



## CENGN Annual Report FY 2021 Sources

### **CEO Letter (Page. 4)**

- the Canadian economy will rebound strongly, growing over 6% in 2021 and around 4% in 2022 (OECD, [Economic Forecast Summary \(May 2021\)](#))

### **CENGN Residential Broadband Program (Page. 11)**

- 46% of rural households have access to broadband (CRTC, [Broadband Fund: Closing the digital divide in Canada](#), March 19, 2021)
- Only 24% of Indigenous communities have access to high-speed internet (Future of Good, [COVID-19 is Highlighting Canada's Digital Divide. What Can We Do About It?](#), April 16, 2020)

### **Opportunity in the Global ICT Sector (Page. 12 and 13)**

- **Rural and Northern Stats**
  - o Only 46% of rural households and 24% of Indigenous communities have access to high-speed internet (CRTC, [BROADBAND FUND: Closing the digital divide in Canada](#), March 19, 2021) and (Future of Good, [COVID-19 is Highlighting Canada's Digital Divide. What Can We Do About It?](#), April 16, 2020)
  - o Download/upload speeds in rural Canada (CIRA, [New Internet Performance Data Shows the Staggering Scale of Canada's Urban-Rural Digital Divide](#), May 8, 2020)
  - o 54% of rural households lack access to 50/10 Mbps speeds (CRTC, [Broadband Fund – Closing the Digital Divide in Canada](#), March 19, 2021)
  - o Over 1/3 of Canadians make sacrifices to afford home internet ([Acorn Canada, Barriers to Digital Equity in Canada pg 7](#), 2018)
- **5G Stats**
  - o 5G offers the tools to reduce greenhouse gas emissions (CENGN, [5G Climate Change: 4 Ways 5G is Helping the Environment](#), February 23, 2021)
  - o 5G towers reduce CO2 emissions up to 80% (ComSoc, [Nokia Deploys 1<sup>st</sup> Liquid Cooled Base Station in Helsinki, Finland](#), December 12, 2018)
  - o 5G stations and carbons emissions(Mobile World Live, [Power a Greener 5G Era with Huawei 5G Power](#), May 27, 2019)
  - o Canadian wireless sector spending for 5G (CENGN Whitepaper)
- **Canada's Digital Economy**
  - o 5.1% of the Canadian workforce are in digital occupations (Technation Canada, [Bridging the Digital Skills Gap](#), January 2020)
  - o 34% of tech companies face difficulty filling ICT positions (Technation Canada, [Bridging the Digital Skills Gap](#), January 2020)
  - o 1 in 4 Canadian STEM graduates opt to work outside of Canada (Brock U, [Reversing the Brain Drain, Where is Canadian STEM Talent Going?](#), May 4, 2018)

- 2/3 software engineering graduates are leaving the country (Brock U, [Reversing the Brain Drain, Where is Canadian STEM Talent Going?](#), May 4, 2018)
- Canadian tech sector's job growth rate (Newswire, [Growth of Canada's Technology Industry and Workforce Detailed in New Cyberprovinces](#), October 17, 2019)
- **Economic Prosperity (Canada)**
  - Global GDP by 2022 (IDC, [IDC Reveals 2021 Worldwide Digital Transformation Predictions](#), October 29, 2020)
  - Employment (Newswire, [Canada's Technology Industry Continues on Growth Path, CompTIA Cyberprovinces](#), September 9, 2020)
  - Pandemic and Jobs (Innovation Economy Council, [How Canada is Fighting the War on Talent](#), December 8, 2020)
  - Canada's rank on Global Innovation (17<sup>th</sup>) (WIPO, [Global Innovation Index 2020](#), September 2020)
  - Economic trends and issues in Canada's tech sector (Conference Board of Canada, [Innovation](#), May 2018)
- **Smart Mining**
  - Growth (Allied Market Research, [Smart Mining Market by Type](#), March 2021)
  - Smart mining IoT technologies (CENGN, [CENGN's Smart Mining Living Lab: Enabling the Future of Mining](#), December 1, 2020)
- **Precision Agriculture** (Delphi Group, [How Precision Agriculture Can Revolutionize Canada's Agri-food Sector](#), July 5, 2019)
- **eHealth** (PWC, [No longer science fiction, AI and robotics are transforming healthcare](#), June, 2017)
- **Smart Cities** (CENGN, [5G Climate Change: 4 Ways 5G is Helping the Environment](#), February 23, 2021)
- **Professional Services** (<https://www.cengn.ca/wp-content/uploads/2021/04/CENGN-Professional-Services-Accelerating-Cloud-Native-Transformation-.pdf>)

### **CENGN Smart Agriculture and Smart Mining Labs (Page. 18)**

- The agriculture sector is critical to Canada's economy, accounting for 7.4% of Canada's total GDP and providing Canadians with over 2.3 million jobs. ([Overview of the Canadian agriculture and agri-food sector 2018](#))
- Canada ranks in the top 5 for the global production of 13 major minerals and metals, with Ontario having the most active mines of any province or territory. For a total impact of \$109 billion, Mining represents 4.6% of Canada's GDP [...]. ([The State of Canada's Mining Industry – Facts and Figures 2020](#))