Canada's Ocean Supercluster Announces Real-time Bubble Diffuser Aeration Entrainment Monitor Project

Real-time monitoring for bubble systems in aquaculture fish farms

On June 10, 2021, Canada's Ocean Supercluster announced four new projects with a total value of over $3.5 million, including the Real-time Bubble Diffuser Aeration Entrainment Monitor Project. This BC-led project will develop a real-time entrainment monitoring system for aquaculture fish farms in complex coastal ocean environments.

Bubble systems are used in finfish aquaculture net pens to mitigate the effects of harmful algae blooms (HAB), increase oxygen levels and lower surface water temperatures. This aeration monitor project will develop a real-time monitor balance mitigation of risk and ensure the effectiveness of bubble systems in aquaculture while reducing costs and emissions associated with fish-farming operations. The products and related services will allow customers to reduce overall greenhouse gas emissions and reduce the fish mortality from high surface temperature and harmful algal blooms.

The Real-time Bubble Diffuser Aeration Entrainment Monitor Project is led by ASL Environmental Sciences, who will develop services and products for the installation and maintenance of the monitoring systems, with partner MOWI Canada West, a potential customer of the system who will offer knowledge and experience using bubbler systems and provide input on needs and their ability to deploy this technology into existing operations.

With a total project value of nearly $500 thousand, the Ocean Supercluster will provide close to $325 thousand in funding, with the balance of funding coming from project partners.

The additional real-time data developed through the project will do the following:

- Improve aquaculture monitoring
- Optimize airflow rates
- Reduce fuel costs
- Decrease harmful GHG emissions and
- Allow for timely decision-making on-airflow rates, reducing fish mortality.

Upon commercialization, the Real-time Bubble Diffuser Aeration Entrainment Monitor team will introduce the new product and services developed in this project to existing aquaculture systems for remote monitoring and management of aquaculture sites. The success of this project will help the aquaculture industry perform at a higher level, attracting clients globally. This project will create up to 20 new full-time positions with the potential for more than 100 indirect jobs.

About OSC

Canada's Ocean Supercluster 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. To encourage innovation and trigger new industry investment during these challenging times, the Ocean Supercluster supplemented its core programs with an additional project stream called Accelerated Ocean Solutions Program (AOSP). This enables the development of smaller projects on a shorter timeline that deliver tangible outcomes, while continuing to build resiliency in our ocean sectors.

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Quotes:

"Canada's oceans, the bounty in their waters and the riches within them have created prosperity for generations of Canadians. Our people have expertise now that can take on the world. So, let's take it on." – **The Honourable Seamus O'Regan Jr., Minister of Natural Resources**

"Three years ago, the government selected Canada's five superclusters to accelerate innovation in areas of competitive advantage for Canada, including the ocean economy. We have seen unprecedented momentum from the superclusters, with hundreds of projects approved and thousands of jobs created. As Canada looks to grow its sustainable blue economy, the work the Ocean Supercluster is doing to advance our ocean industries is more valuable than ever." – **The Honourable Bernadette Jordan, Minister of Fisheries, Oceans and the Canadian Coast Guard**

"Today we are excited to announce the newest Ocean Supercluster project led from British Columbia. The Real-Time Bubble Diffuser Aeration Entrainment Monitor Project will help improve aquaculture operations with reduced overall greenhouse gas emissions and fish mortality, while also increasing global competitiveness, and creating up to 120 direct and indirect jobs." – **Kendra MacDonald, CEO,Canada's Ocean Supercluster**

"Our collaboration with MOWI Canada and the support of Ocean Supercluster is helping us transition from an Oil and Gas market. The Aeration Monitor project will provide us a new environmental monitoring technology stream and a potential world-wide market." – **René Chave, CEO, ASL Environmental Sciences Inc.**

For more information about the real-time bubble diffuser aeration entrainment monitor project, contact Todd Mudge (tmudge@aslenv.com)