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The clincher

The ever-expanding MorSwift Machines

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Invented by necessity, a lobster-banding machine expands to new markets

When the rubber hits the road

by TOM MASON

Roland Swift: "I figured that if I could put rubber bands on lobster claws, I could put them on vegetables and florescent light bulbs and hockey sticks too."

SANDOR FIZLI

It started out as a friendly challenge and quickly morphed into a raging obsession. When Roland Swift's lobster-fishing cousin told him that he wished he had a machine that could automatically put rubber bands on the claws of lobsters, Swift said he could build one. Naturally inventive with little formal training, he had already developed a reputation for building mechanical devices. But the automatic lobster bander turned out to be a lot harder to make than he expected.

In 2004 Swift, now 43, spent hundreds of hours in his machine shop in Digby, N.S., building one system and one tiny moving part at a time. Dozens of prototypes ended up in the garbage. When things got particularly tough, the persistent inventor began keeping a notebook by his bedside in case he dreamed about the machine while he slept. "I would write down what I dreamt and come in and try it," he recalls. "Sometimes it would work, sometimes it wouldn't."

In April of 2005, the first working prototype to make it onto his cousin's lobster boat worked for less than one out of 30 days of testing, but Swift refused to give up. He took the machine apart, redesigned it one more time, and the new prototype worked perfectly. Later that year Swift's machine was banding lobsters at the rate of 100 pounds in six minutes.

The finished product is striking in its simplicity. Elastic bands are sliced from a long rubber tube that looks like a brightly coloured bicycle inner tube. Four metal arms grab the elastic and snap it open, holding it so the lobster claw can be slipped inside. When the claw is in position, the operator presses a switch and the elastic snaps into place. The machine is totally pneumatic, gaining its power from compressed air and a network of thin plastic tubes. No electricity is required, meaning it can be used on lobster boats operating in remote locations.

Lobster fishermen in Digby were duly impressed, enough so that in 2006 Swift was able to quit his job as a Nova Scotia Department of Transportation truck driver and snow plow operator and form MorSwift Machines Inc. (*www.morswiftmachines.com*) to build and market his new invention. He even secured $60,000 in local investment money. It seemed as though he had the beginnings of a profitable business, but it didn't take long for fate to throw him another curve ball. Around the same time that he launched MorSwift, the lobster fishery took a sudden downturn, leaving most fishermen unwilling to shell out $12,000 for an automatic lobster-banding machine.

"It was a great idea, and everybody told me I was going to be a millionaire, then lobstering went into a slump," says Swift, who had no intention of throwing in the towel. "I saw rubber bands on other things, and I figured that if I could put them on lobster claws, I could put them on vegetables and florescent light bulbs and hockey sticks too."

With no market studies or purchase orders, Swift set to work redesigning his machine one more time. When it was ready, he started taking it around to packaging companies. "We started by introducing it to people who had done banding by hand, and they liked it," he says. Swift's latest creation is a machine that he has dubbed the RBV, a vertically oriented version of an earlier horizontal machine. It's one of the most revolutionary pack-

"Anything you can put tape or vinyl strapping around, we can do it with a rubber band, hundreds of times faster than you can do it by hand" **— Roland Swift**

aging machines on the market today, according to its inventor. "Anything you can put tape or vinyl strapping around, we can do it with a rubber band, hundreds of times faster than you can do it by hand and more efficiently."

Speed and efficiency are only two of the RBV's selling points; the machine is also safer on the environment. "We're cutting down on packaging," says Swift. "Companies like Wal-Mart use huge amounts of tape and vinyl strapping. All of that is garbage once you use it. A rubber band isn't. Once you take it off, you can use it for something else. Everybody knows that. If you have a rubber band on your mail, what do you do? You put it in a little cup on your desk, and when you're ready you use it for something else." Thanks to last year's tainted-spinach crisis, American law will soon require vegetables to be stamped with field of origin and other information. Swift is already working on a machine that can stamp that information onto rubber bands as it wraps them around the vegetables.

The same tenacity that Swift has shown from the outset is apparent in his choice of locations for his business. He is determined to keep his operation in Digby, an economically challenged part of Nova Scotia where jobs are scarce. Part of it is a desire to create jobs and give back to the town that stuck by him while he was creating his company. But Digby is more than a two-hour drive from the regional centre of Halifax, and an unusual place to operate a specialized business with international customers.

With no local packaging companies currently using his machines, it's also hard to perform field tests on new prototypes. Instead, Swift has found a giant vegetable-packaging company outside of Nova Scotia that has been willing to work with him on beta testing, the last stage of testing before commercial release. "We don't have any customers in Nova Scotia," he says. "All of them are in Quebec, Ontario, Alberta, B.C., and the United States. For a small company like ours, to try to do R&D and beta testing, it means I have to drag one of our machines out of province every couple of weeks, which is expensive. That's our biggest challenge right now."

Cash flow was another challenge Swift faced. Funding to develop his products and his market came from the Digby–Clare Community Business Development Corporation, the Atlantic Canada Opportunities Agency (*www.acoa.ca*), and the Business Development Bank of Canada (*www.bdc.ca*). Swift anticipates he'll need to raise another $1.2 million to progress his company's growth. His bottom line improved recently, when MorSwift won the first provincial I-3 Technology Start-up Competition, managed by InNOVAcorp (*www.innovacorp.ca*). MorSwift's RBV beat 121 other competitors from five regions across the province to claim the $100,000 first prize.

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Dan MacDonald, InNOVAcorp's president and CEO, says the decision to declare Swift the winner of the I-3 Competition was a unanimous one for the judges. Despite a large number of high-quality competitors, the Digby inventor stood out right from the start. "Roland is passionate about what he's doing," says MacDonald. "He's not someone who's sat in a room coming up with an idea on paper. He has gone to the broccoli fields in California, he's been on the lobster boats and in the packing rooms in Montreal and Toronto, developing a product that works like no other product around. He has shown his tenacity and his creativity. His product is unique, and he's done a good job protecting it with patents. At the same time, he's gotten funding to get the company off the ground. There was no one else in the competition who had the whole package like that."

For now, Swift is selling his machines one at a time. Most of his potential customers don't use rubber bands now to package their products, so it's up to him to convince them that it's the way to go. A print-shop manager challenged him to put rubber bands around 13,000 magazines, a job that he expected would take more than 60 hours. Swift showed up with two banding machines and completed the job in 12 hours. Meanwhile, a crab processor in New Brunswick has increased its processing capacity from 1.2 million pounds to three million pounds in one year by installing several of MorSwift's machines. With that kind of production potential, the market is huge. n

Igniting the spark

In April of 2006, InNOVAcorp developed a competition that would showcase innovative businesses operating in Cape Breton: the first I-3 Technology Start-up Competition. "We knew there was a lot of great entrepreneurial activity happening in Cape Breton," explains InNOVAcorp president and CEO Dan MacDonald, "but it was hard for us to identify. Our staff came up with the I-3 Competition as a way of engaging entrepreneurs and the community to identify these businesses. Eighteen submissions were received and scored and feedback was provided. From there we chose five finalists, then narrowed it down to three, and then the winner was named. It was a phenomenal success."

So successful, in fact, that in September of 2007 InNOVAcorp took the competition province wide, attracting 121 businesses from five economic zones. Each zone winner received cash and services totalling $100,000 and faced off against each other for grand-prize bragging rights. A self-cleaning pill dispenser, a shipping system for live seafood, an interactive video game to improve hockey skills, and a web–based management system for the music industry were among the finalists, with Digby–based MorSwift Machines Inc. finishing as the overall winner.

InNOVAcorp president and CEO Dan MacDonald speaks at the I-3 Competition reception.

Breaking the competition up into five regions was vital, according to MacDonald. "We knew if we had businesses in Yarmouth competing against businesses in Halifax, we wouldn't get the community support that we needed." Judges in each region included lawyers, accountants, entrepreneurs, and community leaders.

The I-3 Competition was an important way of flushing out high potential start-up companies, says MacDonald, only about 20% of which were known to InNOVAcorp before the competition began. It was also an important exercise in branding InNOVAcorp, letting innovators who are outside of the Halifax business milieu learn about the agency that exists to help them develop their ideas and businesses.

"Innovations are important for the future of any economy, but it's hard for a lot of innovative entrepreneurs to get the visibility they need to truly succeed," says MacDonald. **— T.M.**