

SUPERIOR SURVEILLANCE

Combining off-the-shelf products with superior surveillance intelligence, Accipiter Radar Technologies Inc. has created lower cost radar to help monitor borders, ports, urban areas and water bodies.

ACCIPITER RADAR IN USE AT BORDER ENFORCEMENT OPERATION

Radar surveillance systems have long been proven to be effective security tools in military applications – and now are affordable enough to be used by homeland security and law enforcement agencies that have tight budgets

“We take, for example, inexpensive marine radars, the kind you find in fishing boats, and hook them up to an inexpensive radar signal digitizer, software run on storebought PCs, networking, database and wireless technologies” says Accipiter president Dr. Tim J. Nohara. “We inject those off-the-shelf elements with military-like know-how in software. The system is designed to have the military gold standard in terms of tracking.”

Radar designed specifically for a military ship can cost \$5 to \$10 million per unit. But Nohara says Accipiter’s systems can drop the cost from millions of dollars to hundreds of thousands.

“Some homeland agencies can barely afford radios to talk to each other, so the military-style systems simply can’t be purchased,” he states.

He notes that, along with the military tracking knowledge, Accipiter staff has spent time in the field with police involved in enforcement operations, and other end users, to determine what should be integrated into the system.

Accipiter’s surveillance systems are being used on Lake Erie, Lake Ontario and

the St. Lawrence River by U.S. agencies. In one instance, the Ontario-based company set up a network of Accipiter radars which were integrated with cameras and other sensors spaced around the west end of Lake Erie, creating a mosaic – spanning the U.S. cities of Toledo, Sandusky, Cleveland – that are integrated into a network. Vessels detected on the water are then recorded in the computer, and software looks for abnormal activity or movement that could indicate something underhanded is going on. In addition to issuing real-time alerts, all movements caught on radar are saved into the computer so they can be analyzed later, or compared over time.

Nohara says this project is particularly interesting because it is taking place in one of the continent’s highest density maritime areas, and the system has to make sense of all the traffic.

“There are thousands of vessels – from pleasure craft to commercial vessels out there. Sometimes you can barely see the water,” Nohara states. “But the software will look for suspicious situations, such as a possible rendez-vous between vessels, a border crossing, or excessive loitering in an area. The security agency can then develop and deploy a response based on the information.”

The wide-area surveillance system integrates data coming from the network of radars so that a person sitting at the computer screen is viewing activity on the lake as if through a pair of wide-angle binoculars – with zoom capabilities.

The system is designed to cut down on labour costs, since a person doesn’t have to be constantly sitting by the computer watching the blips on the radar screen as in military operations. Instead, based on what has been programmed into the computer, it can alert off-site personnel to suspicious activity, via email or other mobile alerts.

Features of the system include the ability to speed up replays of vessel

ACCIPITER RADAR TRACKS DISPLAYED AT OPERATIONS CENTRE



other companies will hire the expertise only on a project-by-project basis,” notes Krasnor. “Accipiter’s elite team is in this for the long haul; to continually develop, improve and support the Accipiter family of products in response to the needs of its users.”

Along with U.S. Homeland Security, Nohara says a couple of state police organizations, the U.S. Department of

ACCIPITER RADAR INTEGRATED WITH OTHER SENSORS



Features of the system include the ability to speed up replays of vessel movement so that staff arriving in the morning can more efficiently examine the data collected during the night.

movement so that staff arriving in the morning can more efficiently examine the data collected during the night when no one was manning the computer. The software can also switch map names for more familiar nicknames for islands or other familiar landmarks – a request often made by local authorities, according to Carl Krasnor, Accipiter’s vice-president of business development.

He estimates that about half of the 15 employees at Accipiter have PhDs in radar engineering. “At least on a full-time basis, we have more than any other company in North America. The reason is that

Defence, the U.S. Federal Aviation Administration, the U.S. Navy, and the U.S. Marine Corps are all using Accipiter’s products.

For three years now, the 24-7 system has also been used by the Niagara Regional Police Marine Unit to monitor two sunken war ships from the War of 1812 in Lake Ontario. The site has been declared a national historic site, and there’s a “do not disturb” order around where they went down. Accipiter’s security radar notifies police authorities if a vessel or a scuba diver goes into the area.

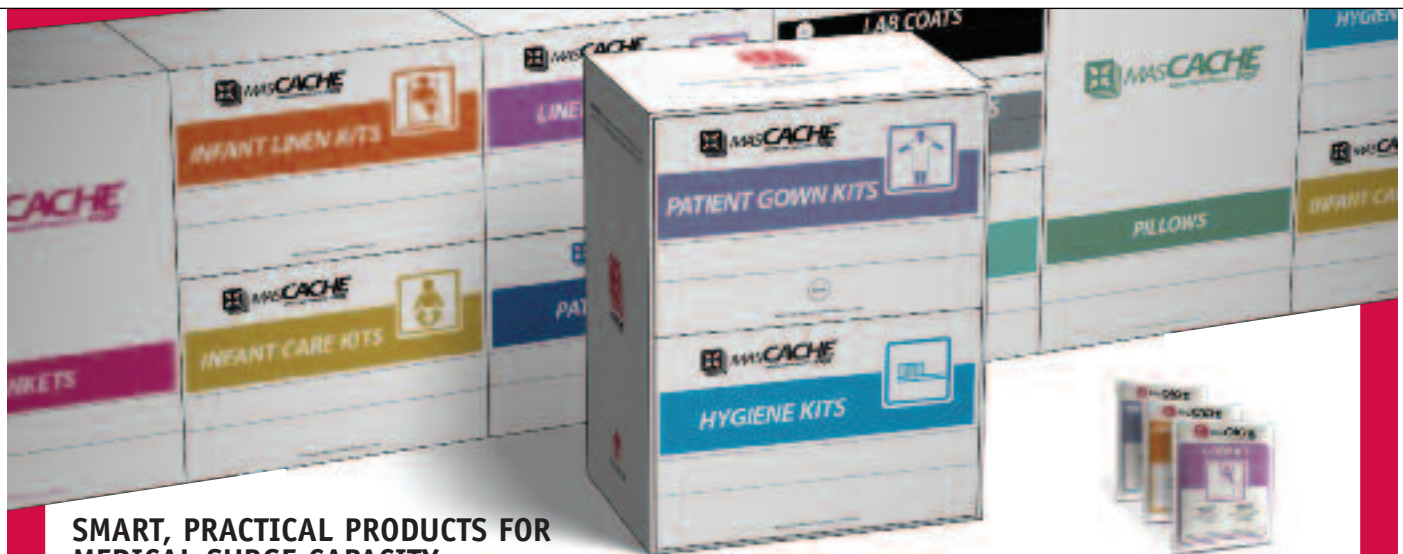
Cost savings are also made because when a feature is developed for one customer, it can be modified at low cost for subsequent customers, notes Krasnor.

According to Nohara, the system is as secure as bank transactions, with firewalls and encryptions.

An offshoot of Sicom Systems Ltd., which was formed in the 1994, Accipiter Radar was established a year and a half ago to further develop and exploit affordable radar surveillance systems.

“We know radar extremely well, and we wanted to bring radar to new markets – to homeland security, border patrols, and police forces – not just the military. Accipiter has a depth of technical expertise in the area not found elsewhere,” Krasnor says. **S**

Norma Reveler is a regular contributor to FrontLine Security magazine.



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