



## Success Stories

### Sicom Systems Ltd. Hamilton, Ontario

#### Radar for the rest of us

Tuesday 21 November 2006 | Hamilton

Scuba-diving souvenir hunters would love to get their hands on two magnificently well preserved warships that lie at the bottom Lake Ontario in Hamilton Harbour, where they sank almost 200 years ago. But these trophy hounds will have a hard time doing so, thanks to heritage officials with the City of Hamilton who carefully monitor boat traffic in the area with a surface radar system.

This kind of sophisticated technology used to exceed the financial and technical grasp of most municipalities, but a company based in nearby Fonthill, Ontario is making such equipment far more accessible. Sicom Systems Ltd. has developed a digital radar processor called Accipiter®, which, thanks to its sophisticated real-time software, can turn a collection of standard commercial antennas and transceivers into an outstanding detection network.



Accipiter® can reprocess the raw signal provided by such radars, boosting their ability to identify and track these targets amid background "clutter".

Low-cost radar systems have the sensitivity to detect smaller objects, but lack the intelligence to extract this information from the received radar signals. This limitation has made life difficult for anyone who wants to detect a small boat on the water, or birds that might be in danger of colliding with traffic around an airport.

Accipiter® can reprocess the raw signal provided by such radars, boosting their ability to identify and track these targets amid background "clutter". The result can mean entirely new applications for a technology that was originally created to meet the needs of war, but is quickly becoming even more valuable for civilian safety and security.

"Birds flying into commercial aircraft can be as much of a threat as smugglers trying to cross the international border," says Sicom President Tim Nohara. "We provide authorities at all levels with the tools to deal with any of these problems.

Those tools depend on a sophisticated signal processing capability provided by software algorithms that were developed by the company. This research effort, which had to take place well before Sicom was ready to enter the marketplace, was supported by the National Research Council's Industrial Research Assistance Program (NRC-IRAP).

NRC-IRAP provides a range of both technical and business oriented advisory services along with potential financial support to growth-oriented small and medium-sized Canadian enterprises. The program is delivered by an extensive integrated network of Industrial Technology Advisors, a group of some 260 professionals in 100 communities across the country. Working directly with these clients, NRC-IRAP supports innovative research, development, and commercialization of new products and services.

The program made it possible for Sicom to hire the skilled personnel it would require to hone this technology, as well as providing other technical advice and market analysis that have been crucial to the company's success. That progress can be seen on the bottom line: from no sales when the firm was founded in 1997, revenues for 2004 totaled \$1.9 million.

"NRC-IRAP has been instrumental in helping us reach this point," says Nohara. "We have been able to find brand new markets for a well established type of technology, in large part because we were able to muster the expertise to make it happen."

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Date Modified: 2006-11-21



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