Nova Scotia mission to Bay of Fundy

Innovation Insights, in collaboration with CME NS Division, recently organized a best practices tour to the southern Nova Scotia region. Over the two-day mission, 14 participants, representing universities, community colleges, government, and private sector businesses across Nova Scotia, visited three host companies.

The host companies, Acadian Seaplants Limited, A.F. Theriault & Son Ltd. and Tri-Star Industries Limited belong to three distinct industry sectors and play an important role in economic livelihood of their communities. Not only do they thrive in their respective industry sectors, but they do so in their own small communities. Where others may see operating a successful business from a town as a challenge, with many hurdles, all three companies see it on an opposite light – as an opportunity, not only to positively contribute to the livelihood of the regional economy, but often finding and training specialized labour is more feasible and economical.

Acadian Seaplants Limited (www.acadianseaplants.com)

Acadian Seaplants Limited (ASL) is the largest independent bio-tech manufacturer of marine plant products of its type in the world and is one of *Canada's 50 Best Managed Companies*. The company operates five processing facilities from its head office in Dartmouth, NS.

ASL sustainably harvests seaweed from the ocean and has also developed technologies to cultivate seaweed from land-based tanks which allow them to yield consistent and high quality food products. Over the past 25 years, ASL has expanded its business from the food science division to include animal science,

"Success abroad starts with innovation at home."

food ingredients, and plant science.

Throughout the course of ASL's over 25-year growth, it has had a close working relationship with the National Research Council (NRC), both the Industrial Research Assistance Program (IRAP) and the Institute for Marine Biosciences (IMB) as well as Dalhousie University, the Nova Scotia Agricultural College, Agriculture and Agri-food Canada – Kentville, Atlantic Canada Opportunities Agency and InNOVAcorp. These partnerships have enabled ASL to develop and update technologies involving the world's largest land-based seaweed cultivation system, which grows seaweed for the Asian food market, and to conduct fundamental and applied research on seaweed extracts to produce the next generation of extract products for global agricultural and horticultural markets.

Research driven

With 300 employees and 300 seasonal harvesters, ASL is a research-driven, export company that sells 95 per cent of its production to over 70 countries around the world. Their dedication to research is reflected in the number of technical staff at their company and their investment in R&D: 23 including 10 PhDs. This number does not include the many knowledge-based positions the company requires for its innovative operations. Approximately 10 per cent of their annual revenue is reinvested back into R&D. Tour participant Kathy Brooks of Alliance World Transport commented, "Fascinating insight was offered into the hurdles you have to overcome when you are a frontrunner in your industry."

Sustainable resource management and efficiency

In order to ensure resource abundance, ASL utilises responsible harvest management and scientific techniques which includes remote sensing using aerial photos, software and the development of sustainable annual harvest plans involving a unique harvesting rake. Their model is so effective that other countries have adopted ASL's sustainable and science-based resource management methods.

Engineers at the company are accustomed to adapting other technologies since 'off-the-shelf' seaweed processing equipment is not available. Using this approach the company found a way to implement 100 per cent waste reduction by diverting all of its by-product from landfills. It adapted a technology from the fruit juice extraction industry which involves pressing more of the liquid extract out of the seaweed by-product which significantly increased yields at the processing plant. By reclaiming the press agent from the by-product, so that it too can be reused in the process, the company plans to develop a new soil amendment product that, like its predecessor, will be exported to the US and used by local farms as part of their soil nutrient management plans.

Maintaining a competitive edge

ASL is constantly looking to increase its competitive advantage by developing new markets. One way they do this is by hiring foreign nationals with help from Canadian Manufacturers & Exporters' Export Internship for Trade Graduates Program. The graduates' knowledge of the language and the nuances of doing business in their mother country enabled ASL to cut product registration time in China from two years to six months. This best practice reflects a tremendous benefit to the company in terms of getting the product on the shelf in a new country.

Research and development, processing improvements, eco-efficiency, hiring the best, and constantly developing new markets have enabled ASL to maintain its competitive edge, while growing to become a technical leader within the global seaweed industry and the largest company of its kind in the world. This company lives by its motto: "Success abroad starts with innovation at home."

A.F. Theriault & Son Ltd.

The Meteghan River, NS, based family-run business of A.F. Theriault & Son Ltd. was founded in 1938 by Augustin Theriault to serve the needs of those seeking to have boats built. In the day, they built wooden fishing boats up to 165 feet in length where the shipyard would construct three boats at a time, and now they build state-of-the-art and custom vessels from advanced composite materials, aluminium, fibreglass, and steel for the government and private sector alike. Their vessels include high-tech fishing vessels, patrol, ferry boats, pleasure crafts, and yachts.

Today, the company is run primarily by Augustin's four sons and their families, each responsible for an aspect of the business.

Mike Fitzpatrick, plant manager of Acadian Seaplants' Seaweed Extract Processing Facility in Cornwallis, NS. Mike is demonstrating what the finished soluble seaweed extract powder product looks like before it is packaged and shipped to one of the company's 70 export markets. This product is sold to global agricultural and horticultural markets as a plant growth regulator.

Community-oriented and corporate responsibility

The Theriaults have a great sense of corporate social responsibility for the economic well-being and community members in their region. They not only feel responsible for the well-being of their staff, but realize that stable employment and enhanced job skills also benefit their families.

This sense of corporate responsibility and the desire to provide the best product possible is the reason A.F. Theriault & Son Ltd. hires and provides professional development opportunities for its employees. The various "shops" include aluminium, fibreglass, and steel construction, paint, hydraulic, fabrication, machine, welding, finishing, propeller, and several marine railways and let's not forget the research and development building where new innovations become reality.

Ingenuity and product development

A.F. Theriault has been in business for 69 years. The fact that they have endured the tough times and have adapted to changing demands and economies provides an extra "selling" point when competing with state-side shipyards that are in direct competition with them. It is not uncommon in the industry for a company to take a multi-million dollar order and go bankrupt in the interim. No product, no money… A.F. Theriault has established a solid reputation in North America because of its longevity, its custom work and its ability to deliver the desired products.

The company has had a long working relationship with both NRC-IRAP and ACOA for their R&D efforts. NRC-IRAP advisor Bob Gascoigne has worked closely with staff in the development of composite technologies for the Theriault's vessels – which is currently used in building certain vessels.

Looking ahead

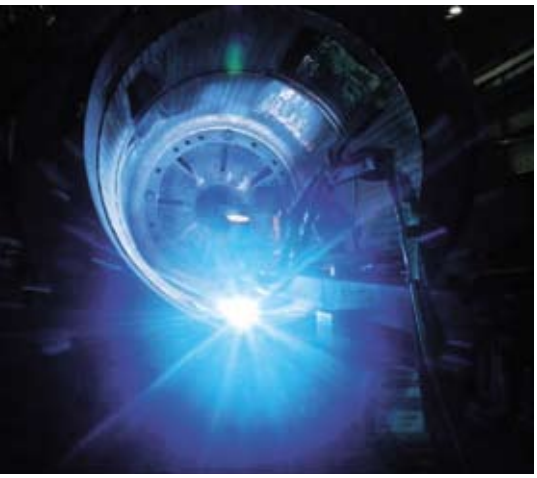
A.F. Theriault has continued diversifying its product offerings, so reliance on the fragile fishing industry is kept to a minimum. Currently, they have a few major projects on the go including an 80-foot luxury catamaran for an international client, the Englishtown ferry for Cape Breton, and they are working on an ultra fast vessel for military applications. They are also working on a high speed "decoy" vessel, also for military applications.

Customized fishing vessels are, however, still a part of what they do. As an example of how customized these boats are, one fisherman wanted to process fish on board his specially designed boat because freshness and fish loss was a challenge. A.F. Theriault devised (by design, and admittedly, with some trial and error) a processing conveyer belt requiring minimal hauling and lugging of fish product. A very LEAN design for processing, on board a small fishing vessel!

The strength of the Canadian dollar on the international marketplace is currently a challenge for the export market. More competitive buying for materials, and maintaining labour costs as well as offering top quality product all fit into the mix of hurdles for A.F. Theriault. Finding, training, and maintaining skilled labour also poses a test, but with upward salary adjustments, professional development opportunities, fair and equitable treatment, and a job "at home" seem to help in the labour-demand mix.

"Great business, great relationships, and great products and services are what we are all about."

Keith Condon, president and CEO, Tri-Star Industries Limited



Tri-Star Industries Limited

Tri-Star Industries Limited is a Yarmouth, NS-based company that had its beginning in 1973. Owned and operated by President and CEO Keith Condon and Vice President, Operations Mitch Bonnar, today Tri-Star is a world leader in the manufacturing of ambulances and other specialty vehicles that conducts business in 43 countries around the world including Saudi Arabia, Qatar, Jordan, Netherlands, Sweden, Finland, Costa Rica, El Salvador, Guatemala, Mexico, Ecuador, and Trinidad & Tobago.

The business is based on the manufacturing of "Types I, II, and III ambulances, and, they have also branched out into armoured vehicles. Over the past 30 or so years, Tri-Star built to specification for clients with guidance from clients on how and what to produce. The company now has several years of experience in the industry, and have grown their business to serve various ambulance needs. As a result, they are now the ones advising clients on design and functionality.

Functionality and design

Functionality and design are important considerations when manufacturing ambulances and small details make a big difference. For example, all of their ambulances have a 12-volt electrical panel: easy-to-use, easy-to-repair, there are no gadgets, and it is very universal.

As an idea of how long it takes for completion, one Type III ambulance takes 700 person-hours to complete, in other words two full days. To facilitate the task, the plant has an efficient workflow layout. From one assembly station to the next, there is ample working room, good lighting and ventilation, and station "transitions" are logical.

Having had a long-standing business relationship with Ford, the vehicles are built on Ford chassis. If a technical question arises, then the engineering department at Tri-Star can call the Ford engineering department directly. This is a tremendous advantage conducting research and development.

Diversifying product and service offerings

Keith and Mitch had been outsourcing graphic design and electronics for their vehicles and were spending a lot of money. So, they decided to develop in house divisions and hire in-house specialists.

Today, not only do these two divisions serve internal needs, but also have generated several external clients. In fact, the electronics division alone, which also has cellular telephone, internet, and computer-based clients is producing $1 million in sales through the retail store at Tri-Star.

Proven sales strategies and client satisfaction

When asked about generating sales in other countries, Keith shared that one of the best ways is to bring the buyers to them – to Yarmouth, NS. "When you have them here, they are here for the product. They have no other commitments or distractions, so you have their undivided attention. A tour of the facilities, product and company, presentation, and a giving them a flavour of Nova Scotia has been a very effective strategy for establishing and fortifying solid client relationships," he recounts. "And, it is more economical for us to bring one or two people over here, than it is for us to go to them."

Another sales tactic that has proven effective for Tri-Star is to design and manufacture the vehicles to what Tri-Star feels would best meet potential client needs (of course only upon consultation with those clients), and give the vehicles to those clients to tests for a period of time. Keith stated that this has proven very successful for Tri-Star because even things that their clients had not thought about, but discover while testing are integrated into the vehicles. From the first respondents and doctors, to the administration, it seems that all decision-making parties and users are fully satisfied. One of Tri-Stars strengths is the fact that they have been in the business long enough to foresee a lot of their clients needs, and intuitively design vehicles to suit their specific needs.

Keith comments, "Great business, great relationships, and great products and services are what we are all about." 20/20