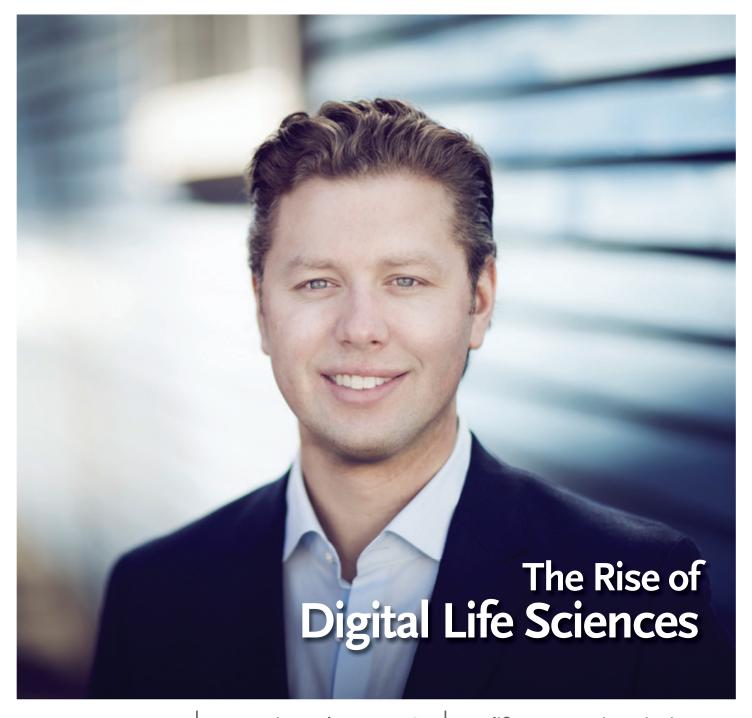


FUNDING FROM SILICON VALLEY

NOVEMBER 2016 · VOLUME 5, ISSUE 5



Andy by the numbers.

We've got some pretty legit experts in-house at Innovacorp. For example, take our IT investment manager, Andrew Ray, who started his career as a rocket scientist. As in, Rocket Science, rocket scientist.

400,000 - Number of users on his former start-up's mobile payment platform, Bazari.

8 - Number of investors he's raised money from as an entrepreneur.

1 - Number of star clusters he discovered as a rocket scientist.

5 - Number of deals he's led at Innovacorp.

6 - Number of investments he manages in Innovacorp's start-up portfolio.

3 - Number of languages he speaks. English, French and Italian (for the food).

5 - Number of start-up boards on which he's a director.

220,000 - Number of times satellites have orbited the earth using the navigation software he developed.

7 - Number of countries he's lived in. (That means visas for England, Belgium, France, Italy, India and the US.)

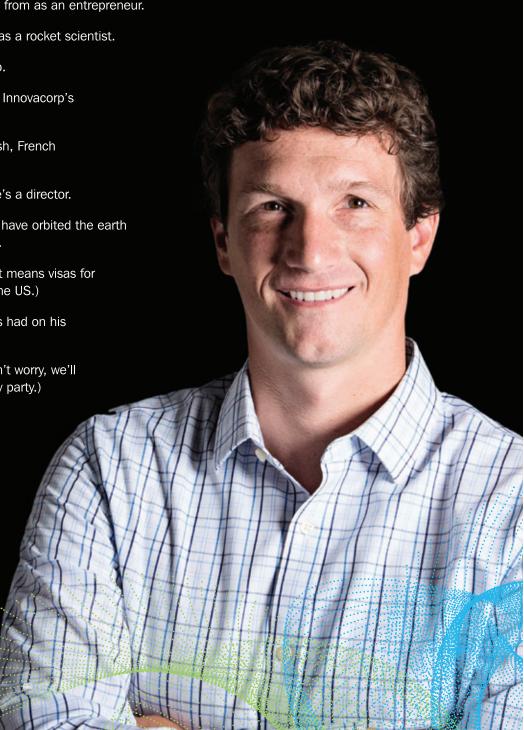
4 - Number of near-death experiences he's had on his motorcycle in the Himalayas.

1 - Number of popes he's danced for. (Don't worry, we'll get the deets at the next Innovacorp holiday party.)



EARLY STAGE VENTURE CAPITAL

We get invested.



Let's Call It DIGITAL Life Sciences

The hottest startup sector in Atlantic Canada is difficult to define. But digital companies working in life sciences are raising smart money from Silicon Valley and gaining a global clientele.

By Peter Moreira

There's an industrial segment in which Atlantic Canada excels. The companies in this space have raised more than \$30 million in 2016 alone. They are establishing offices in Silicon Valley. They're gaining worldwide clientele.

The segment is the intersection between digital technologies and life sciences. I'm not sure that even is a segment, but maybe we should make it one and start to play it up a bit.

Why am I discussing such an ill-defined sector? Several influential players in the startup community believe the region has to choose a segment or two to excel in and develop the ecosystem to make those sectors even better. (Not surprisingly, it's usually a sector that these individuals are working in.) There's talk of ocean technology, cybersecurity, drone technology and other areas.

But the place where Atlantic Canada is really making waves is digital technologies that work with biology.

Consider what a few exemplars have been up to this year:

- · Resson, the Fredericton company that analyzes data from farms, raised US\$11 million in a funding round led by Monsanto Growth Ventures and other investors to expand its team and open a Silicon Valley office.
- Kinduct Technologies of Halifax, whose platform accesses 500 sources of data on the human body to aid sports medicine practitioners, raised US\$9 million in a round led by Intel Capital. That money will help the company increase its global network and increase its staff in Halifax.
- St. John's-based Sequence Bio, which is building a databank on the genetic data of 100,000 Newfoundlanders, received a US\$3 million funding round led by the Silicon Valley venture capital firm Data Collective. The lead investor called Sequence's work in health data "a globally significant opportunity."
- · Halifax-based sports genetics company Athletigen Technologies raised US\$1.55 million in a round led by Exponential Partners, a Newport Beach, Calif.-based venture capital fund that specializes in health and human performance innovations. The money helped to fund the growth of its flagship product, the Athletigen Performance Platform.



Rishin Behl, left, and Peter Goggin are the Co-Founders of Resson, which has developed a system to analyze agricultural data from a range of sources. It recently raised US\$11 million.

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Entrevestor Intelligence

Entrevestor Intelligence is the quarterly publication of Entrevestor, which provides news on the startup and innovation communities in Atlantic Canada. These reports provide a deeper analysis of the startup world than can be delivered in daily news stories. To receive our daily reports, please leave your email address at entrevestor.com.

Cover photo: Chris Gardner is the CEO and Co-Founder of Sequence Bio of St. John's. It is one of the companies leading the rise of digital life sciences in the region. Read the article starting on Page 3.

Entrevestor Intelligence Design: Roxanna Boers

These Companies Have Established **Global Networks**



Kinduct CEO Travis McDonough has relocated to Silicon Valley for a year to lead his company's expansion in the U.S.

'This segment spans all four Atlantic Provinces and has already raised \$32 million in funding this year, most of it from Silicon Valley.'

Add 'em up and you've got the equivalent of more than C\$32 million in direct venture capital investment coming into Atlantic Canadian companies, companies that are growing revenue and staff at a furious rate. There probably isn't a more dynamic segment in the regional startup community.

The problem with championing such a group is identifying it, not to mention naming it. These are all digital companies, developing software and/or hardware. But they are making advances in applying technology to biology, whether it's human medicine or in other disciplines like agriculture or environmental sciences. It's not easy to name such a group, but let's go with "digital life sciences."

What's special about this group is that these companies have established global networks and funding sources independent of each other and independent of government strategy. Certainly, each has benefited from government programs, but there is no overarching government strategy to promote and nurture digital life sciences in the region.

Each of the four Atlantic Provinces are represented in this segment, but none dominates the space. Though there are no P.E.I. companies mentioned above, the Island does boast companies like Vitrak Systems, which is commercializing a pressure-sensitive floor tile system for medical research and rehabilitation. The company has said it is raising a significant funding round.

The Digital Life Science Segment Needs its own Association

So this is a segment that spans all provinces and lies between the IT and life sciences segment. That means there is both an opportunity and a problem. The problem is that most of the organizations that promote innovation represent specific provinces, especially in biosciences. And there is too little overlap in organizations promoting IT and life sciences. It's difficult to think of a single entity that could champion digital life sciences across the region.

Here's one idea: These companies themselves should form an association. They are now big enough that they could all contribute to it financially. And they could probably attract financing and other resources from the organizations that are at the periphery of what they do – like the provincial life sciences organizations or Propel ICT. Maybe it could just be a division of an existing organization.

What would such an organization do? First it could promote that this segment in and outside Atlantic Canada.

Then it should assess the resources available across the region that could benefit these companies. The financial resources are fairly obvious. The more important resources are human and physical. There are lab facilities, specialists, researchers and mentors scattered across the region, and entrepreneurs in Province A don't always understand what's available in Province B. And this organization would broaden the network of mentors greatly. Each of these companies is highly specialized, requiring both IT and biological expertise, and they would benefit from a broader network of local champions.

Finally, with an association they could market themselves together in Silicon Valley. Several of these companies now have offices in the Bay Area. Resson and Kinduct are both represented there, and Halifax's



Sequence Bio CEO Tyler Wish is leading a mission to collect genetic data from 100,000 Newfoundlanders, and use it to develop better drugs.

4deep Inwater Imaging, which makes electronic, underwater microscopes, shares an R&D facility with its Chinese partner Guangzhou Bosma Corp. These companies should be working with each other in the Bay area as well as at home.

The first problem with this group is defining it. But the fact that just four companies in the space raised \$32 million of venture capital, mainly from Silicon Valley, with little government contribution, should make us sit up and take notice. There's an opportunity here and it's worth a discussion, if nothing else. *

#STARTUPEAST WITH A SILICON VALLEY ADDRESS

Travis McDonough loves being able to leave his office, jump on his bike and pedal five minutes to Stanford University.

The Founder and CEO of Halifax-based Kinduct Technologies moved to the San Francisco area last summer and is now staffing the medical-tech company's office in Palo Alto. He emphasizes his company is still based in Halifax, where he hopes to employ 100 people by some time in 2017. But the advantages of having an office in Silicon Valley are huge.

"It feels great to know we're five minutes away from some of the best thought-leaders in the world," said McDonough.

Kinduct is not alone. As the Atlantic Canadian startup community matures, more and more of the region's innovation companies are opening offices in Silicon Valley. It's ambitious to open a base about 6,000 kilometres away from head office where the property costs are atrocious. But there is simply no substitute for the access, the networking and the partnerships that can be found in Silicon Valley.

Kinduct and Resson (cited in the accompanying article) have opened Silicon Valley offices as they attracted funding from Silicon Valley.

The Resson investment included a contribution from returning investor Rho Canada Ventures. Rho principal Jeff Grammer became the Executive Chairman of the company and now heads its new office in San Jose, Calif.

Meanwhile, Metamaterial Technologies Inc., the Halifax developer of special materials that alter light, announced in May it had bought the business of Silicon Valley peer Rolith, giving it a research and development base in Silicon Valley.

MTI set up an office in Rolith's home town of Pleasanton, Calif., and brought on board the target company's state-of-the-art R&D facilities and key employees. Some equipment was to be transferred to Nova Scotia, where the manufacturing operations will be based.

Another Halifax company, 4Deep Inwater Imaging, gained entry to an R&D facility in Silicon Valley when it struck a partnership last year with China's Guangzhou Bosma.

The number of startups with Bay Area offices is growing, and there's no indication it will slow down. It's a healthy development and it's a good bet the Atlantic Canadian presence will grow in coming years.



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The Startup Community's UNSUNG HEROES

Jon Manship and Susan Hicks of Technology Venture Corp. have made a huge impact for 11 years, and done so quietly.

By Peter Moreira

Susan Hicks and Jon Manship have to be considered the unsung heroes of the East Coast startup community, and unsung is the way they like it.

Manship and Hicks are the founders of Technology Venture Corp., a Moncton investment fund that over 11 years has built itself into one of the region's most influential investment organizations. The people they back speak of Manship and Hicks with reverence, though you really have to look hard to find public references to them.

"Jon and Susan are very, very private people but very determined to be part of what's going on and make a difference," said Doug Robertson, the President and CEO of the Moncton-based tech organization Venn Innovation, of which Manship was the founding chair. "They give a lot back to the community."

The main way they have given back is through investment. Most notably, TVC is the largest private limited partner in Build Ventures, the regional VC investor, having contributed \$5 million. It also has investments in at least four startups: Fredericton-based cybersecurity provider Sentrant Security; Fredericton-based Inversa Systems, whose technology can detect structural flaws; Halifax's Medusa Medical Technologies, which makes hardware for paramedics and first responders; and Moncton-based Masitek, which helps beverage manufacturers improve production line efficiency.

There may be other companies in their portfolio. But we couldn't nail down anything definite.

Since Entrevestor began, we have reached out several times through common contacts to request an interview with Hicks. The closest we've got is the accompanying quotes, which were sent to us by email through an intermediary. The quotes speak of the duo's commitment to the region and the importance of innovation, but we know little more about the nuts and bolts of Technology Venture Corp.

Here's what we do know: The roots of TVC stretch back to 2004 when Manship sold his company Spielo Manufacturing, which makes video lottery terminals, to GTECH Holdings Corporation of West Greenwich, R.I., for as much as US\$185 million. The sale gained notice because two former employees sued the company, but Manship won the court battle.

Robertson said the Spielo sale was the original New Brunswick tech success story, predating Radian6 and Q1 Labs, and that the GTECH unit still employs almost 500 people in Moncton.

A year after the sale, Manship started his own VC fund and placed in charge Spielo's Chief Financial Officer, Susan Hicks. They have made several seed-stage investments, and the people they back speak glowingly about their contributions.

"Susan is an awesome investor," said John Bowles, the President of Inversa, speaking in an interview in 2012. He added that far beyond providing capital, Hicks was an essential team player for her insights and leadership.

Masitek in particular credits Hicks with helping to found the company. It began when TVC decided to build a company out of patented intellectual property it held. Hicks brought in Tracy Clinch, who had experience with Moosehead and McCain Foods, to serve as the company's CEO.

And of course, she did so quietly. *

How Manship and Hicks view the region

'Atlantic Canada has always been home to innovative companies and entrepreneurs that have succeeded in global markets. With a rapidly changing global economy and highly competitive market for talent, we need to double down on innovation-based growth, develop the best possible supporting ecosystem, and promote a culture that supports risk-taking, tolerates failures and celebrates success.

'We have the talent and the resources to be one of the most innovative regions in the world, but it won't happen unless all the key stakeholders - industry, government, investors, entrepreneurs and academia - are invested in a common vision. Meaningful collaboration is essential, especially in a small region like Atlantic Canada.'

Jon Manship, Chairman of Technology Venture Corp.

'Over the years, Technology Venture Corporation has been privileged to have been given the opportunity to work with talented entrepreneurs who are dedicated to growing their respective companies. We want to acknowledge the important role of our education providers at the grade school and high school levels and at the college and university levels, for the great job educators have done in developing our human resources. Without them, this would not be possible.

'People throughout this region are very resourceful, hardworking and creative. There is no lack of great ideas to start and grow companies. We have worked with companies in all four Atlantic Provinces and can attest to the fact that there is a strong entrepreneurial spirit in Atlantic Canada.

'Whether we are talking about software development, sensing technologies, or many other types of technologies, our companies can compete and win with the best in class on a global scale.'

Susan Hicks, CEO of Technology Venture Corp.

The Advantage of Teaming with **Post-Secondary Institutions**

For the second year in a row, Entrevestor has found that startups affiliated with universities and colleges are outperforming other highgrowth companies.

By Peter Moreira

The winning company in the Growth Stage category at the Atlantic Venture forum last summer was 4Deep Inwater Imaging, a company that grew out of research conducted at Dalhousie University.

Around the same time, the No. 3 finisher at the Cisco Innovation Grand Challenge in Dubai was Fredericton-based Eigen Innovations, which is based on industrial Internet of Things technology developed at University of New Brunswick.

A few months earlier, the 2015 BDC Young Entrepreneur of the Year award was presented to Chris Cowper-Smith, the CEO of Spring Loaded Technologies, a company which came together in the Starting Lean program at Dal.

These are just a few examples that show that some of the most celebrated startups in Atlantic Canada are born in university research or work with universities as they developed. In fact, research by Entrevestor shows that in the last two years, startups affiliated with universities grew revenue at a far greater rate than the other startups in the community.

Each year, we collect data on startups from around the region, including their revenue, employment and other such metrics. We also examine the metrics for companies affiliated with post-secondary institutions – either those that grew out of intellectual property developed at these schools, or those using the schools' facilities and expertise as they grow.

In our 2014 analysis of the startup community, we found that such companies' revenues were increasing 71 percent, when the startup community overall was producing 37 percent revenue growth.

In 2015, the overall startup community saw a huge jump in sales, mainly because of the strong performance of the growth-stage companies. Overall, 120 companies provided us with revenue data, and they showed an increase of 66 percent over the previous year.

Of those respondents reporting revenue data, 57 companies had connections to universities or colleges. And those with revenue reported a total sales growth of 110 percent. That's right. These companies more than doubled their revenue in one year, and outperformed the broader community by about two-thirds.

What's notable about our findings is that we have found a superior performance by these university-related companies for the second year in

There are likely two reasons for this strong showing: First, IP developed in universities tends to comprise deeper technology than something put

Performance of Startups Affiliated with **Universities and Colleges**

Number of Startups	111
Employees of these Startups	394.5
2015 Revenue of these Startups	\$11.1M
Revenue Growth	110%
Pre-Revenue Companies	56%
2015 Funding Raised by these startups	\$27.3M
No. of Cos. Funded	43

Dataset: 111 startups affiliated with universities Source: Entrevestor Databank

together by freelance innovators and is therefore more advanced and harder to replicate. And second, companies that continue to work with post-secondary labs, to use their labs and tap their experts, show the sort of discipline and outreach that should be found in a healthy startup.

There's a general acceptance among people in the broader community that the universities are a golden resource for Atlantic Canada, accounting for most of the research and development carried out in the region.

"They are a huge source of intellectual property and talent," said Greg Phipps, Managing Director of Investment at Innovacorp. "Certainly, a majority of the deals that we've done in the life sciences sector were born in the universities." He added that Innovacorp-backed companies in other sectors, such as advanced manufacturer Atlantic Motor Labs and digital intelligent design company QRA Corp., also got their start at universities.

What's more, at least six Atlantic Canadian institutions are now offering some form of curriculum to teach entrepreneurship, most of which have courses that include credits for degrees.

The University of New Brunswick is worth watching because of the concentration of young companies now emerging through its MTE program.

Another development that has been gaining momentum is the work at Dalhousie University to host Canada's Business Model Competition, which is affiliated with the International Business Model Competition.

These initiatives are increasing the entrepreneurial skillset of young people emerging from universities, which should help to drive further growth in the future. *

The Ecosystem Powered by the Caper Spirit

What's notable about the Cape Breton Startup Community is the team spirit and efficiency of capital.

Click2Order is a clear demonstration of what's special about the Cape Breton startup community.

Founded by Matt Stewart and Rob Myers, Sydney-based Click2Order has developed an app that lets people order from a restaurant online. It allows the restaurant to display the app on its own site, along with the menu, payment system and other features.

With restaurants able to put their own branding on the product, Click2Order has been able to snare about 30 clients in Atlantic Canada, and recently signed with an Ontario distributor that services about 1,000 outlets in the Greater Toronto Area.

The fact that it's gaining traction is not what makes Click2Order a typical Cape Breton startup. What's important about this company is how the community has rallied behind it, and how much Stewart and Myers have done with a little bit of capital.

They won \$10,000 in Innovacorp's Spark Cape Breton program three years ago, and borrowed from New Dawn Enterprises, a Community Economic Development Investment Fund that supports Cape Breton enterprises. Click2Go has received other grants and loans, bringing the total capital raised to about \$150,000. Many startups would struggle to build a product with so little money, but Click2Order brought a product to market with that amount.

"The thing that really strikes you about the Cape Breton startup community is how united it is and how everyone is leveraging each other's resources," said Permjot Valia, the Entrepreneur-in-Residence at the Island Sandbox, which develops startups at Cape Breton University and the Nova Scotia Community College. "A manifestation of that was Super August. Everyone came together to create something incredible. It's just not possible for one organization to have done all of that by itself."

Super August was a month-long celebration of the startup community on the island, ranging from a MentorCamp to a growth-stage pitching competition to a lunch 'n' learn series. Above all else, it highlighted the community spirit ingrained in the local grouping.

Another company that exemplifies the Caper spirit is Docmaster, which has developed a cloud-based repository for corporate clients' digital documents. Founded by husband-and-wife entrepreneurs Mark and Danielle Patterson, Docmaster has raised about \$70,000 in equity financing, which it supplemented with grants and loans to bring in a total of about \$300,000.

Still, the team felt the need for more money as it developed the product. When the Pattersons brought their Chief Technical Officer, James MacKinnon on board in the spring, they decided to make money by opening Devantec, a tech consultancy specializing in IT security. In the first three weeks, the new company made \$100,000. In its first five months, Devantec took on 25 clients.

The Pattersons then had an enviable kind of problem – they had to develop their service company Devantec as they launched the Docmaster product. But like Click2Go, they were able to get the product into the market, tapping several clients who had participated in the company's beta-test.

These companies are members of the latest generation of entrepreneurs in the Sydney startup grouping. The community boasts experienced ventures like Marcato Digital, Mimir Networks and Health Outcomes Worldwide, and now there's a movement to get these young companies into the marketplace.

Click2Order has been working out of the Navigate Startup House, the local co-working space in downtown Sydney. While the Docmaster team has been operating out of the basement of the local law firm, Sampson McPhee. It's a startup grouping that isn't long on capital, but is long on neighbours helping neighbours.

"Investments in the startup ecosystem are investments in the future of our community," said Ardelle Reynolds, the co-founder of the Navigate Startup House. "It's about looking not just to the companies in front of us but the companies that will be formed later down the road." *





Danielle and Mark Patterson needed extra capital to launch their company Docmaster. So they started a service company called Devantec and brought in \$100,000 in their first three weeks.



PEI Plans BioAccelerator to Accommodate Growth

With revenues doubling every four years, the Island's life science segment wants to invest up to \$35 million in a new development centre.

By Peter Moreira

With its life sciences segment pretty well doubling in size every four years, Prince Edward Island is on a mission to develop new infrastructure that can sustain that growth.

The PEI BioAlliance, a partnership between the various players in the Island's life sciences industry, recently revealed a proposal to develop a \$30 million to \$35 million BioAccelerator complex. The group hopes to build the 77,000-square-foot facility at the BioCommons Research Park in the Charlottetown area. It envisions a multi-faceted space that would include offices, co-working space, wet labs and manufacturing facilities.

Such a facility is needed, say its proponents, to accommodate the galloping growth of the biotech sector on the island.

"We now have 46 companies and seven research institutions in the province's bioscience sector, employing over 1400 people in high-paying, full-time jobs," BioAlliance Chair Russ Kerr recently told the legislature's standing committee on energy and infrastructure. "There are another dozen companies in the development pipeline, and we need the appropriate facilities if we are to compete successfully for the jobs, investment, and brainpower that these opportunities represent."

His presentation was part of the BioAlliance's efforts to find funding from all levels of government for the project.

The BioAlliance is a private sector-led organization that brings together businesses. academia, government and non-governmental organizations to grow life sciences companies in P.E.I., whether they're in biotech, agritech or other areas. The group now includes 46 private companies, 15 of which have joined the group since 2010.

The BioAlliance companies generated about \$218 million of revenue in 2015, up from \$95 million in 2010. The public- and private-sector members of the BioAlliance employed 1400 people as of the end of 2015, up from about 900 in 2010.

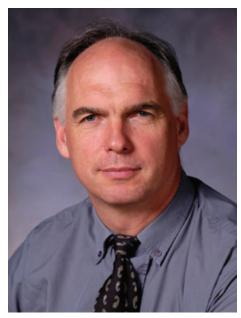
Aiding this growth, the federal government has twice in the past two years awarded P.E.I. funding for new initiatives: \$3.6 million for the Emergence bioscience incubator; and \$14 million to head the nationwide group, Natural Products Canada.

Now the BioAlliance has set targets to maintain that growth over the next few years. The organization's recent strategy statement has set targets for 2020 of \$400 million in private sector revenue by 2020, and total employment of 2000 people. And the new BioAccelerator will help achieve those targets, said BioAlliance Executive Director Rory Francis.

"We're just trying to keep up with what the companies are doing," he said in an interview in his Charlottetown office, "We think that by 2025 we'll be over \$600 million in sales, but we can't do that unless we get some space to grow."

He added the benefits of improving the bioscience infrastructure in P.E.I. extend to the other Atlantic Canadian provinces and the rest of the country.

The BioAccelerator Steering Committee includes industry, academic, federal and provincial government representatives. Chair Ron Keefe said the committee has taken a broad look at infrastructure across the province and across the region. The goal is to build a new facility that will complement existing infrastructure at such institutions as the University of Prince Edward Island, the Atlantic Veterinary College, Holland College, the National Research Council, Agriculture Canada Research, and BioFoodTech.



Rory Francis: Trying to keep up with the companies expansion.

"We're working with local entrepreneurs and new businesses developing products from functional food ingredients to pharmaceuticals. animal and fish health products, and diagnostics," said Keefe. "These products are highly regulated to assure safety and quality, and our facilities have to meet rigorous national and international standards."

The organization hopes to break ground on the new BioAccelerator in early 2017, and have a two-year development schedule so people would be working in the complex in 2019.

Said Keefe: "Besides the obvious benefits for our economy, these are the kind of jobs that retain and repatriate our youth, create a highly educated and trained workforce, and enhance industry-research relationships that benefit students and researchers at UPEI and Holland College." *



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PUNCHING OUTSIDE OUR **WEIGHT CLASS**

Atlantic Canadian companies are gaining attention in national and international programs, despite coming from small jurisdictions.

When Israeli-American tech investor Jonathan Medved visited Halifax recently, he said he was wowed by the technology he saw even in his first day in the region.

"The Maritime Provinces are already starting to punch outside of its weight class," the founder of the crowdfunding site OurCrowd told Startup Grind Halifax. "And it's not the size of the population that matters – it's the heart that it has."

We agree. Atlantic Canada's startups are gaining national and international kudos at a rate that's astonishing for such a small place. Here are a few #startupeast members who are turning heads outside the region.



Affinio

Halifax-based Affinio, which has data-base technology that helps large companies to understand their customer base, was accepted into the third cohort of Microsoft's Seattle Accelerator early in 2016. There were applicants from 50 countries. At Demo Day, Affinio was selected to pitch last, and CEO Tim Burke's presentation was a highlight of the evening.



Eigen Innovations

The Fredericton Industrial Internet of Things startup made it to the final 12 participants in the Creative Destruction Lab, a Toronto accelerator that successively weeds out weaker startups and helps the stronger ones to grow. Then Eigen placed third at the second annual Cisco Innovation Grand Challenge in Dubai, winning a US\$25,000 cash prize. As a top-three finisher, Eigen was granted a long-term relationship with Cisco and VIP access to industry, investment and business experts.



Kinduct Technologies

The Halifax sports medicine technology company attended and thrived in the Dodgers Accelerator, the mentorship program for sports and entertainment startups run by the Los Angeles Dodgers. In his pitch at the accelerator's Demo Day in November 2015, CEO Travis McDonough told the audience that Kinduct has built "the world's most advanced human performance software platform."



PACTA

Google invited Halifax-based contract management startup PACTA to pitch at its annual Demo Day in May 2016 in Silicon Valley. PACTA and Knowledgehook of Kitchener were the only Canadian companies among 11 pitchers at the event at the Google Headquarters in Mountain View, Calif.



QRA Corp.

Halifax-based QRA Corp. has been named to the first cohort of the Lazaridis Institute's Canadian Scale-Up Program, which will help promising Canadian startups to go through their growth stage. Named for BlackBerry Co-Founder Mike Lazaridis, the institute at Wilfrid Laurier University set up the program to help 10 companies from across the country to extend their sales to the global market. QRA is the only company from outside Ontario or Quebec selected for the program.



RtTech Software

The Moncton company, whose IoT software helps large facilities reduce energy consumption, took home several awards in 2015. It was named to the Top 20 of the Canadian Innovation Exchange. (Halifax companies SkySquirrel Technologies and Leadsift also made the Top 20.) RtTech also won the BDC Award for Innovation and was named Innovator of the Year by Startup Canada. *

Building a Data-Driven City

Saint John is the birthplace of the Big Data Congress and is becoming the site of an intriguing experiment in open data.

When 600 delegates gathered for the Big Data Congress in Saint John in October, they heard of the global movement toward a data-driven society. Most were probably unaware that one Atlantic Canadian city is already making strides toward becoming such a community.

It is, in fact, Saint John itself.

The Port City has completed a pilot project called the Pattern of Life program, and the people behind it plan to move on to the next phase of the initiative. The whole program is the sort of project that the Big Data Congress was designed for – the collection and analysis of digital data to enhance efficiency and improve people's lives.

"What's next is the call to action to the community," said Erin Flood, Chief Operating Officer of Hotspot Merchant Solutions, one of the companies involved in the project. "We are looking to work across the business community, citizens and the municipal government."

The Big Data Congress began in Saint John three years ago as a forum for people and organizations interested in the economic opportunities offered by data analysis. The idea was not just to bring in companies that were working with data. It was just as important to attract organizations that weren't doing such work. The idea is to teach all industry, organizations and government how Big Data could improve their operations.

Such processes led Saint John to announce the Pattern of Life project in May. Hotspot and other groups such as Enterprise Saint John. T4G and Cisco, set out to deploy a network of beacons throughout Uptown Saint John. These beacons can detect when someone with a cell phone passes by, and the project produces a library of open source data as a result. By aggregating all the data on vehicular and pedestrian traffic on the streets, businesses and government can better understand what is happening in their city.



"The impact of data on my operation is huge," said Nancy Tissington, Executive Director of Uptown Saint John Inc. "By collecting real-time data on pedestrian and vehicular traffic flow through Uptown, I'm able to validate so many of my business cases."

In an interview, Flood said the data analysis can be used by businesses considering opening new locations. Armed with the concrete data, economic development teams can tell businesses what locations have the most traffic, and where they should consider locating.

'By collecting real-time data on pedestrian and vehicular traffic flow through Uptown, I'm able to validate so many of my business cases.'

- Nancy Tissington, Executive Director of Uptown Saint John Inc.

In terms of government services, it can suggest traffic and transit routes, where and when parking spots are needed and what amenities people may need as they move through the city.

But the uses go far beyond the obvious data on transportation. In a presentation at the Big Data Congress, Flood said the data can be used to improve policing, which would make for a safer city and possibly save the municipality money. And it can also indicate optimum energy-saving infrastructure, benefiting the environment.

Flood said a modest investment in a network of sensors can benefit more than 600 businesses in the area, reduce government spending and lead to better services for 70,000 citizens. As it moves forward, she hopes the project will expand into such cities as Moncton and Fredericton.

The concentration on data analysis represents an evolution for Hotspot. The company began three years ago by developing an app with which people could feed a parking meter. It then installed beacons in local retail outlets so merchants could receive data and use it as a customer-service tool. The system could validate customer parking and improve the instore experience.

Now it plans to move into broader data analytics, helping to find practical solutions for a range of players based on larger networks of sensors.

"Parking and transportation has always been a key part of Big Data," said Flood. "It's just about how to take these datasets and leverage them to find value in how to apply it to a big city. It's about letting the community know the value of data and open data and how we can use it across the community." *



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Developing Halifax's **INNOVATION** District

Atlantic Canada has a foundation of companies and universities for its innovation economy, but what we need is a well-defined innovation district in our largest city.

We recently sat down with Jesse Rodgers, the new CEO of Volta Labs in Halifax, and were fascinated by the vision of an Innovation District in Halifax. We asked him to describe it for our readers.

By Jesse Rodgers

At Volta Labs we believe that Atlantic Canada has performed above the Canadian average when it comes to technology-driven companies finding success. However, the success of technology companies in the region has not yet inspired a broader sense that success in technology-driven business happens here. There is now an opportunity to change that perception of Atlantic Canada and lead the development of a technically minded innovation cluster in the region.

This change in perception requires three main pillars to be present:

- · A vibrant and growing base of technology companies that are globally minded and locally based.
- · Strong educational institutions that develop young people who are entrepreneurial, innovative and have a global perspective in whatever area or field they want to excel in.
- · An innovation 'district' to build density in Halifax where modern technology companies have a 'campus' to centre their activities and radiate throughout the Atlantic Region.

Starting a business with a local connection is a good start. However, in order to grow a business today you must have a global mindset. Customers, funding, and the people that help build your company will reside in different cities in different countries. There



`A long-standing trend in major cities throughout the globe, innovation districts are a concentrated area of a city where education, industry, and residents are intertwined.'

are numerous examples of companies based in Halifax with customers in U.S. cities. Dash Hudson being top of mind as it grows its office space in downtown Halifax with customers in New York and other cities.

Atlantic Canada is home to great educational institutions that not only develop young people from the region but also attract students from all over the world. It is important these educational institutions remain strong and nurture an entrepreneurial, innovative, and global perspective. The recent investment into Ocean Technology Research is a great start in establishing a globally competitive advantage for the region that sends a positive signal.

The establishment of an innovation district in downtown Halifax will change how technology and innovation is perceived in the region. A long-standing trend in major cities throughout the globe, innovation districts are a concentrated area of a city where education. industry, and residents are intertwined to create a vibrant living and working community.

Along Spring Garden Road, you can see the start of this district with the growth of the Dalhousie University Sexton campus, the investment in a modern library, development of condos, the presence of a growing number of early-stage technology companies, and Volta Labs being open to the community.

All levels of government, members of the community, higher education, and private industry partners are collaborating to establish density in the core of Halifax that will radiate out the next generation of innovative industry across Nova Scotia and Atlantic Canada. Community is the framework for a prosperous future economy here in Halifax.

Volta Labs is that home base for a technology driven industry to take a firm root in Atlantic Canada while developing a global perspective. It will continue to evolve and develop the story that will inspire growing businesses to be successful in Atlantic Canada while competing globally.

Volta Labs CEO Jesse Rodgers is a 15-year veteran of the startup world. Before coming to Volta, Rodgers co-founded several startups and was the founding director of the Velocity incubator at the University of Waterloo and later of the Creative Destruction Lab at the University of Toronto. *

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