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## Tested to the limit

By RASHA MOURTADA  
From Tuesday's Globe and Mail

*By the time the deal was done, Cameron Piron was exhausted. At the age of 33, he had spent the previous 10 years developing his breast cancer detection technology and more than two years trying to persuade multinational giant General Electric Co. to use it. It all started as the subject of his master's thesis in medical biophysics at the University of Toronto in 1998.*

Mr. Piron wanted to develop a technique to improve MRI detection of breast cancer through the use of a revolutionary patient-support system and coils, which attach to magnets used to measure signals during the procedure.

Coils weren't new to magnetic resonance imaging technology, but Mr. Piron's work altered their geometry, allowing them to be brought even closer to patient tissue. The result was shorter procedure time, reduced costs and improved image quality; he also developed 3-D visualization software for reading the MRI images.

Mr. Piron's technology would have to be compatible with existing MRI equipment, most of which is produced by five big players – General Electric, Toshiba Corp., Siemens AG, Koninklijke Philips Electronics NV and Hitachi Ltd. But each company's units are slightly different, meaning his technology would have to be customized for each one. As a starting point, he chose GE's platform to build on.

Near the end of his academic work, which involved making the new technology, Mr. Piron began to get serious inquiries from doctors and medical researchers about how they could obtain his equipment.

"That's when I seriously started to think there was a business opportunity here," he said. "It seemed the perfect outcome – to continue to drive this research, rather than letting it be an R&D project that dies in the laboratory."

So he recruited three partners: software engineer Gal Sela and mechanical engineer Chris Luginbuhl, both employed at U of T; and Don Plewes, his research supervisor at Sunnybrook Health Sciences Centre in Toronto, where he was doing his clinical work (Dr. Plewes is a silent partner). In 2005, they launched Toronto-based Sentinelle Medical Inc.

"We started the company very much focused on how much further we could push the technology," Mr. Piron said. "We didn't have a big sales or marketing team to get the message out about how

good our technology was. But it was crucial we gain large-scale market access.” And because Sentinelle's patented add-on technology was customized to interact with GE's MRI equipment, there was really only one distributor to go after.

Soon after launch, he began to aggressively pursue GE Healthcare, the company's international medical equipment division. Mr. Piron started with an already established connection through Sunnybrook, one of GE's research partners. When that didn't get him anywhere, he started cold calling the U.S. head office in Wisconsin, “and that did not work at all.”

Sentinelle's efforts were hampered by the fact that the leading method for breast cancer detection was (and still is) mammograms. MRIs were as much as 10 times more expensive as mammograms, and also associated with a high rate of false-positive readings.

But Mr. Piron's technology addressed those points, making MRIs about four times as expensive as mammograms, and rendering more accurate results through imaging at a higher resolution. And giving up on GE was not an option: Sentinelle's business plan hinged on securing a deal with the company. Otherwise, he would have to forfeit years of work tied specifically to GE's platform and go after one of the other MRI manufacturers, which would mean tweaking his technology for a couple of years before he would have a product to sell to them.

Not landing GE would also have forced Sentinelle to hunt for more investors and would have slowed its research in other areas. Instead of focusing on further R&D into different cancers, Sentinelle would have had to divert all of its resources into getting its first commercial products to market, he said.

Mr. Piron said he and his partners went through “dozens of different pathways” to get to GE. In the end, getting well-connected and well-known radiologists on their side won the conglomerate's attention.

“A company called Suros was hoping to get our product more attention because they thought it could help their product,” Mr. Piron explained. Indiana-based Suros Surgical Systems Inc. had developed a biopsy needle used in conjunction with MRI procedures; that company introduced three American radiologists to Sentinelle, who visited Sentinelle's Toronto site to check out its technology.

“They loved it,” Mr. Piron said. “They not only applauded our work but they quickly began to talk to the big companies, including GE, about how good our technology was.”

With that, Sentinelle scored its first meeting in Milwaukee with GE in late 2006. “It was intimidating,” Mr. Piron said. “Intimidating because they were suspicious of what we were proposing our technology could do. Intimidating because we knew we were dealing with one of the world's largest companies that could replicate our technology fairly quickly.”

What followed was more than a year of meetings and negotiations. “There are many levels to establishing a relationship with a company like GE,” Mr. Piron said. “It goes from technology validation all the way to validation of production capacity and quality systems, to the ability to ship your systems. You grow as a company during a process like this,” Mr. Piron said.

In April, 2008, Sentinelle and GE signed a North American distribution deal, with the intent to take it worldwide. For the first time, Sentinelle's equipment would be widely available commercially.

"We were elated but we were pretty tired by the time the deal was done," said Mr. Piron, now 34. "This was a fundamental milestone for us in terms of external validation of our technology and our company. And getting this deal meant we didn't have to break our stride in other R&D or find new investors."

Sentinelle's equipment, which costs about \$200,000, is now installed in 200 health care sites in North America.

Soon after the GE deal was signed, Toshiba and Siemens, which had previously ignored Sentinelle's pitches, approached the company.

"The GE deal was very important in this," Mr. Piron said, not only because it put Sentinelle on the other players' radars, but also because "they were losing sales because of our product." In 2009, Sentinelle signed deals with both companies.

The GE deal not only represented a major breakthrough for Sentinelle, Mr. Piron said, but also for Canada. "We were the first Canadian company ever to make MRI equipment and sell it to a major multinational company. It was a great achievement for us and a starting point to our business."

### **Connect with Cameron Piron**

On Friday at 1 p.m. ET, Cameron Piron joins us to talk about his company's breakthrough. [Click here to submit your questions and comments ahead of the discussion](#) (you must be logged in).

### **Expert Insight**

"When you get a no, take no as a no. But you should go back again every quarter. Don't close the door," says Paul Chipperton, CEO of Profound Medical Inc. On Wednesday, Mr. Chipperton talks about Sentinelle Medical's distribution deal with GE Healthcare. [Click here on Wednesday to read the full interview.](#)

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