

SMALL BUSINESS INNOVATION: **PRODUCTIVITY**

# The magic touch

XSENSOR puts smart technology to work in more ways than one

Imagine a sophisticated sensor so big it would allow you to measure the pressure of a human body against just about any surface. Imagine its vast applications. Calgary-based XSENSOR Technology Corporation did, and has built a robust business with clients in the automotive, aerospace, furniture and other sectors.

XSENSOR makes sensors large enough to sit or lay on – in technical terms, pressure-imaging systems for “human interface-type applications.” Executive vice president and CFO Aaron Chronik says, “On your computer screen, you see how much pressure is being applied between your body and your bed or seat cushion.”

It may sound simple, but the technology has powerful uses.

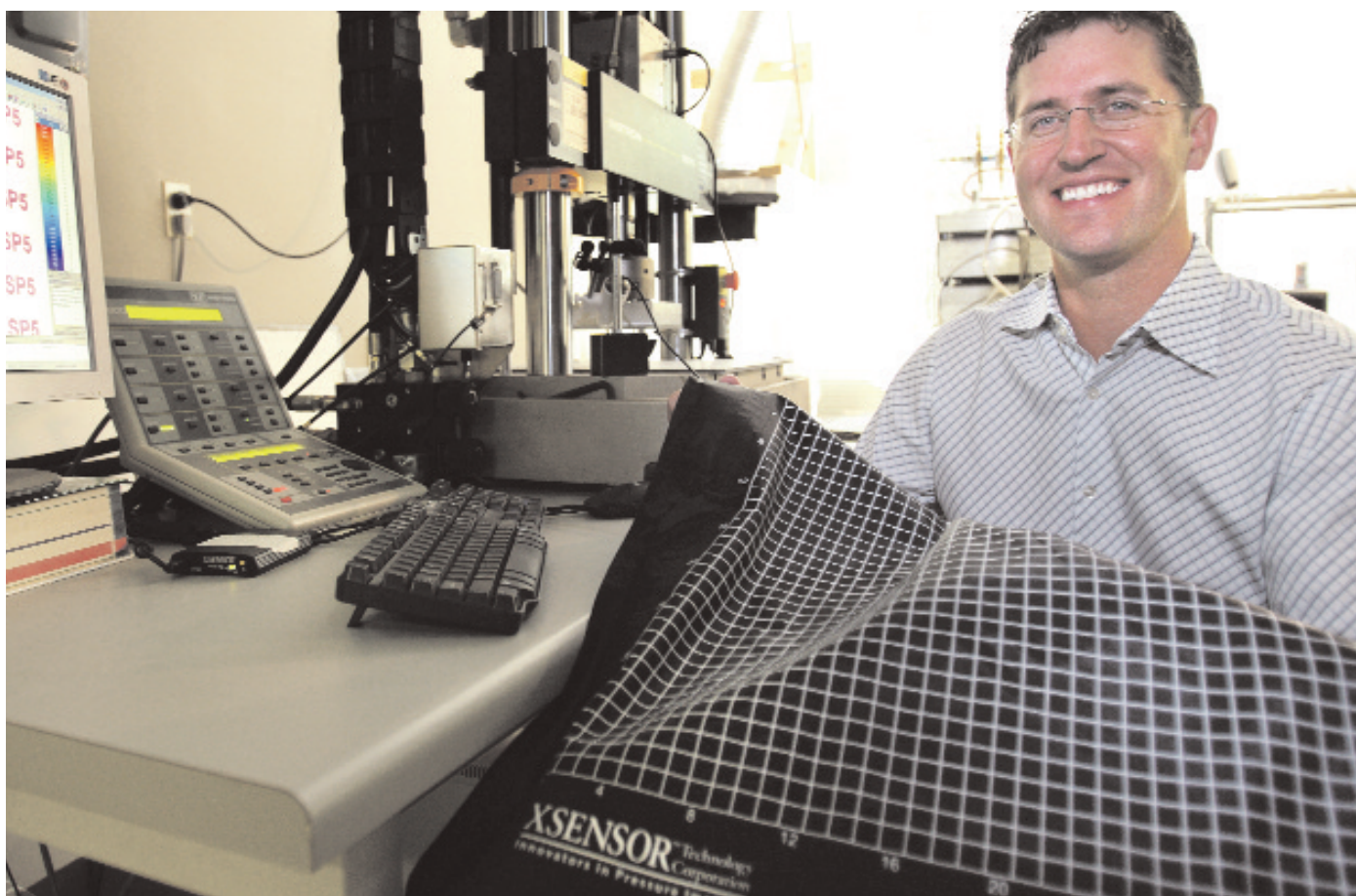
In healthcare, XSENSOR's technology can prevent wheelchair users and bed-bound patients from developing pressure ulcers. “Most of our medical products are used on spinal cord injury patients at risk of developing pressure wounds,” explains Mr. Chronik. “We have sensation to tell us where blood flow is constrained or where there is too much pressure, and we move around to relieve it. But if you can't feel or move, the tissue may eventually break down.”

Responding to this need, XSENSOR built its business on wheelchair and bed-surface testing from its inception in 1995 until 2002. When Mr. Chronik was hired to help Ian Main, the technology's inventor and company founder, grow the business, the two decided to pursue new markets. On their radar screen were potential custom applications for the automotive, aerospace and military seating and tire tread analysis markets.

“We began producing more research-friendly, data-intensive software. Our new customers were product designers, developers and engineers,” says Mr. Chronik. Today, in addition to providing products to aerospace seating companies, XSENSOR deals with the majority of brand-name automakers.

An XSENSOR application developed in 2004 for use in mattress stores led to the company's biggest success yet. “It's the biggest part of our business today,” says Mr. Chronik. “We provide software that helps the salesperson test a number of mattresses and evaluate which mattress is best for a customer's body type and sleeping preferences.”

Revenues doubled each year from 2002 to 2005, but that growth didn't come without its challenges. “The old



**Aaron Chronik, executive vice president of Calgary-based XSENSOR Technology Corporation, says the company built its business on wheelchair and bed-surface testing. XSENSOR has since adapted its technology for applications in the automotive, aerospace and military seating and tire tread analysis markets.**

PHOTO: ORCA GRAPHICS

processes didn't work anymore. Even though we were growing the revenue, it didn't feel like as much fun because there were a lot of growing pains such as production bottlenecks. So we began implementing a lean manufacturing process. It's been fantastic for us in terms of stabilizing our supply chain and enabling us to produce higher quantities without adding a lot of additional resources.”

Lean processes focus on removing waste from the system, and are driven by the ‘pull’ of individual customer orders rather than the ‘push’ of batches of orders.

“In the past, it might take us four weeks to ship to a customer from the time we received an order. But the actual time required to make the product is closer to eight or nine hours. The rest of that time is idle time: for example, when a component sits on a rack, waiting for someone to come and move it to somewhere else.”

The traditional way of improving manufacturing processes, says Mr. Chronik, is to invest capital to shorten production cycles. “The real advantage with lean is removing the idle time or waste.”

“Now when a customer orders a standard product, we can often ship it in three to four days instead of three to four weeks, and that allows us to produce a lot more products. We're doing that with the same

amount of space and, roughly speaking, the same number of people.”

Mr. Main, who graduated as

a systems design engineer from the University of Waterloo, says, “It's important to be persistent in overcoming both tech-

nical and business problems. Absolutely do not give up – and hire the best people you can find.” ■

## Building a lean machine

For companies that adopt lean thinking, the transformation begins with an ‘enterprise value-stream map’ that analyzes the current state of the business, envisions an ideal future state and maps a future state plan.

“The critical result of this process,” says Lean Advisors CEO Larry Coté, “is a vision and implementation plan for the company that is both achievable and challenging. With a lean implementation plan, everybody in the organization knows exactly where the organization is going. Everybody knows their involvement and the impact it's going to have on them.”

The primary benefits, says Mr. Coté, are dramatic bottom line improvement, faster response time, improved quality and greater ability to react to changing market demand. “A Lean business is more profitable and provides better service. We see improvement of 30 per cent to 80 per cent overall, and when you achieve that, you've transformed your company.”

## Go lean or go home

A Q&A with Lean Advisors CEO Larry Coté.

### What is Lean?

It's a way of thinking about how you run your business or organization from the standpoint of your client or customer. What is ‘value’ from their perspective? That thinking allows you to provide your product or service faster and better, and to meet changing demands while keeping cost as low as possible.

### How does Lean improve the customer experience?

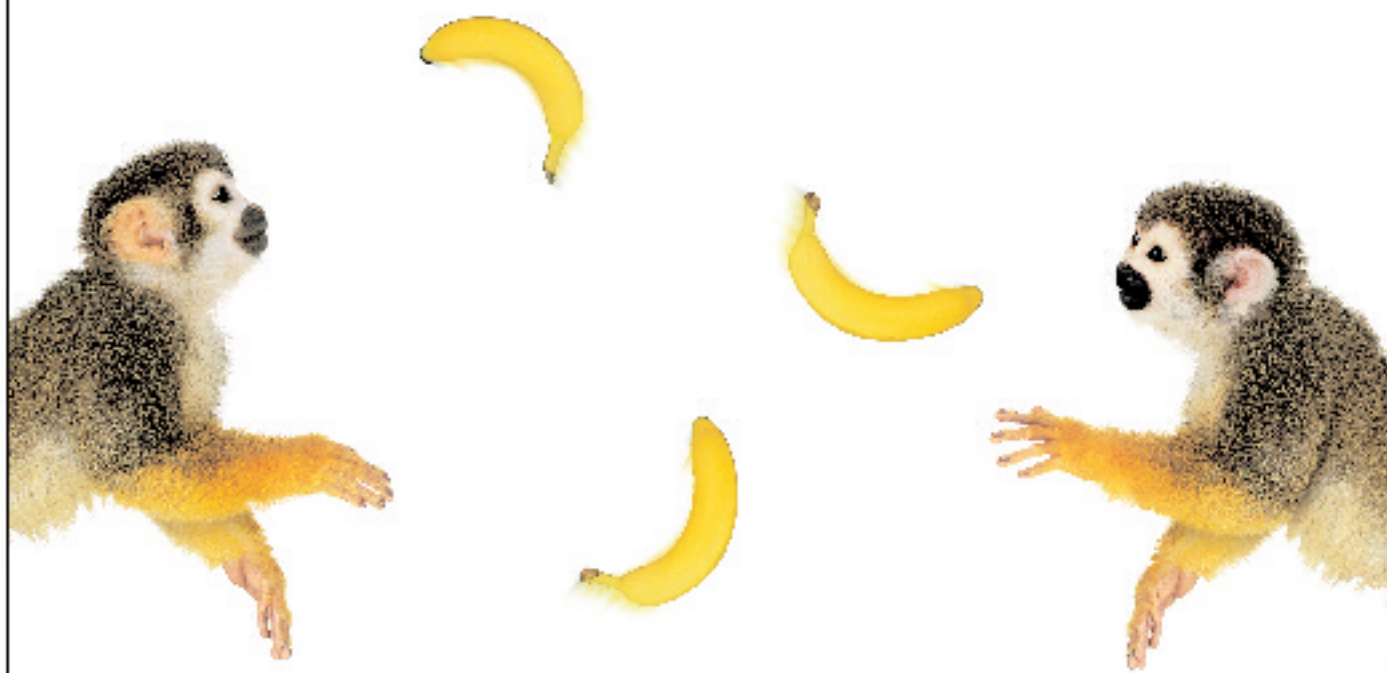
The objective of Lean is removing ‘non-value’ or waste from the customer's perspective. The question we ask of all elements of a business's process is, “If your customer knew you were doing this, would they be willing to pay more for it? Is it adding value to their experience?” Using that lens, we often find that up to 90 per cent of what companies do can be classified as waste.

### What is the ideal time for small businesses to adopt Lean?

There is no right or wrong time. It's never too late to do it now. You just need to understand that you have to change in order to be competitive, gain the right knowledge and execute properly. Or you can plan your start-up using Lean principles rather than designing waste in.

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