Canada's Ocean Supercluster: Brief Notes to its Analysis

Sónia M. Goulart. <u>smgoulart@gmail.com</u>. Master student at NOVA School of Law

# **Extended Abstract**

## 1. Introduction

Canada is an extremely large country, with the World longest coastline and the fourth larger ocean area. Having it in mind, in 2018, the Canadian Government assigned priority to marine and maritime industries economic growth.

One of these measures was the launch of the 'Ocean Supercluster', with the aim of placing the country at the global forefront. The watchwords are 'collaboration', 'networks', 'global approach'.

### 2. Canada's Ocean Supercluster

# 2.1 The Origins

The Canada's Ocean Supercluster was launched in the early 2018 by the Federal Government, aiming to discuss a strategy that may be able to support innovation and the ocean economy' strength from coast-to-coast-to-coast.

R&D is viewed as the core that conducts to effective development in coastal areas. Canada has the largest coastline in the world and, along it, an ecosystem that is highly productive and subsea resources appealing to explore. Therefore, conditions are met for the engagement of experts in ocean technology and innovative solutions, whether in the field of research, of safety or/and sustainability. The Canada's Ocean Supercluster was launched as an industry-led transformative cluster model.

Its vision was summarized as: 'Realize the potential of Canada's ocean economy to establish and grow companies, achieve commercial outcomes, and engage in cross-sectoral collaboration'. Its mission was abridged as: 'To enable the sustainable growth

of Canada's ocean economy by building an ecosystem in which all members are wellconnected andhave the capacity and capability to drive digital innovation"<sup>1</sup>.

Using a pure cluster approach, the main strategy was to put together companies, academia, R&D, indigenous communities, universities working with the government towards innovative projects that will put Canada at the forefront of the sustainable blue development.

Region	Name	Location	Strategy	Focus
Pacific area	British- Columbia Pacific Ocean Technology Cluster	Vancouve island	Innovation	Marine technology
East of Canada	Quebec Maritime Cluster	Peripheral coastal areas	Regional development initiative	Support pre- existing maritime activities, through infrastructures and institutions
Newfoundla nd	Ocean Technology Cluster	St. John's and Halifax Cluster	Oil industry + Strong maritime traditions (fishing and ship-building)	Education and R&D energy sector: remote sensing, data recording and communication products for ocean applications

In 2018, Canada had already the following three regional maritime clusters:

- The British-Columbia cluster, with a top-down strategy, started by the Government, targeting investment in big science and R&D to spawn self-sustaining activities;
- The Quebec cluster focus was regional development.
- The St. John's and Halifax cluster, located in a traditional fishing and shipbuilding region, decided to seize the opportunity and develop the off-

<sup>&</sup>lt;sup>1</sup> Canada's Ocean Supercluster Strategic Plan 2018 – 2023, in <u>https://oceansupercluster.ca/wp-content/uploads/2020/03/OSC\_5yearStrategy\_EN.FR\_FINAL.pdf</u>

shore oil activity, which could provide new opportunities to local workers and companies.

Whatever the activities core in each cluster, they all should contribute to maritime knowledge, and R&D and, therefore, to revitalize both the existing maritime activities (fisheries, ex) and to promote new activities.

However, results did not meet the expectations.

As a result, in 2017, Canada's Government launched several clusters' initiatives in order to build competitive advantages, which should attract investment, R&D and, therefore, promote economic growth. The criteria defined for future support were the following: potential benefits to the country's economy; possible position as global leadership; effects in external trade; and the possibility of generating new Intellectual Property.

These new initiatives chosen based on these criteria - the 'Innovation Superclusters Initiatives' - gave rise (after analysis by the Canadian Government) to the following 'superclusters': Digital Technology, Protein Industries, Advanced Manufacturing, Scale Artificial Intelligence and, the one on Ocean Economy.

### 2.2 The Structure/Organization

The Canada's OSC is ruled by a Board of Directors, which is chosen bi-annually, within industry leaders with different experiences and background. As such, they should be able to provide strategic direction and to create synergies between its members, to enhance opportunities for a greater success.

A 'Senior Management Team' is responsible for a five-year strategy, its implementation and reporting on results to the Board of Directors.

The number of members surpasses today 400, all across the county (and also abroad), each one committed to promote sustainable ocean growth, strengthen innovation ecosystems and solve ocean challenges. These members are as different as the activities, encompassing sectoral associations, indigenous organizations, non-profit organizations, small and medium sized companies<sup>2</sup>, just to name a few of them.

<sup>&</sup>lt;sup>2</sup> Annual Report 2020/2021, in <u>https://oceansupercluster.ca/wp-content/uploads/2021/08/2020- 2021-Annual-Report-EN.pdf</u>

# 2.3 The objectives

## 'CHANGING THE WAY OCEAN BUSINESS IS DONE'<sup>3</sup>

Canada's OSC fosters partnerships and promotes innovative projects which intend to lead Canada to the forefront of world ocean economy.

In order to do that, OSC promotes among its diverse areas of interest (fisheries, aquaculture, bioresources or marine renewable technologies):

- industrial and regional development
- maritime competitiveness
- companies' innovation and productivity
- the emergence of new spheres of activity (Salvador, 2022).

## 2.4 The Stakeholders

The Canada's OSC is a supercluster, resulting from a Government initiative that aims to bring together all the potential players that can, not only contribute to the established objectives, but also take them further.

Here one must refer not only the Government, but also Universities, companies, non-profit organisations or trade-unions. Always bearing in mind that there are several members and that each one contributes to the extent of their possibilities.

# 2.5 The Projects and Programs

The OSC works by project, each one dedicated to a specific subject and encompassing all the actors in order to leverage, enhance and pursue the objectives set out. When talking about projects and programs, it is mandatory to refer to the follow ones:

<sup>&</sup>lt;sup>3</sup> <u>https://oceansupercluster.ca/about/</u>

#### The Technology Leadership Program

This Program includes technological collaborative projects, aiming to bring together industry and associate members that share OSC challenges and priorities related to the ocean economy.

The main goals are as follows:

- to reduce investment risks, through strengthen the links between stakeholders.
- To create innovative applications within industries and ecosystems.

#### The Innovation Ecosystem Program

"An Innovation Ecosystem is a complex network of community stakeholders, with their capabilities functioning together, as a strategic economic development unit, critical for innovation and GDP growth." (OSC, 2020).

This Program aims to guarantee shared resources access, regional connectivity, innovative culture, stronger links between small and large companies, and the creation of new supply chain partnerships. By these, attracting the best entrepreneurs to the cluster allowing to invest in ecosystem-building projects. Also important to refer are the new partnerships with indigenous organizations.

#### The Indigenous Career Pivot Program

With the motto "Connecting Indigenous Peoples to the ocean economy", this program aims to facilitate mid-career work placements to Indigenous People. This includes a oneyear program on board, to experience the work in maritime industries, enhance knowledge and develop skills, aptitudes and competences.

#### The Ocean Start-up Project

This project targets ocean tech businesses, industry and academia, aiming to promote project development and attract investment, allowing Canada to be the first choice to entrepreneurs, innovators, and start-ups.

# 2.6 The Financial Data

Financial data is crucial to the global analysis of a cluster. Nine indicators were chosen in order to fully evaluate a maritime cluster:

- structural indicators;
- economic indicators;
- internationalisation;
- critical mass and leader firms;
- level playing-field; innovation;
- institutional framework and business networks;
- labour market and education;
- and image and communication (Salvador, 2022).

These key performance indicators (KPIs) are used to analyse the economic strengthof Canada's OSC. These KPIs are annually careful analysed by the Board of Directors in order to adjust the program strategies and project investments to the objectives achieved (OSC, 2020).

<ul> <li>Costs and risks</li> <li>Increase in the commercial potential and commercial value of research and development activities across ocean sectors;</li> <li>Attract over \$150 million in industry investment.</li> </ul>	Reach • Increase the economic value of Canada's ocean sectors by \$14B by 2030; • Develop 4 new international partnerships; • Increase number of Pan- Canadian supply-chain partnerships.	
Outc	omes	
Capability	Connectivity	
<ul> <li>Increase the total percentage of venture capital funds invested in ocean technology companies;</li> <li>Increase the number of jobs in ocean sectors by 3,000 by 2030;</li> <li>Increase in the participation of underrepresented groups within the ocean economy;</li> <li>Increase the number of students in ocean studies;</li> <li>Double the number of ocean tech startups;</li> <li>Increase revenue and employment within SMEs.</li> </ul>	<ul> <li>100% of all projects involve or benefit multiple ocean sectors, SMEs, research institutions, NPOs, ingenous communities or under- represented groups;</li> <li>Engage over 200 organizations through technology leadership project participation or involvement in innovation ecosystem engagement activities;</li> <li>Increase in data exchange across ocean stakeholders.</li> </ul>	

Figure 1 - Addressing shared challenges

### 3. Conclusions

Canada's OSC is an innovative cluster designed by the Government to promote the development of maritime activities through the focus on technology. To do so, OSC is funded by public and private entities in equal shares. It also fosters all members, from small to large scale, from individuals, local communities (including the Indigenous Communities), SME's to big industries and universities. OSC recognises to each one a significant role to the maritime economy development.

For all the above, OSC is a praiseworthy initiative that should be replicated across the globe, as it recognises and values the work and initiative of all seeking to leverage the ocean economy with contributions from across the country.

## References

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