

Turn your idea or tech into
a wave of opportunity

Shipping & Marine
Transportation

OCEAN STARTUP CHALLENGE

oceanstartupchallenge.ca

Challenge Statements

Now is the time for you to take advantage of rapid growth in the ocean economy, projected to reach \$3 trillion by 2030.

Oceans are the foundation for much of the world's economy. More than 3 billion people rely on oceans to provide jobs and livelihoods. Oceans feed us, regulate our climate, and generate 50% of the oxygen we breathe. They are valuable sources of renewable and non-renewable resources and you can make a big impact.

Curious what ocean sectors present big opportunities to innovate? We have you covered.

We sought input from industry and thought leaders who shared their top pain points across the following areas: aquaculture, fisheries, biosciences, healthy oceans and ecosystem services, transportation, energy, and enabling technologies and data analytics. Common themes that run across those areas are the need for data, information, knowledge, decision-making tools, and enabling technologies.

Be innovative. Desirable attributes of solutions might include being: low cost, easily deployable, easily maintained, rugged for harsh environments, accurate, low power, real-time, remote, and safer for human operators.

We need diverse entrepreneurs and innovators from rural, Indigenous and urban communities across Canada, and internationally. Step up to make a positive impact by solving one or more of the ocean industry priorities listed below.

Shipping & Marine Transportation

Nearly 90% of global trade is done through international shipping. The shipping industry is targeting zero emissions and support of the green economy in a sustainable manner. The industry is seeking new technology and innovation to enable increased energy efficiency, enhanced marine security, optimized maritime traffic management and development of maritime infrastructure to improve sustainability and increase profitability.¹ Ports are working to optimize operations to improve productivity, reduce costs, improve yard operations, optimize truck turnaround times, and reduce environmental impact on local communities.²

The shipping and marine transportation industry has identified the following priorities for technology innovation and development:

- Develop a low-cost, remote, real-time monitoring platform to improve security, decision-making, and the operational efficiency of ports.
- Design a solution that would monitor marine assets to help keep them out of drydock (e.g., corrosion, hull failure, and hull penetration).
- Design a system that integrates IOT-enabled sensors, data analytics and AI to provide for the real-time analysis, reporting and predictive maintenance of key port and maritime assets.
- Improve the efficiency of long-distance shipping by reducing friction, reducing fuel consumption/emissions, and optimizing routing forecasts.
- Integrate advanced onboard autonomous systems to improve efficiency and safety, and reduce the number of people required to operate commercial vessels.
- Improve fuel, propulsion, and bunkering technology to make ships more efficient and safer for the environment.
- Develop a solution for maritime transportation that helps lower emissions and uses existing technology that is being implemented in other areas of transportation.

¹ International Maritime Organization. <http://www.imo.org/en/About/Pages/Default.aspx>

² Port Technology. https://www.porttechnology.org/news/top_three_biggest_challenges_for_global_terminals/