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Supporting research innovation and tech transfer in the ocean industry

Canada has the longest coastline and includes some of the vastest ocean resources in the world, but currently squeezes comparatively less economic benefit from those assets than other ocean nations. That is why in 2018, our country took the next big step in becoming a global leader in the knowledge-based ocean economy with the development of [Canada's Ocean Supercluster](#).

The Ocean Supercluster (OSC), of which Dalhousie University is a founding post-secondary partner, is an industry-led transformative cluster focused on tackling the shared challenges across ocean sectors through a collaborative program designed to accelerate the development and commercialization of globally-relevant solutions, while also building a highly capable, inclusive workforce.

The OSC was one of five successful initiatives across the country that attracted substantial federal funding to match private-sector investments in a new approach to fostering innovation and economic growth. More than 70 organizations committed over \$200 million in cash and in-kind investments. Companies from different ocean sectors – including fisheries, renewable energy, aquaculture, oil and gas, shipping, and defense – have co-invested in adopting and commercializing technologies to solve shared challenges.

University partnerships helping to accelerate industry

Although the private sector is leading the charge with the Ocean Supercluster, the partnership with Dalhousie and other universities is critical to its success. Universities are the key suppliers of talent, perform research and development, and offer state-of-the-art facilities. An example of this is the recently funded Vitality project, which involves Dalhousie's own Dr. Mike Smit, an Associate Professor in Dalhousie's Faculty of Management. This project is a transformative approach to address the shared data challenges of the ocean economy.

Vitality will help develop new, low-cost data streams, tools to manage those streams, and software to make the application of this data easier. There will also be new training programs available to address skill gaps and build on existing resources and expertise, which will create 10 new jobs with 100 trainees. The project is valued at \$3.8 million, with the Ocean Supercluster providing funding in the amount of \$1.5 million. The balance of funding is coming from project partners.

"We're still in the early days of a digital transformation that we didn't invite, but which we cannot avoid," says Dr. Smit. "Data plays an essential role in the Blue Economy, so the Vitality project is an essential investment in the people, infrastructure, and technology needed for Canada to remain internationally competitive."

Vitality will see the development of new, applicable low-cost data streams, and the development of tools to manage those streams, as well as software that lowers the barrier to entry for the application of this data. This includes the creation of training programs to address skill gaps while incrementally building on existing resources and expertise, and the development of new tools and linkages between the Canadian Integrated Ocean Observing System (CIOOS) and three emerging environmental technology and data-heavy ocean sectors: aquaculture, tidal power, and offshore wind.

The project is being led by Pisces Research Project Management Inc. together with project partners from across Canada, in addition to Dalhousie. This includes: Perennia Food and Agriculture Inc, Fundy Ocean Research Centre for Energy, University of Victoria, St. Lawrence Global Observatory, Tula Foundation and the Hakai Institute, Marine Renewables Canada, and COINAtlantic.

Research Support Fund

Established in 2003, the Research Support Fund (formerly the Indirect Costs Program) helps Canadian universities and colleges, along with their affiliated health research institutes and research hospitals, with the indirect costs associated with federally funded research.

At Dalhousie, the Research Support Fund (RSF), which includes both the RSF Grant and Incremental Project Grant (IPG), is helping to support research, innovation, and tech transfer in the ocean sector by increasing industry partnerships and contracts. In the case of the Ocean Supercluster and the Vitality project, RSF/IPG funding helped facilitate the alliance of diverse organizations that will ensure students, researchers, and companies are better equipped to make more informed decisions that support critical growth in the ocean sector in Canada.

In 2020-21, the RSF/IPG is providing \$9,161,250 to support the indirect costs of research at Dalhousie and affiliate hospitals.