

Industrial Research Assistance Program (IRAP)

Region:
Maritimes – Nova Scotia
Meteghan

A.F. Theriault and Son Ltd.



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Dr. Russell Saunders, Director of Research and Development, A.F. Theriault and Son Ltd.

Innovation takes to the waves

Following a tradition established by such marine masterpieces as the Bluenose Schooner, Nova Scotia shipbuilders continue to put cutting edge technology on the water. On the Meteghan River in the southwest of the province, you will find a family firm that has maintained a commitment to that tradition for more than 65 years, as well as a commitment to the region and the people who have made that tradition possible.

The company is A.F. Theriault and Son Ltd., which was founded in 1938, just a year after the Bluenose first began to appear on the Canadian dime. At that time they built their boats out of locally harvested wood, but today you will also find them using steel, aluminum, fibreglass and some of the most advanced composite materials to be found anywhere in the world.

In fact, with about 150 people working in its shipyard, the company has spent the last few years mounting research and development activities that would put major aircraft manufacturers to shame. The centrepiece of this effort has been work on the Composite Core Stress Panel, a unique blend of materials such as carbon fibre, Kevlar and compressed foam. Suitable for the hull of a ship or the wall of a house, these versatile panels can withstand hundreds of times the pressure of an equivalent piece of steel, while being more than 10 times lighter.

Last year the company launched an experimental version of a patrol craft made from these panels. Called XV-25, the eight-metre vessel contained no wood, ribs, longitudinal frame or steel, yet its performance went far beyond any comparable design. At the time, Federal

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Fisheries Minister Robert Thibault described the launch of the XV-25 as the launch of a new era in shipbuilding technology.

Since then, even larger versions of composite core hull vessels have gone into production, including one that is 75 metres long. These unique, non-magnetic materials could even make it possible to construct high speed, military “stealth” craft, which remain practically invisible to any detection systems. And the company continues to refine its technical capabilities in order to do even more.

In March of 2003, A.F. Theriault and Son was honoured with an Outstanding Achievement Award from the National Research Council. At an event attended by Minister of Industry Alan Rock, the company unveiled a new application for its composite panel technology - low cost housing materials for use in the developing world and elsewhere.

“It is entirely possible that the 'housing project' will mature to the point where it is actually bigger than the shipyard operations,” says Dr. Russell Saunders, Director of Research and Development for A.F. Theriault and Son. He adds that this new direction reflects a profound sense of social responsibility - a responsibility to the poor who may benefit from this new housing as well as a responsibility for the ongoing well being of the Nova Scotia community that has produced this technology.

Dr. Saunders credited that community for the company's ongoing success, and he also pointed to the support of NRC's Industrial Research Assistance Program (NRC-IRAP). This initiative works closely with small and medium-sized enterprises, helping them grow their businesses, increase their competitiveness, and enhance their impact in the marketplace. In the case of A.F. Theriault and Son, NRC-IRAP made it possible to undertake a research endeavour that the company would not otherwise have had the resources to tackle.

“If it were not for IRAP, this technology would never have been developed,” says Dr. Saunders. “It's really hard for small firms, even ones making \$8 million a year, to justify an investment in research. IRAP made the difference, and we went ahead.” ■

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