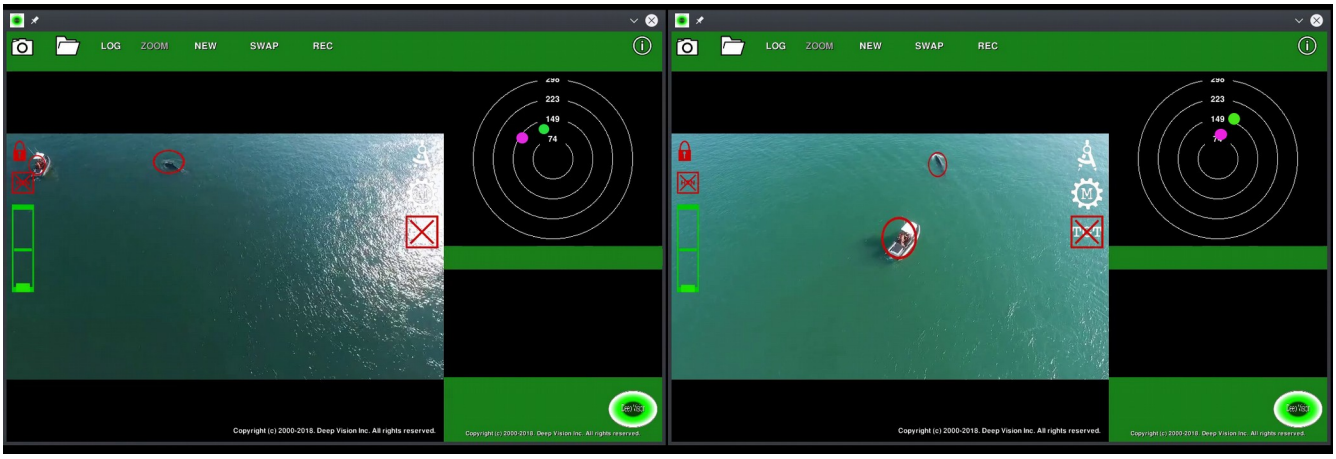
AHAB: An Automatic Marine Mammal Monitor

What Is AHAB?

AHAB is an automatic whale spotting technology for aerial and surface level platforms. The technology uses electro optical (EO) sensors to provide persistent situational awareness for the detection and continuous monitoring of marine mammals. AHAB provides real-time feedback of marine mammal counts, geolocation, proximity to vessels, and heading. The technology is passive (non-emitting sensors do not interfere with animal behaviour), and deployable from manned and unmanned aerial vehicles, and ship masts.



How Does AHAB Add Value to Monitoring Efforts?

AHAB is a means of rapidly and automatically collecting data about the locations and headings of marine mammals, such as the North Atlantic Right Whale. The technology is operated independent of a human operator, and may be deployed as part of an unmanned system or as a supplemental observer on a manned operation. AHAB lessens the cognitive strain on human observers, leading toward reduced errors in observation and more complete coverage of key marine monitoring areas.

AHAB detects marine mammals that breech the surface momentarily, or are submerged, but still visible. The rapid acquisition of data allows more area to be covered in less time, leading to efficiencies in current monitoring practices, or expanded search areas to promote more comprehensive monitoring.

All data generated by AHAB can be integrated into existing monitoring networks. The output specification of data collected during a flight can be customised by Deep Vision to support integration of the data into existing monitoring infrastructure. AHAB becomes another data source in a network, expanding the resolution, coverage, and utility of the monitoring effort.

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How is AHAB Deployed?

AHAB is a camera system that can be deployed in a number of ways, including:

- On a manned aircraft (rotary or fixed wing) to supplement existing monitoring efforts, or add additional monitoring resources.
- On an unmanned aerial vehicle (UAV) to expand existing monitoring areas, increase monitoring frequency, and manage monitoring costs.
- On ships to provide real-time feedback of approaching marine mammals for course correction and impact avoidance.

The aim of AHAB is to provide a tool that can be deployed across a number of platforms to increase the rate of data acquisition to assist in more informed and rapid decision making for marine mammal conservation efforts.

How Does AHAB Work?

AHAB is built from Deep Vision's Autonomous Maritime Persistent Surveillance (AMPS) module. This technology is a multi-purpose situational awareness tool for the defence and civilian industries. The AMPS module has been applied to autonomous surface vessel operation, maritime live gun firing training, and maritime search and rescue. The AMPS module works with EO sensors to detect all surface or near surface objects in the maritime environment. AHAB is a customisation of this module to focus directly on the detection and monitoring of marine mammals.

Is AHAB Ready for Deployment?

Deep Vision is currently seeking exploitation partners for market entry of AHAB. This includes seeking interest and requirements from government departments currently involved in marine mammal monitoring. In partnership with Government, the aim is to provide a demonstrator of AHAB during the 2018 North Atlantic Right Whale season.