

Turn your idea or tech into
a wave of opportunity

Naval &
Defence

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. Oceans 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.

Naval & Defence

Canada and allied nation's blue water navies consist of submarines, surface combatants, support and patrol ships, and autonomous assets. Surveillance, security, and situational awareness of the seas are becoming increasingly important and complex. The need for required awareness and operational capabilities are being stretched into remote areas, polar regions and the deep sea. With better awareness and understanding, Canada's Royal Canadian Navy can adapt and respond to the everchanging marine environment.

The defence industry has identified the following priorities for technology innovation and development:

- Develop improved components of a real-time, autonomous, ocean monitoring system that integrates sensors, autonomous vehicles, IOT, data analytics and AI.
- Develop charging, communications and data telemetry systems for remote monitoring or autonomous platforms.
- Develop the architecture for a modular, easy-to-deploy, autonomous platform to enable more applications that requires fewer people and less attention.

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- Develop improved components of a real-time ocean observation system that uses acoustic and non-acoustic sensors, autonomous surface vehicles (ASVs), autonomous underwater vehicles (AUVs), and IOT to monitor for underwater noise and target detection.
- Improve cybersecurity platforms/tools for marine assets and data.
- Develop monitoring and marine surveillance tools for high latitude and under-ice environments.
- Develop low-cost, wide-area, low-logistics underwater measurement and surveillance platforms to inform hydrographic models and detect threats.