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Oakmont firm providing 2-way emergency alert systems to campuses

By Kim Leonard

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Two local universities will get advanced emergency alert systems next month that were designed by a small Oakmont company.

Metis Secure Solutions Inc. tested prototypes of its two-way communication units for more than a year inside Carnegie Mellon University's densely built Mellon Institute laboratory building in Oakland. Now, Metis is preparing to install its first permanent systems at the institute and in 15 buildings at Slippery Rock University.

Metis is a spinoff of another Oakmont company, Sima Products Corp., which makes weather alert radios, popular in hurricane-prone areas of the South and Midwest. National Weather Service broadcasts run continuously on Sima's radios -- which beep and flash as a major storm approaches.

Metis's alert devices boast several features that are designed to augment security alert systems already in place at, say, a university.

"We said, 'What if you could have a system not run by the weather service, but by a municipality or a private entity such as a chemical plant or university or shopping mall?'" said Dave Hochendoner, chief technology officer at Metis.

Cell phone text message alerts are used at many schools to send warnings to students. "But often, when students are in class, the professor asks them to turn their phones off," Slippery Rock spokeswoman Ria Abent said.

Other problems: Only 38 percent of college students nationwide sign up for the messages. And when a calamity occurs, wireless communication slows down.

"The cell phone structure was never designed for emergency notification," said Metis CEO Mark Kurtzrock. "Everybody gets on their cell phone, and in some cases, it can take an hour for a message to get through."

Fire alarms flash lights and blast sirens. But they can't provide details.

With the Metis system, campus police or officials can send alarm sounds plus instant, specific voice messages that also appear in text form on the unit's screen.

Abent said Slippery Rock considered four or five emergency systems for the 15

academic buildings on the Butler County campus. "We were looking for something that would allow us to send a general, or a very specific alert," she said, adding the Metis equipment and installation will cost less than \$200,000. Slippery Rock has 6,800 students.

Metis secured financing of \$198,000 from the North Shore-based Technology Collaborative to build its first prototypes, and later \$300,000 from Innovation Works.

Here's how the crisis alert system works: The white, triangular Metis units communicate via FM radio signals, along with a digital subcarrier -- another type of signal that allows screens on car radios, for example, to display a station's call letters or a song title.

The units also run on a local wireless "mesh" network. That means that while each box runs on a different frequency, it can talk to others nearby.

Mellon Institute has nine stories including three underground floors that have been impervious to most radio and cell phone signals. Some of its concrete floors are 3 feet thick.

Inside are 170 laboratories. "If you had a problem, you would have to go up three floors to call for help," Kurtzrock said. But tests of Metis prototypes showed that signals sent from even the deepest sub-basements traveled out, and vice versa. About 120 units will be installed at the institute.

Depending on where the boxes are placed, messages can be sent to one classroom, a single floor or an entire campus. "You can tell one building to evacuate, and others to stay in place," Hochendoner said.

Students or staff, in turn, can send their own distress calls by pressing a button on the unit, and leaving a message if, say, they smell gas and need to get out.

That can be simpler in times of stress than dialing an emergency number on a cell phone, Abent said. The Metis system also integrates with fire alarm, e-mail, text message or other emergency systems.

Because of technical limitations, cell phone alerts at CMU have to go out in batches of 500 "so it takes 5 to 10 minutes to get the first wave of calls out" to the 10,000 people on campus, said Madelyn Miller, director of environmental health and safety.

"Our test with the Metis system got calls out in four seconds."

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