analytics, maintaining modern digital infrastructure, and developing digital skills across the public sector. These initiatives aim to streamline access to government services for NT businesses, reduce operational costs, and enhance the convenience and quality of services for Territorians.<sup>23</sup>

The NT’s strategic approach to digital transformation and skills development is not only about enhancing government service delivery but also about fostering a vibrant digital economy. By investing in digital infrastructure, skills, and services, the NT aims to attract and retain talent, support local businesses, and establish itself as a leader in digital innovation. This comprehensive strategy reflects a commitment to creating a more connected, efficient, and inclusive NT, where digital technology empowers individuals, businesses, and communities to reach their full potential in a thriving digital economy.<sup>24</sup>

<sup>20</sup> Invest Northern Territory. (2020). Territory Economic Reconstruction Commission: Final Report. Retrieved from [https://invest.nt.gov.au/\\_data/assets/pdf\\_file/0019/1284121/terc-final-report.pdf](https://invest.nt.gov.au/_data/assets/pdf_file/0019/1284121/terc-final-report.pdf)

<sup>21</sup> Northern Territory Government. (2022). Digital Territory Strategy. Retrieved from <https://digitalterritory.nt.gov.au/digital-government/strategies-and-guidance/digital-territory-strategy>

<sup>22</sup> Northern Territory Government. (2024). Digital Territory Strategy. Retrieved from <https://digitalterritory.nt.gov.au/digital-government/strategies-and-guidance/digital-territory-strategy>

<sup>23</sup> Northern Territory Government. (2022). Digital Transformation Plan. Retrieved from [https://digitalterritory.nt.gov.au/\\_data/assets/pdf\\_file/0006/1104909/digital-transformation-plan-v17.pdf#Digital%20Transformation%20Plan](https://digitalterritory.nt.gov.au/_data/assets/pdf_file/0006/1104909/digital-transformation-plan-v17.pdf#Digital%20Transformation%20Plan)

<sup>24</sup> Green, M. (2023). A Thriving Northern Territory: Aligning with Global Trends, Facing Challenges, and Driving Digital Transformation. Retrieved from <https://www.linkedin.com/pulse/thriving-northern-territory-aligning-global-trends-facing-green/>

The Government reform agenda (Working Future: The Australian Government's White Paper on Jobs and Opportunities | Treasury.gov.au) and the National Skills Agreement emphasising the need for a digitally skilled population. The FSOs IWP also identified a shortage of digital skills as a critical gap in the finance and business sectors. As the economy increasingly relies on digital technology, workers across all sectors require digital skills to participate fully in the workplace. The Growing Australia's Digital Workforce report by the Digital Skills Organisation categorised the workforce into three segments: 50% are digitally informed, requiring digital literacy but with some need for specific digital skills; 43% are digitally enabled, relying on digital skills to augment their functional skills; and 7% are digital experts, who require specific digital skills as central functional skills. This report highlighted the need for digital skills across all levels of the workforce for not just work, but also for learning and life.

Sources: <https://treasury.gov.au/employment-whitepaper/final-report>; <https://www.dewr.gov.au/skills-reform/resources/national-skills-agreement-overview>; <https://www.futureskillsorganisation.com.au/about-dso> and <https://www.futureskillsorganisation.com.au/initial-workforce-plan> accessed 16th April 2024

## The NT - A Unique Geographical and Cultural Landscape

The distinct characteristics of the NT present a complex mix of opportunities and challenges for the FTB workforces. The remoteness of large areas of the NT poses significant logistical challenges, affecting access to workers, training, goods and services. These accessibility issues increase the cost of living and doing business in the region.

A study undertaken by Deloitte Access Economics and the Australian Computer Society; identifies a digital divide throughout NT regions. While Darwin has strong connectivity, other areas in the NT score lower in Australia for mobile infrastructure. An estimated 10% of the NT population are still lacking internet connection. As a result, the NT has the lowest levels of digital inclusion across Australia.<sup>25</sup>

Remote and very remote regions in the NT, especially First Nations communities, face limited internet connectivity affecting access to essential services and economic opportunities<sup>26</sup>. It has been identified that local students and jobseekers in these remote locations experience challenges due to a lack of digital skills and industry-specific educational programs within the FTB sectors.<sup>27</sup>

To overcome these issues, strategic investments in digital infrastructure and educational initiatives and hubs are important.<sup>28</sup> Improving broadband access and internet coverage, in these remote areas will strengthen connectivity, enabling better access to online education and remote work opportunities, and help bridge the digital divide in the NT<sup>29</sup>. These unique challenges require innovative solutions and strategic investments to leverage technology, support business development, and ensure access to quality education and training opportunities.<sup>30</sup>

<sup>25</sup> Deloitte Access Economics. (2023). Australia's Digital Pulse: A new approach to building technology skills - Northern Territory edition. Australian Computer Society, p 11.

<sup>26</sup> Northern Territory Government. (2021). Submission No. 244 to the 2021 Regional Telecommunications Review. Retrieved from <https://www.infrastructure.gov.au/sites/default/files/documents/rtr2021-submission-no-244-nt-govt.pdf>; Gardiner, S. (2023, December 11). Remote communities get connected under federal funding. National Indigenous Times. Retrieved from <https://hit.com.au/11-12-2023/8991/remote-communities-get-connected-under-federal-funding>; Australian Minister for Infrastructure. (2023, December 5). Helping Northern Territory Communities Stay Connected [Press release]. Retrieved from <https://minister.infrastructure.gov.au/rowland/media-release/helping-northern-territory-communities-stay-connected>

<sup>27</sup> Deloitte (2023). Review of Secondary Education in the Northern Territory - Final Report. Retrieved from [https://education.nt.gov.au/\\_\\_data/assets/pdf\\_file/0011/1352891/review-secondary-education-nt-final-report.PDF](https://education.nt.gov.au/__data/assets/pdf_file/0011/1352891/review-secondary-education-nt-final-report.PDF); Australian Human Rights Commission. (2021). Rural and Remote Education Inquiry Briefing Paper. Retrieved from <https://humanrights.gov.au/our-work/publications/rural-and-remote-education-inquiry-briefing-paper>

<sup>28</sup> Northern Territory Government. (2021). Submission No. 244 to the 2021 Regional Telecommunications Review. Retrieved from <https://www.infrastructure.gov.au/sites/default/files/documents/rtr2021-submission-no-244-nt-govt.pdf>

<sup>29</sup> Australian Minister for Infrastructure. (2023, December 5). Helping Northern Territory Communities Stay Connected [Press release]. Retrieved from <https://minister.infrastructure.gov.au/rowland/media-release/helping-northern-territory-communities-stay-connected>

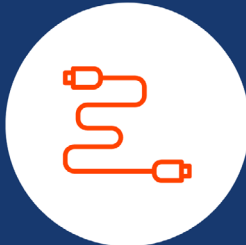
<sup>30</sup> Ibid

Graphic 2: NT – The Digital Hub of the Indo Pacific

## DARWIN THE DIGITAL HUB OF THE INDO PACIFIC



**DARWIN is within 50 milliseconds of over 500 million people, making it an ideal hub for digital and telecommunications companies.**



**New subsea cables from Darwin will boost network capacity to Singapore, Indonesia, the Philippines, and the United States, offering the fastest latency to Singapore among Australian cities.**



**Three new international digital connections established in the past 12 months, linking Darwin to major commercial and population centres in South-East Asia and North America.**



**The Northern Territory Government is working closely with businesses to explore further opportunities.**

Source: Invest Northern Territory. (2024). Infrastructure and strategic land. Retrieved: <https://invest.nt.gov.au/why-the-territory/infrastructure-and-strategic-land/digital>

The Northern Territory (NT) is uniquely positioned to become a digital hub for the Indo-Pacific region due to its strategic location and digital infrastructure. Darwin, the capital city, is within 50 milliseconds of more than 500 million people, providing ultra-speed international access through major submarine cable infrastructure like the Darwin-Jakarta-Singapore subsea cable project. The development of world-class facilities such as the D1 Darwin data centre, which supports cloud computing, data analytics, and other digital services, further enhances NT’s capability to serve sectors including mining, resources, and defence. This strategic positioning and advanced infrastructure enable NT to offer secure and stable solutions for digital, data, technology, and telecommunications companies, fostering innovation and economic growth across the region. The growing digital economy and critical technology investments in NT are increasing the opportunities and demand for tech workers with specialised skills in these areas.<sup>31</sup>

## Community Identified Key Workforce Challenges and Opportunities

To inform this Workforce Plan, FSO conducted workshops in Darwin and Alice Springs with FTB businesses, training providers and other stakeholders, with support from ISACNT. Following is a summary of stakeholder feedback, which aligns closely with the other data and research findings presented in the rest of this report.

The region was described as a “place of opportunity” and one stakeholder identified that “everyone who wants a job has one”. Participants reported key challenges in the FTB workforce as:

- Skills and occupation shortages, with the 2023 Skills Priority List<sup>32</sup> identifying 62 FTB occupations currently in shortage in the NT. Stakeholders reported that job vacancies remained unfilled for extended periods as they were unable to source qualified local talent. This frequently resulted in employers seeking to access the migration system to find suitably qualified talent. Private sector employers also noted that it was difficult to retain FTB staff due to NT Government roles having more competitive salaries.
- The need for flexibility within vocational education and training (VET) to support delivery to diverse student cohorts and improve access in rural and remote communities.
- Barriers to employment including mental and physical illness, substance abuse, and homelessness.
- Staff recruitment and retention, due to the high cost of living in rural and remote communities, and competition from other industries in a tight labour market.

Consultation also identified opportunities for the NT economy and communities:

- The First Nations business sector was recognised as a key opportunity in the NT, with growth in demand for First Nations entrepreneurship skills.
- There are a number of major construction and mining projects in progress which will result in increased demand for FTB skills and occupations.

**FTB sectors are all reporting occupational shortages, particularly in technology**

<sup>31</sup> Invest Northern Territory. (2024). Infrastructure and strategic land. Retrieved: <https://invest.nt.gov.au/why-the-territory/infrastructure-and-strategic-land/digital>

<sup>32</sup> Jobs and Skills Australia, Skills Priority List, 2023

FSO consultation with NT communities confirmed the importance of digital skills and emphasised occupation shortages in:

- Workplace health and safety
- Mortgage broking
- Conveyancing
- Software and Applications Programmers
- Accounting and
- Cybersecurity

A lack of interest among students in FTB occupations, a shortage of qualified career advisors, and industry with limited ability to engage with training providers reportedly worsened the shortages, resulting in disconnects between industry needs and training delivered by RTOs.

**In comparison to the Australian average, access to VET in the Northern Territory is comparatively more limited, and completion rates are lower.**

FSO workshop consultations identified access to VET as an issue in rural and remote areas of the NT. Higher costs and smaller populations result in 'thin markets' for education and training providers, impacting choice and access in rural and remote areas. Enrolment and completion data for FTB qualifications suggest that public and private providers both have a key role in provision.<sup>33</sup>

Training providers attributed access to VET at least partially to the shortage of suitable trainers in FTB and the lack of flexibility in the FNS, BSB and ICT training packages. It was felt that the rules around these packages were too prescriptive to support the needs of NT communities and that grouping related units of competency into bite-sized skillsets would enhance completion rates and engagement, noting the importance of industry alignment.

<sup>33</sup> NCVER 2023, Total VET students and courses 2022: program enrolments DataBuilder, Total, Provider type, State/territory of residence, Training package by Year



## Trainer Empowers NT Students With Tailored Training Delivery

“I don’t necessarily think that what I do is special. It’s just outside the box,” says [Wendy Blight](#)<sup>34</sup>, Lecturer — Business, Retail and Accounting, [Charles Darwin University \(CDU\)](#)<sup>35</sup>, Alice Springs.

Wendy highlights the diverse challenges faced by individuals in the region, including family, personal, social, language and cultural barriers.

“My biggest priority is psychological safety. You can’t train if your students aren’t open to learning.

“I aim to create a super inclusive environment. Really friendly and casual.”

She supports the concept of grouping related units of competency to enhance completion rates and engagement, noting the importance of industry alignment.

“We need bite-sized chunks of local skill sets. This would increase completions and create milestones to celebrate along the way,” says Wendy.

[Read the full case study here.](#)<sup>36</sup>

## Foundational and behavioural skills are important.

Uplifting foundational skills in literacy, numeracy, and digital skills was deemed essential, as well as providing additional support and mentoring for students facing multiple barriers to participation. Retaining mentors and employment support workers was recognised as a challenge, as funding for roles often ceases after initial placement periods, highlighting a desire for sustainable funding models for employment support services in the regions.

Skills shortages were also identified in behavioural skills, including communication and teamwork.

<sup>34</sup> <https://www.linkedin.com/in/wendy-blight-052212103/>

<sup>35</sup> <https://www.cdu.edu.au/>

<sup>36</sup> <https://www.futureskillsorganisation.com.au/trainer-empowers-nt-students-with-tailored-training-delivery>

Pathways into training through VET in Schools programs for FTB are limited. As of 2024, the NT Government does not fund any finance qualifications in the VET in Schools programs. The number of funded tech and business qualifications has also been low.<sup>37</sup>

Post-school, the limited (or no) access to local training providers, training resources, a shortage of qualified trainers, and rising training costs, notably in regional and remote areas, have impacted the industry sector's ability to deliver quality training that meets industry needs<sup>38</sup>. This has led to low commencement and completion rates. More flexible and responsive training delivery models are needed to support both employers and students in the NT. Additionally, the development of training package products should prioritise alignment with industry requirements and employment outcomes<sup>39</sup>.

## Vocational Education and Training in the NT

Access to quality education and training is crucial for the development of the NT workforce and the overall well-being of rural communities. Secondary schools often face challenges such as small size, diverse economic and cultural backgrounds, and limited diversity in coursework opportunities, particularly in emerging sectors like STEM. Geographic isolation further exacerbates these challenges, making it difficult for remote students to access education and training.<sup>40</sup>

Similar to other businesses, RTOs face higher costs of delivery in rural and remote areas of Australia and can also experience 'thin markets' - where numbers of possible enrolments are low and makes education and training provision commercially challenging. Research from NCVER suggests consideration of "coordination of training demand to help alleviate issues of thin markets."<sup>41</sup>

NCVER also identified differences in how public and private VET is delivered in remote communities. Case studies reported TAFE students accessing training facilities<sup>42</sup> in regional centres, while private providers were more likely to travel out to remote communities to deliver training.<sup>43</sup>

In 2022, there were 410 enrolments in the Financial Services (FNS) training package, 270 in the Information and Communications Technology (ICT) training package and 2,590 in the Business Services (BSB) training package. Over half of these 3,270 enrolments were with private training providers (1,900). This distribution underscores the importance of both public and private sectors in facilitating access to education and training across the NT.<sup>44</sup>

Completion rates in 2022 highlight the small pipeline of students into FTB. In 2022, there were 825 completions in the FNS, ICT and BSB training packages. 415 of those completed with a private training provider. Stakeholders consulted in the development of this plan indicated a shortage of training providers in the NT and an opportunity for

<sup>37</sup> Northern Territory Department of Education (2024). "VET FSS Handbook." Education.nt.gov.au, [https://education.nt.gov.au/\\_data/assets/pdf\\_file/0016/1072150/vetfss-handbook.pdf](https://education.nt.gov.au/_data/assets/pdf_file/0016/1072150/vetfss-handbook.pdf).

<sup>38</sup> eSkilled (2023). "Exploring Challenges and Opportunities of VET Delivery." RTOSoftware, <https://rtosoftware.eskilled.com.au/blog/exploring-challenges-and-opportunities-of-vet-delivery/>; Compliant Learning Resources (2023). "VET Delivery in Regional, Rural, and Remote Australia Report." [compliantlearningresources.com.au](https://compliantlearningresources.com.au), <https://compliantlearningresources.com.au/blog/vet-delivery-in-regional-rural-and-remote-australia-report/>.

<sup>39</sup> Job and Skills Australia (2023). "Vocational education and training in regional, rural and remote Australia".

<sup>40</sup> Wallace, A., & Boylan, C. (2007). Reawakening education policy and practice in rural Australia. SPERA 2007 Conference. Charles Sturt University. accessed 5 April 2024

<sup>41</sup> Griffin, T & Andrahannadi, U, (2023) VET delivery in regional, rural and remote Australia: barriers and facilitators, NCVER., p. 3.

<sup>42</sup> Griffin, p 29.

<sup>43</sup> NCVER 2023, Total VET students and courses 2022: program enrolments DataBuilder, Total, Provider type, State/territory of residence, Training package by Year

<sup>44</sup> NCVER 2022, Total VET students and courses 2022: program completions DataBuilder, Total, Provider type, State/territory of residence, Training package by Year

growth in education and training provision, given the anticipated increases in demand in FTB.<sup>45</sup>

NCVER data shows that the NT experiences on average lower completion rates for VET qualifications than the Australian average. The completion results (2017) across education levels for the NT are:

- 39.7% completion rate for qualifications commencing in 2017 (Australian average 47.6%)
- 54.8% completing a Diploma or higher (Australian average 56.7%)
- 53.4% completing a Cert IV (Australian average 51.8%)
- 34.4% completing a Cert III (Australian average 47.6%).<sup>46</sup>

## Initiatives Already Underway

Remote regions in the NT experience limited access to local training opportunities. By addressing the specific needs of the industry sectors, improving digital infrastructure and connectivity, and the development of industry-led and student-centred training package products, the NT can strengthen its local workforce capabilities in the FTB industry sectors. To address occupation shortages, the NT is identifying and supporting transferability between occupations with closely aligned skills, such as Cost Clerks and Bookkeepers, and Debt Collectors and Accountants. Improved recognition pathways would support this initiative.<sup>47 48</sup>

A series of initiatives is also underway to bolster cybersecurity, bridge the digital divide, and support the growth of the business sector. The [Darwin Joint Cyber Security Centre \(JCSC\) Outreach Service](#)<sup>49</sup>, a key component of the [Australian Cyber Security Centre's \(ACSC\) Partnership Program](#)<sup>50</sup>, is enhancing cybersecurity across businesses, the ICT sector, government agencies, academia, and the research community. The JCSC aims to address common cybersecurity challenges through expert advice, workshops, and resilience-building activities, encouraging participation in the ACSC Partnership Program.

Digital inclusion remains a significant issue in the NT, particularly affecting First Nations people and people living in remote areas. [The First Nations Digital Inclusion Plan \(2023-26\)](#)<sup>51</sup> sets out priorities for enhancing digital inclusion through community-led digital literacy activities and creating career pathways in digital technology. [The Flexible Workforce Solutions Fund](#)<sup>52</sup> further supports NT businesses in attracting and retaining the skilled workforce necessary for growth. [The Digital Territory Strategy](#)<sup>53</sup> supports these efforts by aiming to improve government services and enable Territorians to maximise the benefits of digital technology.

<sup>45</sup> National Centre for Vocational Education Research (2022) VET qualification completion rates 2022, NCVER, Australian Government

<sup>46</sup> Northern Territory Government. "Darwin JCSC Outreach Service and ACSC Partnership Program." Be Cyber Smart NT, 2023, <https://becybersmart.nt.gov.au/jcsc-outreach-service>

<sup>47</sup> Industry Skills Advisory Council NT (2023) Northern Territory Workforce: Financial and Insurance Services Snapshot 2023, ISACNT

<sup>48</sup> Australian Signals Directorate. Partner hub: Cyber Security Program, AS. Retrieved <https://www.cyber.gov.au/resources-business-and-government/partner-hub>

<sup>49</sup> Northern Territory Government. "Darwin JCSC Outreach Service and ACSC Partnership Program." Be Cyber Smart NT, 2023, <https://becybersmart.nt.gov.au/jcsc-outreach-service>

<sup>50</sup> National Indigenous Australians Agency (2023) First Nations digital inclusion plan 2023-26, NIAA, Australian Government.

<sup>51</sup> [https://nt.gov.au/industry/business-grants-funding/aboriginal-workforce-employment?SQ\\_PAINT\\_LAYOUT\\_NAME=multi&curr=188994&print=yes](https://nt.gov.au/industry/business-grants-funding/aboriginal-workforce-employment?SQ_PAINT_LAYOUT_NAME=multi&curr=188994&print=yes)

<sup>52</sup> <https://nt.gov.au/industry/business-grants-funding/flexible-workforce-solutions-fund>

Supporting the business sector, the NT Government has introduced various initiatives to foster growth and development. The [Northern Territory Business Support Guide](#)<sup>54</sup> offers a comprehensive overview of programs, funding, and support available to small and medium-sized businesses, including First Nations businesses and specific industries. Additionally, grants and financial incentives are available through programs such as the Business Growth Program and the [Aboriginal Business Development Program](#)<sup>55</sup>, designed to stimulate economic activity and support the entrepreneurial ecosystem in the NT. These initiatives collectively aim to enhance cybersecurity, digital inclusion, and business growth, contributing to the overall development and resilience of the NT.

Rural areas in the NT can present untapped opportunities for business development, although faced with unique challenges including low economic diversification and a small and shrinking labour force. New construction and mining projects outside of the sector, such as [The Nolans Project](#)<sup>56</sup>, are expected to result in significantly increased demand for finance and business skills in the NT. Education and training challenges will need to be addressed to support this business growth.

## THE NOLANS PROJECT

The Nolans Rare Earths project will likely supply around 10% of the world's demand for neodymium-praseodymium (NdPr) oxide, a critical component in the manufacture of green technologies, including electric vehicles and wind turbines. The Nolans project has an initial mine life of 38 years and a production capacity of up to 1.3 million tonnes of ore annually.

As the project transitions from planning to execution, it is expected to generate substantial employment opportunities, creating 620 jobs during the construction phase and 280 full-time ongoing positions thereafter. This influx of workers, along with their families, will necessitate the development of additional infrastructure and services to accommodate the growing community. The project's approval by the Northern Territory Government, positioning it as Australia's first rare earths processing plant, underscores its potential to catalyse economic growth and development within the region.

Initiatives such as the Nolans project will require skills and occupations in finance, technology, and business. The anticipated growth in the local population due to the project will also drive demand for education and training and other support services to ensure the workforce and the community it creates is equipped to meet the evolving demands of the industry.

Sources: Arafura Rare Earths 'Nolans' Arafura Rare Earths, arultd.com

<sup>53</sup> Northern Territory Government. "NT Business Support Guide." NT Government, 2023, [https://nt.gov.au/\\_data/assets/pdf\\_file/0007/1182886/nt-business-support-guide.pdf](https://nt.gov.au/_data/assets/pdf_file/0007/1182886/nt-business-support-guide.pdf)

<sup>54</sup> Business Department (2023) Aboriginal Business Development Program: Funding for Indigenous businesses, Business, Australian Government.

<sup>55</sup> Northern Territory Government. "NT Business Support Guide." NT Government, 2023, [https://nt.gov.au/\\_data/assets/pdf\\_file/0007/1182886/nt-business-support-guide.pdf](https://nt.gov.au/_data/assets/pdf_file/0007/1182886/nt-business-support-guide.pdf)

<sup>56</sup> Arafura Rare Earths 'Nolans' Arafura Rare Earths, arultd.com. Retrieved: <https://www.naif.gov.au/our-projects/nolans-rare-earth-projects/> and <https://www.arultd.com/projects/nolans/>

Initiatives like the Aboriginal Employment Program<sup>57</sup>, Skillaroo's 3-Month Graduate Program<sup>58</sup>, YouthworX NT's Career Start Digital program<sup>59</sup>, and the Cyber Territory Skills Hub at the Charles Darwin University<sup>60</sup> are responding flexibly to meet local demands. Apprenticeships and work-based learning opportunities can also play a key role in linking rural youth to job opportunities<sup>61</sup>. Ongoing collaboration between government, FTB industry sectors, and training providers is essential to drive long-term workforce development across the FTB industry sectors in the NT.



<sup>57</sup> <https://nt.gov.au/employ/work-for-government/start-your-career-in-government/programs-aboriginal-jobseekers>

<sup>58</sup> <https://skillaroo.com.au/>

<sup>59</sup> <https://youthworxnt.com.au/careerstart-digital/>

<sup>60</sup> <https://www.cdu.edu.au/news/new-cyber-security-training-hub-planned-charles-darwin-university>

<sup>61</sup> Boren Z (2021) Rural Apprenticeships for Young People: Challenges and Strategies for Success, Urban Organisation

## FSO Potential Opportunities

First Nations people only make up 1.2% of Australia's approximately 3 million FTB workforce. This statistic underscores a significant opportunity to not just increase the First Nations workforce in FTB occupations but to fundamentally transform the workforce by fostering engagement and inclusion. By focusing on skills and training, we can help create an FTB workforce that capitalises on the unique perspectives and talents of First Nations peoples, ultimately leading to a more equitable and thriving society.

Accordingly, we propose to:

- Include First Nations trainers and organisations in the gaps analysis and review of the current ICT, FNS and BSB training packages to ensure that training is adapted to provide opportunity for the inclusion of First Nations Languages and allow for better cultural understanding.
- Conduct a gap analysis of the current library and information services training package and work with organisations to ensure there is a suitable and accredited pathway for First Nations Archivists.
- Support and help promote within local communities the existing opportunities that exist as pathways into the FTB workforce, including showcasing First Nations role models within these occupations.

What industry can do:

- Create pathways for leadership development and showcase diverse career opportunities to avoid stereotyping First Nations roles.
- Establish mechanisms to recognise and value the cultural labour and expertise of First Nation workers.
- Ensure that cultural work is acknowledged and compensated appropriately within organisational structures.
- Invest in cultural competence training and mechanisms for addressing the needs of First Nations staff.
- Develop policies and procedures that promote cultural safety and respect for First Nations knowledge and perspectives.
- Establish forums and networks to facilitate national networking for First Nations workers.
- Promote awareness of career opportunities within the FTB sectors amongst First Nations communities.
- Partner with First Nation organisations and communities to create pathways for entry into FTB occupations.
- Be open to non-traditional pathways into an occupation or training program.