



REAL-TIME ARCTIC MONITORING

EXACTVIEW™ REAL-TIME SATELLITE AUTOMATIC IDENTIFICATION SYSTEM POWERED BY HARRIS

BUSINESS PROBLEM

Arctic sea ice covers vast regions of the Earth's surface and is an increasingly significant concern as the Arctic has become more accessible to fishing, tourism, mineral exploitation, and shipping. The region is not only scattered with ice, but is also prone to poor visibility. Tracking vessels through the region is extremely difficult. The Arctic is among the most hostile maritime environments on our planet. Hazards such as ice accretion on vessels can lead to instability. There is also the risk of collision with icebergs and growlers that are not easily detected by radar. Sea ice, universally thick in winter, can also pile up in summer months, preventing free passage.

BENEFITS

Unprecedented improvements in domain awareness for this remote region

Enhanced monitoring of vessels to identify safe routes based on traffic trends

Current and historic tracking data used to aide vessels in distress or mount rescue operations

BACKGROUND

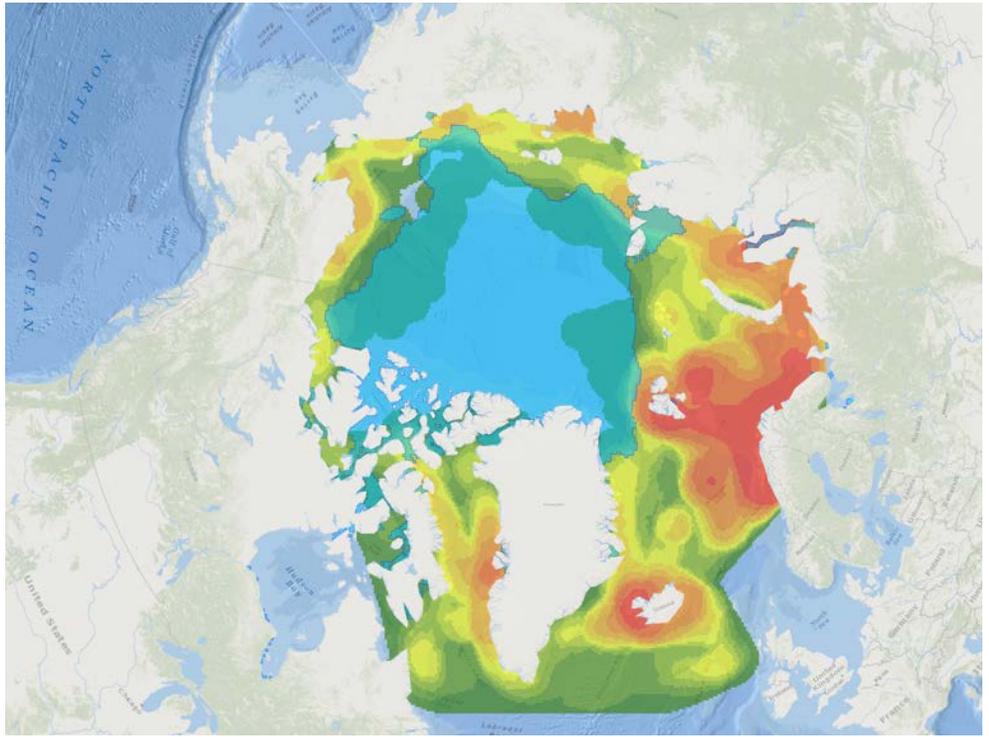
To address these problems, the International Maritime Organization (IMO) adopted the International Code of Safety for Ships in Polar Waters (Polar Code) in November 2014, and is expected to make the code mandatory beginning in January 2017. The Polar Code requires all vessels traversing these waters to be equipped with a Class A automatic identification system (AIS). Coastal-based AIS systems cannot provide complete coverage throughout the region, and are not economical to install in such remote areas. Satellite AIS (S-AIS) provides complete coverage in the vast Arctic region and is able to identify vessels where previous surveillance systems had only limited detection. However, current S-AIS systems have not yet achieved simultaneous global coverage, nor do they provide global, instantaneous delivery and downlinking of collected AIS information.



THE GAME CHANGER

exactView™ RT powered by Harris is a real-time (RT) S-AIS that provides global persistent coverage. Cross-links in space allow messages to be detected and reported to ground immediately, eliminating “store and forward”. For latitudes above 55°, multiple satellites constantly receive AIS signals for higher geolocation accuracy. These features provide significant advantages over competing systems.

Having this data density in real time allows safety officials and mariners to more closely monitor vessels traversing this hazardous region. Recent tracking data shows vessel traffic has increased through Arctic shipping routes when conditions permit. As this trend continues, the exactView RT powered by Harris technology will radically enhance maritime domain awareness in the Arctic.



THE EXACTVIEW™ RT POWERED BY HARRIS ADVANTAGE

- Constellation of at least 58 AIS satellites in 6 orbital planes**
 - Offers constant, overlapping coverage in the Arctic
 - Provides high geolocation accuracy
- Persistent coverage data latency to ground ≤ 70 ms**
 - Delivers a real-time, data-rich understanding of Arctic maritime traffic trends
 - Alerts vessel once it enters the Arctic per user-defined geo-fence
- High-density, current and historic tracking data**
 - Validates compliance with coastal authorities
 - Monitors vessel safety for distress and possible rescue operations
 - Identifies safe routes based on traffic trends

About Harris Corporation

Harris Corporation is a leading technology innovator that creates mission-critical solutions that connect, inform and protect the world. The company’s advanced technology provides information and insight to customers operating in demanding environments—from ocean to orbit and everywhere in between. Harris has approximately \$7.5 billion in annualized revenue and supports customers in more than 100 countries through four customer-focused business segments; Critical Networks, Space and Intelligence Systems, Electronic Systems and Communications Systems.

exactView™ RT Powered by Harris provides true, global, real-time maritime domain awareness, particularly for the vast Arctic polar region that has proven to be difficult to monitor. This technology provides unprecedented improvements in domain awareness for this remote region with real benefits that enhance monitoring of vessels for safety, coordination, and compliance purposes.

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