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5G Impact on Canada's Economy

Launched in early-adopter markets in 2018, 5G technology will provide 10-times or greater performance in data speed, latency, traffic capacity and other characteristics compared to 4G. With 5G fixed wireless access technology as a cost-effective alternative to last-mile fibre connections, the benefits of 5G are available to both urban and locations. In this way, 5G substantially bridges digital divides between urban and remote communities.

Given these characteristics, 5G enables technologies such as autonomous vehicles, remote-operated robots, virtual and augmented reality, artificial intelligence, and machine learning to be deployed safely and with precision, in both urban and remote settings. Whereas 4G enhanced the consumer experience and brought benefits mostly to industries that served applications to smartphone devices, 5G promises benefits to all sectors.

5G will create economic growth through increases in productivity – the efficiency with which capital and labour are used to generate output. Productivity is the primary contributor to growth in Canada's standard of living as measured by GDP per capita. Finding ways to increase productivity is therefore critical to Canada which is ranked last by a recent OECD forecast among advanced economies in GDP per capita growth over 2020-2030.

Based on a review of numerous studies that estimate the potential economic benefits of 5G for Canada, as well as independent modeling undertaken for this report, 5G and related technologies could deliver an estimated 16% in Canada's Gross Domestic Product (GDP) growth by 2036. Put differently, 5G-enabled real GDP in Canada will grow to approximately \$40 billion to \$60 billion by 2030 and \$100 billion to \$120 billion by 2036.

Policy recommendations

Governments should make the deployment and adoption of 5G and 5G-enabled technologies a core component of their economic growth strategies.

A coordinated plan is required to address a host of factors that are important to unlocking the economic growth potential of 5G. The federal government should lead, with involvement from all levels of government, mobile network operators, industry participants and technology providers. Key success factors include:

- ❖ The expedient deployment of 5G infrastructure and the preceding release of 5G spectrum.
- ❖ Partnerships between government, mobile network operators, other industry sectors, and research institutions to build and test new ideas using 5G as the platform.
- ❖ A reskilling of the workforce for a digital economy.

- ❖ Mechanisms to ensure network resiliency and access to critical services in case of outages are required to build business and consumer confidence.