Seismic activity

Iain Weir-Jones and his engineers make motion, navigational and tectonic analysis technology, including an early earthquake-detection system that’s gaining traction in quake-prone regions around the world.

Over the years, the ferry company asked for an alarm system and other additional functions to be built into the devices. Hughes said Weir-Jones’ engineers are always able to provide tailor-made solutions.

“The work that’s being done in SEWS is just one of the devices the company has developed over the years. It’s a small part of what the company does, but Weir-Jones believes there’s a big market for SEWS.

“I see that becoming a major part of our business,” the 68-year-old engineer said during a recent interview.

Heard in 1973, the company has two main divisions. Terrasciences Systems Ltd. — owned by Weir-Jones’ wife, Elizabeth — develops a wide range of sensors and electronics for the oil and gas, marine and mining sectors.

Weir-Jones (a.k.a. ‘Doc Roc’ — the name on his licence plate) is president of the Weir-Jones engineering group. Headquartered in Vancouver, the company’s two divisions employ 32 engineers and software specialists.

The company is diversified and highly specialized. Primarily it makes devices that detect and analyze motion and seismic activity — from reading pressure variations in the hulls of BC Ferries vessels to systems that allow oil and gas companies to monitor the volume and movement of oil in Alberta’s tar sands.

About seven years ago, Capt. Bill Hughes, navigational equipment and systems project lead for Washings State Ferries, went shopping for a company to provide specialized navigational equipment for the state’s fleet of 22 vessels. He contacted BC Ferries, which recommended Weir-Jones.

His company outfitted the American ferry fleet with its ADIS (automated draft indicator system).

Mission: To develop innovative solutions for the engineering challenges of clients and the general community

Assets: A curious mind and a team of professional colleagues who can think laterally

Yield: The opportunity to have worked on a wide range of projects in more than 50 countries

implement SEWS. Earthquakes send out a series of shock waves. The first, a P-wave, precedes the more damaging S-wave. SEWS can analyze the P-wave, determine if it’s a significant event and automatically shut down tunnels, bridges, oil and gas lines and elevators in highrisers.

Weir-Jones said the damage in Fukushima, Japan, earlier this year might not have been as severe had some of the utilities and infrastructure there had warning systems.

“Had they had one of our systems, they would have been able to take some precautions,” he said.

Although he owns Terrasciences Systems and provides her husband strategic planning advice, Elizabeth Weir-Jones does not take an active role in the company’s day-to-day business.

“Iain Weir-Jones’ company is involved in a range of sectors, including railways, civil engineering, mining, pipelines and oil and gas.

“We don’t do routine engineering,” Weir-Jones said. “The projects we work on are, for the most part, unique. In some respects, we’ve become even more specialized.”

A tour of the company’s Vancouver office underscores the point. In one area, an engineer tests computerized components for another company to see how they function at cold temperatures.

In another corridor, engineers work on a device that picks up seismic vibrations to alert the Canadian Pacific Railway when a rockslide is significant enough to pose a hazard to its trains.

Weir-Jones also developed the AntiTRAQ missile tracking system for the Canadian military.

He pointed out that earthquake-prone West Coast is an ideal place to

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