

# REMAINING ATTACHED TO MARINE ROOTS

## CSI Wireless Inc.

CSI Wireless Inc. was established in 1990 on the Canadian prairies to develop and supply GPS navigation and mapping systems to oil exploration and production crews in the Gulf of Mexico, off the coast of Texas and Louisiana. The company's first commercial product, introduced in 1993, was a module that plugged into conventional radio beacon GPS systems to provide the increased accuracy of Differential GPS (DGPS). This proved to be very useful, not only for the offshore oil industry but other marine applications, including commercial fishing. More than a decade later, the CSI SBX differential beacon module is still in world-wide use.

Alberta Calgary-based CSI continued to develop and market marine-related GPS products throughout the 1990s, attracting customers such as Simrad and Raytheon Marine. The company also became involved in the agricultural guidance market - both ground-based and aerial-based - when it acquired Satloc Inc. of Scottsdale, Arizona, in 1999.

A year later CSI acquired Wireless Link Inc. of Milpitas, California, to capitalise on the synergies available from combining its GPS technologies with wireless technologies. Since then CSI Wireless has been developing and manufacturing a growing variety of combined GPS/wireless products for asset-management, fleet tracking, stolen vehicle recovery and telematics purposes.

### Current Profile

The 150-employee company, that began trading on the Toronto Stock Exchange in 1997, achieved more than C\$75 million of sales in more than forty countries in 2003. Sales had been C\$54 million in 2002, C\$41 million in 2001, C\$26 million in 2000, C\$16 million in 1999 and C\$8 million in 1998. Such consistent revenue increases have enabled CSI Wireless to repeatedly rank as one of the fastest-growing technology companies in North America, based on research by a variety of respected entities including Deloitte & Touche. Meanwhile, the company remains firmly attached to its marine-industry roots. The company continues to develop, manufacture and market a variety of products for marine navigation, surveying, mapping, hydrographics and other marine applications. Marine products include integrated GPS + differential receivers, plus a suite of OEM modules for integration. The DGPS MAX and recently introduced MiniMAX integrated receivers provide better than one-metre differential positioning accuracy using SBAS, Coast Guard beacon corrections or OmniSTAR satellite-based corrections. CSI OEM PCBs (printed circuit boards) include the SX1, a sub-metre GPS + SBAS module, and the SBX-3B Coast Guard beacon receiver module.

### The Vector Series

The newest addition to the company's marine product line is its Vector series of heading and positioning products. The Vector PRO is a "smart antenna" system that combines two GPS receivers integrated into a single PCB, with two multipath-resistant antennas in a single rugged enclosure about a half-metre long. Using a sophisticated moving base station Real-Time Kinematic (RTK) technique, the Vector PRO provides heading information to better than half-degree (0.5) accuracy - enough to replace traditional gyrocompasses at a fraction of the cost.

The Vector Sensor is similar to the Vector PRO but enables the user to attain a higher degree of performance by increasing the separation between antennae. With the antennas two metres apart, compared to the half-metre antenna separation available with the Vector PRO, the Vector Sensor computes headings to better than 0.15 degrees accuracy.

The newest addition to the Vector line is the Vector OEM, a PCB version for integration of a heading and positioning module in a company's own products.

CSI Vector customers so far include:

- Royal Boskalis Westminster, one of the world's largest dredging contractors
- Seatel Inc., marine communication systems
- Marport ehf, a global manufacturer and supplier of marine sensor technology
- Coastal Oceanographic, design and supply of software for hydrographic markets
- MD Atlantic Technologies, a geographic information technology company owned by MacDonald Dettwiler which designed and engineered the Canadarm robotic arm used on US Space Shuttle missions

With sales and interest in the Vector line exceeding expectations, the CSI R&D group is busy developing new products that utilise this technology. New products will be aimed at conventional applications and at several emerging applications, including machine automation, navigation systems, and alignment tools.

### View of the Future

The success of the Vector series is enabling CSI Wireless to continue its pattern of achieving more than 95 per cent of its sales internationally. Europe has always been an important market for CSI GPS marine products but it is also becoming an increasingly

important market for GPS agriculture and wireless products. In addition to Europe and North America, other increasingly important markets for CSI include Australia, New Zealand, Central America and South America.

During the early stages of its development, CSI Wireless concluded that rather than establishing a large and expensive marketing department it would forge long-term alliances with large international OEMs and distributors that would do the marketing on its behalf. This strategy has resulted in branding and OEM supply agreements with a growing list of renowned companies including Motorola, Simrad, Leica, MX Marine, Ray Marine, Northstar, Astech and Sokkia.

"These partnerships have opened far more doors and generated far more credibility than we would have achieved if we marketed ourselves entirely on our own," said Stephen Verhoeff, CSI's President and CEO. "With this strategy, we end up in the background - with our customers' names rather than our names on most of our products - but the trade-off benefits have been enormous."

The success of Vector has also helped to ensure that the global marine market remains an essential part of the future of CSI Wireless.

"Demand for highly accurate and affordable navigation, mapping and other marine products is growing rapidly on a worldwide basis," says Mr Verhoeff. "CSI is committed to serving that growth through innovation, product excellence and a strong pre-sale and post-sale focus on our customers."

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