

Metaspectral to Provide Canadian Defence with AI/ML Technology to Help Lookouts



A crew member onboard Her Majesty's Canadian Ship (HMCS) St. John's performs lookout duty on the bridge during Exercise Joint Warrior, taking place off the coast of Scotland during Operation Reassurance, April 24, 2018. *FORMATION IMAGING SERVICES / Cpl. Tony Chand*

VANCOUVER, B.C. – Metaspectral, a company offering technology that makes it possible to derive real-time insights from AI using ultra-high-resolution, visible-to-infrared (hyperspectral) imagery, was one of a select few companies awarded up to \$200,000 as the first funding component of the Department of National Defence's Innovation for Defence Excellence and Security (IDEaS) program for the Better Than Meets the Eye challenge.

The Department of National Defence and the Canadian Armed Forces (DND/CAF) were seeking innovative solutions to assist maritime lookouts in detecting, characterizing, and tracking objects of interest to improve the efficiency and safety of maritime operations.

"The role of the maritime lookout is crucial. They are often the first to observe danger at sea, and the safety of ships depends on them. A lookout must spot and quickly identify navigational hazards or other threats," said, Migel Tissera, Metaspectral chief technology officer. "But we cannot ignore the fact that after long hours, lookouts may become fatigued and are more likely to be prone to human error. This is further compounded by fog and other weather conditions that can reduce visibility."

The Navy will continue to rely on human lookouts but is also

seeking innovative solutions to augment and support a lookout's ability to see, accurately characterize, and track all items of interest within the range of vision, especially in conditions of low visibility.

"We are designing technology that will use machine learning to enhance the capabilities of marine lookouts. Our technology has the ability to collect and process unprecedented quantities of data from across the electromagnetic spectrum, creating ultra-high-definition images," added Tissera. "Because we can compress data without losing quality, our technology retains more of the original images than has been previously possible. This will make it easier to spot items of interest in high detail."

AI analysis requires high-quality data, the more data that can be efficiently processed, the better the result.

A prototype by Metaspectral is expected to be ready by the end of the year.

"Metaspectral is proud to be supporting the important safety and security operations of our brave Canadian armed forces," added Tissera. "This is just one of many practical real-world uses of our proprietary technology. We're grateful for the opportunity to demonstrate our talents and abilities in this portion of military research and development."