

# Digital Broadband: Toward an Inclusive Digital Economy

## Issue

As the digital economy continues to grow it is becoming imperative that all Canadians have access to broadband internet in order to effectively participate and compete in the world economy. With unique geographical challenges to overcome that competing jurisdictions do not face, it is critical that a national strategy be enacted to provide equitable broadband access to all Canadians.

## Background

### Canada's Unique Challenges

According to the Canadian Radio-television and Telecommunications Commission (CRTC) a digitally well-connected nation is "vital to Canada's economic, social, democratic, and cultural fabric." Canada's bandwidth capacity growth has been on a downward decline for over 15 years while other countries are making significant progress towards faster and more extensive broadband internet access<sup>1</sup>. Many countries have declared internet access an essential service and have made it a priority to connect all citizens. Those without access are at a disadvantage.

The gap between the connected and the unconnected is commonly referred to as the 'digital divide,' a problem which plagues rural Canada where the return on investment is seldom high enough to convince private providers to invest in the necessary infrastructure. Canada's low population density is certainly a factor, but the lack of a national broadband strategy which incentivizes companies to expand their networks into low-profit regions is also part of the problem. In contrast, comparable low density countries such as the USA and Australia have comprehensive national broadband strategies and are working towards 100% digital inclusion<sup>23</sup>.

Another challenge for Canada is that governing bodies have traditionally legislated low target internet speeds rather than aiming high to increase system potential. For example, the CRTC minimum standards of 5/mbps download and 1/mbps upload were set in 2011. In December of 2016 the CRTC finally proposed a new goal of 50/mbps download and 10/mbps upload as the new national standard for broadband access in Canada with the goal of reaching 90% inclusion within the next 5 years<sup>4</sup>. However, an implementation plan for reaching these targets is still lacking.

Achieving these speeds and inclusion level is problematic under the current system because developing scalable FTTP infrastructure is costly and current facilities-based service providers have naturally invested in geographic market areas that have high profitability rates and population densities. Consequently, many rural areas are excluded.

Undertaking a national broadband feasibility study that lays out minimum service levels, delivery models, cost structures, funding, regulatory models that support facilities and service-based competition, and implementation timelines for improved digital inclusion would help build the business case for underserved regions of the country.

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<sup>1</sup> "Broadband: the essential utility." *ICF Canada*, Intelligent Community Forum Canada, <https://icf-canada.com/>. Accessed 16 May 2017.

<sup>2</sup> "National Broadband Plan." *Federal Communications Commission*, FCC, <https://www.fcc.gov/general/national-broadband-plan>. Accessed 16 May 2017.

<sup>3</sup> "National Broadband Network." *Australia Government: Department of Communications and the Arts*, AG, <https://www.communications.gov.au/what-we-do/internet/national-broadband-network>. Accessed 24 May 2017.

<sup>4</sup> Jackson, Emily. "CRTC declares high-speed Internet a basic service, creates \$750-million fund." *Financial Post*, Financial Post, [business.financialpost.com/fp-tech-desk/crtc-declares-high-speed-internet-a-basic-service-creates-750-million-fund](https://business.financialpost.com/fp-tech-desk/crtc-declares-high-speed-internet-a-basic-service-creates-750-million-fund). Accessed 16 May 2016.

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If Canada aims to have 100% inclusion in the digital economy, the Government must have a clear strategy for the future. This strategy should seek to:

1. Examine the potential to provide equal opportunity for educational districts, removing the digital divide between young people in rural and urban areas and allowing all Canadians to learn and innovate in the digital space.
2. Quantify the extent to which digital resources offer significant productivity gains as they allow better communication, new tools, and open up avenues for the sharing and transfer of data and ideas. This is particularly relevant to Canada's agri-food sector which is poised to grow in importance as a major export sector and for which new digital productivity tools are continually being developed.
3. Identify ways to ensure that Canadians are connected to the global economy. A study by the Montreal Economic Institute shows that the development of the Internet of Things (IoT) is growing rapidly. This expansion will change the needs of citizens as more data is required to operate appliances, lights, medical devices, etc. Artificial intelligence (AI) studies show that it has the potential to add \$7.5 billion to the Canadian economy and create 170,000 jobs by 2025 in Canada<sup>5</sup>. These shifts will require a digitally skilled workforce and world-class digital infrastructure for Canada to take full advantage of their potentialities. Identify ways to incentivize the creation of digital infrastructure in the term that will act as an incubator for future innovation.
4. Quantify how digital broadband service has emerged as a critical tool in the attraction, retention and scalability of new entrepreneurial start-ups and SMEs in both rural and urban municipalities across Canada. Businesses are producing and consuming digital content at an unprecedented rate, with industry trends pointing to even higher demand on service providers<sup>6</sup>. Urban communities across Canada are also struggling to upgrade legacy internet utility infrastructure and service brownfield and infill developments.
5. Incorporate the concept of smart cities. The Federal government has also announced investment into the Smart Cities Challenge in Budget 2017. Smart Cities have the potential of creating billions in savings for municipal budgets across Canada in addition to improving socioeconomic outcomes for Canadians. In addition, it has an export market estimated at \$1 trillion per year in 2017 and \$3.4 trillion by 2026<sup>7</sup>. Smart City deployment and development is predicated on high speed broadband access.

## **Recommendations**

That the federal government:

1. Undertake a national broadband feasibility study that lays out minimum service levels, delivery models, cost structures, funding, regulatory models that support facilities and service-based competition, and implementation timelines for 100% digital inclusion and work with all jurisdictions and the private sector to determine action required and implementation staging plans. Furthermore, the strategy should also address ongoing operations.
2. Evaluate funding mechanisms to help realize the recent CRTC ruling declaring broadband<sup>8</sup> download speeds of at least 50 megabits per second and upload speeds of at least 10 Mbps, which will be considered a "basic telecom service."

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<sup>5</sup> Dennis, Madonna. "Report: Canada has Unique Potential to Lead in AI []." *Betakit.com*, 12 Apr. 2017, [betakit.com/report-canada-has-unique-potential-to-lead-in-ai-but-must-address-gaps-in-private-sector-funding-and-internet-access/](http://betakit.com/report-canada-has-unique-potential-to-lead-in-ai-but-must-address-gaps-in-private-sector-funding-and-internet-access/). Accessed 20 May 2017.

<sup>6</sup> Cisco Global Cloud Index: Forecast and Methodology, 2015-2020.

<http://www.cisco.com/c/dam/en/us/solutions/collateral/service-provider/global-cloud-index-gci/white-paper-c11-738085.pdf>

<sup>7</sup> "Smart Cities Market 2016-2026". Persistence Marketing 2017. (<http://www.persistencemarketresearch.com/market-research/smart-cities-market.asp>)

<sup>8</sup> <http://crtc.gc.ca/eng/archive/2016/2016-496.htm>