

Robotics startup: A Clearpath to success

By Chuck Howitt, Record staff

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This is the third in an ongoing series tracking the trials and tribulations of an early-stage technology company in Waterloo Region.

KITCHENER — Matt Rendall can barely contain his excitement as he boards the plane at Pearson International Airport.

The chief executive officer of local startup Clearpath Robotics is headed for two days of pivotal meetings with a potential partner in a Southern U.S. city.

The series so far:

- [Hardships just a blip on the path to prosperity](#)
- [Clearpath moves ahead with robotic precision](#)

Joining him on the flight on this late-January day are Ryan Gariepy, Clearpath's chief technology officer, and Britt Bowra, the Kitchener company's vice-president of sales.

Everything Rendall learned sweating through four years of mechatronics engineering at the University of Waterloo, all the expertise amassed by the tiny company in its brief 18-month history, every piece of feedback from an existing customer has been poured into the latest generation of Clearpath's unmanned robot, the Husky.

Just getting an audience at all with this potential ally, a bigger player in the robotics market, seems a bit surreal to the 27-year-old Toronto native.

Only a few months earlier, he and fellow company founders and UW grads Gariepy, Pat Martinson and Bryan Webb were subsisting on reheated spaghetti and egg salad sandwiches as they worked day and night trying to carve out a niche for their robotic creations.

There had been some successes.

More than half a dozen Canadian universities and three in the U.S., including the University of California at Berkeley, one of the leading engineering schools in the United States, had inked deals to buy a Clearpath robot to use in their engineering classes or for research projects.

The memory of the company's first big sale to the University of Calgary is still fresh in Rendall's mind.



rec-clearpath-25. Pat Martinson (from left), Matt Rendall, Ryan Gariepy and Bryan Webb of Clearpath Robotics show off their new unmanned robot, called the Husky. Mathew McCarthy/Record staff Source: Record staff

He had been driving in Waterloo on a snowy day last winter when a call came through unexpectedly on his cellphone from Alejandro Ramirez-Serrano. The University of Calgary engineering professor wanted to talk about the Kingfisher, a robot designed by Clearpath for marine research.

Ramirez-Serrano had been searching for a robot that might work for his research project on harbour security, but all he could find were expensive machines made by military suppliers. He first encountered Clearpath at trade shows and had been impressed by the plucky startup's products.

The Clearpath robot he was eying was cheaper, but still sophisticated and user-friendly.

Without his computer and files in front of him, Rendall's mind was racing as he fumbled for answers while trying to negotiate the wintry conditions.

All of a sudden, the professor said, "Let's do it." Rendall could hardly believe he wanted to make the deal. "It was really exciting. I wasn't expecting it," he says.

Another big thrill came when Clearpath attracted financing from four angel investors. It had taken five long months and a gruelling series of meetings with the different investors, but what really tipped the scale in the company's favour was the revenue it already had in the bank from early customers.

For Rendall, the process had been nerve-racking but exciting at the same time. "The adrenalin was really pumping when I walked into those meetings," he says.

The angel funding, and grants from government agencies such as the Ontario Centres of Excellence and the Natural Sciences and Engineering Research Council of Canada, were a badly needed lifeline.

Revenue from the university sales and related service contracts brought in some cash, but it wasn't enough.

Clearpath had finally escaped its broom-closet office in the Accelerator Centre in the University of Waterloo Research and Technology Park and moved into larger digs at the Tannery building in downtown Kitchener, but it was still in the red and burning through cash with each passing day.

As the plane wings its way toward this critical meeting, Rendall is confident that at least the company has learned from its mistakes. There would be no comical slip-ups like the one made by the novice entrepreneurs on their first trip to a trade show last year in Alaska.

To save money, they had taken apart one of their robots, packed clothing around it and carried it in one of their suitcases. The nervous founders were also worried that their precious cargo would somehow be lost if they shipped it on another plane using express freight.

But lugging 50 pounds of metal through the airport wasn't a pleasant experience, and neither was the laborious task of reassembling it in a small hotel room after the long and tiring flight to Anchorage.

Ramping up the excitement level for Rendall is the possibility Clearpath is about to go in a new direction.

Previously, it had targeted the academic space. Now it is going after a much bigger fish — the industrial market.

Robots have been used for decades in factories and manufacturing plants, but they are largely stationary machines, designed to do fixed tasks. Meanwhile, the market for mobile robots that can move around and do a variety of tasks in sometimes chaotic or harsh outdoor conditions is largely untapped, Rendell believes.

Mobility is what separates Clearpath from the competition and the range of applications is huge. Ripe for the

picking are clients in the military, aerospace, health-care, environmental, mining, surveillance and infrastructure sectors.

If a large company decides it wants remote-control fire protection, it could install one of its hoses on the Husky.

"We're on the cusp of a big market," Rendall says.

One of the applications Clearpath is pursuing is "rapid prototyping." Using one of its robots as a piece of test equipment, a customer wouldn't have to spend a lot of time and money designing its own prototype. Proof of concept would already be established. The development process could go ahead much more quickly.

Securing a partnership with the U.S. company Rendall is about to visit holds the key to potentially unlocking this market.

It is a much larger operator in the robotics market with core products that complement Clearpath's hardware. Better yet, it is much more experienced in sales and marketing and could open up channels Clearpath has only dreamed of. It would mean a lot fewer cold calls and tedious door-knocking to recruit new clients.

Rendall met some of the company's representatives at trade shows. The robotics industry is small. Everyone knows each other. It helped Clearpath get a foot in the door.

"It's a major milestone for us to even be this far in the discussions," he says.

He's bursting with the desire to say more about the potential partnership, but until a deal is finalized, a gag order is in effect. Even mentioning the state he flew to is a no-no because it could identify the prospective partner.

Back in Kitchener a week later, Rendall and the other founders anxiously wait for a decision on the potential partnership. But Rendell brims with confidence that they'll get the green light.

The latest generation of the Clearpath Husky, "is truly our finest piece of engineering to date," he says.

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