

Response to oil pollution incidents at-sea & EMSA's toolbox

Unit 1.1

Sustainability - Pollution Response Services

Jordan, 15-16 June 2021



- Initial assessment and evaluation.
Can we get any benefit from the response?

- **MECHANICAL
RECOVERY**

Or/&

- **CHEMICAL
APPLICATIONS**

? Why

? When

Pros and Cons

The Concept of “WINDOW OF OPPORTUNITY”

Main elements to be considered:

- ENCOUNTER RATE;
- RECOVERY EFFICIENCY;
- THROUGHPUT EFFICIENCY;
- RECOVERY RATE;
- STORAGE CAPACITY;
- ENDURANCE.



Situation awareness:

- SPECIALISED MEANS TO DETECT AND TRACK THE OIL SPILL (Sat. images, aerial surveillance, OSDS radar based, IR camera).

HIGH-SPECIALISED VESSELS (with integrated):

- Large storage capacity;
- Heating system;
- Decanting system;
- PPM reader;
- Pumping capacity;
- OSDS radar based (day/night op.).

**OTHER MEANS
deployed by not
specialised vessel or
vessel of opportunity.**

OSR specialised vessel

EQUIPMENT STOCKPILE

Sweeping arms
Two Koseq rigid sweeping arms (12 m) with weir skimmer.
Boom
Lamor neoprene single point inflation booms, 2 x 250 m. (X1900).
Skimmer
Lamor high-capacity skimmer (LUT 5 80).
Slick detection
Miros oil slick detection system with integrated FLIR IR Camera
Dispersant application system
Jason twin boom spray system + dispersant tanks (capacity of 33 m3 per load) Oil spill dispersant Type 3; 180 tons (Radiagreen OSD)



Type	Oil Tanker
Length	94.00 m
Breadth	18.50 m
Max. Draft	6.50 m
Gross Tonnage	4999
Max. loading condition	6,383 MT
Storage capacity	7458 m3
Heating capacity	5742 kW
Pumping capacity	1850 m3/h
Flash point	<60 °C
Propeller	Controllable Pitch Propeller
Bow Thruster	Yes
Max. Speed	12.6 knots
Classification Society	ABS
Class Notation	+A1, Oil Carrier, OE, +AMS, +ACC, VEC, Oil Recovery Capability Class 1



Indicative fuel consumption per 24 hours (metric ton)	MGO	MGO
At port	-	1.5
Full speed	12	1.5
Service speed	10	1.5
Low speed (oil recovery operations)	0.25	2.0

HIGH-SPECIALISED EQUIPMENT:

- SWEEPING ARMS;
- OCEANIC BOOMS & HC SKIMMER



LARGE SIZE, MEDIUM SIZE OR NEAR SHORE EQUIPMENT:

- TRAWL NET;
- CURRENT BUSTER;
- SPEED SWEEP;
- BOOMS & SKIMMER;
- FLOATING STORAGE BARGE;
- ABSORBENT BOOMS.



Maximum encounter rate;

**3 vessels needed: 2 towing units + 1 OSR vessel
with SA behind the APEX**

Booms & skimmer – J configuration



High encounter rate;

2 vessels needed: 1 towing units + 1 OSR vessel



- Limited encounter rate;**
- integrated containment and recovery systems;**
- easy and fast to be re-deployed;**
- autonomous and flexible use, even with moderate bad sea status.**

1. CONTAINMENT;
2. RECOVERY;
3. LOADING;
4. STORAGE;
5. DECANTING;
6. EXCESS WATER DISCHARGE (*);
7. DISCHARGE;
8. CLEANING & WASTE DISPOSAL.

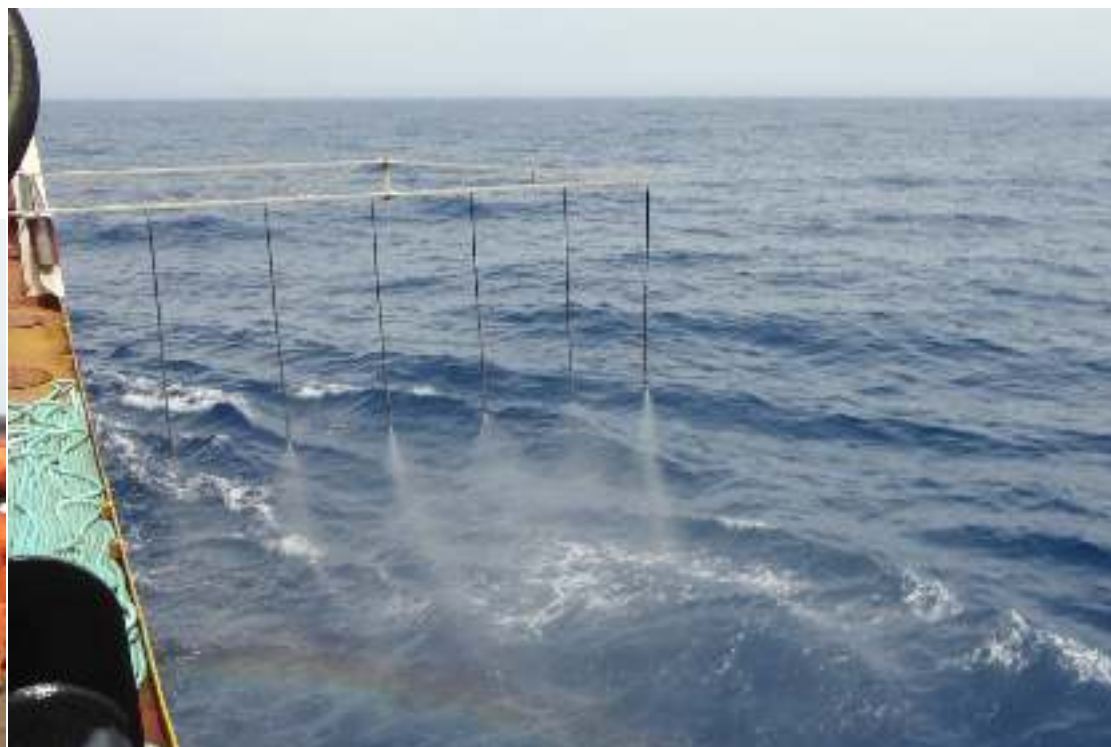
(*) to authorize the excess water discharge (in advance) in the contingency plan is a key factor during a real operation.

DISPERSANT APPLICATION

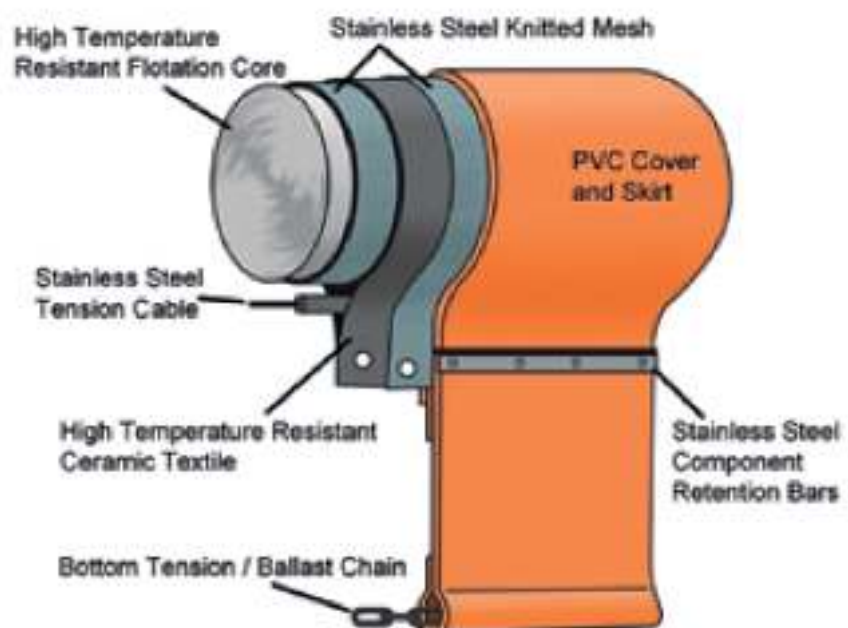
[Info-sheet DASIC SLICKGONE NS - Type 3 and type 2](#)



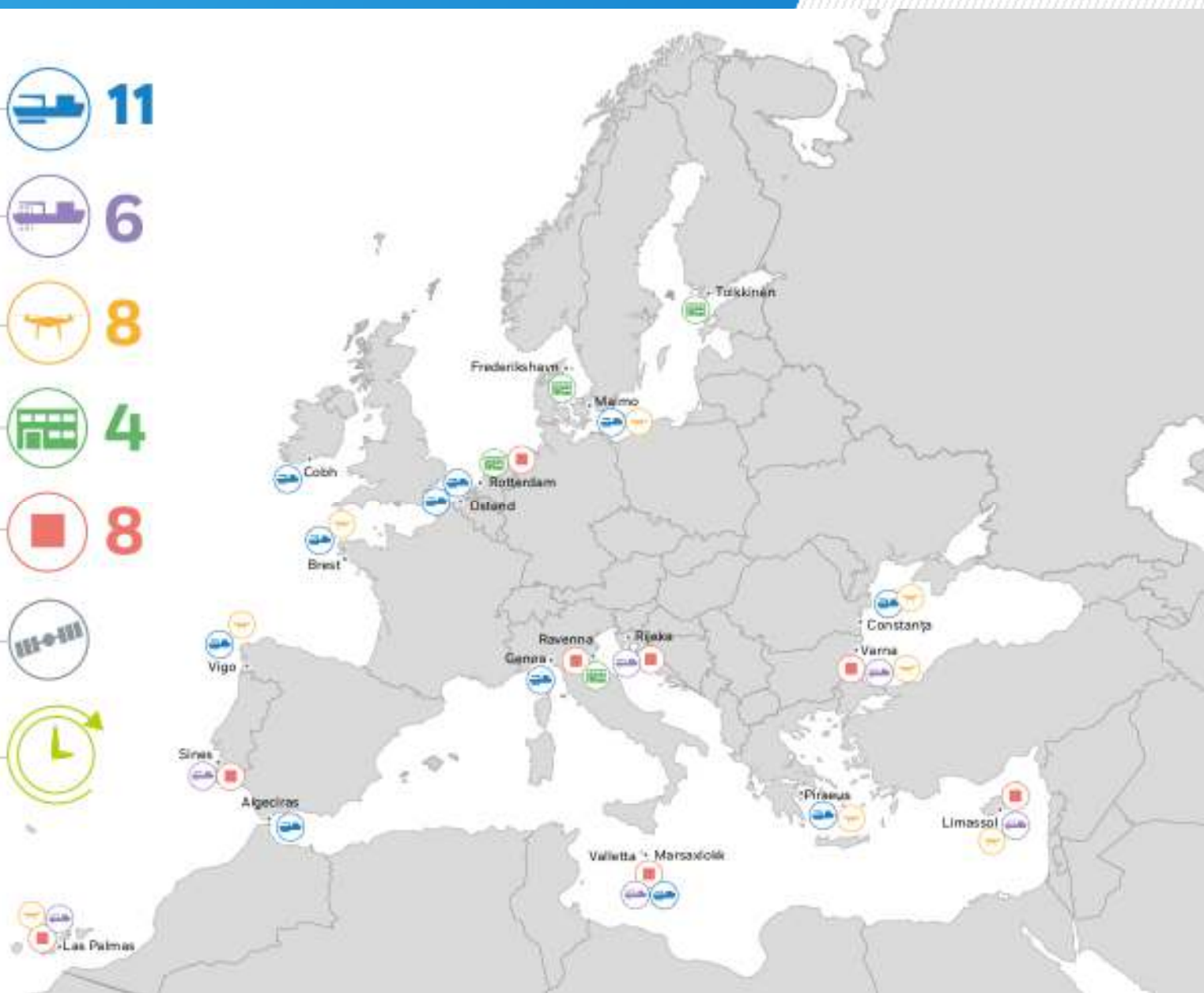
[Info-sheet RADIAGREEN OSD - Type 3 dispersant](#)



In-situ burning – FIRE BOOMS



Overview Oil Pollution Response Services



EMSA Founding Regulation (EC) No 1406/2002, as amended:

Regulation (EU) 100/2013, EMSA:

- Shall provide Member States and the European Commission with technical, operational and scientific assistance in the field (art. 1.2)
- Shall support Member States, upon request, with additional means, and in a cost-efficient way pollution response actions in case of pollution caused by ships as well as marine pollution caused by **oil and gas installations** (art. 2.3 (d))
- May provide assistance in case of marine pollution caused by ships and oil and gas installations affecting those **third countries** sharing a regional sea basin with the Union (art. 5)

Regulation (EU) 2016/1625, on European **cooperation on coast guard functions**

Who can benefit from the oil pollution response services



Service coverage:

- European regional sea basins

Potential users:

- EU/EFTA Member States
- Third countries sharing a regional sea basin with EU
- Private entities, subject to agreement from the affected state

Network of Stand-by Oil Spill Response Vessels

Key aspects of the Vessel Network



- “European Tier” of resources
- “Top-up” Member States pollution response capabilities
- Large storage capacity for recovered oil
- Average storage capacity per vessel for recovered oil: 3,500 m³
- Network storage capacity, if 16 vessels are mobilised: 60,000 m³
- Speed of 12 knots for prompt arrival on scene as well as low speed manoeuvrability for response operations
- On-board capability to decant excess water thereby maximising the use of on-board storage capacity
- Ability to heat recovered cargo and use high capacity pumps to facilitate the discharging of heavy viscous oil mixtures to facilities ashore
- Oil slick detection system + RPAS to facilitate the positioning of the vessel in the thicker oil slicks, and to enable operations at night.

Type of Vessels



Tankers



Offshore supply vessels

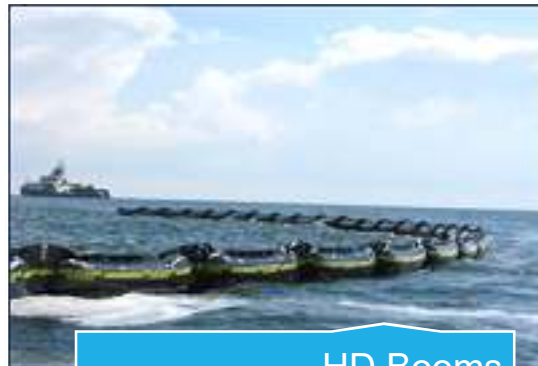


Dredgers

Type of Equipment



Sweeping arms



HD Booms



HC Skimmers



Oil Slick Radars



Combined systems



Dispersant spraying

Latest developments - RPAS to support detection of oil from vessels



Lightweight RPAS on EMSA's OPR vessels

RPAS and pilot integrated into the existing EMSA's Oil Pollution Response vessels for Drills, Exercises and Emergencies.



Preparatory Phase: Challenges

- Pre-fitting, conversion works
- Purchase/transfer/servicing and installation of OPR equipment
- Mobilisation Plan, Operational Procedures
- Crew Training
- Certification by Classification Society (Class Notation as “*Occasional oil recovery vessel60°C*”)
- Acceptance Test



Main Objective: Stand-by At-sea Oil Recovery Service



Vessel contractor must ensure that:

- Vessel undertakes normal commercial activities; and
- At request, the vessel is transformed & mobilised at short notice for at-sea oil recovery services



Equipment Assistance Service (EAS)

- Oil Spill Response (OSR) equipment stockpiles in selected locations for use primarily by Vessels of Opportunity (VOO) from the public and private sector
- Primary focus on OSR equipment not often available in EU Member States, e.g. combined containment and recovery systems, fire booms
- Assurance of equipment readiness through preparedness programmes such as drills / exercises
- Integrated services and concepts for quick mobilisation and transport
- European coverage

- Storage of specialised OSR equipment
- Preventive maintenance program as per manufacturer requirements
- Mobilisation of equipment: 24/7 emergency contact point, associated personnel & logistics (e.g. handling, transport)
- Mobilisation time: max. 12 hours
- Transport of equipment and associated logistics
- Insurance for equipment while in storage and during transport
- Equipment preparedness: equipment condition tests (ECT) and exercises
- Delivery of equipment for actual pollution response / exercises

EAS - Equipment systems



Integrated containment and recovery systems



High-Capacity Skimmers

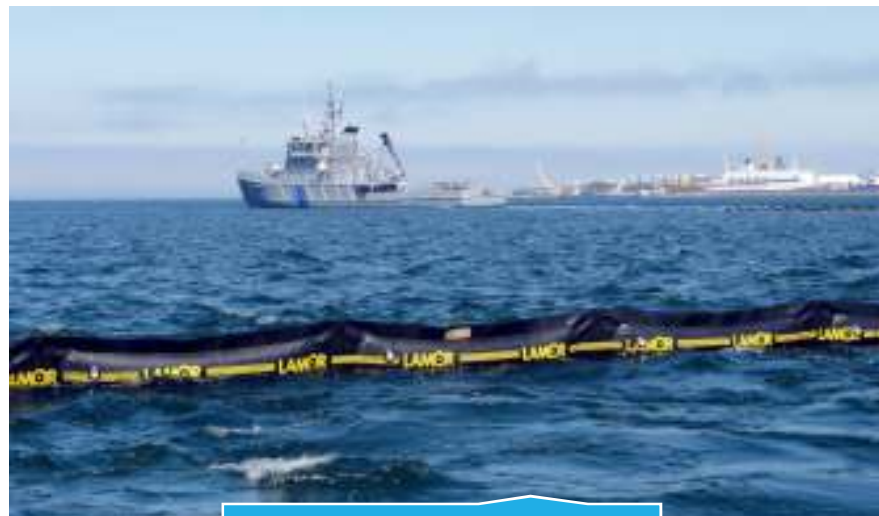


Trawl nets

EAS - Equipment systems



Oil Storage Barges with Oil Offloading System



Heavy-Duty Boom



Arctic Skimmers



Brush Skimmer

EAS - Equipment systems



Current Buster



Skimmer



Portable dispersant single nozzle spraying system



Preparedness activities

Preparedness:

- Vessel Drills
- EAS - Equipment Condition Tests (ECT)
- Notification exercises
- Operational (at-sea) exercises

Familiarisation & Training for Users:

- Familiarisation of EU/EFTA Member States through specific meetings (e.g. EMSA's PRS User Group)
- Hands-on training of equipment operators from EU/EFTA Member States
- Training through EMSA's dedicated E-Learning platform
- Training with the equipment during national / international exercises

Vessel & EAS drills and exercises performed in 2019



- 48 Vessel drills and 3 acceptance drills (Jan-Sept)
- 15 Equipment Condition Tests (plus 5 planned until end of year)
- 5 Notification exercises with participation of 9 vessel contractors and 3 EAS contractors)
- 6 Operational (at-sea) exercises (Jan-Sept) with participation of 1 EAS contractor and 7 vessels) + 1 planned Nov



EAS Training activities in 2019



- 3 EAS Hands-on training for equipment operators from EU/EFTA Member States (21 participants from 14 MS) supported by EMSA's dedicated E-learning platform



EAS Training activities in 2019



- Training with the equipment back to back with exercises: August, Balex Delta 2019



- Equipment showcase:
May, Adriatic Spill Conference 2019



Other Training-Cooperation activities in 2019



- Black and Caspian Sea Project - seminar and at-sea exercise: June, Varna, Bulgaria
- SAFEMED IV Project - training on Port Facility Pollution Contingency Planning: February, Tunis, Tunisia
- Technical Expert Course for Maritime Incidents (TEC-MI) – training course developed by DG-ECHO: January, Revinge, Sweden



Activation of Oil Pollution Response Services



Common Emergency Communication and Information System Marine Pollution (hereinafter referred as CECIS MPI) website (<https://webgate.ec.europa.eu/CECIS/login.jsp>).

CECIS



Emergency Response Co-ordination Centre (ERCC)

- Tel: +32 2 29 21 112
- Fax: +32 2 29 866 51

Email: ECHO-ERCC@ec.europa.eu

EMSA Maritime Support Services (MSS)

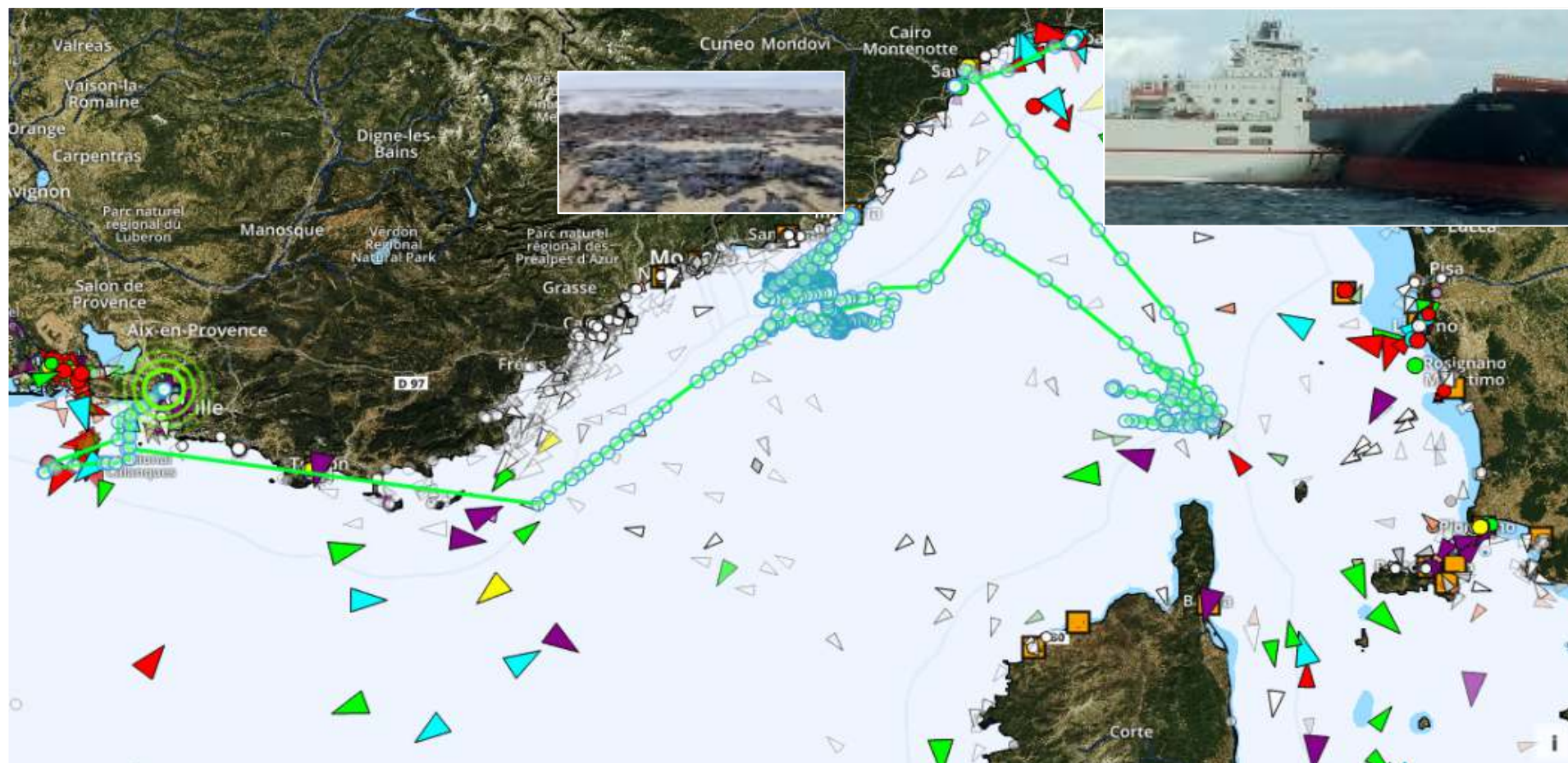
- Tel.: +351 211 209 415
- Fax: +351 211 209 480

Email: MSS@emsa.europa.eu

CSL Virginia / Ulysse, response to oil spill, October 2018



- EMSA vessel *Brezzamare*, in clean-up Operations from 8-20 October 2018



Grande America, response to oil spill, Bay of Biscay 2019

- Ro-Ro *Grande America* sank on 12 March.
- EMSA vessels *VN Partisan* and *Ria de Vigo* mobilised 13 March, in operations until 2 April 2019



Oil spill detection and recovery: *Grande America* incident





Thanks for your attention!

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