



Enabling Canada's economic independence and global competitiveness through telecommunications



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Executive summary

Driven by substantial investments in network infrastructure, the telecommunications sector is a key enabler of the Canadian economy and instrumental in addressing Canada's productivity challenge and building a stronger Canada. As geo-political challenges evolve, Canada faces mounting pressure on its economic independence and national security. By promoting sustained investment by telecoms in expansion and enhancement of network infrastructure, Canada should strategically leverage the telecommunications sector to safeguard Canada's economic independence, and global competitiveness.

The telecommunication sector contributed \$87.3B in direct GDP and supported 661K jobs across industries in 2024. The immediate direct GDP generated by the telecom industry represents \$30.1B, supporting jobs, wages, and output directly tied to businesses within the sector. As digital transformation accelerates across industries, the telecom sector's role in enabling economic growth has become increasingly important, representing \$57.2B of direct GDP outside the telecommunications sector through increased productivity and business enablement across industries. This underscores the telecommunications sector's important role in building a productive and independent Canada.¹

Today's Canadian businesses and consumers rely on telecommunications infrastructure for everything from remote work to digital commerce, healthcare delivery, and national security protection. In responding to Canadians' increasing demand for connectivity, telecoms are providing more value to Canadians with faster speeds, broader coverage, larger data plans, and lower prices. Notably, from 2021 Q2 to 2024 Q2, mobile and retail fixed internet subscriptions grew at CAGRs of 5.0% and 2.0% respectively.²

1 - PwC GDP and Job Multiplier Output Analysis, Cross-Industry Analysis, Capital IQ, Statistics Canada
Note: Last year, the total jobs multiplier used was 9.4 and has since been updated by Statistics Canada to 6.5
2 - CRTC Canadian Telecommunications Market Report, Mobile Wireless and Retail Internet

-50.4%

decline in cellular services CPI and -6.4% decline in wireline CPI from January 2020 to December 2024.

18%

average capital intensity ratio for major Canadian telecoms from 2020-2024.

+1.4%

increase in Canada's labour productivity growth over the last 8 years.

From January 2020 to December 2024, wireless and wireline prices have declined, with the cellular services and wireline CPI declining by 50.4% and 6.4%, respectively.³

However, the telecommunications industry faces challenges that threaten its ability to sustain the investment levels to meet the Canadian economy's demand for advanced telecommunications. Canadian telecom is more capital intensive than global peers due to factors such as high population dispersion and low population density, challenging terrain and weather, and high spectrum costs. From 2020-2024, the capital intensity ratio for major Canadian telecoms averaged 18% compared to 14% in the U.S., 17% in the U.K., and 10% in Australia.⁴

The sector now faces unprecedented investment pressures, with Canadian telecoms experiencing network investment capacity headwinds as revenue growth has slowed to 1.9% growth between 2023 and 2024.⁵ Further, the Canadian telecom sector operates within an increasingly complex and high-cost regulatory environment, with Canada's rank in the Ease of Doing Business Index falling 19 positions since 2007.⁶ This trend in investment pressure mirrors patterns seen in the European market, where reduced investment led to delayed network innovation.⁷ These challenges create pressure on telecoms to balance immediate network needs and future innovation and expansion.

Navigating this balance is critical as Canada faces a persistent productivity challenge, with labour productivity growth limited to 1.4% over the last 8 years.⁸ The telecom sector plays an important role as an enabler of Canadian productivity through investments in telecommunications infrastructure that enable productivity growth across the entire economy. With digital infrastructure powering advanced technologies, the sector drives innovation in every industry. Beyond infrastructure, telecoms strengthen the workforce by creating high-value jobs, enabling digital skill development, and promoting inclusive labour participation. This combination of enhanced infrastructure and skilled labour creates a multiplier effect on productivity – driving innovation, operational efficiency, and economic growth across sectors and regions.

3 - Statistics Canada, Consumer Price Index

4 - Capital IQ, Statistics Canada, Population

5 - Capital IQ

6 - World Bank Group, Ease of Doing Business Index

7 - PwC Capital Expenditure Analysis, Capital IQ

8 - Statistics Canada, Indexes of Labour Productivity and Related Measures, by Business Sector Industry (Seasonally Adjusted)

For example, consider how telecommunications transform the productivity of trade corridors. By enabling real-time integration of ports, logistics hubs, and transportation networks, the telecom sector creates efficiency gains beyond simple automation or workforce improvements. This integration of smart systems with skilled operations exemplifies how the telecommunications sector multiplies productivity across the economy.

Canada's ability to increase productivity and build a stronger, more competitive and resilient economy depends on expanding and continuing to enhance Canada's high-quality telecommunications infrastructure. As the global economy becomes increasingly digital, ensuring the health and investment capacity of the telecommunications sector becomes a strategic imperative for maintaining Canada's economic independence.



Introduction

This report, commissioned by the Canadian Telecommunications Association and prepared by PwC, is part of an annual series examining the economic impact of the telecom sector. The report analyzes the telecom sector's contribution to the Canadian economy in 2024, examines current industry challenges, and highlights the critical role of telecommunications in driving national economic benefits and productivity improvements.

Canada's economic performance has faced headwinds, as GDP per capita declined by 1.4% from 2023 to 2024.⁹ Despite declines, the telecom sector's labour productivity increased by 1.3% over the same period.¹⁰ Telecommunications is a vital economic sector for Canada, contributing \$87.3B in direct GDP to the economy and supporting 661K jobs across industries. This contribution extends beyond direct economic impact, with the sector enabling \$57.2B in GDP across other industries.¹¹

As Canada grapples with persistent productivity challenges, the telecommunications sector's role in enabling technological innovation becomes increasingly critical. The sector's ability to expand and enhance network infrastructure directly impacts national productivity, supporting everything from remote work capabilities to advanced manufacturing processes. This infrastructure becomes vital as sectors across the economy increasingly rely on digital connectivity to drive efficiency gains and service delivery improvements.

The findings in this report underscore the strategic importance of maintaining a healthy telecommunications sector for Canada's future global competitiveness, independence, and sovereignty. As global economic pressures rise and digital transformation accelerates, ensuring sustained investment in telecommunications infrastructure becomes increasingly crucial to build a resilient and productive Canada.

9 - Statistics Canada, GDP

10 - Statistics Canada, Indexes of Labour Productivity and Related Measures, by Business Sector Industry (Seasonally Adjusted)

11 - PwC GDP and Job Multiplier Output Analysis, Cross-Industry Analysis, Capital IQ, Statistics Canada

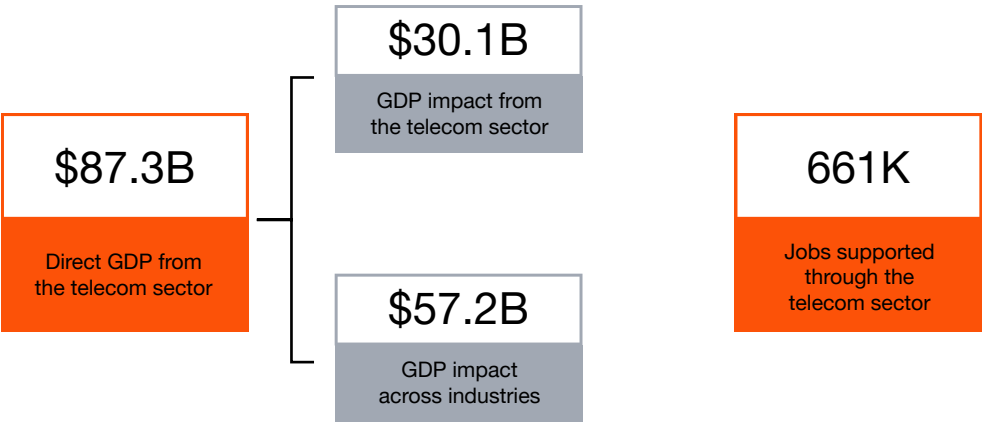
Telecom is the digital backbone of the Canadian economy

The telecommunications sector serves as a fundamental enabler of Canada's economic growth, delivering both direct economic benefits and broader societal value through enhanced connectivity and digital infrastructure. As digital transformation accelerates across industries, the role of telecommunications infrastructure has become increasingly central to national competitiveness and economic resilience.

The telecom sector's economic contribution

The telecommunications industry generates substantial economic value, contributing \$87.3B in direct GDP to the Canadian economy while supporting 661K jobs across the country in 2024. The immediate economic activity generated by the telecom industry represents \$30.1B of this direct GDP, supporting jobs, wages, and output directly tied to businesses within the sector. As digital transformation accelerates across industries, the telecom sector's role in enabling economic growth has become increasingly vital, representing \$57.2B of direct GDP outside the sector through increased productivity and business enablement. Industries including manufacturing and professional services, where Information and Communications Technology (ICT) usage is highest, benefit the most from telecommunications.¹²

Exhibit 1: Canadian telecom sector GDP and job contribution
CAD, 2024



Beyond these immediate effects, the sector enables an additional \$13.4B in GDP and supports 118K jobs through the immediate supply chain, driven by the increase in business-to-business activities. The direct and indirect effects increase employee spending, resulting in an induced contribution of \$11.7B in GDP and supporting an additional 83K jobs.

The telecom sector’s economic footprint extends well beyond its direct operations. By providing essential connectivity infrastructure, telecoms enable innovation and efficiency gains across the entire economy. From supporting remote work capabilities to enabling digital commerce and advancing manufacturing processes, the sector’s influence is a foundational enabler of economic growth across sectors.

Exhibit 2: GDP contribution breakdown
CAD, 2024



Community impact and development

Canadian telecoms play a vital role in community development and social progress, with the 5 largest telecoms – Rogers, Bell, TELUS, Vidéotron and SaskTel – making over \$200M in charitable contributions in 2024.¹³ These investments support various community initiatives, from digital literacy programs to infrastructure development in underserved areas.

The sector's impact on community development is evident in its role in bridging digital divides. By investing in infrastructure across urban, rural, and remote areas, telecommunications companies help ensure more equitable access to digital resources. This work becomes increasingly important as digital connectivity becomes essential for participation in the modern economy to balance regional growth.

Notable charitable contributions across Canadian telecoms include:

Bell¹⁴:

Overall community investment across mental health, team member volunteerism, and charitable giving totaled over \$20M.

Current Bell employees and retirees donated over \$1.3M and engaged in 108,000 volunteer hours to more than 2,000 Canadian charities, matched by a further \$1.2M from Bell.

Together with Canadians, Bell Let's Talk Day contributed \$1.6M to six youth mental health organizations, with a further \$10M of investment towards mental health pledged for 2025.

Eastlink¹⁵:

Sponsored and hosted the 35th annual TCP telethon, which raised over \$1.1M for healthcare in Newfoundland and Labrador.

Rogers¹⁶:

\$107M directly invested in cash and in-kind support through programs such as Ted Rogers scholarships, youth grants, and ad-hoc donations, with an additional \$39M enabled through the Jays Care Foundation.

SaskTel¹⁷:

Contributed \$2.9M in sponsorships to over 1,000 non-profit and charitable organizations in 237 communities.

Over 143,000 phones recycled, with proceeds supporting people fleeing domestic abuse through the Phones for a Fresh Start program.

Employees contributed over 24,000 volunteer hours to Saskatchewan charitable causes.

Tbaytel¹⁸:

Donated over \$400K in funds last year to 115 initiatives in Northern Ontario.

Vidéotron (Québecor)¹⁹:

Supported a range of initiatives related to Quebec sports, health, education, environment, entrepreneurship, and culture totalling over \$45M in value.

\$10M donation in December 2024 to the Fondation du CHU to build new hospital complex in Quebec City.

\$20M donation to Université Laval in February 2025 to establish the Québecor Sphère program, which will include research and teaching initiatives, the creation of an ESG investment fund, and scholarships.

13 - Rogers, Bell, TELUS, Vidéotron, SaskTel, Annual Reports

14 - BCE, Integrated Annual Report

15 - Eastlink, TCP Health Foundation Eastlink Telethon

16 - Rogers, Annual Report

17 - SaskTel, SaskTel Cares

18 - Tbaytel, Tbaytel for Good

19 - Québecor, Social Engagement

Spotlight

Telecom initiatives to connect Indigenous communities

The Canadian telecom sector has invested in several initiatives to provide connectivity to Indigenous communities and promote reconciliation with Indigenous peoples:

Bell²⁰:

- Co-developing and co-producing with the Aboriginal Peoples Television Network (APTN) to foster Indigenous on-screen and production talent
- Reinforcing Indigenous relations internally and within communities through their Partnership Accreditation in Indigenous Relation (PAIR) working group

Rogers²¹:

- Turned on five new cellular towers (bringing the total to 9 out of 11) along BC's Highway 16 (Highway of Tears), bringing an additional 166KM of 5G & 9-1-1 coverage to the area
- Indigenous Community Ambassadors program awards grants up to \$20,000 to support Indigenous film creators
- Established an Indigenous Journalism Team to allow community members to tell their own stories
- Introduced preferred pricing program for Indigenous wireless customers

SaskTel²²:

- SaskTel's Indigenous Youth Awards were established in 1997 and are handed out annually to high-achieving and high-impact Indigenous youth



20 - BCE, Integrated Annual Report

21 - Rogers, Annual Report

22 - SaskTel, SaskTel Cares

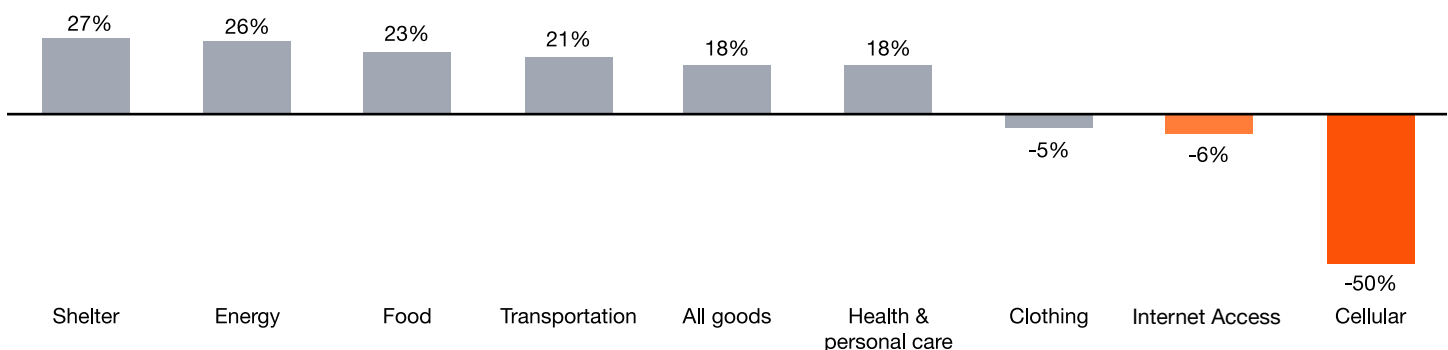
Canadian telecoms delivering lower prices and greater value

The telecommunications sector is improving affordability for Canadian consumers, standing out as one of the few industries to provide sustained price reductions amid broader inflationary pressures. Given the simultaneous expansion of network coverage and dramatic increases in data consumption, the sector demonstrates its ability to balance service quality with cost effectiveness.

Driving value through connectivity

The telecommunications sector has demonstrated a consistent trend toward providing more value to Canadians. While consumers faced increasing prices for most items, the telecommunications industry has lowered prices and provided more services (e.g., increased data) per dollar. Cellular services experienced the most significant reduction among major Consumer Price Index (CPI) categories, declining by 50.4% between January 2020 and December 2024. The CPI of internet access services has similarly decreased, falling by 6.4% during the same period.²³

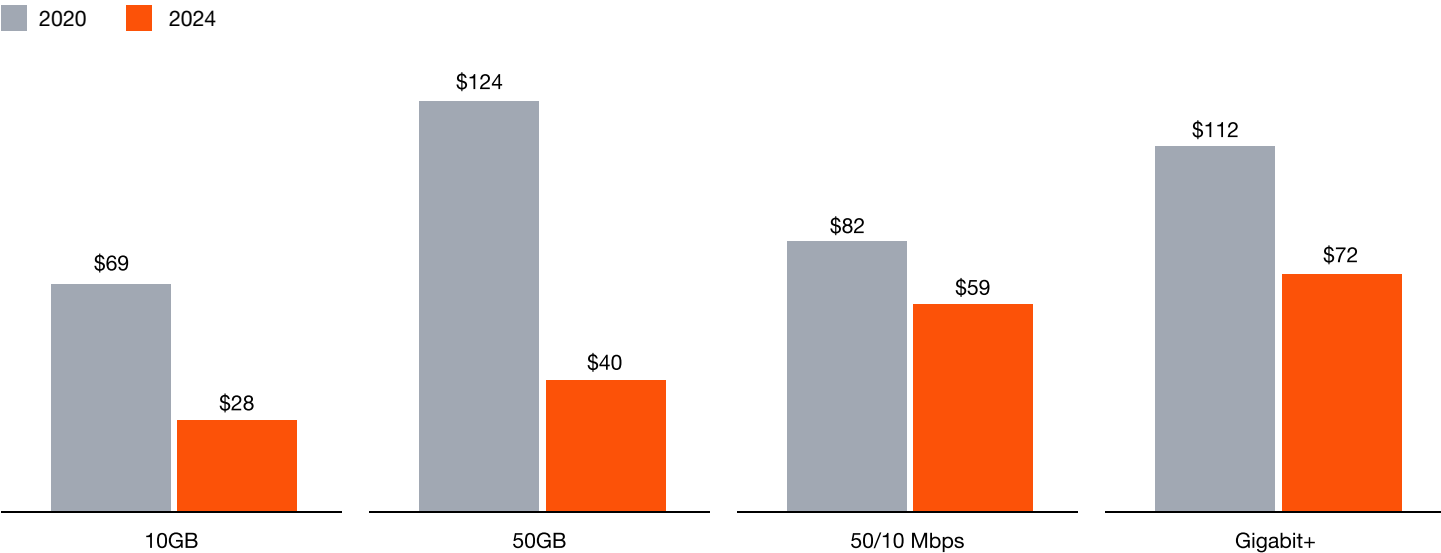
Exhibit 3: Consumer price index (CPI) for select product categories in Canada
% change, Jan 2020 – Dec 2024



As Canadians shifted to higher-range wireless (10GB+) and wireline (50/10 Mbps+) plans, providers prioritized price reductions for larger data plans to keep up with increased market competition. Price reductions created higher value plans for Canadians – providing larger data plans for lower prices. As a result, Canadian telcos continue to drive value for consumers as prices for higher GB wireless and wireline plans have decreased since 2020.

From February 2020 to September 2024, the lowest average reported monthly price for the 10GB plan fell by \$41 (a 65.1% decrease in real terms adjusted for inflation over the period) while the 50GB plan fell by \$84 (a 72.5% decrease in real terms adjusted for inflation over the period). Over the same period, prices for the 50/10 Mbps plan fell by \$22 (a 38.6% decrease in real terms adjusted for inflation over the period) while the Gigabit+ plan fell by \$40 (a 45.2% decrease in real terms adjusted for inflation over the period).²⁴

Exhibit 4: Monthly prices for 10GB and 50GB wireless plans and 50/10 Mbps and Gigabit+ wireline plans
CAD, Feb 2020 vs Sep 2024



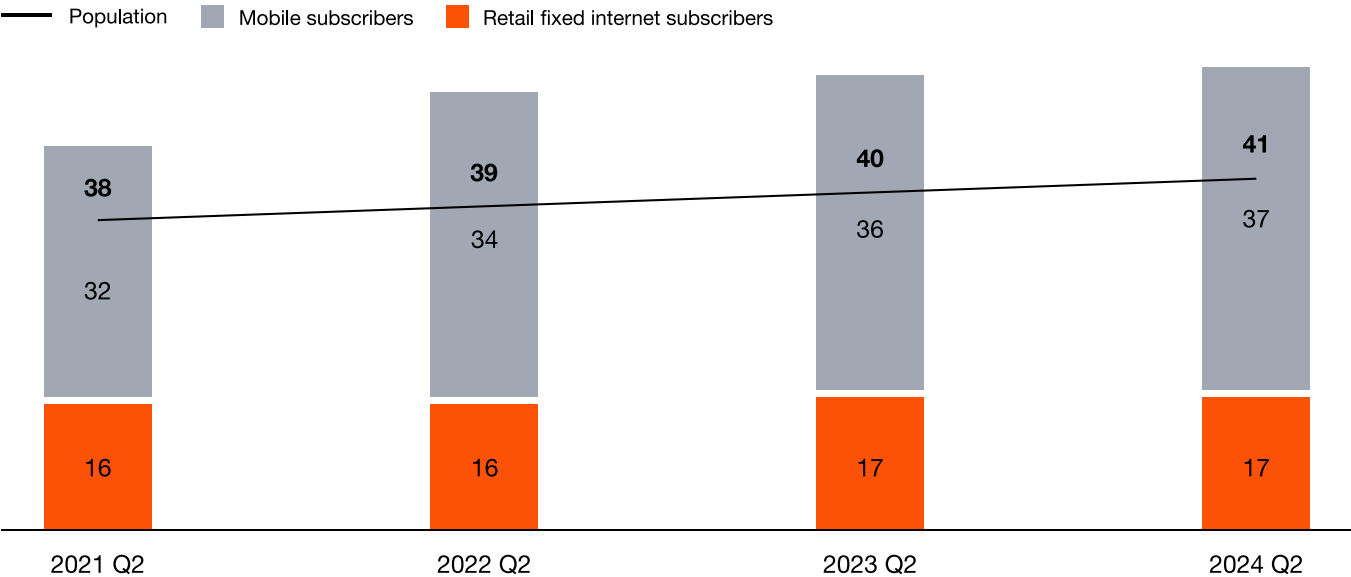
24 - CRTC Canadian Telecommunications Market Report, Statistics Canada, CPI

These price reductions have been achieved while simultaneously advancing network capabilities through sustained infrastructure investment. As the CRTC notes, “Canada is among the leading countries in its peer group in achieving gigabit-speed coverage. Coverage at this network speed level is significant, given the geographic scope of the country and the scale of investment needed to cover it.” Canadians also benefit from world-class wireless network performance, “Canada’s [wireless] speeds compare favourably with those of peer countries”. This combination of enhanced performance and improved affordability demonstrates the sector’s commitment to delivering value to Canadians.²⁵

Network access and usage

As Canadian telecoms provided higher value connectivity, data consumption and network usage increased over the last four years. Notably, from 2021 Q2 to 2024 Q2, mobile and retail fixed internet subscriptions grew at CAGRs of 5.0% and 2.0% respectively. Although total subscription growth outpaced population growth, the CRTC noted that: “continued subscriber and revenue growth over the past year [was] driven in part by newcomers”.²⁶

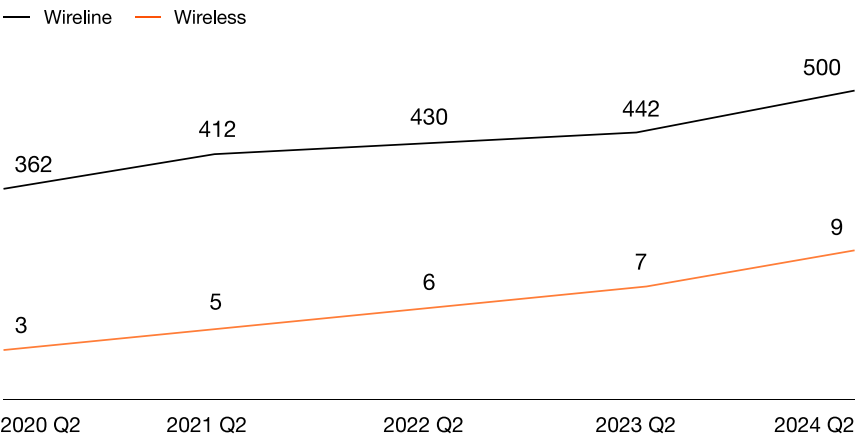
Exhibit 5: Mobile and retail fixed internet subscriptions vs population
M, 2021 Q2 – 2024 Q2



25 - Statistics Canada, CRTC Canadian Telecommunications Market Report
26 - Statistics Canada, CRTC Canadian Telecommunications Market Report
Note: While mobile subscriptions are quarterly figures, retail fixed internet subscriptions are annual figures.
The 2024 retail fixed internet subscription figure is an estimate.

Over the same period, Canadian consumers and businesses continued to demand more data and connectivity services, with data consumption traffic exhibiting a 31.4% CAGR for wireless and an 8.4% CAGR for wireline internet.²⁷

Exhibit 6: Average download and upload traffic per subscriber per month GB, 2020 Q2 – 2024 Q2



The telecommunications industry demonstrates its ability to support Canada’s growing technological needs by managing increased data traffic for an expanding subscriber base while improving the value of connectivity services.

27 - Joint CRTC-Statistics Canada Quarterly Survey



High quality and resilient networks require ongoing investment

The Canadian telecommunications sector faces challenges in maintaining, enhancing, and expanding network infrastructure. Despite its important role in the economy, the telecom industry encounters high factors of production and revenue pressure, impacting its ability to sustain investment for future innovation in telecommunications networks.

Current telecom investment landscape

Historically, Canadian telecom revenues and capital expenditures exhibited an increasing trend, growing at a CAGR of 5.7% and 3.8% respectively from 2020-2024.²⁸ The CRTC has acknowledged the significant impact of telecom investment, reporting that “Canadians benefit from high levels of capital investment in telecommunications services, both wireline and wireless. Among comparator countries, Canada’s telecommunications sector shows among the highest levels of capital expenditures”.²⁹

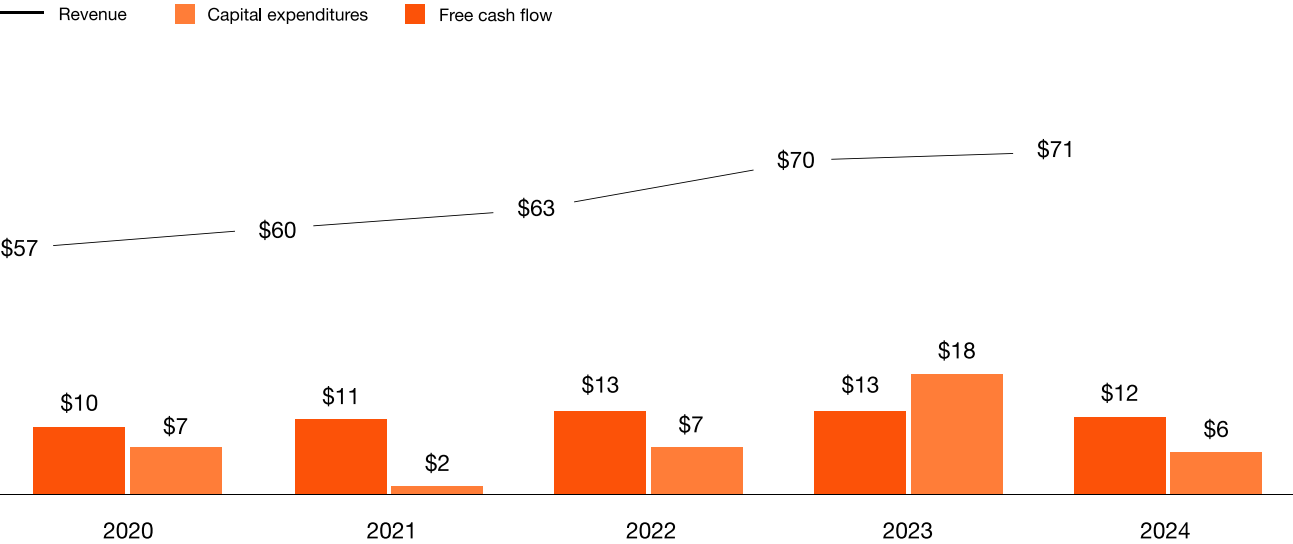
However, in 2024, the sector experienced an unprecedented shift with slower revenue growth and a reduction in network investment. This shift is a result of increased regulations, technology disruption, and market competition putting downward pressure on prices and revenues, leading to lower investment capacity.

28 - Capital IQ

29 - CRTC Canadian Telecommunications Market Report

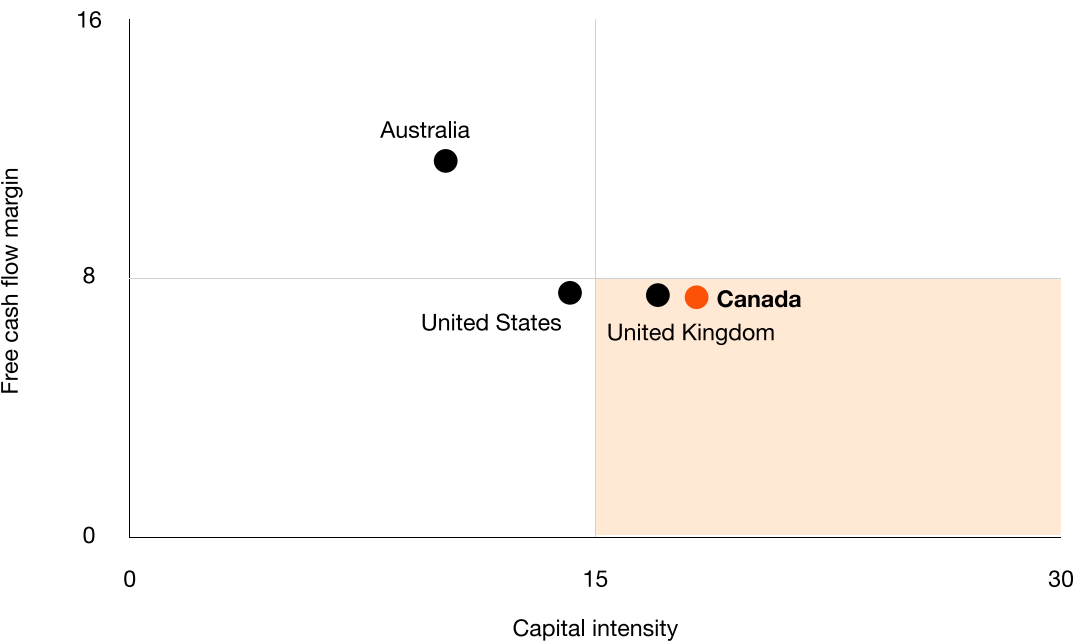
Notably, capital expenditure declined by 6.8% as revenue growth slowed to 1.9% growth between 2023 and 2024, resulting in an 8.5% free cash flow (FCF) margin. This places the sector’s FCF margin among the bottom half of all major industries across the S&P/TSX Composite Index.³⁰

Exhibit 7: Major Canadian telecoms’ average capital expenditure and absolute free cash flow compared to revenue
CAD B, 2020-2024



Canadian telecoms operate at a disadvantage compared to their global peers in terms of scale and capital requirements. Compared to global peers, Canadian telecoms face higher investment costs, spending \$282 per capita on network infrastructure in 2024. From 2020-2024, the capital intensity ratio for major Canadian telecoms averaged 18% compared to 14% in the U.S., 17% in the U.K., and 10% in Australia.³¹ The 2024 CapEx decline combined with Canadian telecom’s capital inefficiency amplifies the risk of stalling innovation in an increasingly digital economy.

Exhibit 8: Average capital intensity vs free cash flow margin across global peers
%, 2020-2024



31 - Capital IQ, Statistics Canada, Population

Spotlight

Learnings from the European telecom sector

Canada's pullback in network investment following a decline in revenue mirrors concerning patterns seen in European markets. Major European telecoms generated approximately \$640B in free cash flows over the past two decades. However, over the same period, free cash flows decreased at a 3.3% CAGR, signaling a long-term decline in profitability and reinvestment capacity.³²

Notably, in Europe, Connect Europe reports that “For the first time in seven years, the total telecom investment in Europe has declined by 2%”, noting the drop “from EU59.1bn in 2022 to EU57.9bn in 2023”. At the heart of this downturn lies a fundamental revenue challenge: “European operators have effectively absorbed inflation on behalf of their customers, meaning that revenue decreased in real terms. In 2023, European telecom revenue declined by 4.4% in real terms, as opposed to the Consumer Price Index, which increased by 6.4%”.³³

The consequences of this investment pullback are becoming increasingly apparent in Europe's network capabilities. Connect Europe stated that: “In Europe, the coverage of 5G Standalone...continues to trail other areas of the world: at the end of 2024, 5G [Standalone] coverage of the population reached 91% in North America, 45% in Asia Pacific and only 40% in Europe.”³⁴

Delayed network innovation has prompted calls for course correction from organizations like the European Telecommunication Network Operators' Association (ETNO): “Reversing the downward trend in mobile investment in Europe requires a set of remedies - including radical reform of spectrum policy - to recreate an environment that can recover investor appetite for the sector and rehabilitate a healthy investment capacity for the sector”.³⁵

The European market serves as an example of how reduced investment can lead to negative impacts on network capabilities and global competitiveness. Given Canada's similar emerging investment challenges, network investment remains crucial to maintain the country's high-quality networks and promote continued economic growth.

32 - Capital IQ

33 - Connect Europe, State of Digital Communications

34 - Connect Europe, State of Digital Communications

35 - Capital IQ, Connected Europe, ETNO-GSMA Position Paper



“Alberta experienced four of this year’s most impactful events, including another destructive hailstorm in Calgary that caused \$2.8 billion in insured losses. This was Canada’s costliest weather event in 2024 and the second-costliest overall in our nation’s history. While the rising cost of events like these partly reflects our expanding communities and increasing property values, there’s a deeper story at play: climate change is accelerating far beyond natural rates, due to human influence. Climate change is, intensifying both the frequency and severity of certain kinds of extreme weather events.”³⁷

Geographic and climate challenges

Canada’s unique geography and climate creates hurdles for network deployment and maintenance. With greater landmass than peer countries and a relatively small population spread across a vast area, Canada faces significant challenges in network deployment due to high population dispersion and low population density with only 4.2 people per square kilometre.³⁶

This geographic reality requires telecommunications providers to deploy and service the country through a higher number of dispersed towers and fiber connections, resulting in greater capital investment, build-out, and maintenance costs. Further, severe weather events are becoming more frequent and costlier to the economy, with specific impacts including ice storms and wildfires, restricting construction windows, causing erosion, and compromising network quality. Environment and Climate Change Canada notes the increasing frequency, severity and cost of these extreme weather events on the economy.

National security and cybersecurity

As technology advances, the sector’s ability to protect critical networks, systems and data becomes increasingly dependent on sustained investment. These investment requirements continue to grow as cyber threats are becoming more sophisticated and frequent. Continuous investment in network resilience, availability, and reliability ensures Canada maintains control over its critical digital infrastructure, enabling broader adoption of new technologies across industries and strengthening Canada’s economic sovereignty.

36 - Statistics Canada, Census of Population

37 - Environment and Climate Change Canada, Canada’s 10 Most Impactful Weather Stories

Market and regulatory environment

Canada's current regulatory landscape presents challenges for telcos across several dimensions. The World Bank Ease of Doing Business (EDB) Index ranks economies from 1 (best) to 190 (worst) against each other based on how conducive the regulatory environment is to business operations. It scores a nation's business environment across several dimensions (e.g., starting a business, registering property, getting credit, paying taxes, enforcing contracts, etc.). Amongst all countries, Canada ranks 23rd in the EDB Index, behind the U.S. (6th), U.K. (8th), and Australia (14th), falling 19 positions since 2007.³⁸

Further, the World Bank's Burden of Government Regulation Index which measures the difficulty for local businesses to comply with public administrative requirements, ranks Canada 15th out of 117 countries. This places Canada above the U.K. (37th) and Australia (48th), but below the U.S. (5th).³⁹

Statistics Canada acknowledges the impact of regulations on the Canadian economy: "Despite their good intent, regulations and their accumulation over time impose real costs to businesses and may have a negative impact on economic growth and competitiveness".⁴⁰

Canadian telecoms face the same market and regulatory burdens experienced in the broader economy. Given the dynamic nature of the Canadian telecom sector, the volume of regulations has accumulated over time, potentially straining network investment through increased operational costs for telecoms. To free up investment capacity for Canadian telecoms, regulators should consider approaches from global peers such as the U.S. who are evaluating and rationalizing existing regulations to alleviate any unnecessary regulatory burden.

38 - World Bank Group, Ease of Doing Business Index

39 - World Bank Group, Burden of Government Regulation

40 - Statistics Canada. Regulatory Accumulation, Business Dynamism and Economic Growth in Canada

Spotlight

Learnings from the American telecom sector

The Federal Communications Commission (FCC), the U.S.'s communications regulator, is taking steps towards alleviating the regulatory burden across the sector.

The FCC opened the “In Re: Delete, Delete, Delete” docket that aims to “facilitate and encourage American firms’ investment in modernizing their networks, developing infrastructure and offering innovative and advanced capabilities.” As part of this initiative, the FCC recognizes that “unnecessary rules may stand in the way of deployment, expansion, competition, and technological innovation”, with FCC Chairman Carr stating that “For too long, administrative agencies have added new regulatory requirements ... in place long after their shelf life had expired.”⁴¹

To evaluate existing regulations, the FCC is considering the impact of certain policy factors on the sector. They emphasize that regulations should be continually reassessed through a lens of cost-benefit efficiency, real-world effectiveness, evolving technological and market conditions, broader regulatory and legal environment, and other contextual factors to ensure they remain necessary, proportionate, and aligned with current public interest objectives.⁴²



41 - FCC, In Re: Delete, Delete, Delete (GN Docket No. 25-133), Office of Chairman Brendan Carr

42 - FCC, In Re: Delete, Delete, Delete (GN Docket No. 25-133), Office of Chairman Brendan Carr

Telecom connectivity as a strategic lever for future competitiveness

Canada has experienced a prolonged productivity challenge that directly impacts its ability to compete effectively in the global economy. To improve productivity, it is important for Canada to invest in the three factors of productivity: capital intensity, labour composition, and multifactor productivity. As digitalization accelerates and reshapes industries, telecommunications infrastructure becomes increasingly important for productivity growth.

The productivity challenge

Canada's productivity performance faces a concerning trend, with labour productivity growing only 1.4% from 2017-2024.⁴³ The Bank of Canada has warned about the severity of the problem and emphasized the urgent need to improve productivity, noting that, "relative to the United States, among G7 countries [Canada is] now second only to Italy when it comes to productivity decline". This sluggish growth has a real cost to Canadian businesses and workers, as productivity is important for creating jobs and higher wages, maintaining public infrastructure, and increasing economic growth.

⁴³ - Statistics Canada, Indexes of Labour Productivity and Related Measures, by Business Sector Industry (Seasonally Adjusted)

+12.4%

Telecom labour
productivity growth
from 2017-2024

The Bank of Canada points out that investment levels are the standout reason that led Canada to its productivity challenge: “perhaps most importantly, Canada’s investment levels are nowhere near as high as they should be ... In fact, investment levels have decreased over the past decade.”⁴⁴ The national reduction in investment levels is relevant to the telecom sector given the recent investment headwinds. From 2017-2024, telecom experience a 12.4% labour productivity growth, outpacing the total economy by 11pp. However, without continued network investment, future productivity growth is risked across both the telecom sector and the total economy.⁴⁵

Telecom stands out as a central enabler of productivity across the Canadian economy through providing the infrastructure necessary to support the growing digitization and use of connectivity-enabled technologies across industries. As businesses increasingly rely on information technology tools, remote work capabilities, artificial intelligence, and other digital tools to drive efficiency, telecom’s role in powering productivity becomes increasingly important. The sector’s role as a fundamental enabler means that its own sustained productivity and investment have a multiplier effect across the economy, making telecommunications infrastructure development crucial for Canada’s broader productivity.

Boosting the three factors of productivity

Closing Canada’s productivity gap will strengthen economic resilience and sovereignty by reducing dependence on external partners. Productivity improvements depend on optimizing three key factors of production. Capital intensity equips workers with better tools and infrastructure. Labour composition enhances workforce quality through skills development. Multifactor productivity maximizes the combined efficiency of labour and capital resources. These factors, enabled by robust telecommunications infrastructure, will form the foundation of digitally-enabled any productivity transformation throughout the economy.

44 - Bank of Canada, The Productivity Problem, Fixing Canada’s Productivity Problem

45 - Environment and Climate Change Canada, Canada’s 10 Most Impactful Weather Stories

Capital intensity: Foundational infrastructure for economic growth

Capital intensity represents the tools, technologies, intellectual property, and infrastructure that enable workers to produce more output within the same timeframe. In Canada's context, capital intensity is particularly important as it determines how effectively businesses can compete in an increasingly digital global economy, with investment in advanced equipment and technology being key drivers of labour productivity. Statistics Canada highlights its importance to production stating that "weaker investment in fixed capital was the most significant contributor to...relatively slow labour productivity after 2015".⁴⁶ Encouraging investment from businesses into the tools that empower worker productivity and drive efficiency will be a crucial lever in addressing Canada's productivity challenge.

The telecommunications sector serves as an enabler of this capital intensity transformation. Through its own investment into cell towers and telecommunications infrastructure, Canadian telecoms unlock access to productivity tools and technologies for entire geographies and across industries. Rural areas previously constrained by poor connectivity unlock access to tools that greatly enhance productivity and fundamentally change the ways nearby businesses operate. Additionally, the capital intensity of other industries benefits directly from telecom infrastructure, as businesses can invest into a greater set of tools and technologies, digitize and automate their workflows, and operate remotely.

The ability to scale capital productivity in Canada fundamentally depends on sustaining telecom investment. As industries increasingly require digitization and the adoption of advanced technologies to maintain productivity, the quality and reliability of telecommunications infrastructure become a critical factor in determining Canada's overall capital intensity competitiveness.

46 - Statistics Canada, Multifactor Productivity Growth Estimates and Industry Productivity Database

Labour composition: Transforming Canada's workforce capabilities

Labour composition, which encompasses both the skill level of workers and their ability to adapt to changing economic needs, drives productivity by enabling greater output per worker through higher-value roles, technical proficiency, and digital fluency. In a rapidly evolving Canadian economy, a stronger labour composition includes not just more skilled workers but also more equitable access to opportunity, creating a workforce capable of building, deploying, and managing emerging technologies.

The telecommunications industry directly contributes to Canada's workforce development by employing tens of thousands of skilled professionals, including network engineers, software developers, cybersecurity experts, and data scientists. Beyond direct employment, providers actively invest in upskilling programs and partnerships with academic institutions to grow domestic talent pipelines, strengthening Canada's overall labour market.

Canadian telecommunications infrastructure catalyzes workforce digital fluency across all sectors. By powering essential tools such as video conferencing, collaboration platforms, and real-time analytics, telecom networks enable industries from healthcare to construction to upskill their workforce and improve service delivery. This digital enablement transforms how workers learn, collaborate, and deliver value in their roles.

As well, the telco sector plays a particularly important role in supporting inclusive labour participation and development. By enabling remote work, flexible schedules, training, education, and access to digital resources, telecom creates opportunities for rural, marginalized, and underrepresented communities to access higher value jobs.

The telecommunications sector's ability to support labour composition improvements directly influences Canada's productivity potential. As the economy continues to digitize, the quality and accessibility of telecommunications infrastructure becomes increasingly fundamental to workforce development and economic inclusion.

Multifactor productivity: The multiplier effect of connected infrastructure

Multifactor productivity represents the compound impact of labour and capital working together, generating productivity gains greater than the sum of their parts. When telecommunications infrastructure aligns with a skilled workforce, it creates a multiplier effect that drives innovation, enables operational efficiency, and accelerates economic growth across sectors and regions.

This alignment of human capital with digital infrastructure enables more adaptive, data-driven decision-making in rapidly changing markets. Organizations can scale output faster through economies of scale, while workers can apply their skills more effectively using advanced digital tools. The result is a more dynamic and productive economy that can respond quickly to new opportunities and challenges.



Spotlight

Multifactor productivity in the economy

The transformative impact of telecommunications infrastructure on the Canadian economy becomes particularly evident in three distinct economic contexts:

1 - Trade corridors: Unlocking national economic potential

Telecommunications infrastructure enables ports, logistics hubs, and transportation networks to operate as integrated systems rather than isolated components. When real-time data flows connect multiple processes and stakeholders, the efficiency gains exceed what could be achieved through capital or labor improvements alone. For example, automated routing systems combined with skilled operators can dynamically adjust supply chains based on real-time conditions, reducing bottlenecks and optimizing resource utilization across entire trade corridors.

2 - Rural communities: Driving regional economic vitality

When a highly skilled engineer relocates to a smaller community, telecommunications infrastructure enables them to perform sophisticated technical work traditionally confined to urban centers. Rather than commuting to a major city, they can work in-market and spend in-market, allowing their economic contribution to be captured by the regional economy. This economic boost allows previously underserved communities to invest in public infrastructure (e.g., schools, shops, public facilities, and transportation) and attract highly skilled workers across industries, transforming these areas into productive economic hubs.



3 - Mining operations: Modernizing traditional industries

In remote mining operations, telecommunications infrastructure enables the use of real-time monitoring systems, surveyance drones, and remote communications. Rather than halting operations for routine inspections or waiting for technical experts to arrive on-site, mining companies can leverage remote diagnostic tools and real-time monitoring systems to identify and address issues promptly. This connectivity-enabled approach reduces equipment downtime and allows both on-site workers and capital assets to maintain higher productivity levels, demonstrating how the combination of skilled labor and advanced technology creates meaningful efficiency gains.

Looking ahead

The telecommunications sector uniquely enhances all factors of production simultaneously. Through sustained infrastructure investments, it bolsters Canada's capital intensity by enabling technology adoption across industries. It strengthens labour composition by creating opportunities for skills development and remote work. Most importantly, it generates multiplier effects when these enhanced factors interact, as demonstrated in trade corridors, rural communities, and modernized industrial operations.

As Canada addresses its productivity challenge, the telecommunications sector's ability to drive improvements across all factors of production becomes increasingly important. This combined impact on capital intensity, labour composition, and multifactor productivity positions telecommunications as a strategic lever for Canada's future economic growth and competitiveness.

Methodology

General Canadian telecom sector calculations

The telecom sector as defined in this report and used in the economic modeling refers to network operators supplying wireless and wireline connectivity services – excluding television video services and infrastructure, as well as satellite connectivity and other supporting sub-industries.

The majority of figures in this report combine data for the major providers, which represent over 99% of the sector's revenues: Bell Canada Enterprises, Rogers Communications, SaskTel, Vidéotron and TELUS. Where applicable, analyses were performed using operator figures from the calendar year January 1, 2024, to December 31, 2024. All dollar figures are represented in Canadian dollars using the Bank of Canada exchange rate to the relevant country's currency.

Economic analysis

The economic impact highlighted in this study represents the telecom sector's contribution to the Canadian economy through its value chain as well as the impact on additional industries that could drive greater sales and productivity output due to new wireless and wireline connections. To derive the telecom sector's direct, indirect, and induced contribution to the Canadian GDP and jobs created, the 2021 Statistics Canada multipliers for the information and culture industry at the national level were applied to industry expenditures.

To estimate the direct contribution of telecom connectivity to GDP outside the telecom sector, the analysis examined how increases in mobile and fixed broadband connections correlate with GDP growth in non-telecom industries using Statistics Canada and CRTC data from 2020-2023. The multivariate regression model considered factors including total subscriptions and population access to high-speed mobile and broadband networks on GDP across other industries.

Telecom health

To assess the financial health of telecom sectors from 2020-2024 across Canada, the U.S., the U.K., and Australia, two key indicators were calculated in absolute: capital intensity and free cash flow margin. Capital intensity was defined as capital expenditures divided by total revenues, while free cash flow margin was calculated as levered free cash flow divided by revenues.





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