

Special Feature — Ocean Technology



Introduction

Newfoundland and Labrador has always had a strong attachment to the ocean, and through our rich maritime history we have amassed a tremendous amount of knowledge. Newfoundlanders and Labradorians have applied that knowledge to the field of ocean technology and our expertise is being recognized internationally. Ocean technology developed in this province allows fishers to find and catch fish more efficiently; provides added safety to mariners and offshore workers; provides more accurate weather forecasting; and enables those at sea to communicate with one another and with those onshore.

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The Ocean Technology Sector

The ocean technology sector facilitates the use and monitoring of the ocean and coastal resources by developing, producing or adding value to products and/or services based primarily on technological and business innovation. This sector consists of companies and organizations involved in a range of technologies and applications including communication, navigation, simulation, remote sensing, fish harvesting and processing, and remotely-operated vehicles.

The Newfoundland and Labrador ocean technology sector consists of 52 companies, two-thirds of which generate more than 90% of their revenue from ocean activities, and 11 public sector organizations. Most of the companies have been in business for 6-15 years and have developed a wide range of technological competencies, including:

- ▶ integrated navigation and control systems;
- ▶ acoustical, optical, electromagnetic sensors, transducers and related instrumentation;
- ▶ specialized radars and other remote sensing systems;
- ▶ robotics and intelligent systems;
- ▶ numerical and physical hydrodynamic testing; and
- ▶ simulation.

Growth in the ocean technology sector, both worldwide and within Newfoundland and Labrador, has historically outpaced general industrial growth. In Newfoundland and Labrador, over the past five years, revenue growth has averaged 18% per year, and company projections indicate strong future growth.

Employment and Sales Revenue in the Ocean Technology Sector (Private Sector)

	Employment	Sales Revenue
2001	880	\$116.9 million
2005	1,470	\$229.6 million

Total annual sales for Newfoundland and Labrador ocean technology companies were \$229.6 million in 2005, almost doubling from \$116.9 million in 2001. Total private sector employment also increased from 880 employees in 2001 to 1,470 in 2005.

Of the new firms that joined the province's ocean technology sector since 2001, most are considered "core" companies, with more than half of their operational focus concentrated on innovative activity and ocean technology markets. Many of these firms trace their origins to research and development programs conducted at Memorial University, the Marine Institute and the National Research Council's Institute for Ocean Technology.

Core companies are primarily focused on international export sales in niche markets with more than 90% of their business coming from international exports. Europe represents the largest market for these companies. For all other ocean technology firms in this province, Atlantic Canada is the primary sales market.

These ocean technology firms are supported by a world-class collection of research facilities and support agencies that employ a further 268 people, and have combined operating budgets of approximately \$35 million. These agencies include: the National Research Council's Institute of Ocean Technology, C-CORE, the Centre for Marine Simulation, the Offshore Safety and Survival Centre, the Centre for Sustainable Aquatic Resources, the Centre for Aquaculture and Seafood Development, the Ocean Sciences Centre, the Ocean Engineering Research Centre, and the Canadian Centre for Fisheries Innovation among others.

New Activities in 2006

The New England market has been the primary focus for the ocean technology sector for the Department of Innovation, Trade and Rural Development in 2006. In January of this year, Premier Williams led a group of ten local companies on an ocean technology mission to New England. This was followed by a second mission in May at which point three memoranda of understanding (MOU) were signed, representing partnerships of government, academia and industry. The first MOU was between the province and the State of Rhode Island, the second linked the Marine Institute of Memorial University and the University of Rhode Island, and the third partnered OceansAdvance Inc. with the Marine and Oceanographic Technology Network (MOTN). A third mission to New England occurred in September



ICAN, a marine navigation and surveillance solutions company based in St. John's, stands poised with the marine experience and technical know-how to develop digital navigation applications for the world.

2006 to coincide with the Oceans 2006 trade show and conference in Boston.

This year also saw the launch of the "SmartBay" project in Placentia Bay, which is led by the Canadian Centre for Marine Communications (CCMC). Funded through Canada's Ocean Action Plan, the objective of this project is to establish and demonstrate Canadian technology to allow more effective and efficient decision making in support of vessel traffic safety, and integrated oceans management in one of Canada's busiest waterways. One of the goals of SmartBay is to allow end users immediate and easy access to real-time information about the marine environment in which they operate and this is accomplished through a web interface: www.smartbay.ca

Ocean Technology Strategy

Given Newfoundland and Labrador's world-class infrastructure and our proven capabilities, there is opportunity for the province to establish itself not only as the Canadian centre of excellence in ocean technology, but also as an international leader in this rapidly expanding sector. To support the continuing growth of this important sector, the Department of Innovation, Trade and Rural Development is developing an updated Ocean Technology Strategy. Newfoundland and Labrador is the only province to have implemented a strategy to develop its ocean technology base into a competitive advantage. The primary objectives of this strategy are to increase the level of economic activity in the province by expanding, developing or attracting ocean and offshore technology industries, supporting ocean and offshore industry research activities, and related government operational activities.

Submitted by:
Department of Innovation, Trade and Rural Development