Northwest Territories

A High Youth Population to Fuel a Digitally Ready Future

Cisco Canada Digital Readiness Index 2023

Northwest Territories

Provincial Insights Brief

DRI score: -0.60| Ranking: 10th

In today's world, digitally mature countries have the infrastructure, governance, labour force, digital services and technologies to support social development, economic growth and global competitiveness.

Major technology trends including mobility, 5G networks, cybersecurity, Internet of Things (IoT) and cloud solutions have compelled countries to reimagine government, enhance access to public services, promote innovation and drive technology adoption.

At Cisco, we are fuelled by our purpose to 'Power an Inclusive Future for All' by leveraging our technology, our expertise and our extended ecosystem to bridge gaps of inequity and drive change. Cisco's desire to solve global problems and create a more inclusive world through technology led to our first Global Digital Readiness Index (DRI) in 2017. In 2023, we completed the Cisco Canada Digital Readiness Index, a comprehensive analysis of Canada to help provinces and territories better understand the building blocks of digital readiness and explore opportunities to improve their relative performance.

This holistic model measures digital readiness across many components beyond technology including basic needs, human capital and the business and start-up environment. While access to technology and the infrastructure to support digital technologies is critical, if, for instance, individuals' basic needs are not met, a country cannot maximize the benefits of digital opportunity. The Cisco Canada Digital Readiness Index provides an understanding of a province or territory's level of digital readiness and what interventions and investments could help them advance.

The Cisco Canada DRI is based on data published from 2019 to fall of 2022. For more information on Canada's national digital readiness score, the full report is available here.*

> This guide was developed to enable provinces and territories to understand their level of digital readiness and explore areas of opportunity to reach their full potential.

https://www.cisco.com/c/m/en_ca/digitalreadiness-2022.html

Measuring Digital Readiness: DRI Components

The Cisco Canada Digital Readiness Index (DRI) employs a comprehensive framework and model based on seven different components of digital readiness including **Basic Needs; Business and Government Investment; Ease of Doing Business; Human Capital; Start-Up Environment; Technology Adoption; and Technology Infrastructure.** Unique, market-specific metrics serve as proxies for performance in each of the components.

Basic Needs

Basic needs for a population to survive and thrive

Metrics

- Life expectancy
- Low Income
- Food insecurity
- Housing affordability

Business & Government Investment

Private and public investment in innovation and technology

Metrics

- Business expenditure on R&D
- Government expenditure on R&D
- Infrastructure investment

Ease of Doing Business

Basic infrastructure/ policies needed to support business continuity

Metrics

- Business density
- Business growth
- Business confidence
- Internal trade barriers

Human Capital

Skilled labour force to support digital innovation (build and maintain)

Metrics

- Labor force participation
- Youth population
- Post-secondary education
- Immigration

Start-Up Environment

Environment which fosters innovation within a community

Metrics

- Venture capital investment
- Business entries
- Access to financing

Technology Adoption

Demand for digital products/services continuity

Metrics

- Zero emission vehicle (ZEV) registrations
- Broadband subscriptions
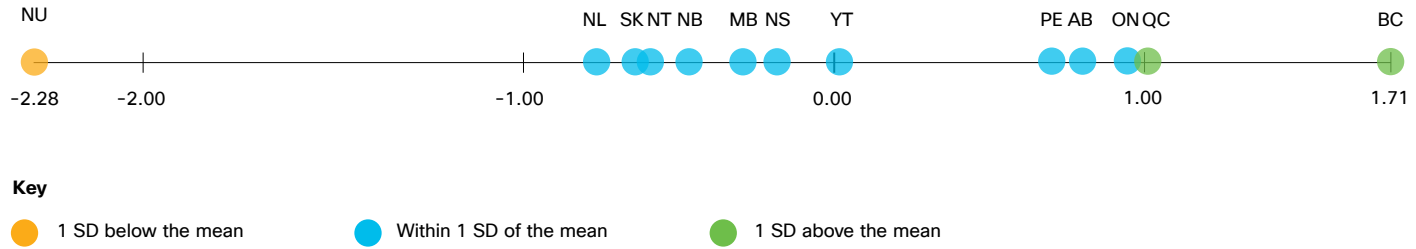- Online sales

Technology Infrastructure

Infrastructure available to enable digital activities and connected to consumers (IoT, Cloud)

Metrics

- Broadband availability
- LTE coverage
- EV charging stations
- Internet affordability

Overall DRI Score Across Provinces and Territories

NU	NL SK NT NB MB NS YT	PE AB ON QC	BC
-2.28	-2.00 -1.00 0.00	1.00	1.71

Key

🟠 1 SD below the mean   🔵 Within 1 SD of the mean   🟢 1 SD above the mean

The Cisco Canada DRI examines the performance of Canada's provinces and territories and provides a benchmark on their progress towards digital readiness[1]. British Columbia tops Canada's DRI ranking with a sizable lead, followed by Québec and Ontario, while the remainder of the provinces and territories fall closer to Canada's national average DRI score. The exception is Nunavut, which faces unique digital readiness challenges.

[1] Z-scores are a way to measure how far away a particular data point is from the average (or "mean") of a group of data points, and how unusual or "extreme" that value is compared to the rest of the group. If a score is below the mean, it is expressed as a negative number, and if above the mean, it will be a positive number.

Northwest Territories' Digital Readiness Index

DRI score: -0.60| Ranking: 10th

The Northwest Territories (N.W.T.) has a lot of potential to become a more digitally ready region in Canada. Although N.W.T. faces some challenges to becoming competitive in the digital economy, the province's Human Capital potential provides an opportunity to bring the benefits of digital transformation to the province.

The territory's youth population is one of the highest in the country and the Government of the Northwest Territories has an opportunity to support this new generation in the development of digital skills and competencies to become future digital leaders. To address gaps in Technology Adoption and Technology Infrastructure, governments, Indigenous communities and businesses should work together to expand broadband access and help businesses in the N.W.T. keep pace with digitization.

Northwest Territories score of -0.60 placed it 10th in overall digital readiness with above average scores in Ease of Doing Business, Start-up Environments and one of the highest youth populations in Canada.

There is a consistent dichotomy of scores and results in N.W.T.'s digital readiness. This is attributed to the economically successful resource extraction industry that has grown in the region. Yet Indigenous people who live in the territory have not received these economic benefits. Moving forward, success for N.W.T. should focus on shared equal benefits.

DRI Scores: A breakdown by component

The following section will explore how the Northwest Territories scored in each of the DRI's seven components and what metrics drove performance.

-0.16
11th

Basic needs are an indicator of the health of a society.

- N.W.T. has significantly varying results in this component. While it has a small percentage of low-income residents (ranked third) and favourable housing affordability (ranked fourth), the territory has one of the lowest food security rankings (12th) and below average life expectancy (12th).

$
-0.06
7th
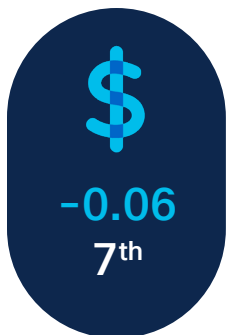
The capacity of government and businesses to invest in their future is a key factor in enabling digital readiness.

- N.W.T. ranks first in infrastructure investment per capita but has the lowest government research and development (R&D) and second lowest business R&D per capita.
- The high cost of building infrastructure in remote areas means the territories often need to spend significantly more to achieve outcomes seen in the south.

0.21
6th
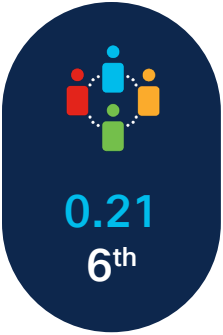
An environment where businesses can invest and grow with ease and confidence is a core foundation to digital readiness.

- N.W.T. has the highest business confidence rate in the country, slightly above average business density and very low trade barriers.
- However, the territory has the second lowest business growth rate.

0.33
6th

Human Capital – a society's ability to build and maintain a skilled labour force – is intrinsic to digital innovation and readiness.

- This is another component where there is significant variation by data point.
- While N.W.T. ranked first in labour force participation and second in youth population, the territory has the second lowest post-secondary education and net migration rates.

0.21
6th

Start-ups are an important source of innovation and economic growth.

- Businesses in N.W.T. report the highest access to funding but have very weak business entries and venture capital investment rates.

-1.64
13th

Technology Adoption serves as a proxy for the population's willingness and ability to use new and emerging technologies.

- N.W.T. scores last on this component because of its low broadband subscriptions, low online sales and low zero-emission vehicle registrations in Canada.
- Zero-emission vehicle registrations are not as relevant for N.W.T.; however, Nunavut has higher online sales than PEI, Newfoundland and Labrador, and Saskatchewan. This should be something that N.W.T. could improve on.

-1.69
13th

Modern technology infrastructure is key to economic growth and the delivery of services.

- On LTE coverage and internet affordability, N.W.T. scores very low.
- However, broadband availability is very close to average and given the geography, this should be considered positively.

Northwest Territories' Opportunities

A Path Forward

The Cisco Canada DRI identifies strengths and opportunities for N.W.T. to further improve its digital readiness.

Improving connectivity in the Northwest Territories

The Northwest Territories faces connectivity challenges, having the lowest LTE coverage in the nation, high internet costs and low access to high-speed internet, especially in rural and Indigenous communities. A report presented to the Government of the Northwest Territories Standing Committee on Economic Development and Environment also raised concerns about the lack of competition among telecommunications service providers, given that N.W.T. has one dominant provider.[2] The federal government is discussing how to better support smaller internet service providers in offering competitive prices in rural areas through Bill C-288, which is a step in the right direction.

Solutions for improving broadband connectivity in the territory should include a collaborative effort involving the Government of the Northwest Territories, the Government of Canada, service providers, business partners and Indigenous communities to address the digital divide in the North and create a regional solution.

To help bring more competition to the telecommunications market, encourage options and lower prices, these partners should explore the possibility of supporting community connectivity providers and community networks, building on international models that have included Indigenous-led innovations.[3]

Supporting and encouraging business digitization

Business digitization helps provide a seamless digital customer experience and has the potential to improve operations, cut costs and ensure competitiveness. As one indicator of adoption, N.W.T. has the lowest percentage of online sales, likely due to lack of digital infrastructure on the part of businesses. Businesses face barriers to implement new technologies including associated business costs, limited knowledge and fewer resources to help them navigate digitization.[4]

[2]https://www.ntassembly.ca/sites/assembly/files/cr_22-192_scede_report_on_telecommunications_0.pdf
[3]https://connecthumanity.fund/report-financing-ccps/

The Government of the Northwest Territories should work with Indigenous communities, businesses and community organizations to identify and address barriers to adoption. One approach identified by Indigenous advocates is to support digital navigators in Indigenous communities that could support Indigenous businesses with digitization. These digital navigators could provide the business community with training resources, best practices and the supports necessary for successful and secure digitization.

Closing the digital literacy gap

Governments and communities have an opportunity to invest in and support N.W.T.'s youth to build digital literacy and skills and provide opportunities to succeed in the digital economy of the future. Given that the N.W.T. has below average high school graduation rates and post-secondary education attainment rates, there is a need to prioritize supports and tools that will encourage continued higher education in N.W.T. There are very few post-secondary institutions in the North, meaning that most post-secondary education is only accessible virtually. This highlights how critical connectivity, digital literacy and digital skills are to support education and training for N.W.T.'s future workforce.

The territorial government has already taken positive steps to include digital literacy in the K–12 curriculum,[5] but there is an opportunity to further engage youth in this learning, especially Indigenous youth. For example, community organizations like DigitalNWT have been leaders in the development and delivery of free courses tailored to Indigenous learners to address the gap in Indigenous digital literacy. The Government of the Northwest Territories' Ministry of Education should consider developing ambitious targets to increase digital literacy for all residents with a focus on students. The government should also work with the Government of Canada, community partners, academic institutions, the private sector and Indigenous leaders to create tailored teaching and digital literacy resources for Indigenous communities that are culturally relevant and available in Indigenous languages.

Conclusion

The Northwest Territories has the building blocks to positively position it for the future and succeed in the digital economy. With a high youth population, the highest business confidence rate in the country, slightly above average business density and businesses benefiting from high access to funding, the elements are in place to drive the economy. However, these benefits cannot be fully leveraged without more robust technology infrastructure and higher rates of adoption.

The territory is held back by the lowest percentage of households with broadband subscriptions in Canada and lowest percentage of population with LTE coverage. As N.W.T. sees more businesses and residents gain access to high-speed broadband and improvement in digital literacy, it can maximize its core strengths to build digital strength and success.