

Great Village Company Respected World-Wide



Mark Wood, President of Instrument Concepts and Ocean Sonics Ltd., Great Village, was guest speaker at the Legion Branch #72 Banquet. Mark and Legion President Joan Richard display a spectrogram, a visual representation of ocean sounds, while Desiree Stockermans (center), Mark's wife and the company's Operations Manager, holds one of the Smart Hydrophones. (Harrington Photo)

By Linda Harrington

Underwater listening devices could help predict a tsunami, prevent collisions between ships and whales and help protect our coastline. A company located in Great Village has been put on the world map, as a manufacturer of underwater listening devices called Smart Hydrophones.

Mark Wood, President of Ocean Sonics Ltd., was guest speaker at the Great Village Legion's annual Banquet. His business is located directly across from the Legion, in the former AA Hill house, and few people know what exciting technology is being manufactured behind the doors where a Funeral Home was once located.

Underwater listening devices are not new but what sets Ocean Sonics' instruments apart is first of all their small size, it can be held in one hand, but also the variety of things they can do.

The Smart Hydrophones can store sound data, convert the sound data to spectra and store it or listen for events and just store the event. All this data can be sent over a cell phone. The Smart Hydrophones have batteries, so they can run without

cables, allowing them to be deployed as low as 3500 meters below the ocean's surface.

Ocean Sonics was started in 2012 to manufacture and sell these Smart Hydrophones. It is a sister company to Mark Wood's other company, Instrument Concepts, which designs the products.

Ocean Sonics employs a staff of 7. The products are built and tested in Great Village, with parts machined in Dartmouth and the circuit boards built near Bridgewater. "We are proud of the fact nearly 95% of the parts in our instruments are purchased in Nova Scotia," says Mark.

The location of Ocean Sonics is a bonus for testing the instruments. "We have a site near Bass River, far out on the sand flats where we can set up at low tide," says Mark. "In a couple hours we'll have 12-14m of water overhead for our tests, and at low tide we can collect our instrument and repeat if necessary." He says when they need a quiet place for testing they go up to Sutherland's Lake.

Ocean Sonics Smart Hydrophone is able to process down the data as it is collected and this results in a file size of about 1/100th of

what would be received from a traditional hydrophone. Mark says they also have a program called LUCY, which is used to visualize the sounds.

LUCY produces a spectrogram. Mark brought an example of one to show how the sounds made by a passing ship or a pod of whales can be turned into a visual reference.

Mark says he pleased his company is now collaborating with researchers at Dalhousie Oceanography and Acadia. One project involved attaching one of the hydrophones to a sturgeon and letting it go. The hydrophone came loose and floated to the surface after a few hours but in that time a wealth of information was gathered.

"We also heard a 'click' from a mystery fish, that also made a squeak, like a dog's toy," Mark says, adding this has baffled researchers, as well. "But that's what makes this type of work so much fun!"

Two ocean observatories, Venus and Neptune that together make up the largest ocean observatory in the world have been using instruments manufactured here in Great Village for over a year. They have recorded some amazing events, including aftershocks from the Japanese tsunami. Scientists have been recording micro-seismic events with the hope it will one day help predict larger earthquakes on the west coast.

Mark Wood is very excited with some new contracts, just signed in the last few weeks. Ocean Sonics Ltd will be working with DOT, Office of Boating and Safety; an Ocean Observatory in the US as their sole supplier; and will be the sole supplier of hydrophone equipment for the Azerbaijani Navy in the Caspian Sea.

"What I like about my job is that we're making tools, some of the best in the world, that help us understand the health of the ocean and its inhabitants. And hopefully that can help ensure their long-term health," says Mark.