

Innovasea Unveils Tagless Fish Detection Technology that Counts Fish and Identifies Species in Real Time

AI-based technology developed as part of Canada's Ocean Supercluster project

BOSTON and HALIFAX, Nova Scotia – Innovasea, a global leader in technologically advanced aquatic solutions for aquaculture and fish tracking, announced today that it has begun testing a new tagless fish detection technology that can detect, count and classify fish in real time using a combination of imaging sonar, optical cameras and artificial intelligence.

The promising new technology – developed in conjunction with [DeepSense](#) and [Nova Scotia Power](#) as part of the Innovasea-led [Ocean Aware project](#) – has been shown in early trials to be 90 percent accurate in properly counting and identifying wild fish.

“This novel technology shows incredible potential to detect wild fish that haven’t been tagged by humans and will provide breakthrough capability for hydroelectric dam operators to gain automated, real-time insight into the quantity and type of fish moving near their facilities,” said Mark Jollymore, president of Innovasea. “This new technology could also prove groundbreaking for scientists, researchers and resource managers by helping them vastly expand their knowledge in the years ahead.”



White Rock Dam

The automated fish detection and classification technology [was first tested last year](#) using video of fish swimming around the Wells Dam in Washington’s Columbia River along with proprietary data sets from Emera and high resolution DIDSON imaging sonar captured from the Ocqueoc River in Michigan.

Innovasea and DeepSense will field test the system around the White Rock Dam on Nova Scotia’s Gaspereau River later this month.

“This project is a great example of bringing together different types of data to train an AI model that will automate a resource-heavy, skilled task, thus creating a significantly efficient operation,” said Jennifer LaPlante, executive director of DeepSense. “Partnering with DeepSense enabled all project partners the ability to take risks, access leading AI and machine learning researchers, and recruit valuable AI talent.”

The tagless detection technology was developed to help Nova Scotia Power monitor fish passage around its hydroelectric dams in Nova Scotia. Hydroelectric facilities often use underwater cameras to monitor fish activity around their infrastructure, but employees have to watch recordings of the footage and manually count fish on the screen and attempt to identify the species they see.

“We take our commitment to the environment very seriously,” said Terry Toner, Nova Scotia Power’s senior director of strategic environmental projects. “If successful, this technology could further strengthen our protection of fish and the environment while improving the efficiency of our hydro operations.”

A key part of [Canada’s Ocean Supercluster](#), the Ocean Aware project is an initiative designed to develop world-class solutions for monitoring fish health, fish movement and the environment to support both profitable and sustainable practices in the ocean. Innovasea is leading Ocean Aware, which includes more than a dozen private and public sector partners and supporters.

“Ocean Aware and the exciting advances made in the project are an example of the kind of cross-sectoral collaboration we are creating through Canada’s Ocean Supercluster,” said Kendra MacDonald, CEO of Canada’s Ocean Supercluster. “The ability to better understand our ocean environment, including fish movement and health, helps inform decision-making and the sustainable growth of our ocean – a space where Canada can lead with its technology.”

Innovasea is working to commercialize the new tagless detection technology, which will ultimately work in conjunction with its [Fathom software platform](#).



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– Innovasea President Mark Jollymore

About Innovasea

Fueled by leading-edge technology and a passion for research and development, Innovasea is revolutionizing aquaculture and advancing the science of fish tracking to make our oceans and freshwater ecosystems sustainable for future generations. With more than 250 employees worldwide, we provide full end-to-end solutions for fish farming and aquatic species research – including quality equipment that’s efficient and built to last, expert consulting services, and innovative platforms and

products that deliver unrivaled data, information and insights. Learn more at Innovasea.com and follow us on [LinkedIn](#) and [Twitter](#).

About Nova Scotia Power

Nova Scotia Power Inc. is a wholly-owned subsidiary of Emera Inc. (TSX-EMA), a diversified energy and services company. Nova Scotia Power provides 95% of the generation, transmission and distribution of electrical power to more than 536,000 residential, commercial and industrial customers across Nova Scotia. The company is focused on new technologies to enhance customer service and reliability, reduce emissions and add renewable energy. Nova Scotia Power has more than 2,000 employees and over \$4.3 billion in operating assets. Learn more at www.nspower.ca.

About DeepSense

DeepSense supports cost effective collaborative projects between academic researchers and businesses in the ocean economy to drive innovation, commercialization, job creation and economic growth through making better use of data. Headquartered at Dalhousie University, the DeepSense innovation environment enables ocean related companies to connect with data and ocean scientists to leverage Artificial Intelligence and Machine Learning in developing commercially useful predictive models, analytical prototypes, and applications for use in the ocean economy.

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