



VESSEL DETECTION SERVICE

DATA SHEET

Vessel Detection Service

A satellite-based broad area vessel detection service providing unclassified, near real-time information of vessels and “dark targets” to protect sovereignty, combat illegal fishing and smuggling and support sustainable management of offshore resources.

Features

- Detection of vessels as small as 10 m in length, using RADARSAT-2’s wide image swaths to cover larger areas than other satellites.
- All weather, all season surveillance capability with no impact from clouds.
- Identification of vessels by correlating Synthetic Aperture Radar (SAR) derived ship detections with Automatic Identification System (AIS) data, plus additional identification layers.
- Flexible imaging strategies and custom data collection plans to meet your specific operational requirements.
- Customizable monitoring cadence using one or more satellites.
- Unclassified information that can be shared within organizations and between partners.

Benefits

- Identify non AIS emitters (“dark targets”) using satellite SAR, which detects vessels whether they are broadcasting or not.
- Fast and affordable broad-area maritime monitoring using data that is easily integrated into your existing workflow and systems.
- React faster and with confidence by having the near real-time data you need to make timely, informed decisions.
- Improve operational efficiency and reduce costs by narrowing the search for vessels of interest and only expending resources on critical targets.
- Vastly improve the effectiveness of current systems, processes and allocation of resources through a fully integrated, all weather satellite-based monitoring service.



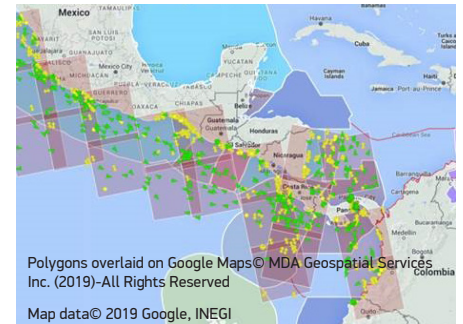
DETECT AND CLASSIFY



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Robust imaging capability with RADARSAT-2, variable resolution and coverage options

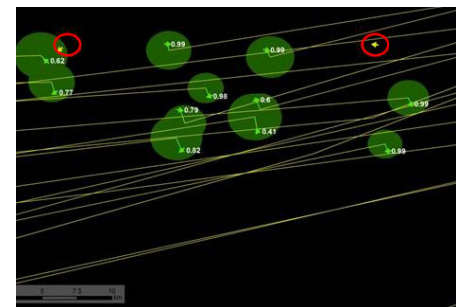
RAPID, BROAD AREA COVERAGE



Polygons overlaid on Google Maps© MDA Geospatial Services Inc. (2019)-All Rights Reserved
Map data© 2019 Google, INEGI

Efficiently and routinely cover vast areas

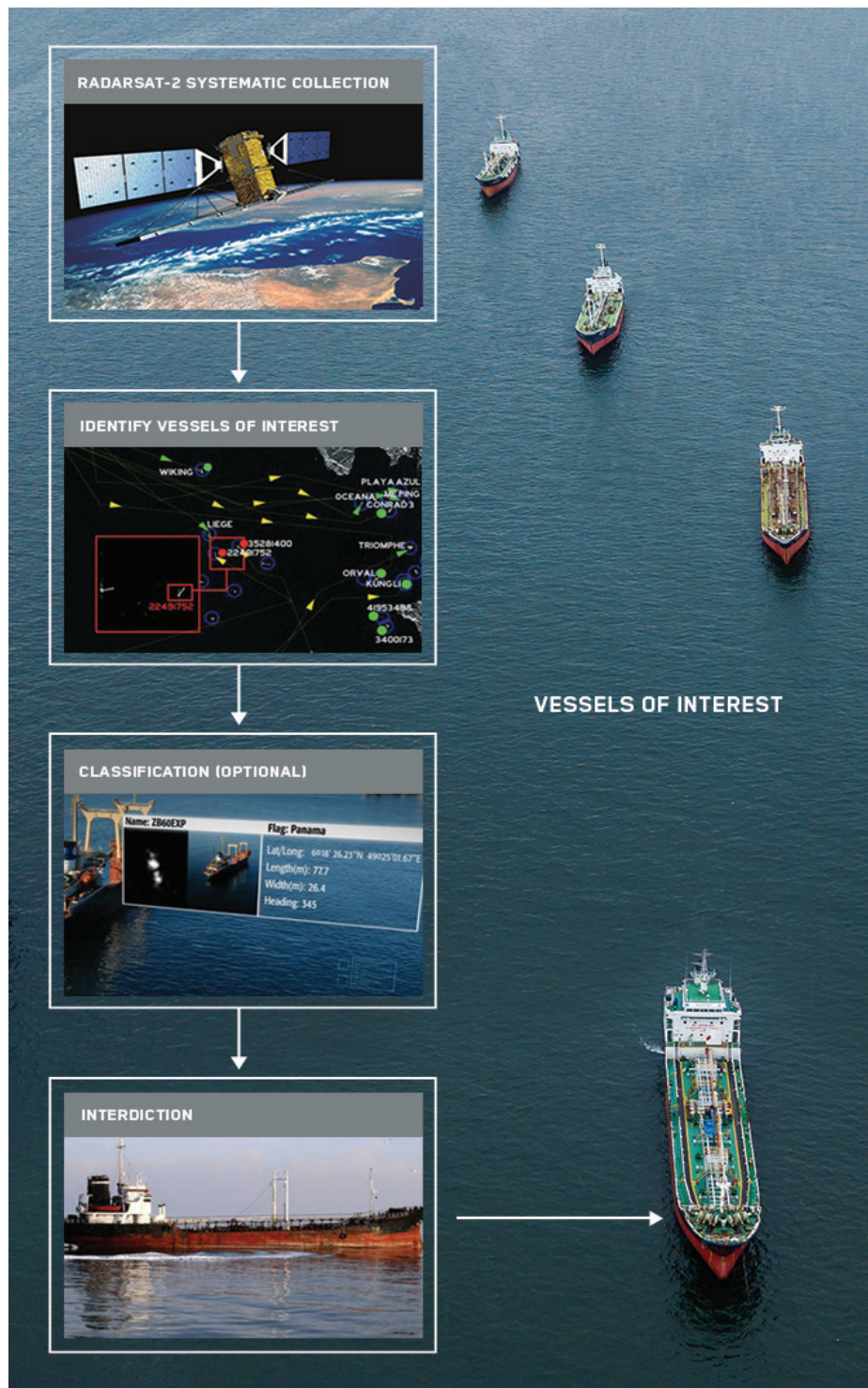
AIS CORRELATION



Advanced AIS correlation effectively highlights non-reporting vessels as shown by the red circles (optional)



The Vessel Detection Service is a scalable, turnkey service to monitor activities in open water. Detection of vessels is independent of AIS spoofing or tampering and provides transparency over the entire Exclusive Economic Zone (EEZ), or any other areas of interest by leveraging RADARSAT-2's unique broad-area imaging modes.



STANDARD DELIVERABLES

- Vessel location (longitude/latitude)
- Estimated vessel length and width, heading and detection confidence
- Satellite image boundary polygon
- Satellite image metadata (e.g., date, time, imaging beam mode)
- Satellite image chip of each detected vessel

OPTIONAL DELIVERABLES

- Data fusion and dark target analytics including correlation of vessel detections with AIS data
- Correlation of vessel detections with vessel registry data (e.g., vessel photo, characteristics, owner, etc.)
- Oil-on-water detection
- Wind speed information

APPLICATIONS

- Maritime security
- Fishing fleet surveillance and control
- Detection of anomalous behavior (often an indication of illegal activities)
- Environmental protection (illegal bilge dumping, oil spills)