



BUSINESS COUNCIL
OF ALBERTA

December 2021

Alberta's Economy: Sector Snapshots

Technology



Technology



Based on 2015 or 2020 data, depending on data availability

VALUE

Economic Value (2015)

\$18B | 5%*

*Estimates based on Alberta's share of tech employment. National GDP was \$117B and Alberta represented 15% of total tech employment. The State of Canada's Tech Sector, 2015 report

R&D (2015)

\$1.4B | 40%*

*Estimates based on Alberta's share of tech employment. National R&D was \$9.1B and Alberta represented 15% of total tech employment. The State of Canada's Tech Sector, 2015 report

EMPLOYMENT

Employment (2015)

107k | 4.8%*

*2015 estimate based on The State of Canada's Tech Sector, 2015 report

Average Salary (2020)

\$95k*

+14% v 2015

*Weighted average of Calgary and Edmonton, excludes other regions based on Scoring Tech Talent report

INVESTMENT

Venture Capital (2020)

\$455M*

+100% v 2019

*Canadian Venture Capital Private Equity Association Year End 2020 report

VC Deals (2020)

51

+30% v 2019

*Canadian Venture Capital Private Equity Association Year End 2020 report

- Tech is different from other industries in that it really isn't a cleanly defined industry; the most comprehensive definition of "tech" spans a range of economic sectors. For instance, the use of software, AI, robotics, and other forms of "tech" transcend industries.
- Using this broader definition, Alberta's tech sector totaled \$18B—and this was as of 6 years ago (the most recent estimate).
- Importantly for growth, tech-related industries account for an outsized share of R&D spending, an estimated 40% of Alberta's total.
- Employment in tech occupations represents around 100k jobs.
 - These jobs are also among the highest paid in Alberta: an average of \$95k in Calgary and Edmonton markets in 2020.
 - Alberta's tech jobs skew more to Architecture, Engineering, and Design than ICT, likely representing a connection with the energy sector.
- Startups are an important part of the growth of the tech sector and venture capital is an important part of getting startups off the ground.
 - Alberta attracts less than its share of venture capital, but VC is quickly growing: doubling from '19 to '20.
 - 40% of tech startups are reporting greater than \$1M in annual revenue as of 2020, a 66% increase over 2018.





Technology: Key Trends & Forces



1

Labour & Capital Needs

Calgary was listed as one of the “biggest risers” in 2020 in terms of tech talent, increasing by 6 spots on a list of 50 cities across North America. In fact, both Edmonton and Calgary are viewed as important up-and-coming tech ecosystems to watch. However, firms in Alberta consistently report difficulty finding the workers they need; capital is a key limiter to scaling operations; and Alberta’s is an uncompetitive environment for tech start-up attraction compared with other, more-enticing jurisdictions.

2

Cross-Sector

The industry is and increasingly will be cross-sectoral. Tech represents a burgeoning industry on its own (ICT). But the tools, processes, and skills of “tech” are also vital in the transformation of traditional industries like manufacturing, energy, and transportation: to make them more productive, profitable, and sustainable. There are also lessons and opportunities from tech for the public sector. COVID opened the door to change and possibility of systems which have gone unchanged for decades, to increase the speed and effectiveness of government processes, supports, and programs.





Technology: SWOT Analysis



Strengths

- Home to a large number of tech success stories (Benevity, Circocardiovascular, Drivewyze, Decisive Farming)
- Innovation ecosystem is rapidly growing: VC funding doubled from 2019 to 2020
- Research strengths stemming in part from oil and gas including geomatics, unmanned vehicles, and artificial intelligence
- A world-leading Artificial Intelligence centre at the University of Alberta
- Organizations which support the innovation ecosystem including: Creative Destruction Lab, Alberta Innovates, the Alberta Enterprise Corporation, Alberta Research and Innovation Advisory Committee, Invest Alberta, & A100
- Starting to build “anchor companies” which will grow the ecosystem of skills and founders in Alberta, with particular success in Life Sciences due to focus of CDL, post-secondaries, WED, and physicians and researchers



Weaknesses

- The digital economy remains underdeveloped in Alberta and its growth has lagged other provinces since 2017
- Software—along with digital support services such as digital education & consulting—has been slower to grow in Alberta
- Access to capital remains a challenge at the early and scale-up stage in Canada and in Alberta in particular
- Calgary and Edmonton have the lowest rates of scaling companies among urban centres in Canada
- Quickly growing but still lacking the critical mass of entrepreneurs, startups, and experienced talent
- Low rate of technology adoption Canada-wide
- Based on reported labour shortages, pipeline talent remains limited
- Government policy does little to attract businesses in tech



Opportunities

- A high quality of life, low cost of living of Alberta, and high quality PSI which tends to attract talent
- Many large tech hubs are geographically close to Alberta
- Available and affordable office space in Alberta's two large cities
- The amount of financial capital and high net worth individuals in our province
- The [Innovation Capital Working Group](#) report highlights a number of opportunities for enhancing capital attraction for start-up and early-stage companies
- COVID has sparked investment in digital technologies across a wide range of areas—from e-commerce to online learning to the automation of tasks
- Building an agreed definition of how to define, and measure, “tech”



Threats

- Increasing competition for tech talent across markets, with the ability to work in markets different from where you live
- Alberta's policy environment, which is not as competitive in attracting entrepreneurs as neighboring jurisdictions
- Though AI and data access has been critical throughout COVID in developing a policy response, it has also exposed gaps in data privacy and security and the need for an intellectual property framework
- Alberta's branding as an oil and gas province resistant to new ideas, diversity, and change

