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From the lab to the faucet

Sensicore ramps up to commercialize water-testing technology

By Andrew Dietderich
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When 14 ducks were found dead in a Pittsburgh water reservoir last month, the city turned to an Ann Arbor company's product to make sure contamination wasn't to blame — and had an answer in less than five minutes.

The product is the handheld device that tests for 14 compounds in water and provides results in four minutes. The company that makes and sells it is **Sensicore L.L.C.**

And having instant access to that kind of information not only cuts costs but could one day save lives, said Stan States, head of water quality for the city of Pittsburgh.

"I don't know of any other product that has this kind of lab-on-a-chip technology," States said. "What we like is simply having the ability to test so quickly in the event of an emergency situation, be it caused by weather, accidental contamination or even intentional contamination."

Sensicore hopes Pittsburgh isn't the only city to feel that way.

The company plans to cash in on six years of research by commercializing its product and services, double its number of employees to 100 and increase revenue from $100,000 in 2005, about $2 million this year and $15 million next year.

That's based on the fact that the company already has tests being conducted in about half of the major cities in the U.S. and that each system will cost anywhere from $25,000 to more than $100,000, CEO Malcolm Kahn said.

Kahn said Sensicore could go public or be acquired, as some of its competitors have, though not anytime soon. **USFilter Corp.**, for example, was acquired by **Siemens AG** in 2004.

"When we started this company, nobody was doing anything with water," Kahn said. "We couldn't get any money. We could hardly get anyone to listen to us."

Crazy then, maybe, but it's paying off now.

"Nobody is doing what we're doing or even coming close," he said. "We're probably more than two years ahead of our closest competition."

Sensicore started in November 2000. The company licensed technology from the **University of Michigan**. The premise was simple: develop a small device that could quickly and accurately analyze blood.

A good idea, though too costly, Kahn said, given all of the FDA requirements and mountains of money — not to mention years and years with zero revenue — that would have been required.

But management didn't give up on the technology and by 2004 had retooled the device to be used to analyze water, all the while surviving on venture capital.

Ann Arbor-based **Ardesta L.L.C.** was the first company to finance Sensicore. Others followed in subsequent rounds: Palo Alto, Calif.-based **Firelake Capital Management**; Santa Barbara, Calif.-based **NGEN Partners**; Palo Alto, Calif.-based **Technology Partners**; and Roslyn Heights, N.Y.-based **Topspin Partners**.

The result is the WaterPoint handheld water-analyzing device, which is about the size of a VHS tape and weighs less than two pounds. The way it works: Put a small sample of water in, and a detailed analysis comes out. The analysis takes less than five minutes and looks at 14 critical measurements, including chlorine and acidic levels.

The data can be transmitted via wire to a computer or using wireless technology, which requires no physical link.

Kahn said the handheld devices cost $2,500 each. The real money, though, is in the replacement chips — the technology that originated at UM and has to be replaced after 30 to 50 uses. The chips cost between $300 and $400 each, he said.

Sensicore also has developed a system called WaterNow that allows users to monitor their water systems around the clock.

Kahn said Sensicore's products and services are more cost-effective, because they are based on a less labor-intensive form of water testing. The sensors also provide real-time information that can be used to prevent problems and are relatively simple to use.

Traditional methods require more equipment and more lab space for testing. Getting results can take from hours to days.

The two key markets are municipalities and industries that require water meet high standards, Kahn said.

Chris Rizik, cofounder of Ardesta and a board member of Sensicore, said what seemed like a good idea just a few years ago is even better today.

"When we first started the company, we thought the water-testing market was perfect for the simple fact that it was using 50-year-old methods to test water," Rizik said. "What we didn't know is that homeland security would become such an issue. We also didn't realize the industrial applications for the product."

Greg Kail, senior public-affairs manager of the Denver-based **American Water Works Association**, said the market for water-testing and analysis devices continues to grow for products and services offered by companies such as Sensicore.

"It's not only for terrorism or those kinds of purposes, either," Kail said. "There's been a tremendous number of increases in the regulations utilities have had to comply with, new standards that require them to sometimes change the way they monitor systems."

Still, some say more traditional methods of water testing yield more results.

Kathy Gronda, lab director at Livonia-based **RTI Laboratories Inc.**, a company that offers water testing, said traditional methods may take longer than Sensicore's, but the older ways test for thousands of chemicals.

For example, some tests require water be incubated for up to seven days. Others take 24 hours.

She said it's a growing market.

"There is just more awareness of it," Gronda said. "We do pollute. Our environment is resilient and cleans itself remarkably well, but just can't keep up with what we do."

Sensicore's handheld technology that tests for 14 different compounds in water.