Firm's ID System Maps Heat Patterns of Fingers
Region's Technology Sector Still Growing

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More than a decade ago, former Navy pilot Mike Willmore learned the value of breaking the rules.

He was admiring some "super-duper sensor for new missiles" at a Department of Defense conference and pressed his thumb on the infrared sensor despite the "Don't Touch" warning. His thumb projected one pattern on the scope, but Willmore noticed a different pattern when a friend did the same.

Intrigued, Willmore paid $10 for a 10-minute appointment with a nearby epidemiologist. He was told the web of blood vessels and veins in fingers is unique to each person. Now Willmore is trying to cash in on that initial investment. He is the co-founder of the company PosID Inc. in Lexington Park, which has created a prototype identification system that maps the heat patterns from fingertips. William says the system is more immune to fraud than traditional methods such as fingerprinting, retinal scans or face identification technology.

"If it's external [like fingerprints or retinal scans], you can copy them, they're subject to deception," he said. "Internal attributes are virtually invulnerable to fraud, persistent over time, and unique to every individual."

The technology has many possible applications, Willmore said. Initially he and co-founder Raymond Nowak, who both have day jobs at the Patuxent River Naval Air Station, planned to use their ThermoID system to prevent credit card fraud. They wanted to implant their thermal sensor and a microprocessor in the card so that it would not work unless the proper person's thumb pressed the sensor. But since the terrorist attacks of Sept. 11, 2001, the company is also trying to ride the homeland security wave to profitability. The National Security Agency has expressed interest in their technology, the pair said.

"Because of security issues and the war on terrorism, I think the federal government will be [the] first [customers]," Nowak said. "But I think you're going to see it on cell phones, and PDAs and computers in the next several years. Anything that has very valuable information in it that you don't want other people to see."

Mike Willmore, left, and Raymond Nowak of PosID Inc. in Lexington Park initially planned to use their prototype identification system to prevent credit card fraud, but they now look to the homeland security market. They received a state development grant. (Photos Mark Gail -- The Washington Post)

The six-employee company, which operates from Nowak's home, received a $50,000 grant from the Maryland Technology Development Corp. (TEDCO) this month to help develop and market its product. But the founders say millions more in venture capital is needed before the ThermoID could hit the shelves.

PosID is just one example of the continuing growth and diversification of the technology sector in St. Mary's County and Southern Maryland. In St. Mary's the technology industry revolves around the civilian and defense contractors that support the $20 billion business that is the Patuxent River Naval Air Station. But more and more, companies are relying on the availability skilled workers in the area to spin off into other technology sectors.

"We've got enough of a cluster that if you're PosID and you've got a non-Navy product, you can still find the engineers to work on it," said John Savich, director of economic and community development for St. Mary's County. "It creates new opportunities for aggressive companies."

The number of technology companies in the county continues to grow steadily. The recently released 2004 Technology Handbook for St. Mary's lists 194 companies, up from 167 last year and 129 in 2000, Savich said. Of the total workforce in 2000, St. Mary's had 19.4 percent devoted to technology jobs, the highest percentage in the state. In Charles and Calvert, economic development officials say technology companies are also playing an increasingly important role in the local economy.

"I think geographically Charles County is very well suited for technology companies. As we are part of the Washington metro area, tech companies have access to suppliers and marketers. And then we have the advantages of a Southern Maryland lifestyle, as well as the military facilities," said Marcia Keeth Stevenson, marketing director for Charles County Economic Development Commission.

Some economic development officials consider St. Mary's County a potentially formidable technology hub, akin to the Interstate 270 corridor in Montgomery County.

"We see St. Mary's as one of the next growth centers," said Phillip Singerman, executive director of TEDCO. "There's a major federal research facility, highly trained people, a contractor base and a potential for spinouts. . . . I think all the ingredients are there."

In Charles County another small technology company is also trying to harness the emphasis on national security to sell its wares. Software company Kingdomware Technologies Inc. of Waldorf, with fewer than 10 employees, has created an electronic emergency notifier system to rapidly deploy information during crisis situations.

The inspiration came out of Sept. 11, when co-owner Tim Barton was watching television reports of a woman describing the confusion over whether to leave the burning World Trade Center in New York.

"If the corporation or agency subscribes to our service, the management could dispatch alerts to employees instantly saying . . . the bridge is washed out, the tornado's coming," said Barton's wife and company co-owner, LaTonya. The

notifications could be arranged to pop up on employees' computers, cell phones and telephones.

Barton said the service also can incorporate governmental emergency notifications, such as changes in the homeland security terrorism alert level. There is more interest in the product when the national alert level is elevated, she said, as it was recently to orange, or high alert. She said the U.S. Department of Education has begun using the notifier system for some of its employees.

"Anytime the threat level goes up, there is more focus," Barton said. "People are saying, 'Let's get this in place in case there's any terrible situation.' "

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