FRONTEX

EUROPEAN BORDER AND COAST GUARD AGENCY

Eurosur Fusion Services and the ways to support the prevention, detection and fight against Environmental Crime in the maritime domain.

Cooperation on Coast Guard Functions

EMPACT Environmental Crime 2021
1 June 2021

EUROSUR

Integration with EBCG

Eurosur/Copernicus Fusion Services

Improve functioning
Enlarge its scope to cover IBM components

Improve situational awareness

Increase reaction capability

TC

- ➢ **Prevention**
- ➢ **Combat irregular migration**
- ➢ **Combat cross border crime and environmental crimes**
- ➢ **Save more lives**
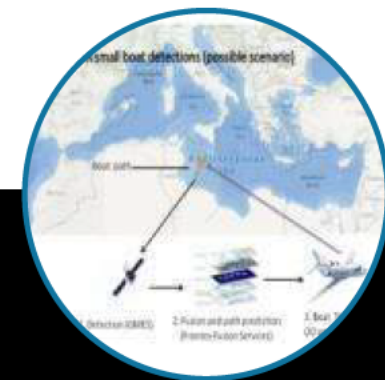
COMMON APPLICATION OF SURVEILLANCE TOOLS

Eurosur Fusion Services

Purpose:
- centralized supply of **surveillance** information for situational pictures

Extended scope:
- selective monitoring of designated (third-country) ports and coasts /pre-frontier areas at the external borders identified by risk analysis + BCPs, Air, Monitoring of migration flows (sec. mov.)
- monitoring and tracking suspected vessels at sea
- monitoring of designated areas in order to detect, identify and track vessels
- environmental assessment of designated areas

Sources:
- satellite imagery
- ship reporting systems
- other sensors *mounted on vehicles, vessels or other crafts*
- Copernicus - the EU earth observation program

Eurosur components:

"For the exchange of information and for the cooperation in the field of border control"

- National coordination centers

- National situational pictures

- A European situational picture including external border sections with impact levels

- Specific situational pictures

- EUROSUR fusion services

- Integrated planning

Copernicus
Europe's eyes on Earth

Europe's eyes on Earth

Looking at our planet and its environment
For the ultimate benefit of all European citizens

Copernicus services address six thematic areas:

Services monitoring Earth systems

Land Monitoring   Marine Monitoring   Atmosphere Monitoring

Horizontal services

Emergency Management   Climate Change   Security

- **Frontex is one of the three entrusted entities providing Copernicus' Security Service**

 - Border Surveillance Service

 - Maritime Surveillance Service

 - Support to EU External Action

COMMON APPLICATION OF SURVEILLANCE TOOLS

Eurosur Fusion Services

Copernicus Marine Environment Monitoring Service

- **Copernicus Marine Environment Monitoring Service** (CMEMS) provides information on the physical and biogeochemical state, variability and dynamics of the ocean and marine ecosystems for the global ocean and the European regional seas to support all marine applications, including:
    - marine safety
    - marine resources
    - coastal and marine environment
    - weather, seasonal forecasting and climate
- Provision of data on currents, winds and sea ice contribute to:
    - **marine safety**
    - the protection and the sustainable management of living **marine resources**
- Supports a wide range of **coastal and marine environment** applications:
    - physical and marine biogeochemical components are useful for water quality monitoring and pollution control
    - sea level rise is a key indicator of climate change and helps to assess coastal erosion
    - sea surface temperature elevation has direct consequences on marine ecosystems and the occurrence of tropical cyclones
- Many of the data delivered by the service (e.g. temperature, salinity, sea level, currents, wind and sea ice) also play a crucial role in the domain of **weather, climate and seasonal forecasting**

Marine

https://www.copernicus.eu/en/copernicus-services/marine

Eurosur Fusion Services

S1   Incident Reporting   #8
S2   Vessel Monitoring and Tracking   #10
S3   Tracking Vessels of Interest   #12
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S17   Multi-Source (MUSO) Migration Analytical Assessment   #44

How EFS work for environmental crimes?

efs@frontex.europa.eu Copernicus

S2 Vessel Monitoring and Tracking

- Current and historical vessel positions

- Data from ship reporting systems

- Information provided: IMO and MMSI numbers, vessel type, flag, other

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Eurosur/Copernicus Fusion Services
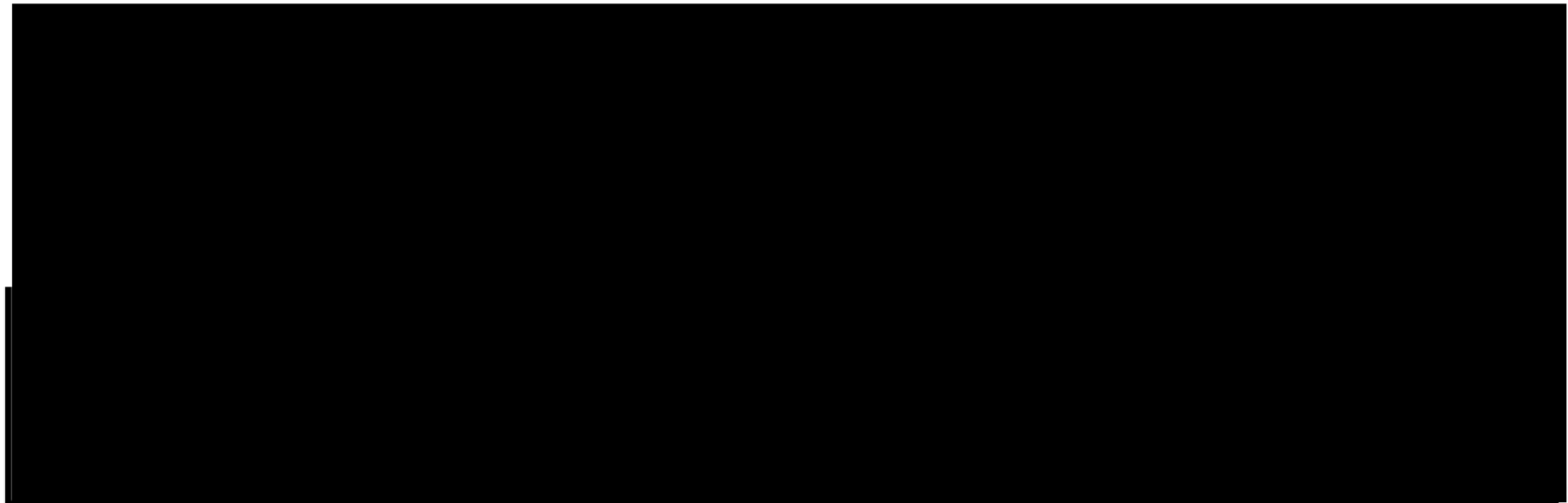
S3 Tracking Vessels of Interest

- Daily update emails and situational reports on vessels of interest

- Information from ship reporting systems, satellite imagery, open sources, Frontex partners

FRONTEX EUROPEAN BORDER AND COAST GUARD AGENCY

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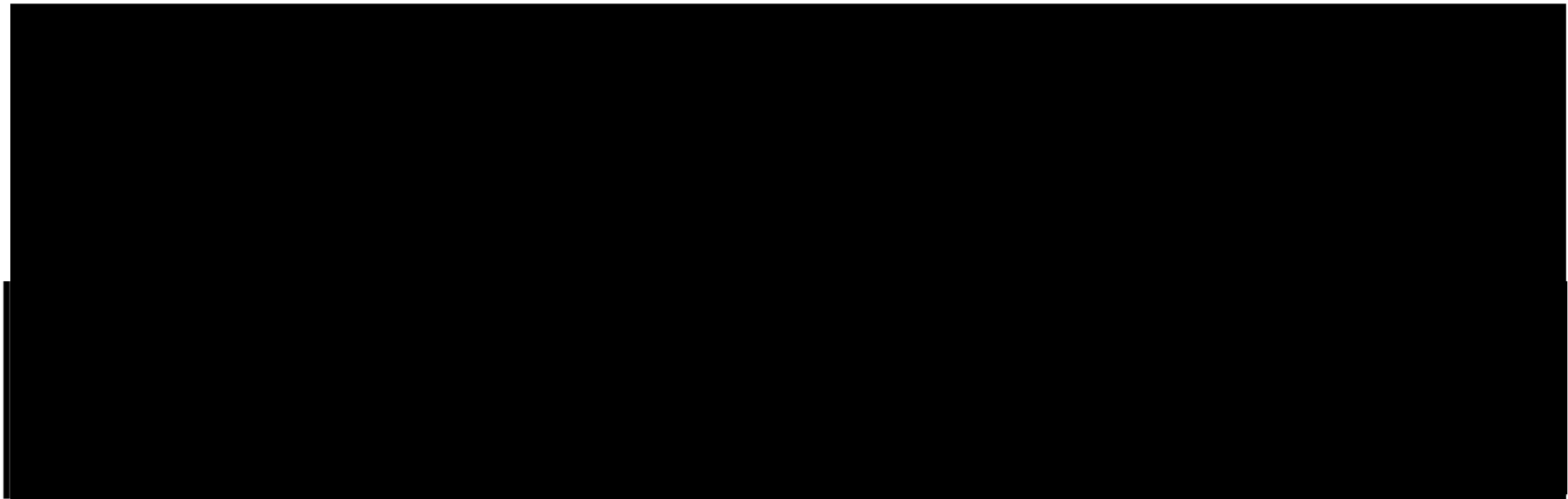
S4 Vessel Detection

- Satellite radar scans of maritime areas detecting objects on the sea

- Correlation with ship reporting data

- Notification on unidentified objects, even small boats
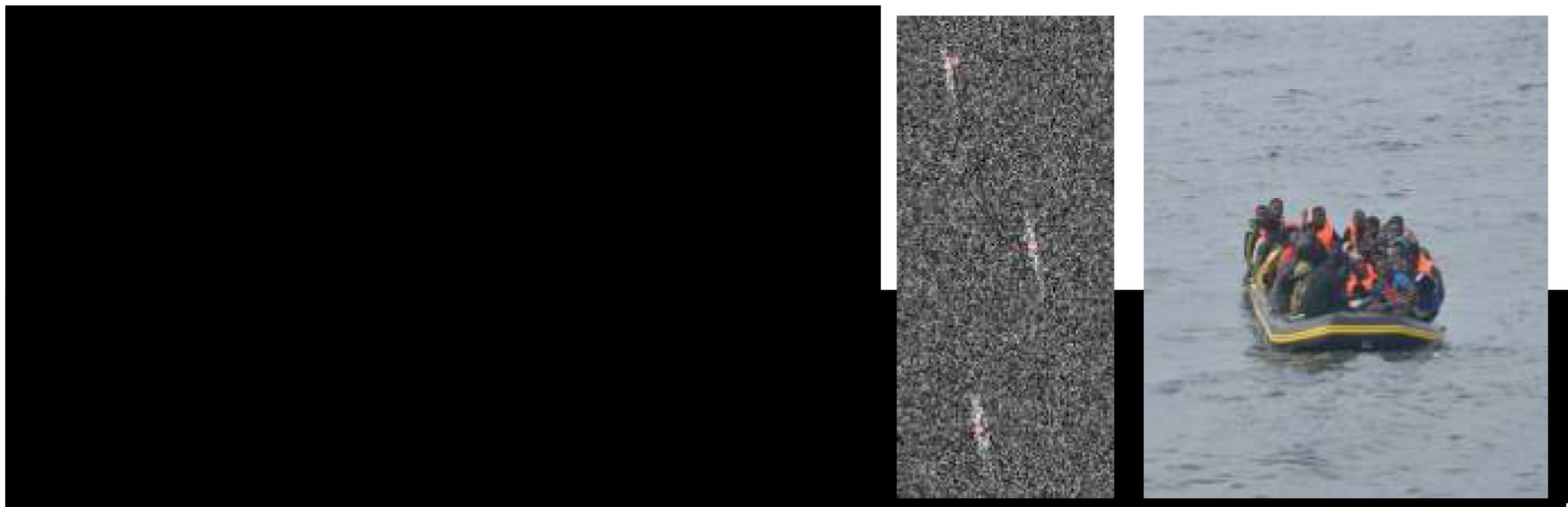
S7 Maritime Simulation

- Vessel position calculation

- Based on weather and vessel criteria (type, speed, last known position)

- Simulations up to 24 hours ahead (and 7 days back)
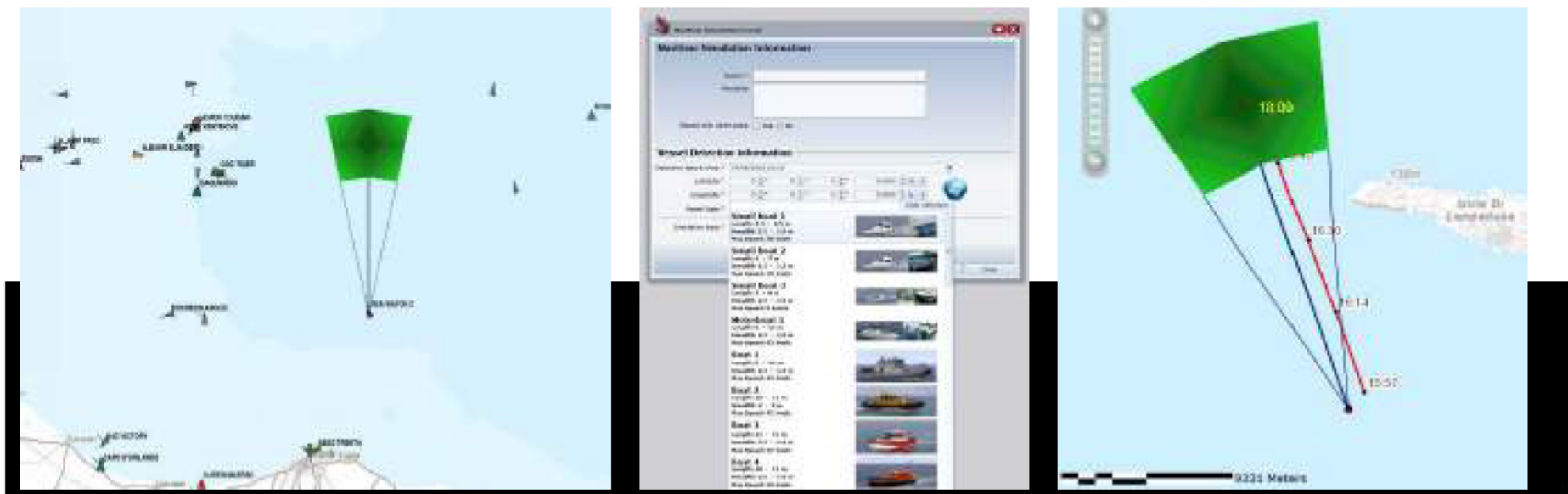
S8 Satellite Imagery

- Very high resolution (30 cm) satellite optical images

- Can cover border zones, pre-frontier and coastal areas of non-EU countries

- Raw satellite images offer the fastest confirmation of the situation on the ground
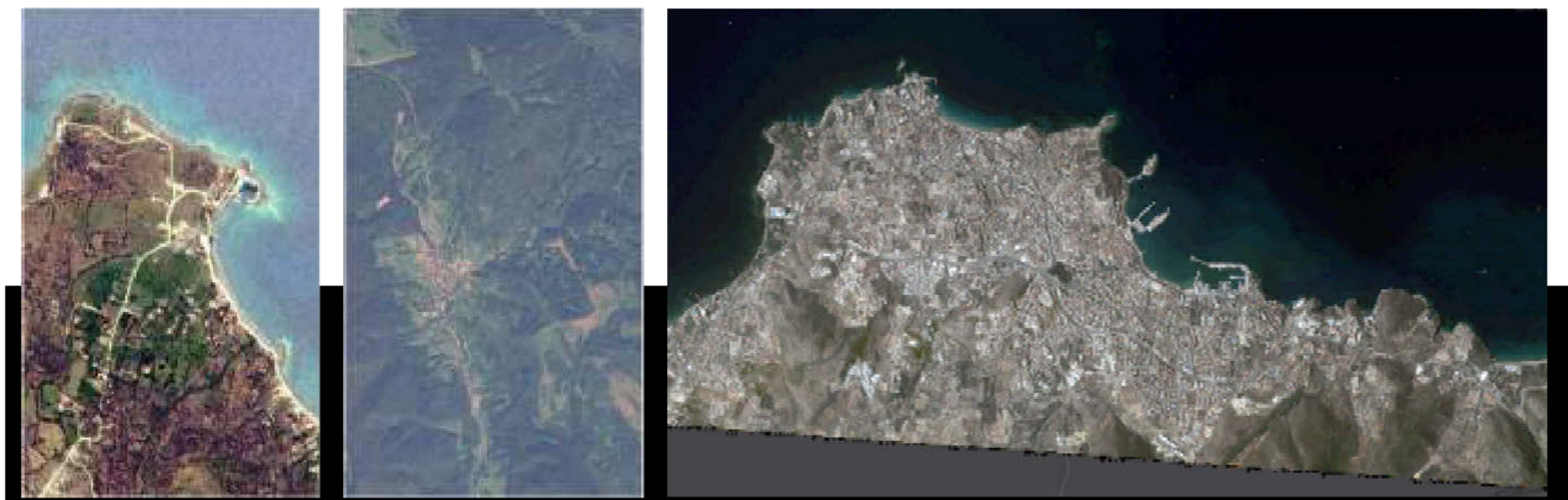
S9 Anomaly Detection

- Notifications on anomalous behaviour of vessels

- Based on information from ship reporting systems

- Anomalies: anchorage, speed change, distance to coast, other

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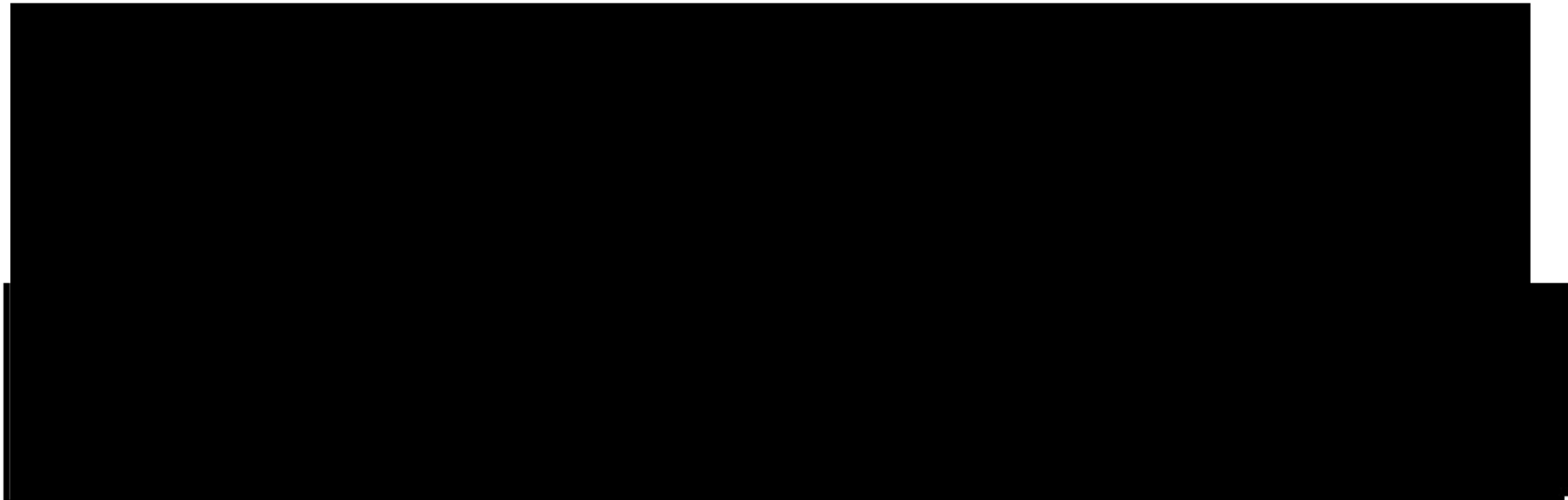
S11 Coastal Monitoring

- Monitoring & analysis on specific **external coastal areas**
- Validating risk indicators
- Predicting patterns
- Contributing to save human lives
- Supporting analysis in tackling cross-border criminality
- Supporting strategic and operational intelligence
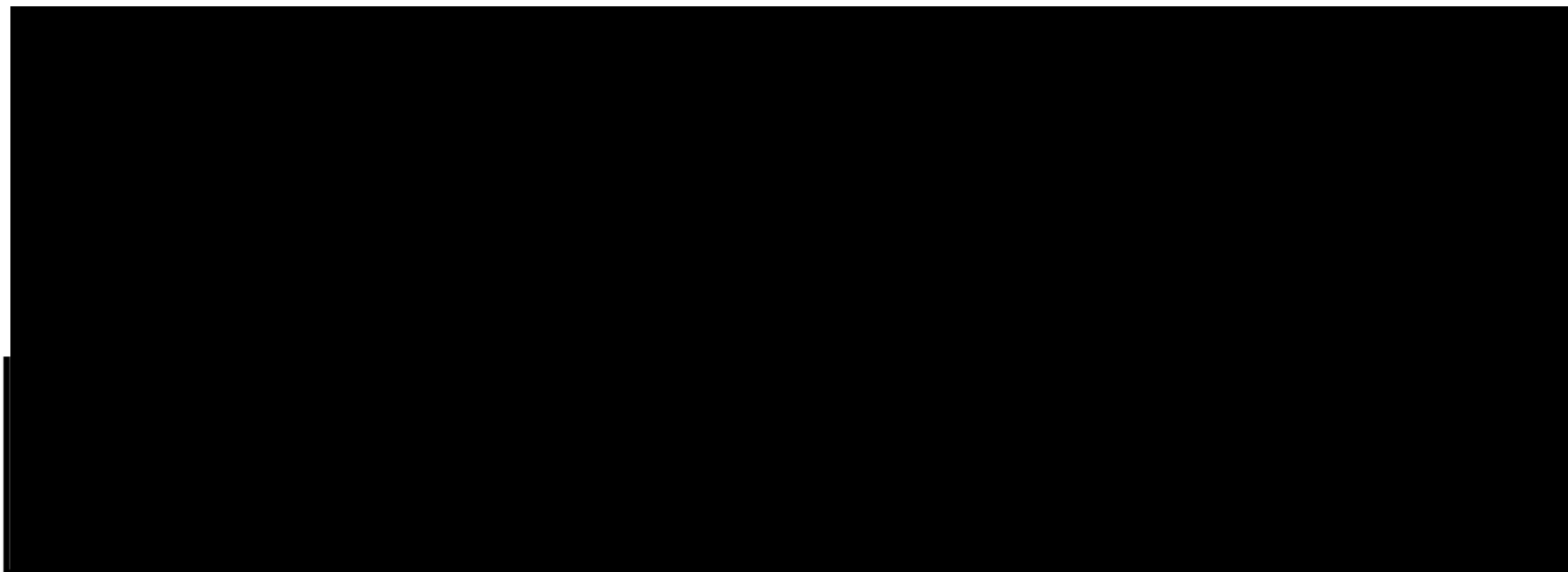
Search and rescue

Cross-border crime

Multipurpose Aerial Surveillance

Illegal fisheries control

S14 Multipurpose Aerial Surveillance

- Real-time surveillance for situational awareness in pre-frontier areas

- Data transmission from aircraft to European Monitoring Team at Frontex

- Coast Guard Functions cooperation with MS, EFCA

SERVICE REQUEST FORM

EMPACT label
- **EMPACT Environmental Crime Priority**
- **OAP 2021**
- **Operational Action 2.3**

2.1.   Envisaged usage of the service

2.2.   Service details

Name and number of the Service as stated in the Service Catalogue	
Timeframes when the service is to be delivered (from... to...)	
Area covered by the service (please specify geo coordinates)	
Please specify used measurements (if applicable)	
Requested format	
Date of delivery	
Special requirements	

2.3.   Users of the service

Thank you for your attention

28.05.2021