

ARATOS HOMELAND SECURITY



Maritime Satellite Security Services



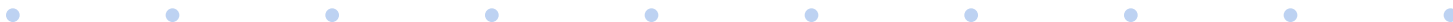
Maritime Security Importance

Maritime Security becomes more important in the ever-changing global market thus:

- The protection of
 - Life
 - Ship
 - Cargo

Is one of our major objectives in this frame

- The increasing security incidents enforce the need for the professional security services that Aratos offers





Aratos Maritime Monitoring Platform

- Aratos Platform is capable of surveying multiple spatiotemporal scales ranging from open seas to near coastal waters.
- It integrates satellite and airborne remote-sensing technologies for near real-time decision-making of homeland security stakeholders towards an effective confrontation of several maritime illegal activities as:
 - illegal immigration,
 - piracy,
 - illegal fishing,
 - drugs smuggling etc



Aratos Maritime Monitoring Platform

- **Prevention:** facilitates on-time prevention of potential threats
- **Real-time monitoring:** includes space/air-borne surveillance via an appropriately customized sequence of satellite and airborne data and imagery
- **Immediate action solutions:** 24x7 satellite surveillance and the on-demand airborne monitoring enable immediate response actions by the relevant security personnel



Innovation & Advantages

- Early warning platform for real-time awareness and threat prediction and detection towards a smart maritime border service.
- A multisensory approach with the newest satellite sensors (visible, near-IR, thermal, microwave).
- Our solution utilizes innovative object detection (ships) methods using data fusion/mining techniques with intelligent agents.





Relevant Experience: NEREIDS

- The idea behind NEREIDS was to develop a system of systems that permits a complete and meaningful maritime picture and helps to solve the most challenging technological drawbacks that current services have to face.
- NEREIDS aimed to enhance integrated, automatic and unsupervised ship monitoring service capabilities for maritime situational awareness and, in turn, to support advanced and efficient decision making tools. This will be tackled by assuming advanced technological techniques related with SAR imagery processing (automatic ship detection, land masking and ship classification) and with data merging / fusion of ancillary sources of information.

New Service
Capabilities for
Integrated and
Advanced
Maritime
Surveillance

NEREIDS





Relevant Experience: NEREIDS

Aratos contributed:

- to the Policy and Maritime domain Analysis as well as to User Requirements definition and Requirements consolidation.
- in the State of the art and Innovation work-package as well as Design and Definition work-package including Toolbox Architecture & Design, EO based techniques definition and Data fusion techniques definition.
- in Toolbox implementation; EO modules implementation and Data fusion module implementation are tasks with experience and know-how.
- to Scenario definition, Validation plan as well as GAPS and Operational Maritime service definition.
- in promotion and dissemination of research results and services.

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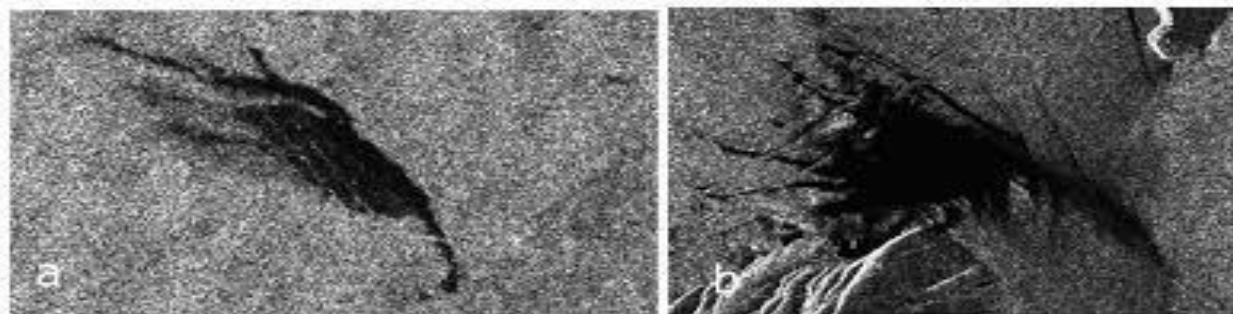




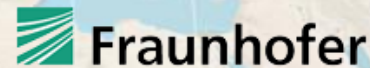
Aratos Satellite R&D for Maritime

Oil spill detection by satellite remote sensing

- Aratos R&D department fuses different satellite sensors data.
- Development of new innovative algorithms/ techniques for oil spill detection and identification.
- Use of manual and automatic approaches for oil spill identification



ARATOS GROUP SELECTED INTERNATIONAL PARTNERS



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