Alberta IoT

Alberta's Emerging Technologies Ecosystem

Roundtable Report | Spring 2021

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ABOUT ALBERTA IOT

The Alberta IoT Centre of Excellence exists to nurture and accelerate the success of Alberta's Internet of Things economy, contributing to Alberta IoT's overarching mission: To position Alberta as a world leader in Internet of Things and emerging technologies.

How will we do it? By recruiting new businesses and IoT expertise, coordinating research & innovation, and providing access to resources that support business growth. We focus our efforts on Company Recruitment; Digital Talent; Capital Investment & Funding; Branding & Reputation; and Policy.

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ABOUT THIS REPORT

This report was prepared as an abstract to the Alberta IoT Roundtable Discussion for Alberta's Emerging Technologies Ecosystem on May 27, 2021.

BACKGROUND

On May 27, 2021, Alberta IoT Association hosted an industry roundtable discussion to pressure-test the organization's strategic efforts and align key objectives with the needs of the emerging technologies industry in Alberta. Open-ended discussions broached four topics: Capital Investment, Business Recruitment & Talent, Branding & Reputation, and Creating the Alberta Ecosystem.

This discussion gathered industry leaders from small and medium enterprises, government, NGOs, and academic institutions. The discussion highlighted a variety of industry needs with key points to be broached in this report: investment in digital infrastructure throughout the province, a roadmap to capital and government support, expanding the digital talent pool, and Alberta's global reputation.

With increased funding and attention towards the innovation sector in Alberta, the amount of capital isn't the issue: it's access to those resources that requires attention. To better support scale-up companies, better access to resources, and a wide-reaching digital infrastructure must be prioritized to offer the runway Alberta businesses need to thrive. Efforts to strengthen our digital talent pool will also be essential to Alberta's ability to attract and retain innovators.

OVERVIEW

With the increased allocation of funds towards the innovation sector in Alberta, the amount of capital isn't necessarily the issue: access to those resources requires more attention. There's a need for SMEs, specifically in the scaleup stage, to have better access to funding and resources and key decision-makers to consider a robust and wide-reaching digital infrastructure to be critical infrastructure, much like bridges and roadways. Efforts to strengthen our digital talent pool will also be essential to Alberta's ability to attract and retain innovators.

CAPITAL & SUPPORT

A call has been made for a more clear-cut path forward for innovating companies, including those pivoting into IoT and emerging technologies. Specific to the province, Alberta's Red Tape Reduction Act, as of June 1, 2021, is halfway (16.36%) to it's goal of 33% overall reduction in duplicate processes and outdated rules across all industries. Fulfillment of this objective is necessary, and a concerted effort to continue this philosophy will be needed on an ongoing basis.

We must find the balance between regulation and optimization, and streamline the processes between companies and funding sources. Clarity with regard to the province's funding landscape is also needed to ensure that innovators in emerging technologies have access to funds they qualify for. Lastly, fund flexibility is essential for SMEs to be able to adapt to the pace of the marketplace.

NETWORK & INFRASTRUCTURE

Connectivity for all Albertans levels the playing field, increasing access to digital skills for all communities and expanding deployment capabilities for SMEs in Alberta. Currently 16% of Canadians lack the basic "universal service objective" target of 50 Mbps download and 10Mbps upload (50/10), with unlimited data transfer. As of today, Canada's goal for 90% of the country's broadband target is within reach, but for rural communities, connectivity remains an issue for over 50% of the population (Government of Canada, 2021).

Digital infrastructure must be considered critical infrastructure - much like roads and bridges. While the private sector offers connectivity for specific industries (primarily O&G), a concerted effort to break down the silos and offer broad connectivity will be a key differentiator for the province.

REPUTATION

The story of innovation in Alberta is not being told enough. In consequence, there's an opportunity to refine our key messages so we can share the story in a coordinated way. Alberta is full of success stories, and the Alberta story is best told through current, proven models of successful implementation. It's time to tell our story; rather than focus on the story of the 'unicorn,' we will become an advocate for Alberta's diverse ecosystem, with highly valued 'unicorns,' sustainable 'zebras,' and innovative startups. We'll 'drink our own champagne' and tell a story with measurable metrics and key indicators that innovation happening **here**.

Alberta IoT and its Centre of Excellence must pivot our messaging, and promote the prevalence of IoT to international markets, communicating to the international market that emerging technologies can thrive in our province.

BUSINESS RECRUITMENT

Recent news from companies like Infosys and MCloud bringing their operations to Calgary means technology innovators see value in the Alberta ecosystem. In addition to supporting Alberta's existing tech ecosystem, drawing international companies to establish roots in Alberta will be influential in the province's ability to remain competitive and diverse. As part of new business recruitment, Alberta IoT is actively working to provide expedited migration for foreign-owned businesses looking to operate in Canada; more specifically, for founders or core team members to be granted permanent residency (if they meet Immigration, Refugee and Citizenship Canada requirements).

Through partnerships with key organizations and venture capitalists, Alberta IoT is building a program that will position the organization as leaders in the recruitment of digital technology companies to Alberta.

TALENT POOL

Further efforts need to be made to encourage reskilling and upskilling, and build the business skills needed for the digital economy. Calgary ranks #5, Edmonton #7 among the 20 leading cities in Canada for specifically tech labour pool size, behind Toronto, Montreal, Vancouver, and Ottawa (CBRE, 2020). This is a positive indicator, suggesting that Alberta has a solid foundation of highly skilled workers to build upon. However, there is already a strain on the talent resources in this province, a strain only made more prevalent when large players enter the arena.
This emergent challenge demonstrates the need for collaboration between Alberta digital technology companies and educational institutions. Versatility in the startup environment will continue to be very important and it will be vital that industry remains connected to our 26 post-secondary institutions to adjust programming in response to the market and build of-the-moment skills.

POLICY RECOMMENDATIONS

UNDENIABLY, GOVERNMENT BODIES HAVE A SIGNIFICANT ROLE TO PLAY IN INNOVATION.

By creating policies with an eye for regulatory balance, Canadian, more specifically Albertan, companies attempting to scale up globally can do so with public policies and infrastructure that allow for them to remain globally competitive.

Tech company leaders navigate a myriad of issues, such as standards and regulations strategies, IP rights strategies, common architecture collaboration and policies, among others. In this way, government agencies can make the difference beyond funding, with decisions made by legislators, judges, regulators and agency heads with the awareness of impacts on innovation.

CAPITAL & SUPPORT

Alberta has the opportunity to lead in the transformation of many industries, including clean energy, agri-tech and health. Strategic investments in scale-ups, with more flexible, easy-to-navigate funding models will promote sustainable growth for innovation SMEs, thereby encouraging success and company retention.

As of June 1, 2021, the Alberta Red Tape Reduction Act is halfway (16.36%) to it's goal of 33% overall reduction in duplicate processes and outdated rules across all industries. An increased focus on technology and innovation sectors with the initiatives under Alberta's Red Tape Reduction Act will reduce the administrative burden on the applicant and help streamline deployment of funds. The roundtable discussions also uncovered a need for additional programming that targets commercialization efforts, as well as flexibility on capital deployment.

STREAMLINE PROCESSES, DEVELOP ROADMAP

Common challenges among participants' comments included the lack of a funding and resource 'roadmap.' Opinions indicate a dire need for a centralized effort to provide more clarity and efficiency to the capital programming available. Multiple sources of funding, repeat applications and stringent reporting leave many companies feeling as though the task of pursuing grants is "a full-time job" in itself.

Another barrier that many SMEs in scaleup face is the deployment of granted funds. Uncertainty in timelines and application turnarounds can hinder a scaleup company's ability to adapt to market quickly, and remain competitive locally and internationally. The roundtable unearthed a suggestion for service level guarantees in government, whether it's municipal or provincial. A concierge process provides clarity and better access to funds that support growth and innovation. In doing so, a set standard can provide confidence to the investment community or the business that their time to vertical or when capital is received has a defined timeline.

FUND ELASTICITY FOR SME's TO ADAPT

Resiliency and innovation go hand-in-hand. While funding and resource programs have the ability to allocate funds to companies for growth in specific areas of their business, approved uses for these funds are often stringent, leaving companies who have outgrown or changed direction constrained to outdated accountabilities if funds don't allow flexibility.

Funding flexibility is advantageous especially for scaleup business, allowing grantees to adapt to business needs, such as help with hiring, business analysis, engineering, and marketing. A relevant funding model that accounts for flexibility is the Western Diversification Business Scale-up and Productivity (BSP) Program, a program designed for high-growth companies looking for funding in Productivity Improvement, Business Scale-up and Technology Commercialization.

Funding should also reflect an emphasis on sales and marketing aspects of business. Programs that encourage scaleups to incorporate marketing, sales, and business acumen from an early stage will provide an answer to a well-known weakness that has left Canadian's lagging in high-growth opportunities. According to a "Canadian Tech Tortoises", an impact brief published by the University of Toronto Impact Centre, US firms that scale quickly to US$10 million in revenue spend an average of 73% more on marketing and sales and allocate 40% of staff to marketing and sales activities, as opposed to research and development (2017). Again, we don't tell our story enough.

The digital economy is everywhere, and therefore the conditions need to be created to reap the rewards by intensifying the digitalization of all our industries.

NETWORK & INFRASTRUCTURE

Building technology-enabling infrastructure is critical for the development and implementation of innovations that lead to positive economic, health, environmental and social impacts, both here and abroad. Digital infrastructure must be considered critical infrastructure - much like roads and bridges.

While digital infrastructure is needed, we must be cognizant of imminent global connectivity, and the ways in which we will respond. In this way, investment in terrestrial solutions needs to be strategic given this impending disruption.

While the private sector offers connectivity for specific industries (primarily O&G), a concerted effort to break down the silos and offer broad connectivity will be a key differentiator for the province.

TALENT POOL

A more robust upskilling and reskilling strategy must be a primary focus in order to bolster the emerging tech sector in Alberta. Versatility in the startup environment will continue to be very important and it will be vital that industry remains connected to our 26 post-secondary institutions to adjust programming in response to the market and build of-the-moment skills.

A resilient digital talent pool is closely tied to support for scale-up companies. Successful scale-ups contribute to a circular flow of capital and talent with sustainable growth strategies, quality employment opportunities, and adequate capital. Similar to what happened in Alberta's energy sector, larger companies provided high-quality training to employees who take their knowledge to subsequent employment, allowing Alberta's economy to accelerate as fast as it did on a global scale. A-players need A-education and A-experience to get there. A thriving talent pool takes diversity in the ecosystem from 'unicorns' to 'zebras' to massive giants to garage-based start-ups.

OUR EFFORTS

ALBERTA IOT WILL CONTINUE TO ACT AS AN ADVOCATE FOR INDUSTRY.

Alberta IoT will continue to act as an advocate for industry, ensuring that government support is accessible and easy to navigate for companies in IoT and emerging technologies. Identifying and mapping the barrier points that need to be accelerated, as well as all the resources available, will be of benefit to foreign businesses attempting to navigate the Alberta ecosystem.

BUSINESS RECRUITMENT

Our mission is to position Alberta as the worldwide centre of excellence for Internet of Things technology. To achieve this, Alberta IoT focuses on recruiting new businesses and expertise to Alberta, coordinating projects and research, and connecting our membership to the growing digital economy. As part of new business recruitment, Alberta IoT is actively working to provide expedited migration for foreign-owned businesses looking to operate in Canada; more specifically, for founders or core team members to be granted permanent residency (if they meet Immigration, Refugee and Citizenship Canada requirements).

Through partnerships with key organizations and venture capitalists, Alberta IoT is building a program that will position the organization as leaders in the recruitment of digital technology companies to Alberta.

With a focus on companies with over a million dollars in revenue and over a year in business, the Startup Visa (SUV) will enable the Alberta technology ecosystem through this "New to Canada" program. The program will leverage the foundations of the Fast Track Program. This program will be executed in partnership with Invest Alberta, with support from international organizations including; AiFoundry, ARTPark, TIDES IIT Roorkee, SINE, IESA (India), SISP (Sweden), IIT Mentors (USA), SwissNEx (Switzerland), Enterprise (Ireland) and others.

During initial stages of migration, these New-to-Canada businesses will be connected with our Alberta IoT membership, networking and support, grant and VC support to grow, and a year of mentorship as they establish themselves in the Alberta market.

REPUTATION

Rather than focus on the story of the 'unicorn,' we want to bolster and promote the existence of a **diverse ecosystem**, with highly valued 'unicorns,' sustainable 'zebras,' and innovative startups. Alberta IoT and its Centre of Excellence must pivot our messaging, and promote the prevalence of IoT to international markets, communicating to the international market that emerging technologies can thrive in our province. It is crucial that Alberta IoT promotes the demonstration of such technologies through demonstration, showcasing IoT technologies in use, solving real problems developed or implemented by Albertans and Alberta companies.

CONCLUSION

With strategic investments and working with civil society, universities, governments at all levels and industry, Alberta's ability to propel forward as a leader in IoT and emerging technologies can be realized. While Alberta has a highly skilled talent pool and solid foundation of entrepreneurship and innovation, shifts in infrastructure and policies will not only allow Alberta to remain competitive, but give the province the springboard needed to set new standards of excellence around the world.

What conditions are right? Our recent roundtable included discussions about access to capital and resources, and revised funding models that accommodate the dynamic nature of the tech marketplace. A robust and wide-reaching digital infrastructure is critical infrastructure not only for rural communities, but for industrial deployment; much like bridges and roadways, connectivity must be considered critical infrastructure. Alberta's highly skilled workforce is to our advantage, as the market rapidly advances open communication between institutions and industry will ensure that our workforce stays current.

Alberta IoT will work towards recruiting companies to expand Alberta's ecosystem, and to promote Alberta as a diverse ecosystem. The association will hold a subsequent roundtable discussion with focused discourse around Network & Infrastructure, Capital & Support, Recruiting Companies, and Building Talent.

SOURCES

CBRE. (n.d.). Alberta's Tech Talent Pool is Growing, Fast | CBRE. CBRE - Offering Leading Commercial Real Estate Services in Canada | CBRE. Retrieved June 6, 2021, from https://www.cbre.ca/en/about/advantage-insights/articles/albertas-tech-talent-pool-is-growing-fast

CBRE. (2020, June). 2020 Scoring Tech Talent | CBRE. CBRE - Offering Leading Commercial Real Estate Services in Canada | CBRE. https://www.cbre.ca/en/research-and-reports/Scoring-Tech-Talent-in-North-America-2020

CBRE. (n.d.). Alberta's Tech Talent Pool is Growing, Fast | CBRE. CBRE - Offering Leading Commercial Real Estate Services in Canada | CBRE. Retrieved June 6, 2021, from https://www.cbre.ca/en/about/advantage-insights/articles/albertas-tech-talent-pool-is-growing-fast

Government of Alberta. (n.d.). Selling Alberta to the world : an investment and growth strategy - Open Government. Open Government Program | Alberta.ca. Retrieved June 6, 2021, from https://open.alberta.ca/dataset/aef59421-5754-401e-8c6f-71c9f915936d/resource/076e8370-3454-49c2-b4fe-0145584fcb09/download/jei-selling-alberta-to-the-world-2020.pdf

Government of Canada. (2021, March 19). Broadband Fund: Closing the Digital Divide in Canada | CRTC. Canadian Radio-Television and Telecommunications Commission. https://crtc.gc.ca/eng/internet/internet.htm

Statistics Canada. (2021, April 1). Study: Working from home: Productivity and preferences. Statistics Canada: Canada's National Statistical Agency / Statistique Canada : Organisme Statistique National Du Canada. https://www150.statcan.gc.ca/n1/daily-quotidien/210401/dq210401b-eng.htm

University of Toronto Impact Centre (2017, April). Canadian Tech Tortoises. Narwhal Project. https://narwhalproject.org/wp-content/uploads/2021/04/Canadian-Tech-Tortoises.pdf

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