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IDEA QUARTER
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Bluevale grad's startup helps surgeons map the brain

John Schofield, Special to The Record

Five years ago, at the ripe old age of 36, Cameron Pirón faced the enviable choice of effectively retiring and spending the rest of his career as an investor and adviser, sharing his hard-won expertise with promising tech startups.

The president of Toronto-based Synaptive Medical had just helped pull off one of the largest deals ever made for a Canadian medical devices firm, selling Sentinelle Medical, where he served as president and co-founder, for more than \$85 million US. Sentinelle, a manufacturer of equipment for magnetic resonance imaging for breast cancer, was sold to Hologic Inc. of Bedford, Mass., a global developer, manufacturer and supplier of diagnostic equipment, medical imaging systems and surgical products.

Pirón initially worked for Hologic and then spent some time as an angel investor, taking an investment and advisory role with three companies. But, eventually, the itch to innovate became too difficult to ignore, and in 2012, the former Waterloo resident and Bluevale Collegiate grad reunited with his fellow co-founders from Sentinelle to launch Synaptive Medical, which has already earned a reputation as a leader in neurosurgical technologies.

The light went on when his Sentinelle colleagues, most of whom are former classmates from the University of Waterloo's systems design engineering program, were invited to watch brain surgery being performed in Ottawa. The four friends, including Gal Sela, Wes Hodges and Dave Gallop, had shared a long-standing interest in that area. "We were really inspired by the lack of innovation in the operating room," says Pirón, "so we started looking at where we might be able to contribute."

What they've contributed is a suite of products that have revolutionized the



, PHOTO COURTESY OF SYNAPTIVE MEDICAL

Cameron Pirón is the president of Synaptive Medical, a Toronto-based company that allows neurosurgeons to see a multicoloured, 3-D image of brain.

ability of neurosurgeons to see sensitive brain tissue, helping them to better plan and perform the most delicate operations involving cancer, concussions, strokes, and potentially Alzheimer's disease.

Combining computer-based image analysis, state-of-the-art magnetic resonance imaging, and cutting-edge optical

technology taken from manufacturing and the space industry, the company's main product, BrightMatter Servo, uses a manoeuvrable arm with a high-powered optical device that provides magnified, real-time, 3-D images of the patient's brain and the surgeon's work on a flat-panel display positioned in front of the surgical

team. At a trade show last year, the Congress of Neurological Surgeons named BrightMatter Servo the year's most innovative product.

Synaptive's other key product, BrightMatter Prime, brings together three components to help surgeon's simulate brain surgery and plan optimal, minimally invasive surgical trajectories using vivid, 3-D images of the brain. The complete Servo and Prime system sells for up to \$2 million. In some hospitals, says Pirón, the technology will replace equipment that is 40 years old or more, including watchmaker's loops used by surgeons or microscopes focused on a single point. After years of performing operations, some neurosurgeons have been known to require neck surgery because of the damage caused by sitting in a cramped position for hours. Now, he says, they can look comfortably at a screen while the Servo system does the work. "We want to give them better eyes to see," he adds. "They've never seen a view like this before."

While neurosurgeries account for less than five per cent of all surgical operations, the pent-up demand for new technology is fuelling rapid growth for Sentinelle. The company has already sold eight complete systems — all to U.S. hospitals — and expects to sell 20 by the end of 2015. It currently employs about 180 people — a number Pirón says could increase to 300 by year's end. "We'll probably achieve revenues much higher than we ever achieved at Sentinelle in just our first half year on the market," he adds. "We're preparing ourselves for an unprecedented growth effort here."

While rapid growth presents its own challenges, Pirón says it's easier the second time around. But achieving success in the medical device market is a significant achievement, says Brian Lewis, president and CEO of Toronto-based Medec, the national association that represents Canada's medical technology industry. "It's one of the most highly regulated industries in the world," he notes, "and once you achieve regulatory approval, there can be substantial challenges in terms of getting a technology adopted into the health care system."

Pirón, who was born in Summerside,

P.E.I., and grew up in Waterloo, says he continues to draw wise counsel from his father, Ludwig, who, now in his 70s, is still actively expanding his own company, Waterloo-based Pinel Medical Inc., a manufacturer of patient restraint and handling systems. But long work days and a hectic travel schedule have left the younger Pirón with little time to think about creating a family of his own. "This seems to continue to get in the way," says the 41-year-old. "My hat goes off to other people who can balance life and work."

A winner of several innovation awards, the Synaptive president also continues to coach other entrepreneurs. "He has always been very giving of his time, even when it is clear that he hardly has any to spare," says John DeFranco, CEO of Orthogonal Inc., a Rochester, N.Y.-based developer of technology for advanced OLED (organic light-emitting diode) visual displays. Pirón sits on the company's board of directors. "I've never seen him not try to pay for dinner, no

matter how large the group he's with. Totally nice guy, deserves all his success."

At Synaptive, that success could be considerable. Pirón, who was included earlier this year on Fast Company magazine's list of the 100 Most Creative People in Business 2015, says the company's technology is potentially applicable to about 60 per cent of all surgeries — although he expects the firm will remain focused on neurosurgery for some time.

To help drive its rapid growth, Synaptive will likely look at going public in the future, something Pirón says its co-founders consider the next stage in their development as entrepreneurs. Their vision, he adds, is to build Synaptive into Canada's first, major global player in the \$228-billion medical device industry. "It's a long-term focus on doing what we've learned to be good at — integrating technology into medicine and health care," he says. "Once you see what can be improved upon, it's hard not to get passionate about that." ■

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