

The Réseau maritime du Québec: a force for action rooted in Rimouski but with a global impact

The maritime economy is the second largest in the world in terms of value added, after agri-food. Sea-based activities have a combined value of C\$2 trillion (Desclèves, 2013). The maritime economy encompasses very diverse sectors, including:

- Offshore oil and gas development
- Marine transportation
- Port activities
- Fishing and aquaculture
- Marine infrastructure
- Naval construction and repairs
- Marine safety
- Intermodal logistics
- Tourism
- Research
- Weather forecasting

In Canada, activities that depend on the ocean are key contributors to the country's economy. Canada's oceans both define it and meet many of its population's needs. Today, more traditional activities (fishing and processing) are carried out alongside activities in such fields as biotechnology, marine transportation, naval construction and oil and gas exploration.

What's more, it is now recognized that the maritime economy is not limited to players with immediate access to seas and oceans, but it also involves regions removed from coastlines and ports, particularly in the case of activities such as equipment production, logistics, and research and development.

The blue economy

"Blue economy" initiatives are based on a legitimate conviction that the seas, coastlines and oceans can play a decisive role in identifying solutions to the numerous challenges facing the global economy. The blue economy, or maritime economy, includes various sector-based activities. They include emerging activities such as marine biotechnologies or "blue biotechnologies," which offer very high development potential.¹

¹ Ecorys Consulting Group. Blue Growth: Scenarios and drivers for Sustainable Growth from the Oceans, Seas and Coasts. Third Interim Report, March 2012.

"Blue growth" refers to all of the economic development potential found in the oceans and coastal regions. Some are time-honoured activities such as fishing and naval construction, while others are developing, such as renewable energies and marine biotechnologies. The sector is an incredible source of innovation, employment and growth.

The maritime economy holds great potential as an alternative for logistical, energy, food and even medical issues. These sectors are at the heart of numerous initiatives coordinated in Rimouski, where universities, specialized research centres and businesses active in the sector are found.

The blue economy in the world

In-depth studies of these various sectors of activity tell us that the sea has been and still is an engine for growth for many nations. China, for example, with its 18,000 kilometres of coastline and several world-class ports, posted annual GDP growth of 7.8% to 10.4% between 2009 and 2012 ([World Bank, 2013](#)). Considering that two-thirds of the world's population lives in coastal regions, it is a safe bet that the maritime economy will be a key component of global economic growth in the years to come.

The European Union originated the concept of blue growth. Europe's coastline is seven times longer than that of the United States and half of the EU population lives along the coast. According to Desclèves (2013b), over 5% of Europe's GDP, not including raw materials such as hydrocarbons and fish, is provided by industries and services related to the sea.

Under the Community's 7th Framework Program for Research ([EU, 2010](#)), interdisciplinary integration was introduced to marine and maritime research through the use of cross-thematic requests for proposals. The RFPs were launched under the theme of "The Ocean of the Future" and 20 projects were funded with an overall budget of 180 million Euros (C\$250 million) (Saab, 2013).

Greater emphasis will be placed on strengthening partnerships with the private sector, while the research results will be distributed more widely to public stakeholders, private businesses and the general public (Saab, 2013).

In the United States, one of every six jobs can be attributed to the maritime economy (2.8 million jobs). In 2010, the sector contributed US\$258 billion to the U.S. economy ([National Ocean Council, 2013](#)), [NOAA, 2012](#)).

In April 2013, the American government launched the National Ocean Policy Implementation Plan ([National Ocean Council, 2013](#)). The plan optimizes cooperation among federal agencies in order to reduce duplication and administrative backlogs and put taxpayer money to more effective use. The plan is designed to improve forecasting of ocean conditions, share data, support regional marine planning and simplify the federal authorization processes for economic activities related to the oceans.

The innovation model used by our maritime network

Since the 1990s, as a number of nations began turning towards a knowledge-based economy, decision makers were led to ask what conditions were necessary to generate new ideas in their countries. Development policies bringing together government, academic institutions and businesses started cropping up, and evidence that innovation thrives when complementary sectors, enterprises and functions are involved gradually began to emerge, resulting in a vision of seamless innovation, integrating all players and stakeholders inside and outside business. This systemic approach to innovation emphasized the interactions among institutions and focused specifically on the creation, dissemination and application of knowledge.

Thus was born the concept of the innovation chain. Differing from the innovation process in that it includes mechanisms for disseminating and structuring innovation, the innovation chain may be considered a new business model based on relational proximity and the development of strategic alliances. The concept has evolved on the tide of government strategies, particularly those fostering the establishment of regional centres of expertise.² In implementing such government strategies, we have learned that lasting action in support of innovation cannot be taken without a set of suitable mechanisms.³ Such innovation mechanisms are designed to create favourable conditions for development of a knowledge economy and rely on knowledge sharing, geographic polarization, development of synergy and strengthening of inter-organizational communication.

It is in this context that the maritime cluster was developed in Rimouski. Our cluster's enviable place in the maritime sector today is due not only to its proximity to the sea but also to the existence of institutions, research centres and significant infrastructure in the area. Over the years, the Bas-St-Laurent region has established a position as a maritime technology hub, thanks to its concentration of schools, institutes and laboratories dedicated to marine science and technology.

The development of maritime infrastructure began in the Rimouski area of the Bas-St-Laurent region at the turn of the 19th century. Construction of the first wharf (1850), installation of a tide gauge (1894), implementation of a pilot station by the Ministry of the Navy (1906) and construction of a lighthouse (1909) all strengthened the maritime vocation of the region. A series of public institutions were eventually established. The Institut Maritime du Québec [Quebec maritime institute] was established in 1944, while in 1987 the Maurice Lamontagne Institute, one of Fisheries and Oceans Canada's 12 research centres, was established in Mont-Joli, a few kilometres from Rimouski. Lastly, in 1999, the Institut des sciences de la mer de Rimouski [Rimouski ocean science institute] (ISMER) was established, bringing together

² Centres of expertise: a generic term from which Quebec's "*créneaux d'excellence*" [niches of excellence], France's "*pôles de compétitivité*" [competitiveness hubs] and the English-speaking world's "clusters" have taken their inspiration.

³ The mechanisms are described in the section entitled "Mechanisms in support of innovation."

researchers from the Université du Québec à Rimouski (UQAR) and the Institut de recherche en océanographie [oceanography research institute].

These institutional developments were supported by public sector investment from 1998 to 2002 to promote innovation at these research and teaching establishments and institutions. Relying on a major concentration of researchers and the greatest critical mass of activities and institutions specializing in the maritime sector in Quebec, the community put forward a regional economic development strategy entitled ACCORD. The strategy promotes collaboration and networking of business people and entrepreneurs from one region who share a common vision of their sector of activities, its potential, its strengths and its weaknesses, and are developing a long-term strategy for it.

Vision of the future for our centre of expertise

The extraordinary prospects for economic development in marine technologies and biotechnologies stem from the fact that the oceans and seas contain great biodiversity, a wealth of potential that is unique and still underexplored. Canada has the longest marine coastline in the world, with 13,000 kilometres of shoreline in Quebec alone, as well as a rich ecosystem of marine resources and the unique St. Lawrence Estuary. Marine technologies and biotechnologies are a necessity for development of the Canadian economy. Supported in the past by the Government of Canada, development of these activities now relies on the Canada Economic Development for Quebec Regions support program, which is designed to contribute to development of SMEs by fostering innovation, technology transfer and short-term impact for businesses.

In light of the current activities in the marine science and technology sector worldwide, it is critical to improve the mechanisms supporting innovation in order to maintain Canada's place in these promising sectors for the future. The structures established in our region make it possible to optimize synergies between institutions and businesses and promote productive collaborative efforts that lead to concrete economic activities in Canada and abroad. For example, the cooperation established between ISMER and the Argentine government has led to equipment sales and service contracts involving Rimouski research centres and businesses. It is therefore important to financially support all sector organizations and businesses in order to properly fulfill our dedicated roles in leadership, networking, applied research, business development and marketing. It is also important to keep globally recognized expertise in the region to address the issues affecting all of our rivers and oceans. Now is also a good time to reconsider the parameters involved in the financial support application processes and the credits for research and innovation, both for businesses and for institutions, in order to reduce the burden of identifying and renewing funding for all sector organizations and businesses. Our maritime cluster provides structure for innovative approaches and creates synergies among the various stakeholders. Alongside the productive regional system, our approach is a prime driver of socioeconomic development.