



Copernicus Maritime Surveillance Service

CMS User Group

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Earth Observation Services

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Copernicus Service Component



Land Monitoring



Marine Environment Monitoring



Atmosphere Monitoring



Emergency Management



Climate Change

Full and open access

data accessible to all; mostly available online; free of charge to users



Security

Border
Surveillance



Maritime
Surveillance

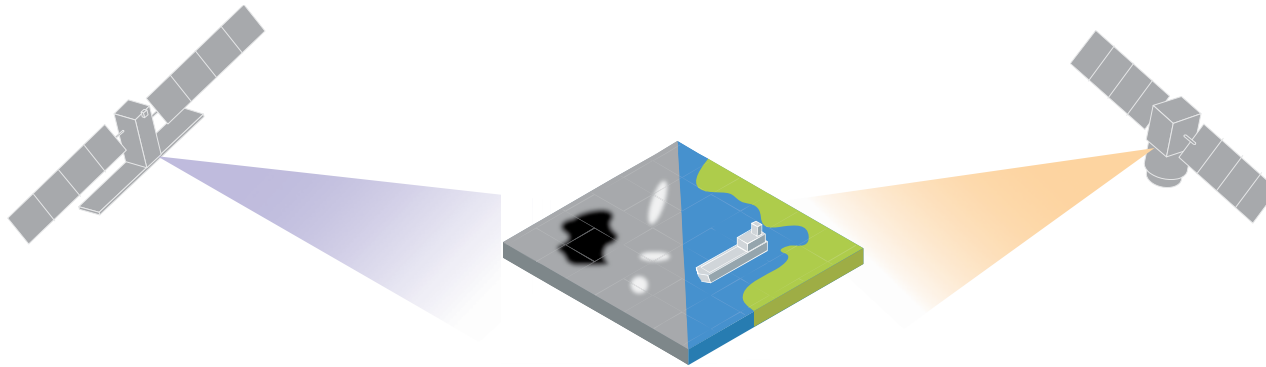


External Actions



Restricted access

specific conditions; delivered directly and securely to user; free of charge to users



Radar (SAR) Satellites

- Access to 5 satellites: *Radarsat-2*, *Sentinel-1A*, *Sentinel-1B*, *TerraSAR-X*, *TanDEM-X*
- All weather capability
- Day and night operations
- Wide range of resolutions and coverage
- Quasi real time (service delivery 20 minutes after satellite acquisition)

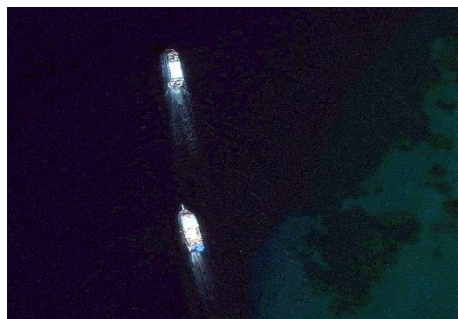
Optical Satellites

- Access to 10 satellites: *Deimos-2*, *GeoEye-1*, *Pleiades-1A/1B*, *SPOT 6/7*, *WorldView-1/2/3/4*
- Enable target identification
- Focused on very high resolutions (up to 30 cm)
- Near real time (delivery 30 minutes after satellite acquisition)

Support to a wide range of functions



Fisheries Control



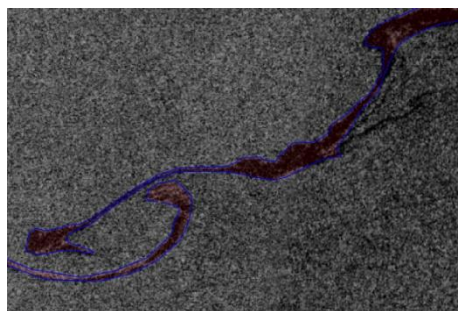
Maritime Safety and Security



Law Enforcement



Customs



**Marine Environment
(Pollution Monitoring)**



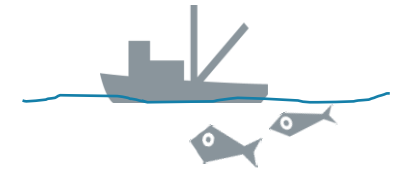
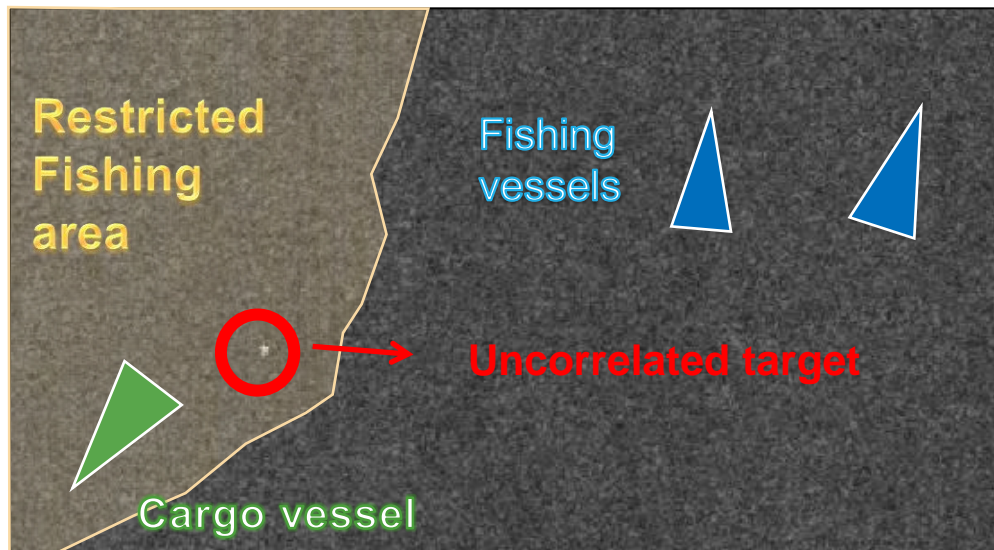
**Support to international
organisations**

Fisheries control

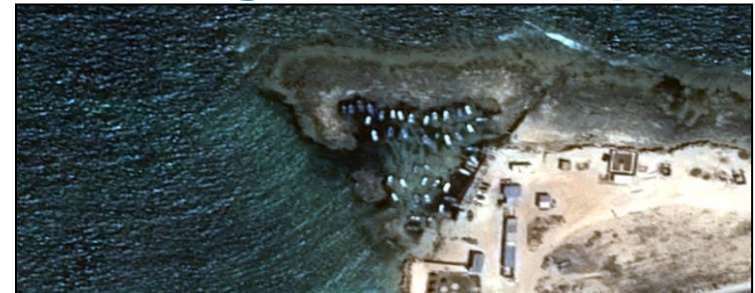
Support fisheries control activities

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

Monitoring restricted areas

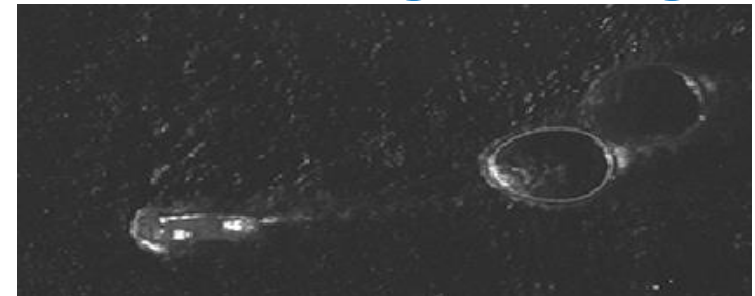


Fishing vessels in port



© CNES 2016, Distribution Airbus DS

Vessel towing fish cages



Vessel towing fish cages © European Space Imaging/DigitalGlobe 2013

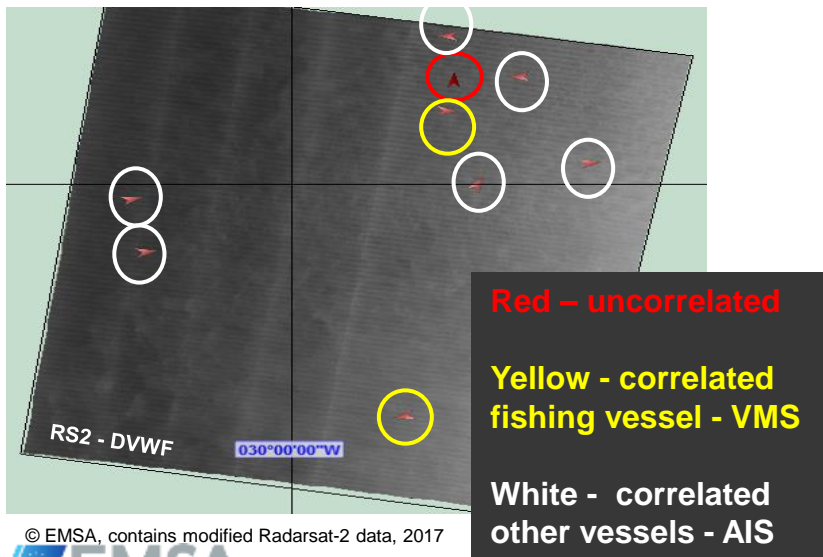


Support to law enforcement activities



- Detection of potentially suspicious vessels (e.g. transshipment of drugs from a larger vessels to small boats)
- Search for non-cooperative targets
- Monitoring of ports and shores for departure of specific ships

Detect suspicious vessels



Vessel reporting in 3rd country port



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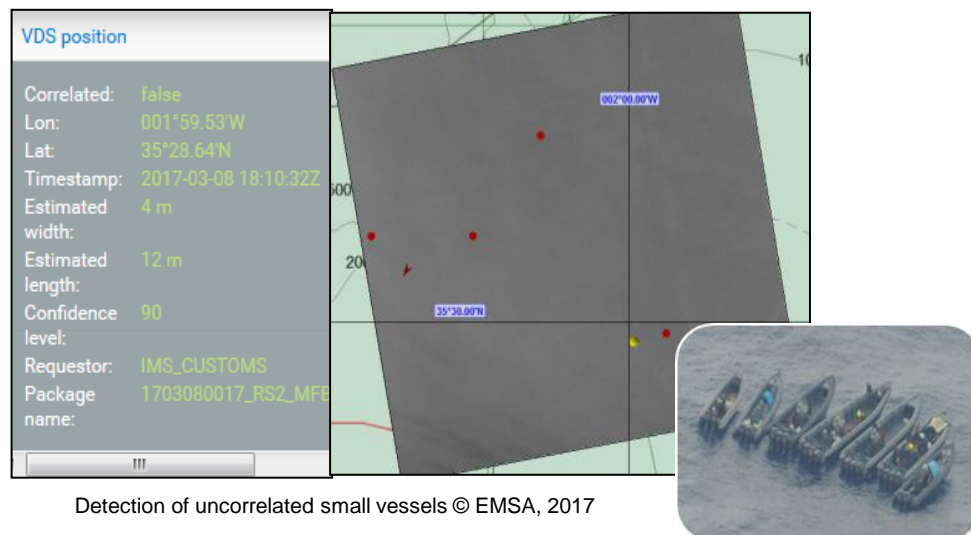


Support to customs activities



- Detection of potentially suspicious vessels
- Monitoring the ship-to-ship transfers and movement of goods
- Early warning/identification of criminal trafficking of goods

Uncorrelated small vessels



Possible ship-to-ship transfer



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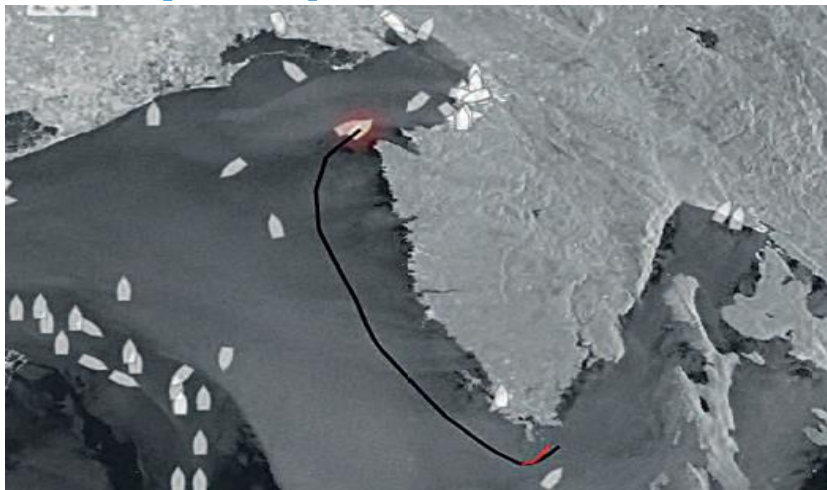


Pollution monitoring support



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

Oil spill / polluter detection



**Extend the CleanSeaNet
service beyond
European Waters**

United Nations Office on Drugs and Crime

- Benefits dealing with international problems affecting Europe
- Focus on capacity building and knowledge sharing
- Authorization required on a case by case basis from the European External Action Service and DG-GROW

Port monitoring



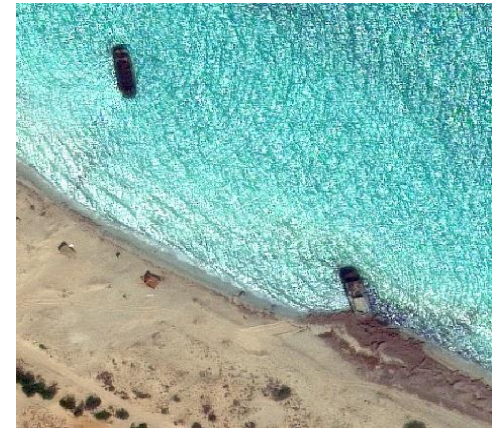
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Anti-piracy



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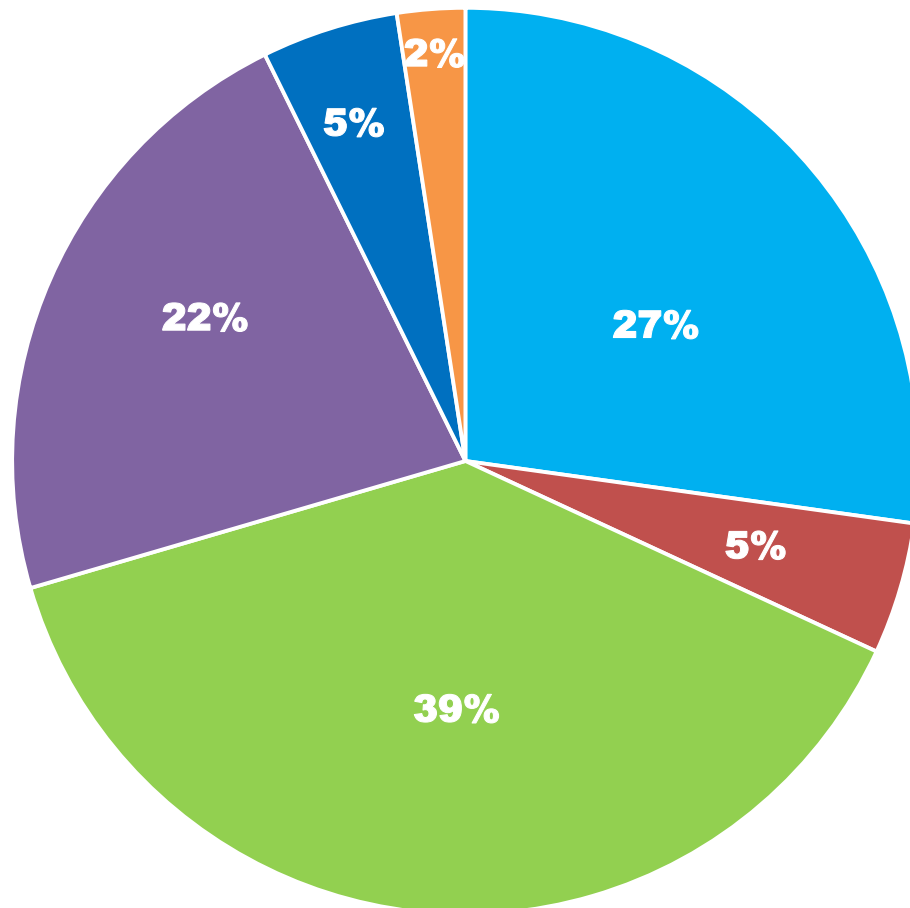
Skiffs on beach



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EO Services delivered

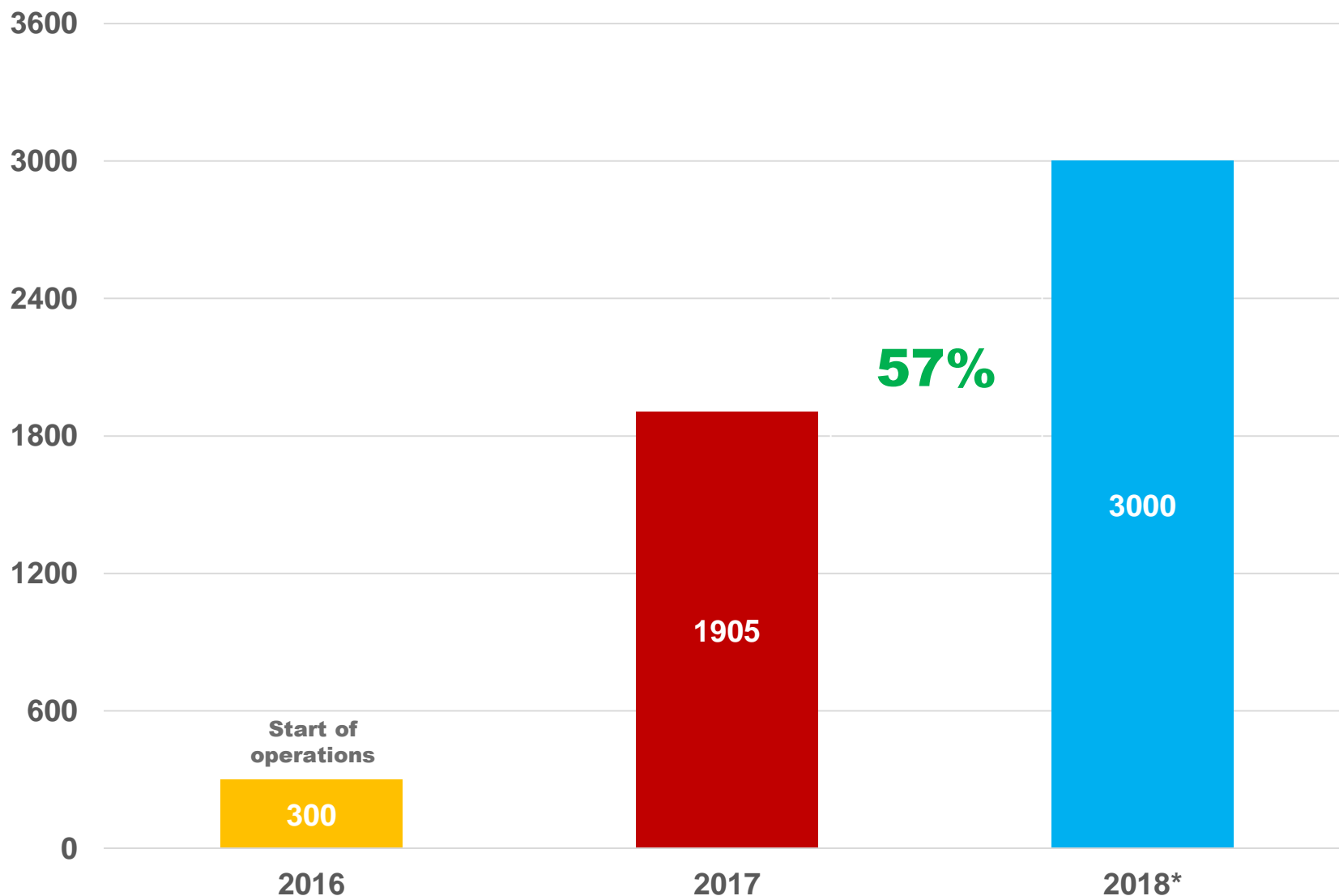
Function areas



- Fisheries Control
- Maritime Safety and Security
- Law Enforcement
- Customs
- Environmental Monitoring
- Support to International Organizations

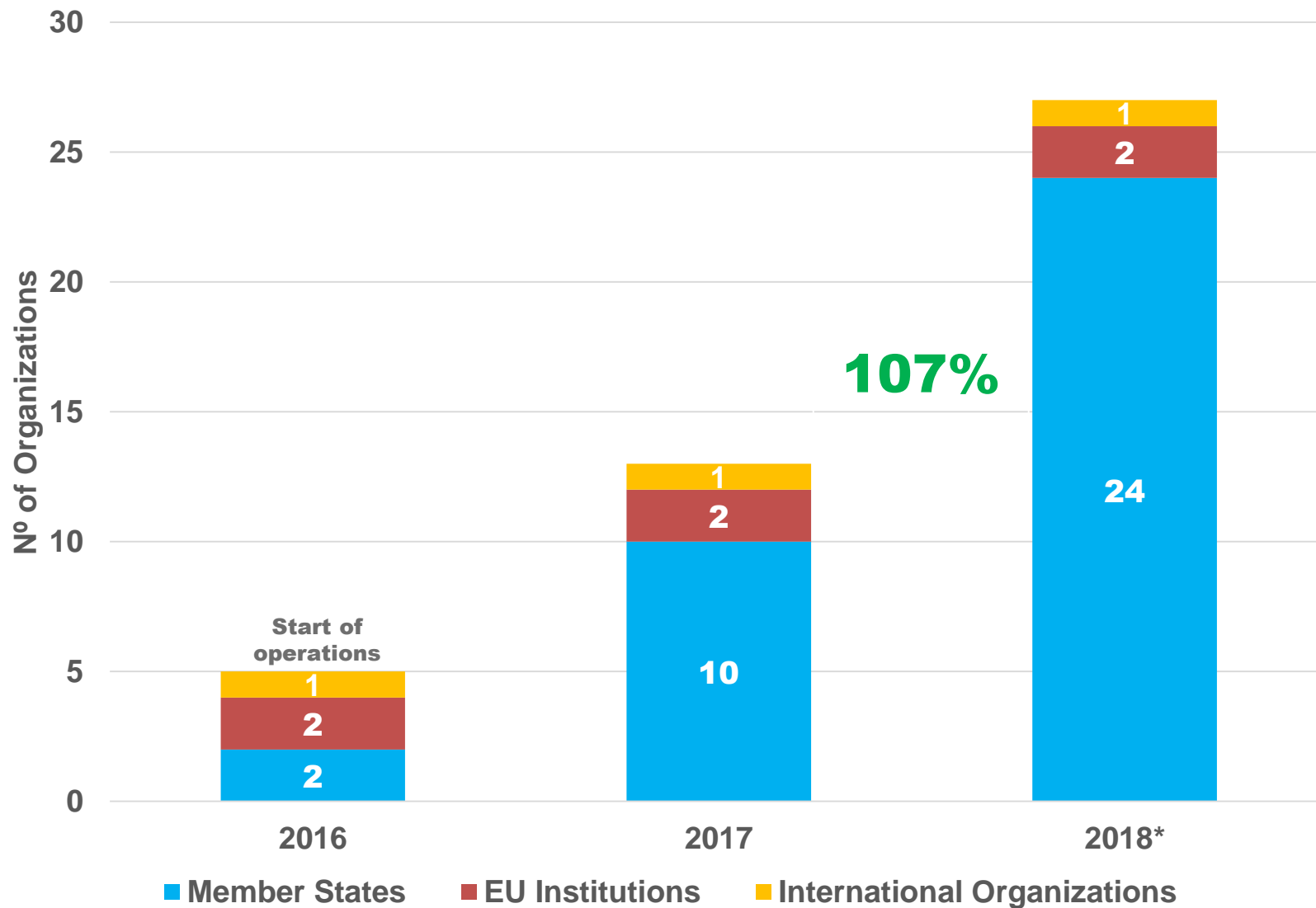
EO Services delivered

Trends and evolution



CMS Users

Trends and evolution



CMS Users

27 Organisations

- Croatia
 - MRCC Rijeka
- Cyprus
 - Joint Rescue Coordination Centre (JRCC), Larnaca
- Denmark
 - Danish Defence Command – Joint Arctic Command (JACO)
 - Danish Defence Command
- France
 - Customs National Intelligence And Investigation Directorate (DNRED)
 - Gendarmerie maritime – Ministère de la Défense
 - L'Institut polaire français Paul-Émile Victor (IPEV)
 - Marine Nationale / French Navy
 - Maritime Rescue Coordination Centre (MRCC) Garde
 - MRCC Gris-Nez
 - MRCC La Réunion
 - MRCC New Caledonia
- Germany
 - Polizei Niedersachsen / German Waterways Police
 - Bundesamt für Seeschifffahrt und Hydrographie (BSH) / German Federal Maritime and Hydrographic Agency
- Iceland
 - Icelandic Coast Guard
- Ireland
 - Irish Air Corps
- Italy
 - Presidenza del Consiglio dei Ministri
- Malta
 - National Security Authority
- Portugal
 - Marinha Portuguesa / Portuguese Navy
- Spain
 - Sociedad de Salvamento y Seguridad Marítima (SASEMAR)
 - Departamento de Aduanas e II.EE. / Spanish Directorate of Customs Surveillance
 - Armada Española / Spanish Navy
- Sweden
 - Swedish Coast Guard
- The Netherlands
 - Netherlands Coast Guard
- European
 - European Fisheries Control Agency (EFCA)
 - Maritime Analysis and Operations Centre – Narcotics (MAOC(N))
- International
 - United Nations Office of Drugs and Crime (UNODC)



Training activities

- Added value of CMS products
- Operational context and use
- Use of EMSA operational systems

User Groups and Workshops

- Presentations on use of service
- Identification of user needs and requirements
- Discussion on service improvements
- Sectorial workshops to share user experiences

Communications

- Product catalogue & Service overview
- Function specific infosheets
- Service related infographics



Accessing the service

How to access: Consult CMS Product Catalogue



- **Standard products**
 - SAR
 - Optical
- **Value Added products**
 - Vessel detection
 - Activity detection
 - SAR wind and SAR wave
 - Oil spill detection
- **Fusion products**
 - Correlation w/ AIS, SAT-AIS, LRIT, VMS
 - Alerts and notifications

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