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N.B. has tradition of being inventive; ? From kerosene and the snowblower to candies and the Zaptap, New Brunswick inventors have a history of solving problems

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New Brunswick's waters are changing.

With agriculture and fisheries struggling to keep afloat, a new industry is setting sail. And amidst a growing fear of economical change, innovation may save us yet.

Yan Simard's dad called from Quebec City in January 2010. He needed help to set up his home theatre system and wondered when his son would come for a visit.

Simard said it was the moment when the spark hit him. He wanted to produce a mobile platform for people that allowed them to interact with a physical object. That way they could find out all the information they needed, without having to find a computer first. The idea for Zaptap was born.

The company is now a year old and already making headway.

Simard said research showed that no one did anything good with his idea, so he took on the opportunity. In the first year, he built a business plan and networked with potential investors and employees.

Then he received the New Brunswick Innovation Foundation's Breakthrough Award.

"That was the moment when we got the

company going in a more serious fashion," he said.

"If you are in a backyard you should be able to get (the information) right there and that's the original idea and then we decided to focus on the presales in the stores."

The idea is simple. When customers enter a store and want product information they only "tap" their mobile phone against a small zaptap sticker on the shelf. Just by touching the phone to the tap, a product profile appears.

Depending on the information provided, customers can even see videos and what other people say about it on Facebook. They can like it or mark it as a favorite.

Firms pay to set up the system but receive useful information in return.

"Each time someone uses Zaptap it's recorded in our data base," he said.

"A retail brand can see in real time which product was scanned and a company launching a new product, they can see nationwide how they are doing."

Zaptap does not give out personal information on customers though it provides knowledge of the age and gender group buying a product. Companies can

decide to give out coupons for their target audience and only the people in that criteria would receive an e-mail upon using Zaptap.

Simard is an innovator - one who adds to New Brunswick's future.

The province has a history of inventions and innovations. You can find them listed in tourism brochures or museums.

Some of the stories have been lost in time, but they are part of a history that made New Brunswick, and its people.

Abraham Gesner is probably best known in today's oil business. Gesner was a geologist, museum founder, educator and business promoter and founded the petroleum refining industry in North America. In 1846, developed a process that produced kerosene from coal, albertite (named after Albert County) and crude oil.

Then there was Benjam Tibbets, who was born in Mill Cove, Queens County in 1813. He invented the world's first compound steam engine.

And Francis Peabody Sharp, also known as the apple king of New Brunswick. Woodstock native Sharp still holds his fame at the King's Landing Historical Settlement, where visitors are often reminded of his apple breeds.

Other inventions include the scuba tank by James Elliot and Alexander McAvity from Saint John (1839), the snow blower by Robert Carr Harris from Dalhousie (1870), the Sardine cans by Henry Austin from Black's Harbour (1932) and the crossword game by Edward MacDonald from Shediac (1926).

Last but not least, Ganong Brothers Ltd. in St. Stephen introduced children and adults alike to the first Canadian lollipops, the use cellophane packaging for chocolate bars, Valentine candy in heart-shaped boxes and chicken bones, the popular chocolate covered in cinnamon hard candy.

New Brunswick was also the first province connected to the internet back in the 1990s, with access from all regions. Essentially, the New Brunswick Telephone Company produced many of the innovators that push the growing Information and Communications Technology (ICT) sector today.

Calvin Milbury, President and CEO of the New Brunswick Innovation Foundation (NBIF), said even the most prominent business people and politicians sometimes need a reminder how far the province has come.

The NBIF shares the stories of both past and present innovators who discovered, patented and commercialized within the province. It also steps in when banks find an investment in new entrepreneurs to risky.

They foundation provides start-up companies with the capital they need to get off the ground. Once a company is established, the foundation becomes a shareholder.

In return, Milbury said they help create wealth for the province and benefit a new generation of entrepreneurs.

"It's a ripple effect, the benefits of these great stories, we are just starting to see the true impact. Over the next five to ten years

we will see a whole new group of entrepreneurs spread up," he said.

"We gain a lot of experience by doing innovation and that can be recycled over and over again."

Milbury said that does not mean that old businesses will be abandoned. In fact, New Brunswick's traditional industries may benefit more from the development in technology - which often focuses on advances in agricultural or bio-chemical industries.

"A lot of the original inventions were very tangible items, like the thermal paint or the scuba gear. But with the internet and newer technologies we see more and more innovations in the software space, ICT and biosciences," he said.

"You can't touch and feel it but it's still important."

Moving toward a technology based business will also create more high paying, and talent based jobs; and convince others to establish their company within the province.

Almost four years ago, Kumaran Thillainadarajah moved from a research lab to a small office at the University of New Brunswick campus. His company Smart Skin develops a pressure sensitive, black rubber like skin that sends pressure and touch information to a computer.

Originally intended to give people the opportunity to feel with the skin on their prosthetics, Thillainadarajah soon realized that he needed to start small before going big. Prosthetics need a decade of research and the potential for return investment is

low.

So he invested in creating sensitive golf equipment - the world's first grip fitting system.

"It was a very ambitious project and we are a small company. We needed to find revenue first," he said.

"When they measure your equipment, the only part that's overlooked is the grip. The challenge is what good grip pressure is and nobody built a tool to measure it."

By attaching his skin to the golf grip, Thillainadarajah said it is now possible to work on people's golf performance based on the information the skin sends to a computer or cell phone.

Smart Skin was born from a research project at the University of New Brunswick. Thillainadarajah worked in nanotechnology studies for two years before he became a summer intern with Felipe Chibante, the Richard J. Currie chair in nanotechnology in the faculty of engineering.

Originally, he was supposed to work on a skin for prosthetics that was stronger than the one on the market. But Thillainadarajah decided to bend the rules and created a skin that behaved as a sensor.

"He let me experiment a lot and by the end of the summer we had this material that we knew we could use as a sensor," he said.

Raised by a traditional family in Sri Lanka, Thillainadarajah's father wanted him to become an engineer. In 2004, he arrived at the University of New Brunswick. He said he had it in his head to become someone

with a steady job and income, someone who would not worry about what the next day could bring.

"I don't think, four years ago, I wanted to be an innovator. I saw these people who said they left school to start a business and thought this is crazy, why would you do that," he said.

His family might still call him a little crazy. But Smart Skin is now almost four years old and consists of an eight person team, some of which are chemists, engineers, computer scientist and software engineers.

Thillainadarajah said there are twelve degrees in the room with him and he holds none of them. At one point he said self starter was a code word for unemployment but now people have respect for it.

In 2001, he also won the young entrepreneur award at New Brunswick Innovation Foundation's Breakthru competition. He said since the start he felt welcomed in the province, and embraced the sense of community among up-coming and already established businesses.

"When you are an entrepreneur it can be very daunting to leave your comfort zone and you get tide down. It's good to be in contact with people who go through similar situations," he said.

Yan Simard said one of the key factors helping New Brunswick attract new companies is linked to exactly these networks between entrepreneurs. Competition is not a problem since most companies work on different projects. But they help each other out, and create new jobs.

In the long run, Simard said innovation is the only way to survive in the global market for a place tied so closely to its tradition as New Brunswick.

"If we try to stay too close to the traditional business we need to innovate. It is a place where innovation tends to happen," he said.

"There aren't so many good jobs available in traditional sectors but we still have people that are very smart and have a lot of talent."

Simard said being a self-starter, innovator and company founder can be straining. No day is ever the same, nor can you expect what the next one may hold. At 37 years old, the job holds his full attention yet he is excited about it.

At the beginning, he said, you are alone with only a good idea, a lot of hype and unrealistic plans. Once you try to overcome these challenges you are confronted with new ones and deciding between overcoming, or living with them.

But he said, if you don't face them, they come back and bite you in the back. And that goes a long way for any industry.

"I'm still nervous sometimes. There are many ups and downs, some people call it the entrepreneurial emotional rollercoaster of being a start up," he said.

"It's so true. Sometimes you feel like you are on top of the world and the next day you wonder if you can make ends meet."

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