2019

Accelerating Tech in Downtown Edmonton:
Impacts and Opportunities
“Every company is a technology company, no matter what product or service it provides. The companies that embrace this fact are the ones that shape our world. Companies that adapt quickly to new technologies gain a foothold on the market. But companies that wait for a second or third wave stay at the back of the pack and never get the leading edge.”

- Forbes Magazine
Overview of the Industry

Space and Amenities

The Urban Experience

Collaboration

Resources

6.1 Talent Pool
6.2 AI Research
6.3 Funding

Recommendations for Downtown

Why Downtown Edmonton is the Place for Tech

Final Thoughts

The Downtown Business Association’s primary role is “To Support, Connect, and Enrich Edmonton’s Downtown Community”. The Downtown Business Association of Edmonton was formed through the establishment of a Business Revitalization Zone for Downtown Edmonton in 1985. This zone includes the area from 95 Street to 111 Street and from 97 Avenue to 105 Avenue. More information about the DBA can be found at: www.edmontondowntown.com

Written and researched by Karolina Korzeniewski
Technology is changing the way we live, work, and do business at an unprecedented rate. The technology sector is growing at a rate twice as fast as the global economy\(^1\) and is one of the few industries where the return on equity for public companies has increased.\(^2\) It has become a crucial driver of economic growth. Cities that boldly move forward by supporting their startup ecosystem, working together and strategically investing in this sector will be at the forefront of the technology race.

In recent years, there has been a significant focus on Artificial Intelligence (AI). The Global Startup Ecosystem Ranking names Edmonton as one of the hotspots to watch in the AI ecosystem.\(^3\) In the heart of Downtown Edmonton, world-renowned AI researchers are forging ahead into uncharted frontiers that offer unprecedented opportunities for economic growth. It is the new arms race, and Edmonton has taken a prominent place on the world stage, but will it continue?

Downtown Edmonton has all the necessary ingredients to cultivate a thriving tech ecosystem. By focusing on our competitive advantages and leveraging local industry, we can create economic diversification and a forward-looking economy. Developing a thriving tech ecosystem is the new wild west - old rules no longer apply and traditional business models no longer fit. In contrast to The trajectories of previous business models, today's startups have the potential to become global multibillion-dollar companies in years, not decades. This ever-evolving, fast-paced, industry requires a shift in the way we think, invest and work together.

“There will be no next Silicon Valley. There will be 30.”\(^3\) Cities around the world are competing to become the next tech epicentre. The Global Startup Ecosystem Report 2019 predicts that there will be “hubs” distributed around the world, each taking regional or tech sub-sector leadership. A $4 billion US ecosystem value will be the tipping point with 100 cities crossing this threshold in the next 10 years.\(^3\) This is an unparalleled opportunity for new tech ecosystems to become global leaders. Edmonton can be one of these leaders if we boldly move forward now.

Downtown Edmonton has created a fertile ground for a robust tech ecosystem. With numerous high-profile companies and successful startups growing here, the tech community is thriving and shaping our city. We are punching above our weight in research, and we have had significant wins with world-renowned companies like Google DeepMind recently moving Downtown. However, we need to keep getting big wins, or we are at risk of being leapfrogged.

**Edmonton is punching above its weight in research. However, we need to keep getting big wins, or we are at risk of being leapfrogged.**
This report examines the crucial components needed to grow the tech industry in Downtown:

- Space and Amenities
- Urban Experience
- Collaboration
- Resources

Additionally, there will be a focus on:

- Impacts on the Downtown business community
- Areas of opportunity for us to capitalize on our strengths
- What we need to do to get our next big win
- Notable examples from other successful jurisdictions

Throughout the report, there will be a focus on our tech subsector strengths of:

- Artificial Intelligence (AI)
- Life Science Tech
- Information Tech
- Gaming

The Tech Talk section features the opinions and thoughts of our tech community.

**Methodology**

Data was obtained from the following sources:

- Interviews with various stakeholders in the ecosystem including established tech companies, startups, service providers as well as non-profit and government agencies.
- Review of the most recent reports on the tech industry in Edmonton.
- Analysis of white paper and reports from other jurisdictions.
- Academic and newspaper articles.
- Previous DBA business reports.

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**How do we define the “Tech Industry”?**

While starting with the premise that every company is a tech company is straightforward, defining the “tech sector” is more nuanced. Defining what a “tech sector” is has evolved over the years. Initially, the term referred to communication equipment, semi-conductors and computer hardware. This concept was then expanded to include software and applications that use coding. As technology advanced further, the definition was broadened again to include internet companies like e-commerce, social media, the shared economy and cloud-based computing. The tech sector now consists of a diverse range of companies that are involved in research, development and distribution of technology-centered goods and services. Accepting that there is no universal definition, it is more useful to examine the subsectors that exist. Some of these subsectors include: internet software and services, e-commerce, gaming, digital health, robotics, big data, biotech, augmented and virtual reality and fintech.
Edmonton has a dynamic and growing tech industry. As of 2018, there were 394 technology companies in Edmonton. Our strengths include AI and Machine Learning, Life Sciences and the Information Technology (IT) sectors. 41% of Edmonton tech companies are in IT, followed by 19% in the Life Sciences sector. 33% of these companies are incorporating AI into their products and services. 67% classified themselves as startups, while 28% were spinoffs from academic research.

Types of Tech Industry in Edmonton:
(Including startups and established tech companies):
*Definitions and breakdown from 2018 Alberta Technology Deal Flow Study, Feb 2019

- Life Sciences: Biotech, medical devices, pharmaceuticals, eHealth, healthcare products and services, and other medical-related products and services.
- IT (Information Technology): Computer hardware/software & services, Internet software & services, eCommerce.
- Industrial/Materials: Equipment and material manufacturing.
- Energy Tech: Technology products that are not primarily software-based relating to the efficient, environmentally friendly and economical extraction, conversion, transportation, storage and use of energy.
- Clean Tech: Technology products that are not primarily software-based, that have a focus on reducing waste and requiring as few non-renewable resources as possible.

Industry Breakdown for Edmonton (n=394)*

*statistics from 2018 Alberta Technology Deal Flow Study, Feb 2018
Products and Services Made in Edmonton

Software as a Service (SaaS) or Enterprise Software make up the largest portion at 40% and 20% provide biotech devices. Edmonton tech companies are combining innovative products with services (40%) with 53% building their products in-house here in Edmonton. Almost all of the companies are selling their products to private industry (98%) with 44% also selling to the government and 40% selling to individual customers. 15% of companies have between $1-$5 million in revenue, while 6% have more than $5 million in revenue. One-fifth have revenues between $100,000-$500,000 and 24% are pre-revenue. 36% of companies have product traction and are scaling.

*statistics from 2018 Alberta Technology Deal Flow Study, Feb 2018
What is a startup?

Steve Blank, serial entrepreneur and business professor at Stanford and UC Berkeley, defines a startup as a “temporary organization in search of a repeatable and scalable business model.” Broadly, the term “startup” implies innovation, pivots, failing quickly and ultimately designing a company that will grow rapidly.

Why are they important?

Startups are the mechanism by which we can take advantage of technological changes. They are important vehicles for economic growth. Globally, the tech startup economy continues to expand, creating an additional $2.8 trillion US in value between 2016 to 2018, a 20.6% increase from the previous period. As part of this growth, deep tech is a burgeoning sector based on tangible scientific and engineering advances such as AI and life sciences.

45% of startups created globally are in deep tech. Downtown Edmonton is very well situated to take advantage of this trend as it has a strong competitive advantage in both AI and the life sciences sector.

Edmonton’s Startup Community

According to Startup Blink, Edmonton is ranked #95 for startup cities in the world and has jumped 34 spots since 2017.

The startup ecosystem is thriving in Edmonton. The Global Startup Ecosystem report puts Edmonton in the Top 5 for talent and market reach in the Activation Ecosystem. It currently has an ecosystem value under $100 million US. It is still a young ecosystem and offers numerous opportunities for growth and scaling. According to the Ecosystem Lifecycle Model, Edmonton is in the activation phase along with other Canadian cities like Calgary, and Quebec City. One of the challenges faced by cities in this phase is resource leakage to larger ecosystems, which hinders growth.

How do we grow our startup community?

Focus on creating more startups, early-stage funding and accelerating out subsector strengths

The Global Startup Ecosystem Report found that it is crucial to focus on creating more startups and early-stage financing in the Activation phase. The main objective is to expand and better connect the startup ecosystem by activating local entrepreneurs, talent and investors. By focusing on a sub-sectors that leverage local economic strengths and developing programs to accelerate these sub-sectors the City of Edmonton can strengthen the existing ecosystem.
Grassroots Organizations:

**Edmonton Advisory Council on Startups (EACOS):**

An independent advisory board for Edmonton’s tech startup and scale-up community. Their mandate is to be the voice of their peer startups and advocate for resource activation and alignment on behalf of the community. They are a recently formed group working to provide result-based strategies for the innovation ecosystem.

**Rainforest Edmonton:**

An informal organization working together to improve the Alberta innovation ecosystem.

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**What is a service provider?**

Service providers in the context of this report are the publicly funded organizations that provide direct support to entrepreneurs and the tech ecosystem. Below is a list of some of the service providers.

**Edmonton Economic Development Corporation (EEDC):** Creates an economic platform for the development of initiatives that support economic growth in Edmonton.

**Venture Mentoring Services:** offers a structured mentorship program to University of Alberta students and alumni and faculty. Their office is in the UofA Alumni office in Enterprise Square.

**TEC Edmonton:** a joint venture between the University of Alberta and EEDC. It supports the scaleup of tech companies and manages the commercialization of university technologies.

**Alberta Innovates:** a provincially funded organization that focuses on building upon Alberta's research and technology strengths. Manages investment programs on behalf of the government and provides funding for startups and incubator programs.

**Startup Edmonton:** provides workspace, mentorship and workshops to tech entrepreneurs and serves as a hub for tech and entrepreneurial meet-ups.

Alberta Machine Intelligence Institute: not-for-profit Alberta based research institute that works with businesses and drives business adoption of AI and ML.

**Healthy City:** An economic development initiative to catalyze the health innovation ecosystem in Edmonton.

**Edmonton Global:** Works with 15 municipalities in the Edmonton Metropolitan Region to attract investment to the region.

**Alberta Enterprise Corporation:** manages funds via its venture capital partners to invest in tech companies.

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**Sources of Funding**

*Arrows indicate funding*
Space and Amenities

Space and amenities are essential components of supporting the tech industry both for newcomer startups and for attracting world-class companies. Edmonton’s Downtown office space offers a variety of modern, top-tier spaces, character buildings and flexible working spaces to meet the need of the tech industry at all stages of growth.

TECH TALK

Tech companies focus on creating open and collaborative spaces to attract tech talent. Companies value offices that reflect the innovate nature of the industry. Quality of work life is important. Some landlords offer larger tenants unique features like private patio space and allowing pets at work to create a place where employees feel at home. While the needs of individual companies can vary drastically, there are common themes in the industry.
Opportunities for Growth

Flexible space that meets the rapidly changing needs of tech startups that are scaling

A challenge facing many tech startups is finding flexible space. The growth trajectory of startups can be so rapid and unpredictable that planning for space becomes difficult. It is particularly problematic for companies in the scale-up phase, which get stuck in the "missing middle." They have outgrown co-working spaces, but long term leases are incompatible with their needs.

Flexible leasing and sub-leasing can have significant benefits

AltaML is an AI-powered software company that is working with many Downtown companies to provide business solutions. In August 2018, they moved their company of 20 from South Edmonton to the 103 Street Centre where AIMCo offered flexibility with subleasing. They continued to grow at twice the rate they had anticipated and now have 56 employees. This flexible and creative lease accommodated the rapid growth of AltaML, and they are now signing a lease for 12,000 square feet with the option to take another 12,000 in the future.

Coworking spaces are growing in popularity

Coworking spaces are a new market segment that has been rapidly developing as a result of the shared economy and the startup boom. In the last decade, flexible office space has grown by 3,500% while the number of people working in these spaces has grown by 8,000%.7 These spaces exist around the world and are currently have space for 1.7 million people.7 Work Nicer, Unit B, Sparrow Spaces, Round House and Homestead are coworking spaces located Downtown; other well-known brands are rumored to be entering Downtown Edmonton.

### Office Space Options Available for Tech Companies (Estimates)

<table>
<thead>
<tr>
<th>Number of Employees and Needs</th>
<th>Options and Costs</th>
<th>Hurdles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Startups: 1-20</strong>&lt;br&gt;Needs:  • Meeting Space.  • Opportunities to collaborate.</td>
<td><strong>Coworking spaces:</strong>  Membership: $100-$150/month  Private desk: $250-$350/month  Private office: $500-$1500/month depending on how many people are in the office.</td>
<td>• Low cash flow  • Business uncertainty</td>
</tr>
<tr>
<td><strong>Medium Size Scaling: 20-50</strong>&lt;br&gt;Needs:  Focus on scaling-up and having adequate space for growth.</td>
<td><strong>Flexible/ month-to-month leasing:</strong>  $750-$1500 depending on size of space and length of lease (month-to-month, and yearly leases are available)&lt;br&gt;<strong>Subleasing:</strong> $0-$10/ sq ft*&lt;br&gt;<strong>Space with minimal tenant improvements:</strong> $10-$16/ sq ft*</td>
<td>Succeeding but growth trajectory is difficult to predict</td>
</tr>
<tr>
<td><strong>Established: 50+</strong>&lt;br&gt;Needs:  • Unique spaces that attract international talent.</td>
<td><strong>Purchasing building</strong>&lt;br&gt;<strong>More traditional long-term lease:</strong> $16-$22/ sq ft*&lt;br&gt;Also includes sizeable tenant improvement allowance</td>
<td>Innovative space to attract top talent</td>
</tr>
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*Plus operating cost: $15-$18/ sq ft (sq ft denoting “square foot”)

This chart is an estimate only
Downtown Edmonton has had some big wins in the last year. It is a strong indication that we are on the right path to growth. Successful tech companies relocate to areas where young tech talent want to work and where collaboration naturally occur. Proximity to the ecosystem is vital for developing a strong tech sector. It brings more tech companies, both locally and internationally, to Downtown. This trend is evident in Downtown Edmonton with big players like Bioware, Google DeepMind and Jobber situated here.

Top Moves of 2018-2019

Amii: Located on 101 Street and Jasper Ave, Amii has expanded to a 44,700 square foot space where 120 students, employees and academics contribute to AI advances.

Jobber: Will be relocating and expanding into the 103 Street Centre building taking up 31,400 square feet with 200 employees.

Bioware: Will be moving from south Edmonton to the EPCOR Tower into a 74,700 square foot space and bringing 300 of their top gaming tech talent to Downtown Edmonton.

Improbable: Opened its first Canadian Headquarters in the Metals Building on 104 Street with 11,000 square feet.

Google DeepMind: Is also on 101 Street and Jasper Ave, DeepMind is currently occupying part of the second floor.

solūt: Relocated from a sublease in CN tower into a custom designed 13,000 square foot space in Edmonton City Centre with over 50 employees.
Being Downtown creates a sense of community for IT company solut

“Being a Downtown technology business for the past eight years, we as an organization have seen the transformation and evolution of the Downtown core as a symbiotic relationship. We have more than tripled in size in that time and are excited about what the Downtown core has and continues to become.

24 months ago when we started looking for space in advance of our lease being up in December of 2018, we paused to reflect on where we wanted to be and live as an organization in the foreseeable future. We then empowered our employees by turning the decision over to them. Stay Downtown or move to a less urban area? Our culture spoke, and over 85% wanted to stay here in the core, and I am happy to say we signed a ten-year lease on 13,000 square feet. ‘Being here isn’t just about office space, it’s about calling somewhere home, the people, the culture, the amenities, and most of all the community.’”

- Jeremy Hayward, President solut

Being Downtown allows for easy access to clients and potential clients

“The companies that we’re working with and meeting with are all located Downtown. It’s greatly reduced our travel time to see clients and allows for more seamless collaboration. It’s also nice when you take a break from your work to be able to walk through a pedways and access a whole bunch of restaurants and stores.”

- Nicole Janssen, Co-founder AltaML

Investing in space makes for happy employees

“IT is known for cubicles and dark spaces. We wanted something different. Our product is our people, and so we invest in spaces where our employees are comfortable and happy. Visitors come to our space and ask, ‘Are you hiring?’ This space represents us. We have designed our office to have spaces for privacy and spaces where collaboration and collisions happen. Our unique space has helped us attract and retain talent.”

- Chris Izquierdo, CEO DevFacto Technologies

Devfacto is a client-focused software consulting company located on the 22nd floor of Scotia Place in an innovative 11,500 square foot space that 80 employees call home.
Impact on Downtown

Innovative leasing strategies are needed to meet the needs of the startup boom in Downtown; while increased tenant mix has motivated landlords to pivot to short-term leases to attract tech tenants.

Tech companies value unique, creative spaces that look and feel different. This has boosted the number of interesting, one-of-a-kind office spaces. The trend for more open and engaging common areas has spilled over to more traditional buildings, like the Phipps-McKinnon Building that now has a living wall, comfortable seating and trendy coffee shops and services.

Additionally, landlords are bolstering their new “show suite” programs where they develop a 1,500-2,500 square foot space and lease this as a ready-built option. These spaces are very popular with tech companies as they are ready immediately and the cost to develop them is often not passed on to the tenant. As the Downtown tech sector continues to grow, and a denser cluster develops, there will be increased demand for high-quality and innovative office space Downtown.

What are other cities doing?

The Edison Building (Aspen Properties) in the Calgary core is a building focused on tech companies of all sizes. It provides flexible month to month leasing, tech-friendly amenities and spaces with activated open collaboration areas with a “tech feel.” There are opportunities to lease spaces from 5,000 square feet upwards and flexible private offices from 150 to 1,200 square feet from $1,000/month. It includes access to multiple boardrooms, tenant lounges and other amenities. We Work, a world-wide co-working space company, is moving into this building. Edmonton companies like Devfacto and AltaML have opened their Calgary offices there as well.

Tech-Focused Buildings are coming to Downtown Edmonton

The 103 Street Centre, which is owned by AIMCo and managed by Epic Investment Services, has attracted successful startup companies like Jobber, Granify, and AltaML. They are currently retrofitting the building to create more modern and open common areas. Through creative leasing, 103 Street Centre is focusing on attracting additional startups and tech companies to their space. There will be a variety of leasing options ranging from traditional leases to “flex space” that provide “plug and play” offices with flexible short-term agreements. This building is taking steps to be a tech-focused, amenity-rich building that allows startups to enjoy the tech vibe with the opportunity to grow into a longer-term lease. It will also feature activated spaces for collaboration, conference space, presentation space as well as a tenant lounge and social staircase. They will also have a space dedicated to a startup accelerator. The retrofitting of this building is scheduled to be completed early next year.
Offer tech-friendly amenities and have a variety of flexible leasing options.

Tech Focused Buildings:
Downtown Edmonton needs buildings that are tech-focused and infrastructure ready offer a variety of leasing options that allow for both new and established companies to become part of the Downtown Tech Cluster.

- Open concept with lots of natural light
- Pet-friendly
- Bike-friendly
- Shared boardrooms and breakout rooms
- Variety of amenities like coffee shops, restaurants, patios and gyms in the building
- Cellphone boosters-eliminating “dead spots” in buildings
- Consider Wired Certification: this identifies connectivity features and digital infrastructure in buildings
- Shared spaces for hosting larger meetings and events like hackathons (100+ people)
- Exposed ceilings with a “brick and beam” feel

Missing Middle:
Landlords and tech tenants need to work together to create innovative ways of leasing. Some flexible leasing terms include:

- Subleasing and using existing space that requires minimal tenant improvement is a good option for startups in the growth phase, but they are becoming scarce.

- Buildings that are tech-friendly and built for “plug and play” can offer flexible leasing options, which allows tenants to move in with minimal capital expenditure.

- Expansion options for upgrading into a long-term lease can help solve the problem of the “missing middle.”
Lifestyle is essential for tech companies to attract talent. Downtown Edmonton has been successful at leveraging our walkability, world-class amenities and affordability to attract talent and companies alike. We must continue to improve the urban experience to grow the tech industry.

**TECH TALK**

The Downtown Edmonton urban experience has greatly improved in the last few years. We need to continue these improvements to bring tech companies Downtown. Vibrant urban communities with rich and unique amenities, boost creativity and provide a platform where genuine relationships happen and innovate collaborations occur. Coffee shops have become a second home for the tech industry. Meeting spaces for larger groups (100+ people) and innovative convention centre space were identified as a gap.

“Coffee shops are a big part of our culture. At any point in the day, half of the people at Lock Stock work at Jobber. It’s our ad hoc meeting space.”
- Sam Pillar CEO and Co-founder, Jobber
Opportunities for Growth

Variety of housing options and amenities
Despite the positive changes, there are still things that need to improve to bring tech companies Downtown. There is a need for a larger variety of housing. The average tech founder is mid-career. The walkability and amenities offered by Downtown Edmonton are very attractive to tech founders. However, it is difficult to find housing that is suitable for pets and families. There is a need for more options Downtown, including more rental options for younger tech employees.

Creating more livable public and private spaces
There are also opportunities to develop more welcoming urban areas both indoors and outdoors, where the tech community can mingle. Adding exciting art features and functional outdoor lighting is important to keep people on the streets and creating a sense of community.

“We need a third space between home and work where you gather to have conversations with people. Bike lanes and car shares complement that and get you to those places.”

-Warren Johnston, Director, Amii

More variety in meeting spaces
The tech community has more “town hall” and “Ted Talk” style meetings. Downtown Edmonton needs more spaces that can accommodate larger groups of 100+ for these events. Building owners Downtown are now considering creating these spaces for their tenants.

What’s Happening Downtown

Employees at Jobber enjoy an urban lifestyle and can engage in the downtown community
Jobber is an IT company that provides field services scheduling software to small businesses. It was founded in 2011 by Sam Pillar and Forrest Zeisler. In 2012, they raised their first round of seed funding and moved into a 1,200 square foot space on Whyte Avenue. In 2015, they raised $8 million and moved Downtown with 30 employees to a 14,000 square-foot space on a 7-year lease. Today, they are at almost 200 employees across Edmonton and Toronto, and are moving into a new 30,000 square foot office space in the 103 Street Centre. Roughly 60% of their employees live within walking distance to work, and most use public transport or bike to work.

“We have a young workforce, people who want to be engaged and part of the community. They’re going to gyms, hanging out, going to restaurants, before and after work. When you look at really successful, bigger cities, that’s usually a common thread. People can work in the same place as they live and enjoy a good lifestyle without having parts of their lives siloed. We wanted public transportation to be super easy, so we ended up deciding to stay Downtown for those reasons.”

-Sam Pillar, CEO and Co-founder, Jobber

Impact on Downtown

Tech companies increase the tenant mix Downtown and create an invigorating vibe that continues after traditional working hours. This young urban workforce is looking for variety in Downtown amenities and housing that is pet and family-friendly. As more people rely on public transport there will be a higher need for grocery and various retail hardware stores within walking distance. This growth will fuel more walkable neighbours where housing, work and amenities intermix. As per the Counsel’s Downtown Business Retention Update on July 12, 2019 the Downtown Business Association and EEDC acknowledge the need to continue to enhance the Downtown urban experience.
More variety in housing and continued enhancement of the urban living experience and 5-star convention and meeting spaces.

Continue to enhance the Downtown Urban Experience:

- More green spaces for relaxation and enjoyment
- More variety in housing options including pet and family-friendly buildings
- More rental housing for younger tech employees
- Attractive public places with public art that are well lit, welcoming and entice the people to get out of their building and connect
- More retail, home/hardware and grocery stores

Innovative Convention Centre:

Creation of a tech-friendly space which is aesthetically pleasing and offers a 5-star experience. The Edmonton Convention Centre has recently upgraded to solar PV units. This is a move towards environmental leadership and innovation. Additionally, it has a breathtaking view of the River Valley and lots of natural light. To bring a 5-star experience consider:

- Adding more colour and art
- Attractive bright furniture
- Pods that provide privacy

Unique meeting space for 100+ people:

Tech companies shy away from boardroom-style meeting spaces. They are looking for unique spaces that are more casual and provide an exciting experience. These are flexible multi-purpose spaces that are often tenant lounges but can be converted into presentation space. Presentation staircases are a unique way to transform areas were people naturally meet to a space that can be used for a “town hall” style meeting space.

What are other cities doing?

The Montreal Institute for Learning Algorithms’ (MILA) opened its new headquarters in the Mile-Ex neighbourhood this year. This further solidified the AI clusters in this community. This 0.5 square kilometre neighbourhood has witnessed an influx of growing startups which, combined with their 3,500 employees, has led to a renaissance in the community, drawing in new restaurants and retail, creating a vibrant urban experience. Mile-Ex is an example of how tech clusters can bring economic wealth and revitalize neighbourhoods. Similarly, Downtown Edmonton can benefit from the formation of strong tech clusters and benefit from the revitalization and prosperity it brings.

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“It takes a village to build a startup.”\textsuperscript{10} Collaboration is happening, but we need more of it, faster. It is a crucial part of growing our tech industry.

The tech startup community has grown in recent years. While there are many examples of great collaborations, the ecosystem remains siloed. Stronger relationships are needed between the startup community, established tech companies, the broader business community, investors and the service providers. There is confusion around the mandates and offerings of different service providers. There is also a need for a more structured mentorship program. While there are many events, the need for more inclusive and diverse opportunities to network beyond just the startup community has been identified. The Startup Genome Edmonton Ecosystem Assessment highlights the need to support local entrepreneurs to be the voice of the community.\textsuperscript{12} The YEG Innovation Compass Report also identified a need for a clear vision and strong leadership through a tech industry association led collaboratively by established tech companies and startups.\textsuperscript{11} EACOS was established to meet this need.

“We believe that if you create opportunities for people to come together organically and actually build genuine relationships, wonderful things will happen.” EACOS \textsuperscript{11}

Silicon Valley, New York, London and Tel Aviv, the world’s most successful startup ecosystems, have a culture of founders helping founders, hosting frequent events, and receiving support from local experts and investors.\textsuperscript{3} Collaboration is the secret ingredient in the recipe for a thriving tech community. The most robust and most successful ecosystems are the ones that are locally well connected, collaborate and are built on strong relationships.\textsuperscript{3} When startups are in close proximity to each other a strong community develops.\textsuperscript{3} Connectedness acts as a multiplier and startups that are highly locally connected are more successful. These “connected startups” grow faster, have more significant exits and have twice the revenue as startups that are not well connected in the community.\textsuperscript{13}
Opportunities for Growth

A structured mentorship program has been identified as a need by the startup community.

Edmonton is known for its entrepreneurial spirit and sense of community. While there are many examples of collaboration and innovative ways of working together, there is still much to do. Mentoring relationships are very powerful drivers of the tech ecosystem. Startup founders that are mentored by a successful entrepreneur are three times more likely to become top performers in their tech ecosystem.\(^{14}\) Startup founders who received mentorship had a 70% chance of surviving the first 5 years vs. only 35% for founders who did not have a mentor.\(^ {15}\) EACOS has also identified that startup founders need more access to mentorship programs.\(^ {11}\)

Structured and established mentorship programs are important

Venture Mentoring Services is a free program for University of Alberta alumni, faculty or student-led businesses to engage in meaningful mentoring experiences through a formalized team-centred approach with experienced business leaders in the Edmonton community. It’s a licensed entrepreneur mentorship program developed by MIT. The program serves alumni, faculty or student founders running companies at many stages. Accepted company founders “pitch” their identified business problem to potential mentors who select which company fits their area of expertise. Each company has 3-5 mentors with various backgrounds. This program has been very successful with the Edmonton business community. They will have over 100 mentors after the fall intake and are recruiting more.

We need a strong Edmonton tech identity

Marketing and branding Edmonton as a Tech City are crucial components of growing the ecosystem. EACOS has also identified this as a gap.\(^ {11}\) Strategies to consider include:

- Common branding and promotional campaigns. InnovateYEG was launched recently to promote Innovation in Edmonton
- Partnering with Edmonton Global to get our “tech message” to the global community
- Communication of success stories both locally and globally
- Physically identifiable tech areas like street floor innovation spaces
- Street signage that identifies our innovation area

“I think Edmonton doesn’t have a feel of a tech hub just yet. You don’t visually see anything that says tech. It’s growing but almost growing under the radar. We need to have a visual, something that people see on the street. You should be able to walk Downtown, and say, oh, that’s got to be a tech company. We’re missing that.”

- Nicole Janssen Co-founder, AltaML
Collaborating with established companies in Downtown is a win-win model

Nanostics is a spin-off company of the University of Alberta that is making big waves in the medical diagnostics community. They created a blood test that more accurately screens for aggressive prostate cancers and reduces the number of men that have unnecessary biopsies. Established in 2017, they raised $3 million from angel investors and another $2 million in grants. This year, they moved into an accelerator in DynaLIFE. Historically, one of the stumbling blocks in medical research is advancing health technologies from the academic world into the real world. Through this unique collaboration, DynaLIFE employees work with Nanostics in creating a product that is market-ready much faster.

“From academic research to a clinical validation study in two years is a fast timeline. A lot of that has to do with our partnership with DynaLIFE. We were able to move our instruments right into the DynaLIFE facilities, have DynaLIFE staff running them, help us improve the technology, and work through the regulatory hurdles.”

- Colin Coros, CCO Nanostics

“For Dynalife, there is a real cultural benefit because people take a lot of pride in being the first to take on these challenges and have people coming from all over the world to see what they’ve done. When you create a culture that says we always run at the front of the pack, you create this inherent drive within the organization to succeed.”

- Jason Pincock, CEO DynaLIFE

Impact on Downtown

Tech companies crave proximity to great ideas. There will be a need for more private and public spaces that facilitate this collaboration. Buildings are being retrofitted to provide more open spaces and lounges. This will also drive the need for more public places where people can connect. As tech companies move Downtown to be closer to the tech cluster, it creates a thriving urban atmosphere where the community wants to shop, socialize and live. This will increase the demand for more services and the opportunity to create businesses to serve this community.

How to Get Our Next Big Win?

We need vision, leadership and cohesion.

“Every company is a tech company.” The whole Downtown business community benefits when our tech startups are strong. EACOS and other startup founders have highlighted a need for leadership. Downtown is in a unique position to make this happen as it is home to the majority of established and growing tech companies. The Downtown Business Association can partner with EACOS, Innovate Edmonton and Startup Edmonton and determine if a Downtown focused sub-committee is required. They can also facilitate connections between startups and established Downtown businesses and support mentorship and networking events.
Funding, talent and academic institution and research are the foundation of the tech industry. Downtown Edmonton has started to activate these resources, and a vibrant community is forming, but we are being leapfrogged. Immediate action to maintain our competitive advantage is needed.

### 6.1 Talent pool

Edmonton's tech talent pool is growing rapidly.

We have also had impressive growth in high tech employment with a total of 3,500 employees and a 38.5% growth rate. In 2018, there were 28,400 tech employees in Edmonton and our tech talent grown has been 26% over the last 5 years. Edmonton is in the Top 10 cities for Tech Degree completion, and our tech growth.

DeepMind and other AI-focused companies have opened in Downtown Edmonton. In the past, many of our highly skilled graduates moved away for job opportunities. With many companies opening in Downtown Edmonton, it has given many in the tech community a reason to stay and even come back to Edmonton. This trend can be continued by focusing on nurturing our talent- giving them attractive opportunities to work in Downtown Edmonton.

**Post-Secondary Education Institutions:** Edmonton’s six public post-secondary schools have more than 95,000 students enrolled each year with 10,000 international students from 140 countries, with innovation hubs embedded into their programs. Notable examples include:

**MacEwan University:** Social Innovation Institute, design, marketing and communication programs.

**NAIT:** Productivity and Innovation Center- helps businesses use applied research to create innovative

**University of Alberta:** Computing science programs and eHub where entrepreneurs work, connect and collaborate.

Edmonton's post-secondary institutions are known for the very high-quality of their graduates. However, it is not enough to meet current or future demand. Additionally, as our ecosystem is still young, many highly skilled tech employees move away to larger cities with more attractive employment opportunities. Tech companies may leave Edmonton as it can be challenging to find enough local tech talent and to attract tech talent from elsewhere. Another struggle is finding experienced growth employees in sales and marketing.
Opportunities for Growth

We have high-quality talent, but we need more.

As a growing ecosystem, Edmonton does not have enough tech industry senior management professionals. As our ecosystem develops and we have more deal flow, there will be an increase in employees with this experience. In the meantime, we need to attract senior-level management here. There is still an identified need to graduate more tech talent from our post-secondary institutions.

Edmonton Tech Founders

Edmonton founders tend to be mid-career with an average age of 42.6. Harvard Business Review found that the average age of successful tech founders is 45, which is in line with what we see in Edmonton. However, the largest group (28%) is between the age of 31-40. Almost a quarter (24%) have at least one female founder, which is higher than the national average of 13%. Most of the companies in Edmonton (72%) have at least one founder with previous startup experience, and most companies (74%) have 1-2 founders with 1-4 employees (44%).

Tech Talent Rankings and Numbers in Canadian Cities

<table>
<thead>
<tr>
<th></th>
<th>Edmonton</th>
<th>Calgary</th>
<th>Ottawa</th>
<th>Quebec City</th>
<th>Winnipeg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall tech talent ranking</td>
<td>11</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Tech jobs as a % of total jobs in 2017</td>
<td>3.3%</td>
<td>5.3%</td>
<td>11.2%</td>
<td>6.9%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Tech talent total 2017</td>
<td>21,500</td>
<td>36,500</td>
<td>70,600</td>
<td>27,400</td>
<td>16,900</td>
</tr>
</tbody>
</table>

Education Attainment

<table>
<thead>
<tr>
<th></th>
<th>Edmonton</th>
<th>Calgary</th>
<th>Ottawa</th>
<th>Quebec City</th>
<th>Winnipeg</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of labour force with a Bachelor Degree or higher in 2017</td>
<td>28.0</td>
<td>34.8</td>
<td>41.1</td>
<td>28.5</td>
<td>27.8</td>
</tr>
<tr>
<td>Tech degree completion in 2016</td>
<td>1,055</td>
<td>712</td>
<td>1,445</td>
<td>N/A</td>
<td>1,311</td>
</tr>
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</table>

High Tech Industry

<table>
<thead>
<tr>
<th></th>
<th>Edmonton</th>
<th>Calgary</th>
<th>Ottawa</th>
<th>Quebec City</th>
<th>Winnipeg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of employees</td>
<td>12,600</td>
<td>26,500</td>
<td>36,300</td>
<td>12,800</td>
<td>5,900</td>
</tr>
<tr>
<td>% of total labour force 2017</td>
<td>1.6</td>
<td>3.2</td>
<td>5.0</td>
<td>2.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Growth volume 2012-2017</td>
<td>3.500</td>
<td>9,900</td>
<td>7,900</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>% Growth rate 2012-2017</td>
<td>38.5</td>
<td>59.6</td>
<td>27.8</td>
<td>80.0</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Source: 2018 Scoring Canadian Tech Talent,CBRE T7
Companies located centrally have an advantage when recruiting international tech talent. The lifestyle, walkability and amenities available are a great selling feature for attracting top tech talent to Downtown Edmonton.

Downtown Edmonton attracts international talent

Improbable is a UK based gaming company that provides technology enabling game makers to create rich, immersive virtual worlds. It opened its first Canadian office in Downtown Edmonton in an 11,000 square foot space in the Heavy Metals building. Edmonton was the city of choice with experienced developers and a deep talent pool supported by our strong post-secondary institutions. Improbably has 60 employees who are often found enjoying the popular amenities on 104th Street.

“When you’re trying to pull in national, international level talent, you need a space that’s going to resonate with them and make them feel like this is a worthwhile venture to move to Edmonton. That was a big thing for us. The heritage building ‘look and feel’ really resonated with us for those reasons. So in terms of attracting the talent, we have invested in our space and invested in great equipment and great tools and great teammates because you’re going to do your best work when you’re here in our space.”

-Aaryn Flynn, General Manager, Improbable

Downtown offers a great car-free lifestyle to young tech talent

“We moved because we employ a lot of people in their late twenties, early thirties. Most of them are newly out of school, and so they live Downtown. Coming to the south side with really poor transit connection was not ideal. We had one person who had a car that we called the data science taxi because he was driving around picking up six people every morning to come to the south side office.”

-Nicole Janssen, Co-founder AltaAML

Bioware is moving to the heart of Downtown!

Started in 1995, by three medical doctors who studied together at the University of Alberta, Bioware has grown into a multinational company developing console, PC and online role-playing games. In 2018, Bioware was named one of Canada’s Top 100 Employers. That same year two of Bioware’s founders Dr. Ray Muzyka and Dr. Greg Zeschuk received the Order of Canada for their work in developing BioWare. Bioware will be moving into the EPCOR Tower, a LEED Gold certified building, which reflects the companies’ commitment to sustainability and the environment.

“We’re thrilled to be moving into a modern, state-of-the-art facility and live in a space that empowers and inspires us to do our best work every day,”

-Casey Hudson, General Manager, Bioware

Our deep talent pool of AI experts is in high demand

Medo.ai creates AI-enabled software that analyzes ultrasounds without the need of an expert. They have 16 employees located in the Startup Edmonton space with others working remotely across 5 different time zones. In 2018, Siyavash Nia joined the executive team from Singapore, bringing with him expertise on the operations and business development work.

“The AI ecosystem is really rich in Edmonton. There is a deep pool of talent that we need to create our product, including AI grads, medical imaging experts and gaming industry talent. I moved to Edmonton to work with Medo.ai. I am really happy that I came. Small events are happening all the time. I enjoy the Downtown lifestyle and being able to walk to work.”

-Siyavash Nia, VP Product Medo.ai
How to Get Our Next Big Win?

We need to grow our “home team”

We have amazing talent coming out of the University of Alberta, but we are risk of losing it to other larger ecosystems. A focus on strengthening business ties with the student body is essential. The Downtown business community can work towards involving students in networking events and having a stronger presence on campuses throughout the city. Downtown tech companies with their wealth of talent and resources, can help mentor and build relationships with students. This will help with retaining them post-graduation. Startup Edmonton has recently received $250,000 to recruit students from local universities to our tech companies.22
What is the state of the tech industry?

Edmonton’s tech industry is stronger than ever before. It is moving in the right direction, and there are reasons to be optimistic about the future. However, it is not growing as fast as it could.

What are the main issues or barriers that need to be addressed?

- Access to capital
- Experienced senior management
- Increased supply of talent coming from the post-secondary sector
- Active government role in incentivizing and promoting the industry
- We aren’t “hungry” enough and need to do more to market and brand Edmonton as a tech hub
- We are not competitive on the national and international stage when it comes to people, so we lose out to Montreal, Toronto and Vancouver - we need to do more to promote the unique cultural experience that Edmonton offers
- Thinking “outside the box” (to use an over-used cliché). Edmonton has a competitive disadvantage when compared to Toronto, Montreal and Vancouver.
- We need to be creative and “colour outside the lines” as we approach building a vibrant tech sector

To cultivate a leading-edge technology community, all of the issues mentioned above need to be addressed - there is no single answer. Given our post-secondary breadth, an area of immediate opportunity is the supply of talent. Currently, the demand for computer science experts is high and likely exceeds supply. If we do not address this problem immediately, we run the risk of stunting growth in our nascent tech sector. Even if we decide to increase the supply today, it still takes four years to get a computer science degree. Government, post-secondary institutions and industry need to make strategic decisions now to ensure that we have the necessary supply of human capital in the future down the road. I am not confident that this will happen.

What can the business community do to bridge the gap?

- Lobby the government
- Lobby the post-secondary institutions
- Embrace the new technologies; be early adopters and customers for local startups
- Build a real tech community (this is happening)
- Be generous - with capital, time, experience and resources(few signs of this)
- Partner with post-secondary institutions (research teaching, consulting) – this is starting to happen

If you could change one thing in the environment to grow the industry, what would it be and why?

Increase the supply of people with the necessary skills to fuel the tech sector – computer scientists, engineers, medical researchers and agriculture experts. This means making strategic decisions for our post-secondary institutions. Either the government makes targeted investments in the sector or the institutions make internal reallocation of funds.

What’s working well, and how do we scale that?

We have managed to attract outstanding people to Edmonton, and that is, in part, driving innovation. I worry that we can’t retain them and that we may not have the ability to attract more.

We are attracting outstanding students to the University of Alberta for computer science education. Now we need to create more jobs in Edmonton to retain them once they graduate. The start-up scene is very active and exciting. We need to give it fuel– money and talent being the critical ingredients.

“We are not hungry enough.”

An Interview with Dr. Schaeffer
What role do post-secondary institutions play in growing the tech industry?

They are the lifeline for the tech sector right now. Remove this source of human capital, and it’s game over. In today’s knowledge-based economy, skilled people are the new “oil.” Post-secondary institutions must be strategic and attuned with the needs of the province today and with a five-year planning horizon. We must actively allocate resources to feed the tech sector.

Which comparable city is doing it right? What are they doing?

Montreal, Toronto, and Vancouver are all doing it right, in different ways:

- Tax incentives are a common theme
- Ontario and Quebec have made important strategic investments to support the growth of AI-related activities (including education)
- Montreal is being aggressive at bringing world-class conferences to their city
- Montreal/Toronto are aggressively pursuing U.S. opportunities
- Attracting VC money to town
- Aggressively pursuing media stories

Jonathan Schaeffer is a professor in the Department of Computing Science, and the former Dean of Science at the University of Alberta. His research is in the area of artificial intelligence, and he is well known for using games to demonstrate his work. His checkers-playing program Chinook was the first computer to win a human world championship (1994), a feat recognized in the Guinness Book of World Records. He is co-founder of the University of Alberta not-for-profit spin-offs Amii and Onlea, which creates engaging online learning experiences.
6.2 AI Research

Edmonton’s Advantage is AI. The time to capitalize on this advantage is now. If we wait, we will be left behind.

What’s the big deal?

“The AI race has a geopolitical dimension, with countries seeing it as a key area of economic opportunity and national security.”10

- According to McKinsey Global Institute, companies that fully adopt AI over the next five to seven years could double their cash flow by 2030.23
- Global GDP could grow by $15.7 trillion US by 2030 as a result of AI.10 AI is one of the fastest-growing startup sub-sectors in terms of exits, funding and startup creation worldwide.3

University of Alberta (U of A)

In 1964, Edmonton was the first city in Canada to have a Computing Science department. The department consists of 51 faculty members, 1,352 undergraduate students, 326 graduate students, 20 post-doctoral fellows and research associates.24 The University of Alberta has been a world leader in machine intelligence for decades, training the best researchers in the world. It is ranked #3 in the world for AI/MI research published in the last 20 years. Rick Sutton is considered a world expert in Reinforcement Learning and his research has largely contributed to UofA’s success in AI.25

**Artificial Intelligence (AI):**
A sub-discipline of computing science which revolves around programming a computer to find a solution, instead of programming it with the solution, as most other software development does.

**Machine Learning:**
A sub-type of AI which the computer uses relevant, existing data to build systems to answer questions, make predictions, and identify patterns on new data.

**Reinforcement Learning:**
This approach is like the methods we use to train a dog with positive and negative reinforcement (giving or withholding treats). When the system achieves the goal or does the desired behaviour, it gets a reward; when it doesn’t, the reward is withheld (or sometimes, it’s punished by receiving a negative reward). Eventually, the model gets very good at achieving the outcome.

*Descriptions provided by Amii*
Innovation clusters need world-class research and academic centers. Downtown is an AI research powerhouse. Amii, Google's DeepMind, and Borealis AI have opened offices here. Numerous other AI companies like AltaML and U of A spinoffs like Medo.ai have joined this cluster.

The most successful cities cultivate clusters. Proximity allows for "collisions," and both competition and collaboration between companies enables innovation to be accelerated. Tech clusters often form around leading companies like Google DeepMind and academic research facilities like Amii. Other companies have since moved here, including Borealis AI and AltaML.

Have you met Amii?
Located in the heart of Downtown, Alberta Machine Intelligence Institute (Amii) is home to one of three AI research hubs in Canada that is part of the $125 million Pan-Canadian AI Strategy. Formed in 2002, the 120 staff and students at Amii explore the frontiers of scientific knowledge and drive business adoption in the fields of machine learning and artificial intelligence. DeepMind opened their first international office in Downtown Edmonton, to gain access to our world-class researchers Rich Sutton, Michael Bowling and Patrick Pilarski.

DeepMind
Google’s DeepMind opened its first international AI research office in Edmonton, sharing a building with Amii. They have always had strong ties to the University of Alberta with nearly a dozen U of A graduates joining their team. DeepMind Alberta is led by Rich Sutton, Michael Bowling and Patrick Pilarski who have all also maintained their teaching positions at the U of A. DeepMind is committed to supporting long-term AI growth and hopes to turbo-charge Edmonton’s innovation and tech industry.26

Borealis AI
Borealis AI is part of the RBC’s innovation strategy initiative. It has a network of labs across the country. With close ties to Amii and to the University of Alberta, they focus on reinforcement learning problems specifically on privacy and bias in AI. They recently opened in the Phipps-McKinnon Building in a stunning new office space.

Academic spinoffs are finding success Downtown
Drugbank is the world’s largest online database of drug information with a million users visiting the site every month. It began in 2006 as a research project at the University of Alberta. In 2016, it spun out into a company with two employees working out of the shared space in Startup Edmonton. It has grown 300% year-over-year in revenue. Today it has a team of 30 and has moved into a 1,800 square-foot space in the Beaver House in the vibrant Downtown tech community.
Our AI Companies are finding international success

RUNWITHIT Synthetics builds simulated AI driven environments that can produce reality around complex systems. In 2019, their Synthetic City implementation tackled the disaster response and infrastructure mitigation during the earthquakes in Silicon Valley. RUNWITHIT runs scenarios around the clock, delivering 4.2 trillion synthetic hours in 2018 and over 11 billion data points daily to large clients like AT&T, Itron, a global smart city solutions utility company and other multinational conglomerates. Their talented employees were nominees for the Manning Innovation Award and TECTERRA Most Disruptive Technology Honoree. Myrna Bittner who co-founded RUNWITHIT was recognized by Alberta Women Entrepreneurs with the 2019 Emergent Innovator Award. She has created a diverse team which has been critical to their “thinking different” approach. Starting with one female and one indigenous founder, the company culture and competitive advantage relies on a team who can be both intensely collaborative and creative in order to solve some of the most complex and critical questions of their clients. Their team is 70% women. In 2018, RUNWITHIT was highlighted in the Women in Communications Technology and Information and Communications Technology Year End Report with an article about their exceptional culture and diversity practices. RUNWITHIT is also part of the Canada Chicago Medical Mentorship Program, exploring the use of Synthetics in health and have been accepted to the Singapore Cleantech & Smart Cities Canadian Technology Accelerator!

Opportunities for Growth

Leveraging our AI power. Despite our academic strength, we are not capturing the full economic value of our AI research.

The greatest opportunity for growing a robust AI ecosystem is leveraging already existing local industry strengths. If data is the new oil, then strong legacy industries and potential anchor hubs like the University of Alberta and Amii are the most promising wells. It is difficult to compete with large ecosystems like Silicon Valley but we can build a hub of AI excellence in Edmonton and use this as an advantage to build a “spillover effect” into the tech ecosystem and economy as a whole.

How to Get Our Next Big Win?

A strategic focus on commercializing and using this research is necessary.

Our current advantage will quickly disappear as other cites and nations around the world tap into research from our institute. Strategic and timely support of this sector is vital. Both public and private investments are needed.
6.3 Funding

Edmonton is lagging in early-stage investment. It is crucial for a strong tech industry.

Edmonton tech companies rely heavily on personal savings, government grants, friends and family and angel investors for funding; only 1 in 5 tech companies use venture capital. Just over a quarter (27%) have already raised $1 million to $4.9 million and 21% have raised less than $100,000 in the last round of fundraising. One-third of Edmonton tech companies need to raise between $1 million and $5 million. The most common type of financing is equity (45%).

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**Early-stage funding is essential to growing the tech ecosystem but is a challenge for most cities. Funding is a struggle for tech companies in Edmonton and many founders look to other cities and countries when fundraising. Successful startup companies such as Medo.ai, found investors through a business incubator in Singapore where access to funding was much easier, and encouraged with the Singapore government providing incentives that match funds. LoginRadius, a company started in Edmonton, moved to Vancouver in 2016 to be closer to their investors and a larger talent pool. They raised $17 million in series A funding last year.**

While there are a few accelerator-like programs, the tech startup community believes there is a need for an accredited or private accelerator program in Edmonton. This fosters collaboration, increases the transfer of knowledge and provides meaningful mentorship and early-stage investment.

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*statistics from 2018 Alberta Technology Deal Flow Study, Feb 2018*  

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*Sources of Funding*

- Personal Savings: 78%
- Angel Investors: 43%
- Venture Capital Investors: 20%
- Friends and Family: 48%
- Crowdfunding: 6%
- Government Grants/Credits: 62%
- Banks: 22%
- Other: 12%

*Intended Amount to be raised in the Next Round of Funding*

- None: 8%
- Less than $100K: 6%
- $100,000 to $249,999: 5%
- $250,000 to $499,999: 8%
- $500,000 to $999,999 million: 8%
- $1 million to $4.9 million: 33%
- $5 million+: 16%
As seen in the chart above, cities with lower average startup funds are also the cities with lower ecosystem value. Edmonton is lagging behind many Canadian cities in early-stage funding for startups. This can prove to be a barrier in moving to the next stage of growth in the ecosystem. However, this challenge is not unique to Edmonton. A large study released in 2018 out of the University of Toronto found it takes Canadian companies longer to raise capital, and on average, they raise less money than American companies. This allows American products to launch with a faster trajectory.

Across the tech industry in Alberta, only 31% of investors are from Edmonton, while 50% are Calgary investors. In Edmonton, 59% of Edmonton companies have received funding from Edmonton investors.
The Emergence of Local Funding

Sprout Fund was started in Edmonton by 4 experienced angel investors and has raised $1 million from Alberta based investors. They invest in seed and early-stage companies with investments ranging from $50,000 to $100,000 and further support them to get to follow on funding.

Valhalla Angels, part of Valhalla Private Capital has four chapters including one in Edmonton, bringing a diverse group of investors together to support early-stage angel investing. It is a platform to bring investors and startup founders together by providing opportunities for investment ready startups to pitch to investors.

Alberta Enterprise has the Alberta Accelerate II fund with $10 million to invest in tech startups. It is a co-investment model with 1:1 matching from angel investors typically investing up to $250,000.

Opportunities for Growth

Further funding for local startups.

More investable companies are required to encourage local and international investors to fund startups in Edmonton. Downtown has seen the largest growth in AI startups in Canada, but we are still behind cities like Montreal, Ottawa, Toronto, Waterloo and Vancouver. We are not fully capitalizing on our strong AI research.

Risk

Reducing public funding and reducing incentives for private investors puts our tech sector at a disadvantage.

In May 2019, the Edmonton Regional Innovation Network, comprised of TEC Edmonton, NABI (Northern Alberta Business Incubator) and NAIT were denied $4 million in funding due to a lack of collaborative governance and community-based approach. In August 2019, the Alberta Investor Tax Credit, a 30% tax credit to private investors who invest in the tech industries, was put on hold. The $28.1 million in tax credits has leveraged $94 million in investments in Alberta small and mid-sized companies.

What are other cities and provinces doing?

Calgary started a $100 million tech investment fund managed by the Calgary Economic Development agency. In 2019, Calgary had between 150-300 software startups with an ecosystem value of $2.7 billion US.

The University of British Colombia (UBC) has the UBC Seed Fund which provides mentorship and invests risk capital in UBC startups. 17 startups involved in this program have raised $74 million in investment capital and created 260 jobs with a combined revenue of $14 million in 2017. Additionally, the BC government established a $100 million venture capital fund to support emerging tech companies with Series A financing. Vancouver now has 900-1,200 software startups and a startup ecosystem worth $10 billion US, with an average of $284, 000 US in early-stage funding per startup.

Impact on Downtown

Providing funding to startups has a ripple effect. Startups hire people and require additional office space- these people in turn drive the creation of amenities and services in the surrounding area. Downtown is uniquely situated to meet the demands of these growing companies because there are a variety of leasing options without moving out of the neighbourhood. It will also keep our talent in Downtown which creates the need for more housing Downtown with an emphasis on sustainability, multiple transportation options and a variety of entertainment choices. Additionally, establishing Downtown Edmonton as an AI tech sector powerhouse will have a considerable positive effect as it will draw international business and tourism.
An established accelerator has the power to propel our ecosystem forward. It is an effective way to leverage our academic research, attract and retain tech talent and bring necessary funds to promising startups.

Despite an increase in the number of AI startups, Edmonton is still significantly behind Montreal and Toronto which are the other two AI hubs in the Pan Canadian AI strategy. Toronto and Montreal have successfully used established accelerators like Tecstars and NextAI to commercializing their AI research. Having an accelerator has been identified as a high need by Amii, the U of A and EACOS. It is in alignment with the Artificial Intelligence Business Plan that was released December 2018.

Established accelerators play a key role in building a strong ecosystem. Benefits of an established accelerator include:

**Positive effect on the investment community:** Cities with established accelerators attract more early-stage seed funding.

**Provide a successful entrepreneurial model and curriculum:** Startups that participate in established accelerators raise capital and gain customer traction faster.

**Build brand recognition**

However, these positive effects have been attributed to established high-quality accelerator programs and dissipate when looking at accelerators in general. Further discussion is needed around sector-focused tech accelerators such as an AI-focused accelerator or a broad one. Below is a comparison of 2 models that would fit Edmonton’s needs and have been successful in growing AI startup in Canada’s AI hubs.

### Comparison of Two Different Accelerator Programs

<table>
<thead>
<tr>
<th></th>
<th>Tecstars</th>
<th>NextAI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location in Canada</strong></td>
<td>Toronto: City program and Colliers Property Tech program</td>
<td>Toronto and Montreal</td>
</tr>
<tr>
<td><strong>Types of Programs</strong></td>
<td>Montreal: Real Ventures AI program (single corporate sponsor)</td>
<td>Typically partner with local business faculty and AI research institutions</td>
</tr>
<tr>
<td><strong>Number of Companies</strong></td>
<td>10 companies from around the world</td>
<td>20-25 startups</td>
</tr>
<tr>
<td><strong>Program Length</strong></td>
<td>13 weeks</td>
<td>24-28 weeks</td>
</tr>
<tr>
<td><strong>What Funding to Startups Receive</strong></td>
<td>$20,000 in investment for 6% equity. Optional convertible notes of $100,000 up to $3 million</td>
<td>Up to $200,000 in capital for each company for exchange of equity</td>
</tr>
<tr>
<td><strong>Staffing Requirements</strong></td>
<td>3-4 full-time employees and other part-time experts</td>
<td>Academic Director hired to find faculty and staff to teach the curriculum</td>
</tr>
<tr>
<td><strong>Operating Costs</strong></td>
<td>$1.8 million US ($2.4 million CAD)</td>
<td>$1-$1.5 million CAD</td>
</tr>
<tr>
<td><strong>Investment Funds</strong></td>
<td>$1.2 million - $1.6 million CAD</td>
<td>$1.5-$2 million CAD</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>$3 million US ($4.5 million CAD) per year with a recommended length of at least 3 years</td>
<td>$2.5-$4.5 million CAD</td>
</tr>
<tr>
<td><strong>How long will it take to get one started?</strong></td>
<td>Takes about 1 year to set up</td>
<td>Deadline for application is mid December for 2020</td>
</tr>
</tbody>
</table>

*Exchange rate of $1.33CAD to $1US used

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**What is an Accelerator?**

Startup accelerators provide an immersive, intensive education to a cohort of growth driven startup companies. They offer support in education, mentorship and financing. Successful accelerators have the following key components:

- Fixed term
- Cohort-based
- Mentorship-driven
- End with a demo camp
This report outlines the recommendations needed to support the key components of a strong Downtown tech industry. The four components are space and amenities, collaboration, urban life and resources. Below is a summary of the recommendations found throughout the report.

### RECOMMENDATIONS FOR DOWNTOWN

1. **Downtown Accelerator**
   - **Stakeholders:** Private investors, EACOS, academia, public institutions like economic development agencies with support from DBA
   - **Action:** Start an established accelerator
   - **Impact:** Increase in the number of investible startups, leverage our academic research

2. **Tech Focused Buildings**
   - **Stakeholders:** Real estate community, and public organizations
   - **Action:** Increase variety of leasing options with flexible and creative leasing terms
   - **Impact:** Increase the number of tech startups Downtown

3. **Keeping Homegrown Talent**
   - **Stakeholders:** Business community, EACOS, Innovate Edmonton, Startup Edmonton, grassroots organizations, and post-secondary leaders
   - **Action:** Work with universities and colleges to understand industry demand, build stronger relationships with students in tech-focused programs
   - **Impact:** Increased talent pool

4. **Continuing to Enhance the Downtown Urban Experience**
   - **Stakeholders:** City of Edmonton, private business owners
   - **Action:** Continue to make Downtown an attractive place to be during and after work hours. Provide a variety of amenities and housing
   - **Impact:** Attracts established and startup tech companies

5. **Collaborate with EACOS and other organizations in the ecosystem**
   - **Stakeholders:** DBA, EACOS, Innovate Edmonton, and startups
   - **Action:** Support networking events, promotional efforts, and facilitate business community connections
   - **Impact:** Increased number of successful startups Downtown
Why Downtown is the Place for Tech

1. YOUR NEIGHBOURS
Rub shoulders with the brightest AI minds in the world at Amii, Google’s Deep Mind, Improbable, Jobber and many other successful startups.

2. CHOICE
No other area in the city can offer such variety in terms of office space. Whether you are looking for character brick and beam, open concept, Innovation labs, converted houses, or the newest top-tier AAA space, you can find it all Downtown.

3. ACCESSIBILITY
Regardless of how you choose to get here, Downtown is served by the most modal options and conveniently located in the geographic centre of Edmonton.

4. FOOD SCENE
Downtown has an exploding food scene, with hip food trucks, buzzing patios and fine dining. Whether you need to grab a quick takeaway bag, impress a client from out of town or want to linger and enjoy a decadent meal, you’ll find it all here.

5. COWORKING/HYBRID SPACE
Unit B, Homestead, Work Nicer Coworking all provide flexible terms and collaborative spaces for startups and established companies. Downtown is home to more of these spaces than anywhere else in the city. Flexibility is key.

6. ACCESS TO POST SECONDARY INSTITUTIONS
Downtown is directly connected to NAIT, MacEwan University, NorQuest College, the University of Alberta, as well as numerous smaller digital and tech schools. Your future team is here!

7. TALENT ATTRACTION AND RETENTION
Top talent looks for work-life balance, with the quality of urban environments becoming increasingly important as to where that talent chooses to relocate to; a vibrant Downtown is a sign of a thriving tech scene. ‘As goes your Downtown, so goes your city.’

8. ENTERTAINMENT / CULTURE
A short walk from Rogers Place, The Citadel, The Winspear, AGA or our new RAM, your employees and clients are minutes from front row centre.

9. COFFEE
Don’t underestimate the value of your local coffee shop, as they are often the best collision spaces in town. Downtown is ready to serve up some joe towards deal flow.

10. MOVERS AND SHAKERS
Whether you need to head over to City Hall or the Provincial Legislature to meet with an elected official, they are at your doorstep when you are Downtown.
As an Individual Business Owner Consider:

- Working with companies to create win-win leasing agreements
- Share boardroom space
- Consider sharing unused space with a startup
- Get involved in the local startup community
- Don’t be left behind, be an early adaptor of technology
- Consider becoming a mentor or volunteering on a tech startup board
- Stay informed-attend demo camps and tech industry events like Startup Launch Party

Final Thoughts

Downtown Edmonton is at a tipping point. We have an opportunity to be at the forefront of the tech race and continue to amass big wins. However, without support and the right strategies, we are threatened to be leapfrogged. By providing tech-focused spaces and amenities, an exceptional urban experience and strengthening collaboration, we can better support the tech industry. Working together with EACOS and all of the stakeholders in the ecosystem will allow us to ensure a steady supply of tech talent, AI research and funding. Edmonton has demonstrated it can punch above its weight. Are we ready to act? The question will be as Dr. Schaeffer so succinctly puts it. “Are we hungry enough?”

The DBA is a connector

The Downtown Business Association is in a unique position to connect the Downtown tech ecosystem and provide continuity and support as this sector evolves. DBA will:

- Work with EACOS and other stakeholders to ensure strong collaboration
- Work with key stakeholders to establish a Downtown accelerator
- Host monthly events such as Tedx
- Promote the Downtown Tech industry and support awareness campaigns
“I am happy never leaving Edmonton, putting my roots down here and growing my tech career here. For the first time, I am confident that my two and a half-year-old son can choose whatever career he wants and be successful right here in Edmonton.”

-Patrick Pilarski, DeepMind Fellow at Alberta Machine Learning Institute (Amii), Canada Research Chair, Associate Professor at University of Alberta
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