Copernicus Maritime Surveillance

Security

ASEAN TAIEX-PI Multi-Country Workshop on Space Applications

Bangkok, 18-19 September 2018

Copernicus
Europe's eyes on Earth

European Commission

Security

Copernicus Maritime Surveillance: Background

- EMSA is the "Entrusted Entity" for the implementation of Maritime Surveillance Services

3 December 2015

Miss Lowri Evans (Director General – DG-GROW) and Mr. Markku Mylly (Executive Director – EMSA) sign the Delegation Agreement

Copernicus
The European Earth Observation Programme

EMSA Copernicus Europe's eyes on Earth European Commission

Objective of CMS

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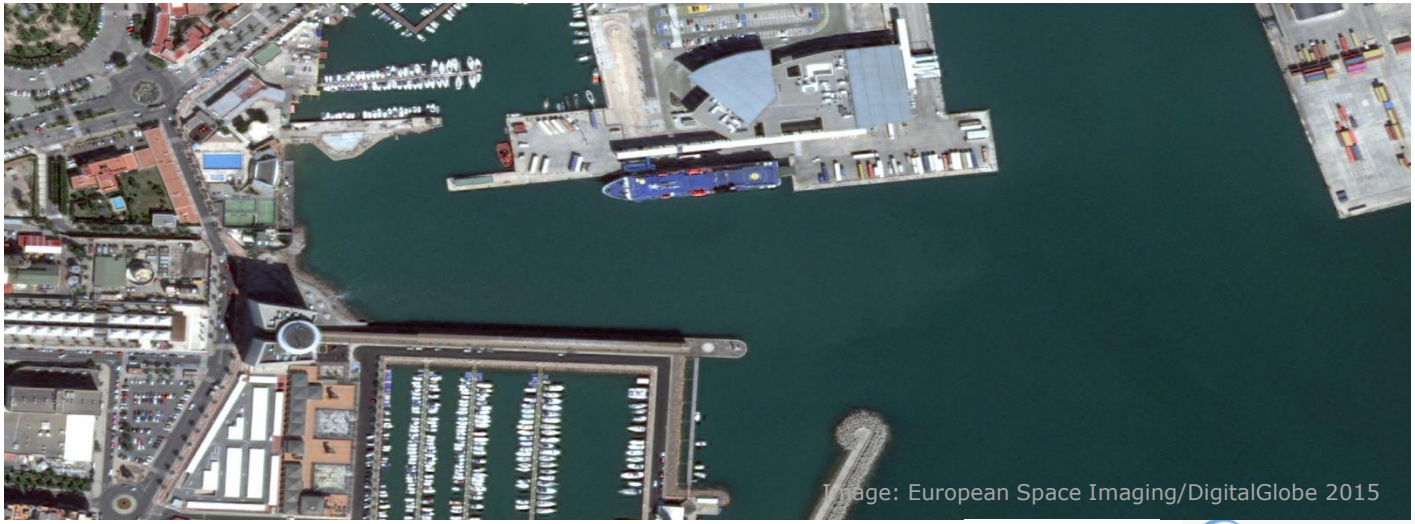
Better understanding and improved monitoring of activities at sea

- Objective: *understand, manage and/or prevent activities carried out at sea that could impact the security, safety, economy, or environment of the European Union and its Member States.*



SAR and optical delivery times

Security

Synthetic Aperture Radar

Quasi-real time in Europe (value added products delivered to users within 30 min).

Near real time outside Europe (using on-board recorders)

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Optical

Delivery 45 min after satellite overpass (basic products).

Delivery 60 min after satellite overpass for value adding products (vessel detection and activity detection)

*Times refer to the fastest delivery times for the relevant products.

EO data combined with other sources

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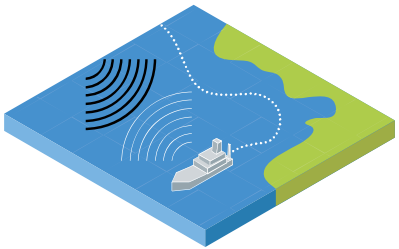
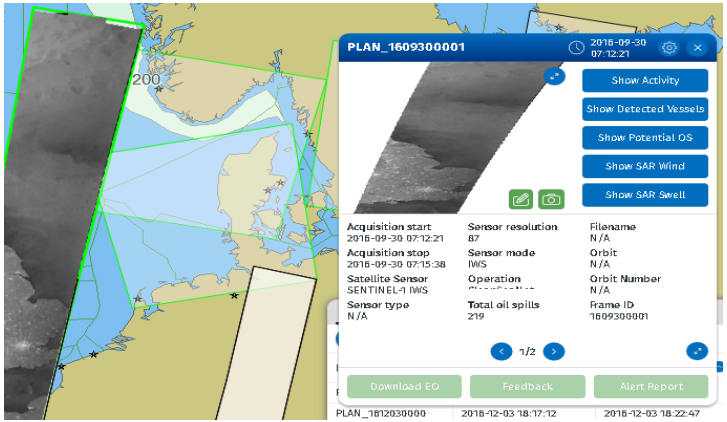
CMS establishes an Earth Observation (EO) component to wide range of integrated maritime services:

- EO data is combined with other information, e.g. vessel detection, vessel tracking, intelligence, to provide more powerful overview of activities at sea





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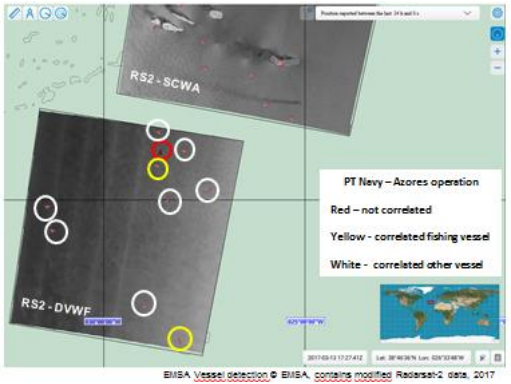

EMSA Vessel detection © EMSA, contains modified Radarsat-2 data, 2017

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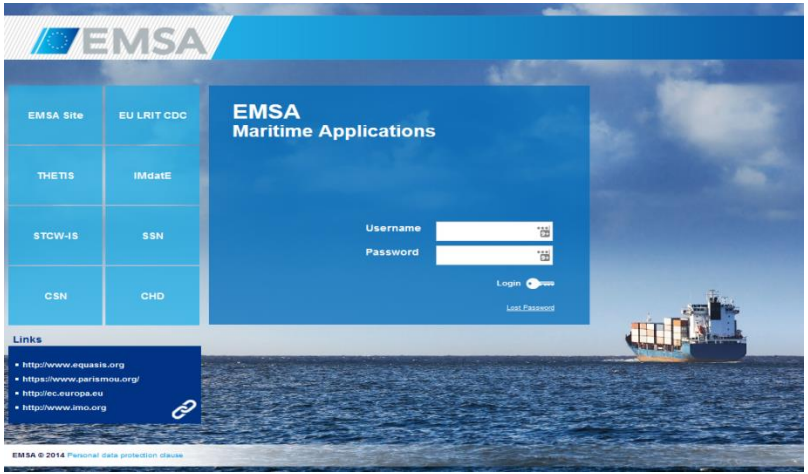
CMS – Access for authorised users only

Combined data:

- Earth observation satellite data
- EMSA's maritime applications (e.g. vessel reporting positions)
- External sources (as requested by users)

Secure access:

- Access under specific conditions
- Data delivered directly to user



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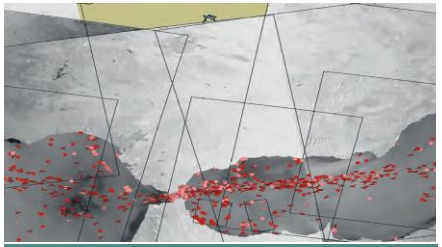
Function areas served

Fisheries Control

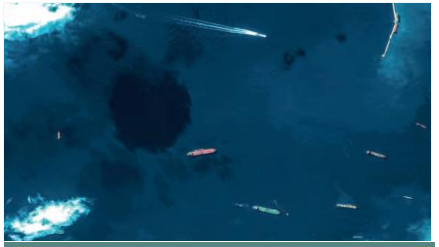


Maritime Safety and Security

Law Enforcement

Customs

Marine Environment Monitoring



Other (support to international organisations)

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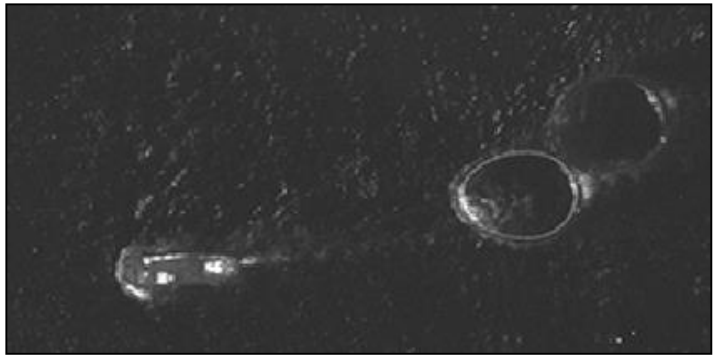
CMS - Fisheries Control

EO capabilities in support of operational activities:

- Monitoring of fishing grounds
- Monitoring of fish cages/farms
- Monitoring of fishing ports



Vessel towing fish cages © European Space Imaging/DigitalGlobe 2013

Fishing vessels in port © CNES 2016, Distribution Airbus DS

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CMS – Maritime Safety and Security

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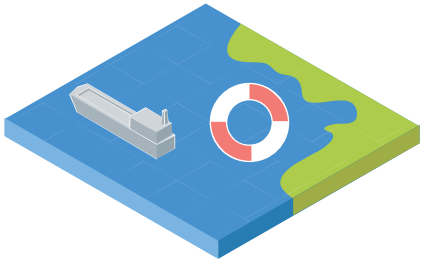

Main applications identified under maritime safety and security function area include support to:

- Search and rescue operations
- Safety of navigation, including support to ice and iceberg monitoring
- Maritime security (including ship to ship transfers)

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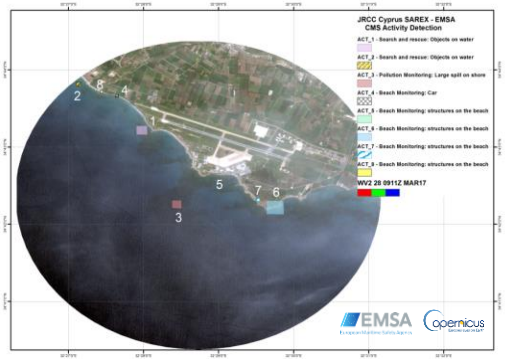

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CMS – Law Enforcement

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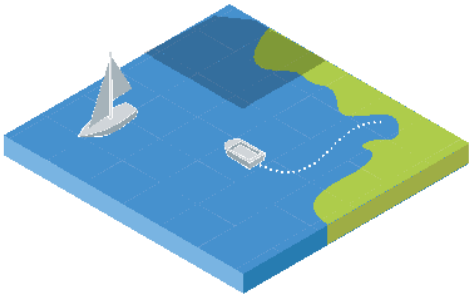

CMS service provides:

- Monitoring of ports and shores for departure of specific ships
- Detection of abnormal behaviour (e.g. transhipment of drugs from larger vessels to small boats)
- Search for non-cooperative targets

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© European Space Imaging/DigitalGlobe [2015]

CMS – Customs

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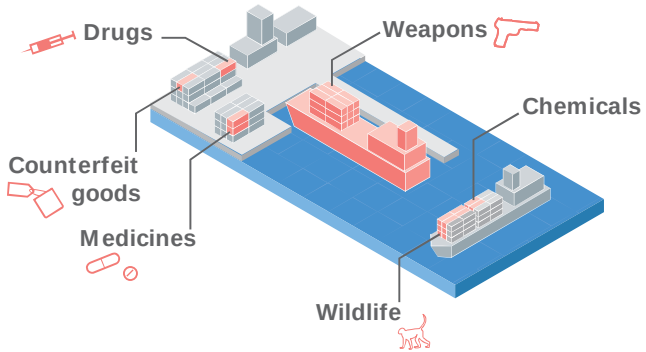
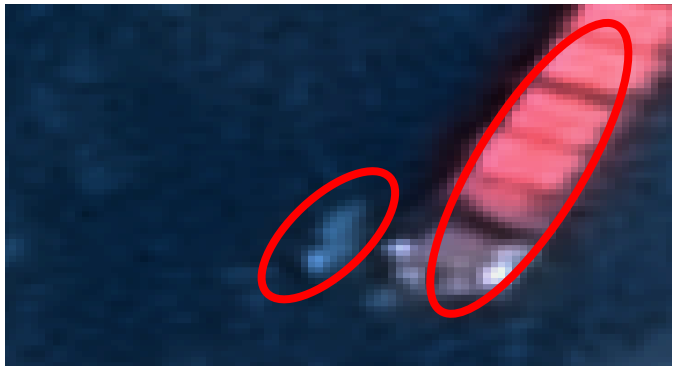
Satellite monitoring may provide support to:

- Monitoring ports for departure of specific ships
- Detection of abnormal behaviour
- Monitoring ship-to-ship transfers
- Early warning of criminal trafficking





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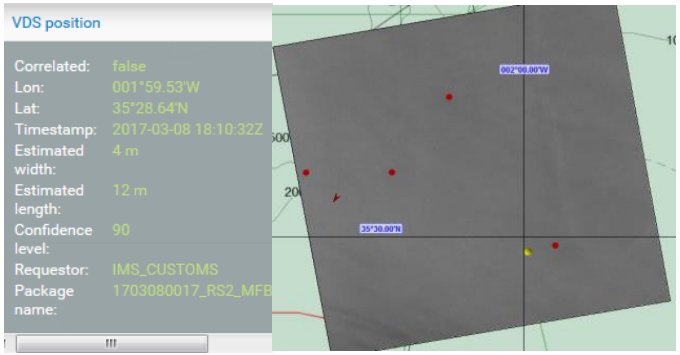

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CMS – Marine Environment (Pollution)

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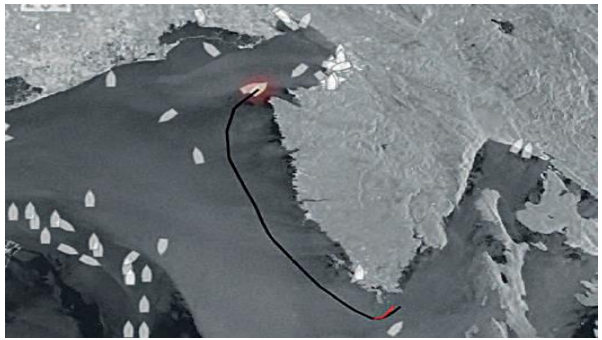
Pollution monitoring support consists of:

- Detection of illegal oil discharges in marine environment and identification of possible polluters
- Early warning/identification of incidents/accidents that may have an environmental impact
- Support for pollution response operations



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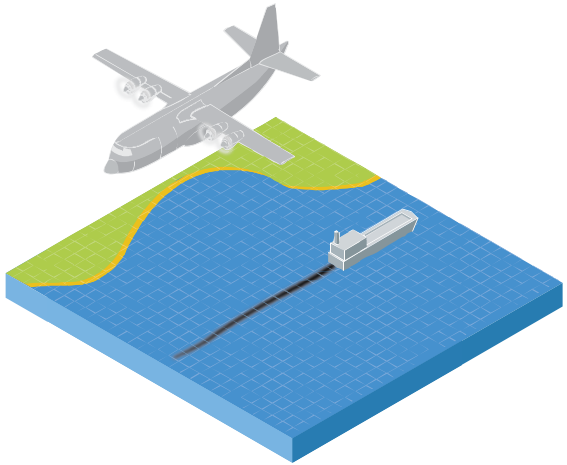

CMS – Other

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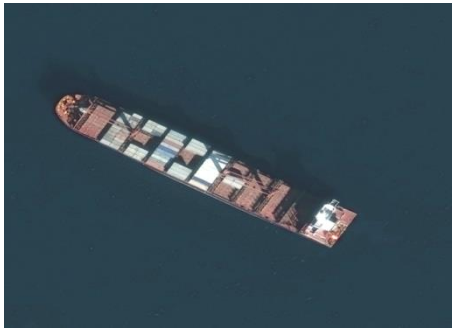
Copernicus provides capability to extend the scope of CMS beyond European waters to other areas of European interest.



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CMS – Support to ASEAN countries

Beyond Europe:

- CMS support to international organisations is coordinated with the European External Actions Service (EEAS)
- Requests received in the context of the Common Foreign and Security Policy (CFSP) of the EU

Support to UNODC in Southeast Asia:

- UNDOC's Global Maritime Crime Programme (GMCP) supported by the EU
- Activations requested:
  - Sri Lanka, June 2017
  - Sri Lanka, June 2018

UNODC
United Nations Office on Drugs and Crime

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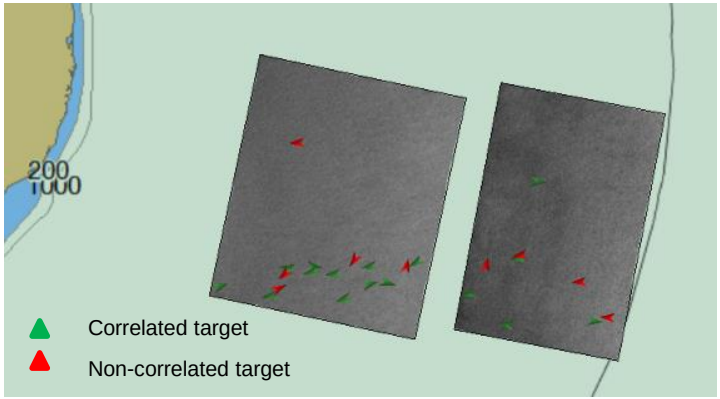
Cooperation with UNODC: Sri Lanka 2017

Security

Maritime law enforcement:

- 9-13 June 2017
- Objective: Test law enforcement capacity in the south eastern sector of the Sri Lankan EEZ.
- Services delivered: 2 image products (1 RadarSat-2; 1 TerraSAR-X) with supporting data.



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DS Geo GmbTERRASAR-X © DLR e.V. [2017, Distribution AirbusH
Vessel Detection © EMSA

- Authorities involved: UNODC, EU Delegation (Colombo), Sri Lankan Ministry of Fisheries and Aquatic Resources, Sri Lankan Navy.

Cooperation with UNODC: Sri Lanka 2018

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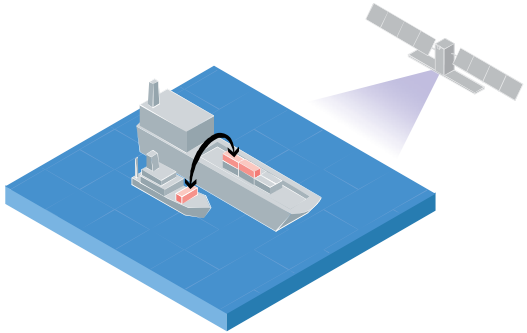

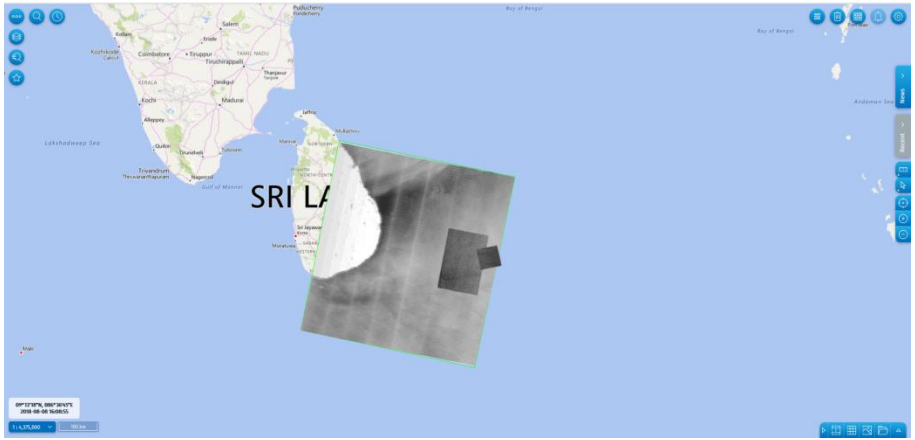

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Illegal transshipping:

- Date: 25-28 June 2018
- Objective: Test authorities' capacity to fight illegal transshipping by foreign fishing trawlers.
- Services delivered: 3 image products (1 RadarSat-2; 2 TerraSAR-X) with supporting data.
- Authorities involved: UNODC, EU Delegation (Colombo), Sri Lankan Navy.