

Friday, April 21, 2006

Drakontas' security software combines PDAs and GPS

Philadelphia Business Journal - by [Peter Key](#) Staff Writer

Soldiers and first responders must make decisions quickly. But wrong decisions can cost them their lives.

Drakontas LLC thinks its software can help them get enough information about their surroundings to make the right ones.

The company's software, called DragonForce, enables users "to establish a wireless system that gives people the ability to see, as well as hear, what's going on" around them, said Brian Regli, Drakontas' CEO.

A system using the software is being deployed in phases at **Drexel University**, where it was developed. (Drexel's mascot is the dragon and "drakontas" is Greek for dragon.)

In the first deployment phase, in December, Drexel's security officers received personal digital assistants (PDAs) equipped with global positioning system (GPS) receivers, which triangulate signals from satellites in orbit to pinpoint objects on earth. The handheld devices enable the school's public-safety department to track the locations of their security officers on a campus map.

The second phase, which occurred earlier this month, gave the officers and the department the capability to send text messages among themselves. The new feature allows the department to send officers directions using visual instructions in the form of arrows on the maps on their PDAs.

This summer, Drakontas hopes to give the department the capacity to send still video frames from its security-camera system to the PDAs. And in the fall, it hopes to allow the officers to see, on the maps in their PDAs, the real-time locations of themselves and their compatriots.

Bernard D. Gollotti, who heads Drexel's department of public safety, said his goal is to have the PDAs take the place of four things his officers had been carrying -- GPS-enabled phones; two-way radios; Morse Watchmans Inc. handheld data recorders; and incident report pads.

He thinks the system Drakontas is deploying at Drexel will aid his officers immensely.

"We wanted a way to make sure the officers in the field had as much information as they could," Gollotti said. "This technology allows us to feed information to them."

The technology grew out of discussions between two Drexel professors: Moshe Kim, a professor of electrical and computer engineering; and William Regli, an associate professor of computer science and the brother of Drakontas' CEO.

They wondered whether it was possible to develop technology that would allow people to take PDAs to the middle of nowhere and have them communicate.

Initially, they didn't think it was. But advances in wireless communications and computing technology made them reconsider.

A little more than three years ago, the two got funding from the Army to construct a system that would provide relatively secure and high-speed wireless data transmission with a number of useful applications, such as self-location, and that could be set up and maintained in an area with little or no communications infrastructure.

In 2004, Brian Regli and James J. Sim formed Drakontas to commercialize the technology that Kim and William Regli were developing. They spent the first year talking to people in a wide range of industries they thought might be able to use the technology to see the best ways to apply it.

"We talked to everybody you could possibly think of," Brian Regli said.

They concluded that security applications made the most sense and in August, Drakontas agreed to exclusively license the technology from Drexel for use in DragonForce.

The software uses programs called intelligent agents to enable mobile devices to function smoothly even if they can only access a wireless network sporadically. It can use any type of wireless network, as well as enable the devices to establish their own, and it can be configured to run on any mobile device. The applications it enables are GPS tracking, text messaging, whiteboarding and mapping.

Drakontas will help customers choose devices for the software or set it up to run on ones they already have. The company is targeting three markets: campus security forces; local and municipal authorities; and port agencies. Brian Regli thinks the software also has defense applications, but doesn't think there is a market for it yet.

The company has seven full-time employees and one half-timer. Two of the full-timers and the half-timer were among the 20 Drexel students that helped develop the technology on which DragonForce is based.

Drexel received \$4 million to develop the technology from the Defense Department.

Brian Regli said Drakontas has also received funding from wealthy individual investors, known as angels, and that, combined with its sales to date, have given the company a little more than \$1 million.

Drakontas has enough funding to operate for a year, even if it gets no more sales, he said.

This summer, the Atlantic County Department of Public Safety will use a federal grant of more than \$330,000 in a test that will compare the performance of emergency-response teams with DragonForce-equipped devices to the performance of emergency-response teams with their current equipment.

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